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birmingham

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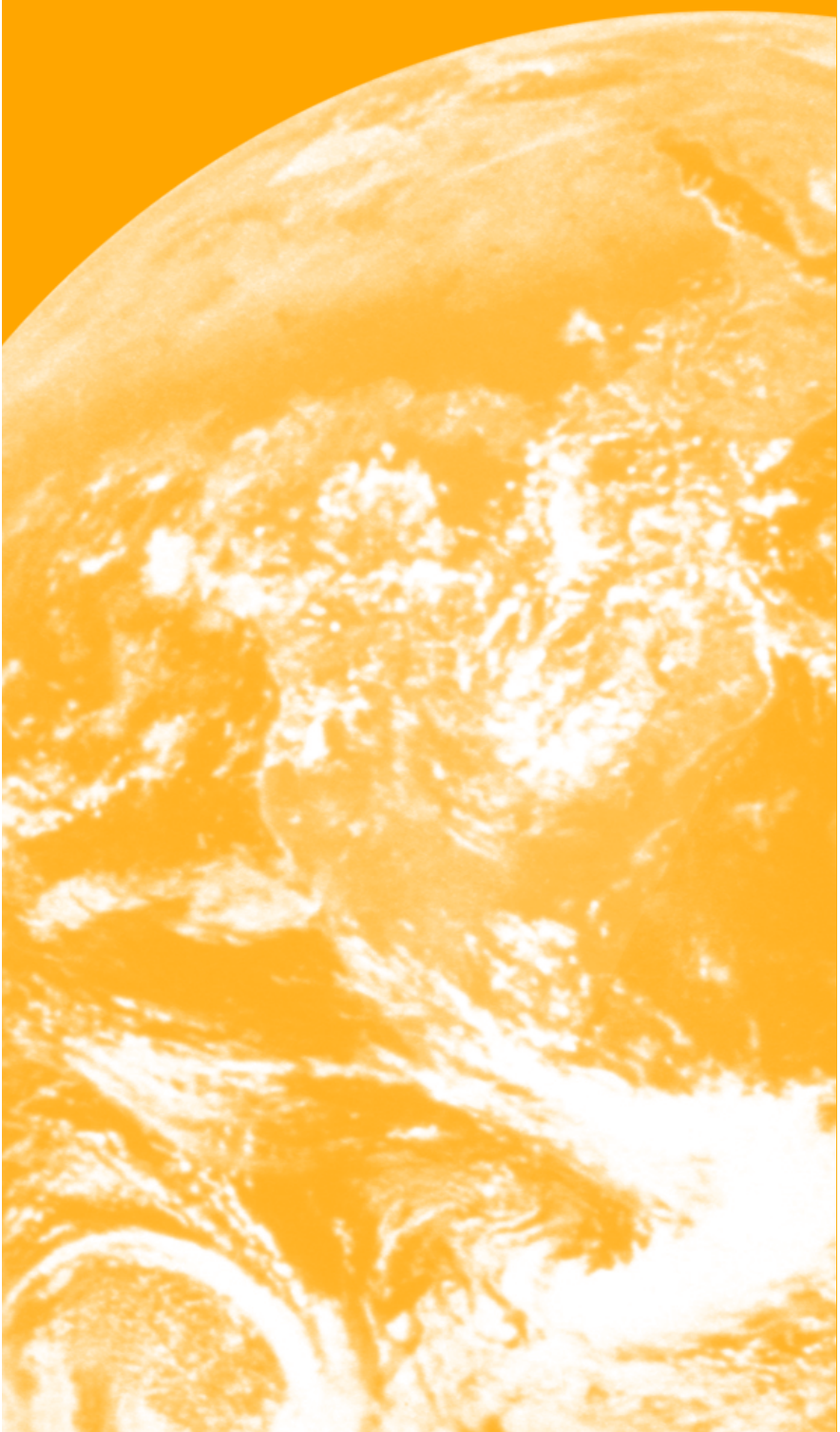

XXII
General Assembly
19 - 30 July 1999

international union of
geodesy and geophysics

IUGG XXII GENERAL ASSEMBLY

18-30 July 1999 Birmingham, UK

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PART I

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OFFICERS OF THE UNION, ASSOCIATIONS, AND COMMISSIONS

Officers of the Union for 1995-1999

Bureau

President:	P.J. Wyllie (USA)
Vice-President:	U. Shamir (Israel)
Secretary General:	G. Balmino (France)
Treasurer:	S. Gregersen (Denmark)
Members:	J. Chen (China), A.S. Monin (Russia), S. Uyeda (Japan)

Non voting Members:

Assistant Secretary General:	P. Pinet (France)
Assistant Treasurer:	A.W. Hansen (Denmark)
Honorary Secretary General:	Baron P. Melchior (Belgium)

Executive Committee

The Executive Committee consists of:

The Bureau: (see above)	
The Past President of the Union:	H. Moritz (Austria)

The Presidents of the International Associations:

IAG:	K.P. Schwarz (Canada)
IASPEI:	C. Froidevaux (France)
IAVCEI:	G. Heiken (USA)
IAGA:	M. Kono (Japan)
IAMAS:	R.A. Duce (USA)
IAHS:	J.C. Rodda (UK)
IAPSO:	L.V. Shannon (South Africa)

Finance Committee

President:	A.A. Ashour (Egypt)
Members:	V.K. Gaur (India)
	E. Groten (Germany)
	M.J. Hamlin (UK)
Secretary:	A.F. Spilhaus (USA)

Secretaries General of the International Associations

IAG:	C.C. Tscherning (Denmark)
IASPEI:	E.R. Engdahl (USA)
IAVCEI:	R.W. Johnson (Australia)
IAGA:	J.A. Joselyn (USA)
IAMAS:	R. List (Canada)
IAHS:	G.J. Young (Canada)
IAPSO:	F.E. Camfield (USA)

IUGG Advisory Board on Scientific Policy

Chairman:	P.J. Wyllie (USA)
The Associations' Presidents	

IUGG Electronic Bulletin Board

P. Pinet (Assistant Secretary General)

Inter Associations Committee on Mathematical Geophysics

Chairman:	W. Richard Peltier (Canada)
Vice-Chairman:	Roel Snieder (The Netherlands)
Secretary - North America:	Daniel H. Rothman (USA)
Secretary - Europe:	Didier Sornette (France)

Inter Associations Committee on the Study of the Deep Interior of the Earth

Chairman:	Kurt Lambeck (Australia)
Vice-Chairman:	Masaru Kono (Japan)
Secretary:	David Loper (USA)

Inter Associations Committee for Developing Countries

Chairman:	S. Uyeda
Members:	one appointed person from each Association

Tsunami Commission - Joint IASPEI - IAVCEI - IAPSO Commission

Chairman:	V.K. Gusiakov (Russia)
Secretary:	J.F. Lander (USA)
Vice-Chairmen:	S. Tinti (Italy)
	Y. Tsuji (Japan)
Representatives of Associations:	Hiroo Kanamori, USA (IASPEI), Yuichi Nishimura, Japan (IAVCEI), James Moore, USA (IAVCEI), Fred E. Camfield, USA (IAPSO)

IUGG Liaison Officers with Intergovernmental Organisations

United Nations Educational, Scientific and Cultural Organisation (UNESCO):	R.D. Adams (UK)
Cartographic Office of the United Nations:	J. Kakkuri (Finland)
World Meteorological Organisation (WMO):	R. List (Canada)

IUGG Representatives on ICSU Committees

Federation of Astronomical and Geophysical data analysis Services (FAGS):	O.B. Andersen (Denmark)
	G. Balmino (France)
Committee on Space Research (COSPAR):	J. Luhmann (USA)
Committee on Water Research (SCOWAR):	H.J. Colenbrander (The Netherlands)
Scientific Committee on Antarctic Research (SCAR):	T. Hirasawa (Japan)
Scientific Committee on the Problems of the Environment (SCOPE):	R.E. Munn (Canada)
Scientific Committee on Oceanic Research (SCOR):	L.V. Shannon (President, IAPSO)
	R.A. Duce (President, IAMAS)
Scientific Committee on Solar-Terrestrial Physics (SCOSTEP):	D. Williams (USA)
International Geosphere- Biosphere Programme (IGBP):	C.J.E. Schuurmans (The Netherlands)

IUGG Representatives on Inter-Union Commissions

Inter-Union Commission on the Lithosphere (ICL):	S. Gregersen (Denmark), Bureau Member

IUGG Representatives on other Bodies

Instituto Panamericano de Geografia e Historia (IPGH):	W. Torge (Germany)

ORGANISING COMMITTEES FOR THE 22ND GENERAL ASSEMBLY

IUGG99 Organising Committee

Professor Graham Westbrook (Chair)
School of Earth Sciences
University of Birmingham
Birmingham

Professor Kathryn Whaler
(Chair of Programme Committee)
Grant Institute
University of Edinburgh
Edinburgh

Professor Uri Shamir (Vice-President IUGG)
Israel Institute of Technology
Haifa, Israel

Professor Soren Gregersen (IUGG Treasurer)
National Survey and Cadastre Denmark
Copenhagen
Denmark

Professor Mike Hamlin
(National Correspondent & Chair UK IUGG
National Committee)
The University of Birmingham
Birmingham

Professor Stephen A Thorpe
School of Ocean and Earth Sciences
Southampton Oceanographic Centre
Southampton

Mrs Elke Versmessen-Jeffery
School of Earth Sciences
University of Birmingham
Birmingham

IUGG99 Programme Committee

Professor Kathryn Whaler (Chair)
Grant Institute University of Edinburgh
Edinburgh

The Secretaries-General of the seven Associations:

IAG	C.C. Tscherning
IAGA	J.A. Joselyn
IAHS	G.J. Young
IAMAS	R. List
IAPSO	F.E. Camfield
IASPEI	E.R. Engdahl
IAVCEI	R.W. Johnson

UK IUGG National Committee
(IUGG panel of the Royal Society)

Professor Mike Hamlin
(National Correspondent & Chair)
The University of Birmingham
Birmingham

Professor Bill McGuire (Secretary)
Benfield Greig Hazard Research Centre
Department of Geological Sciences
University College London
London

Dr David N Collins (IAHS)
Alpine Glacier Project School of Geography
University of Oxford
Oxford

Ms Ruth Cooper (Royal Society)
The Royal Society
London

Professor Alan H Dodson (IAG)
IESSG
University of Nottingham
Nottingham

Dr George Helffrich (IASPEI)
Department of Geology
University of Bristol
Bristol

Professor Alan Thorpe (IAMAS)
Department of Meteorology
University of Reading
Reading

Professor Stephen A Thorpe (IAPSO)
School of Ocean and Earth Sciences
Southampton Oceanographic Centre
Southampton

Dr Alan S Rodger (IAGA)
British Antarctic Survey
Cambridge

Dr Hazel Rymer (IAVCEI)
Department of Earth Sciences
Open University
Milton Keynes

IUGG99 OPENING CEREMONY

The Opening Ceremony of the 22nd General Assembly of the International Union of Geodesy and Geophysics was held in the evening of Sunday 18th July in Hall 1 of The International Convention Centre, Birmingham, commencing at 18.30.

The speakers were introduced by Graham Westbrook, Chairman of the Organising Committee for IUGG99.

Programme

Welcome from Mike Hamlin, Chair of the UK Panel of the Royal Society, on behalf of Royal Society

Welcome from Cllr Albert Bore, Leader of the Council, on behalf of the City of Birmingham

Welcome from Maxwell Irvine, Vice Chancellor of the University of Birmingham, on behalf of the University

Speech by Peter Wyllie, President of IUGG

Speech by Georges Balmino, Secretary General of IUGG

Speech by Soren Gregersen, Treasurer of IUGG

Peter Wyllie, President of IUGG, declared the 22nd General Assembly open

Keynote Speech by the Rt. Hon. Michael Meacher MP, UK Minister for the Environment

Presidential Address

Peter J. Wyllie, IUGG President

Distinguished guests, ladies and gentlemen:
Many times during the past four years since the Boulder IUGG General Assembly I have said at meetings of the Associations and Union: "I invite you to attend the next General Assembly of the IUGG in Birmingham, July 1999", and now I say instead: "Welcome to this General Assembly". A glance at the program should confirm that we have a good time ahead of us, and you may have noticed that many of your symposia are jointly sponsored by other Associations. You may even wonder what some of the sharing acronyms mean. Because many scientists come these quadrennial General Assemblies with their Association in view, without being familiar with the other six international Associations which comprise IUGG, I decided to take this opportunity to outline the overall structure, and to point out that by your attendance, you are now all IUGG members. IUGG is your Union, and it can be successful only as long as you and the other Associations work together on the many significant problems which face us.

The International Union of Geodesy and Geophysics is one of the oldest scientific unions (constituted in 1919), and it is your connection to ICSU, the International Council for Science (formerly the International Council of Scientific Unions).

IUGG is a Union of seven autonomous International Associations. These Associations are:

IAGA	:	Geomagnetism and Aeronomy
IASPEI	:	Seismology and Physics of the Earth's Interior
IAVCEI	:	Volcanology and Chemistry of the Earth's Interior
IAHS	:	Hydrological Sciences
IAPSO	:	Physical Sciences of the Oceans
IAMAS	:	Meteorology and Atmospheric Sciences
IAG	:	Geodesy

The scope of the science covered by IUGG can be illustrated by this cross-section through the Earth. We deal with the magnetic properties of the Earth's core (IAGA), with the physical (IASPEI) and chemical (IAVCEI) structure of the Earth's interior and crust, with the near-surface consequences of dynamic processes within the mantle, earthquakes and volcanoes (IASPEI and IAVCEI), with the fluid envelopes of water (IAHS and IAPSO) and atmosphere (IAMAS), and with the magnetosphere (IAGA) and so into space where the physics and chemistry of planetary bodies increasingly attract our attention. Earth properties and dimensions are measured from the surface and from satellites (IAG).

Whenever I think of the Union and Seven Associations, I am reminded of Snow White and the Seven Dwarfs. The seven dwarfs correspond to the seven Association Secretaries-General, working diligently under the enlightened leadership of the Executive Committee, represented by Snow White. The Secretaries-General are probably the most influential group of IUGG members, and we owe them a great debt for their work in connection with this General Assembly. Those of you who know them can probably correlate each dwarf in the slide with a particular Secretary-General.

Each Association has its own domain, but the boundaries between them are artificial, as demonstrated by the work of many inter-disciplinary Committees and Commissions. The Associations are concerned with both local and global processes, and these are all interconnected. The Earth is undisciplined, and it does not recognize our academic subjects.

The General Assembly program this year developed from discussions with all Associations represented, and with consideration of scientific priorities as we enter the next century. It was agreed that although our scientific priorities must be based on beautiful science, and we have plenty of intriguing scientific problems to arouse our curiosity, we must give considerable weight to societal problems. These include the challenges of sustaining sufficient resources, of coping with geological hazards as humanity progressively covers the surface of the Earth, and of adjusting to inevitable environmental and global climatic changes. These considerations explain the program, which emphasizes two features compared with previous Assemblies. First, more effort went into organizing co-sponsored multi-disciplinary symposia, and secondly there is more attention to the applications of our science to societal problems.

We can consider the Earth as being driven by two engines, the Earth's internal engine which powers slow convection within the solid interior, and the external solar engine, which drives faster motions in the fluid envelopes. The force of gravity makes sure that everything moves to its proper place. IAVCEI is the direct link between these two engines. I tell my students of petrology that all good things come from the Earth's mantle, and the eruption of Mt. Pinatubo in 1991 provides a graphic illustration of material transfer from the interior directly to the fluid envelopes. This small eruption not only covered the surrounding area in thick layers of volcanic ash, but it set the scene for subsequent landslides, floods and mud flows, as shown in these slides. Geological hazards such as this illustrate the interdependency of events, and water plays a significant role in these problems. The eruption also sent a plume of ash and sulfur into the stratosphere, with global

consequences for climatic change which were documented in detail. The heavy rainfall in Los Angeles for February 1998 was attributed to the effect of El Niño. This diagram from the Los Angeles Times shows that the record February rainfall was in 1884, one year after the great eruption of Krakatoa. There is more than one way to make rain.

Let us now start with the Earth's interior, and follow through to the surface. There have been extraordinary developments during the last few years in our understanding of mantle composition, structure, and dynamics. Independent and combined approaches using seismology, geochemistry, volcanology, high-pressure experiments, geodesy, and geophysical fluid dynamics have brought us much closer to understanding the workings of the Earth's internal engine. The slide is an example of the first complete three-dimensional calculations of mantle convection, produced by Paul Tackley in his doctoral thesis at the California Institute of Technology. By including a phase transition known to occur at a depth of about 670 km, he and his colleagues have since generated even more complex models, elucidating some of the complex processes which may occur in the mantle. One picture shows the mushroom-shaped thermal plumes rising from the core-mantle boundary, and the other picture shows the cooler outer layers converging and sinking along linear features considered analogous to subduction zones.

Major interaction occurs between the solid earth and its fluid envelopes at subduction zones. There is no doubt that huge quantities of H2O and CO2 are carried down to depths of at least 100 km in subducted oceanic plates. As the rocks are metamorphosed with increasing pressure and temperature, dissociation reactions release the volatile components which become involved with mantle melting and volcanic processes, and reach the surface again through volcanic eruptions (IAVCEI). The slide shows the remarkable tomographic results obtained in recent years for the subducted ocean crust and mantle wedge beneath the volcanic arc of Japan (IASPEI). Correlation of the rock properties so revealed with the laboratory-calibrated dehydration and melting reactions will eventually elucidate the processes occurring in this environment. The intriguing uncertainty is how much of the subducted volatile components escape these processes and are trapped and transported down to 670 km, or even to 2900km, the core-mantle boundary. Some seismologists and geochemists (IASPEI, IACVEI), from independent lines of evidence or argument, write in terms of perhaps 10-100 ocean masses of H2O stored within the Earth's deep mantle. Has some of the water of IASPEI and IAHS sniffed the molten metallic iron of the Earth's core (IAGA)?

Another dramatic exchange between the fluid envelopes and the solid earth occurs along the mid-oceanic ridges where oceanic plates are diverging. Ocean water is forced down into the tension cracks toward the region where hot magma is rising from the mantle. The water is heated, experiencing enormous chemical exchanges with the basalt of the ocean floor, and then ejected in the submarine hot springs where the chilling causes immediate precipitation of dissolved material. The deposits include metallic sulfide minerals which will become ore deposits as they are later incorporated into continental margins. In these dark, warm, submarine oases, colonies of bacteria which derive energy from hydrogen sulfide, without photosynthesis, are accompanied by larger exotic fauna including giant tube-worms and crabs. The fate of the biosphere is intimately involved with the solid-fluid interaction; life in the oases alternately flourishes and dies out as lava is erupted, or as the positions of the venting solutions migrate. With the discovery of these vents in 1977, all previous attempts to explain the composition of ocean water had to be abandoned.

Interaction between atmosphere (IAMAS) and ocean (IAPSO) is responsible for the great global thermohaline circulation system in the oceans. The climate in the Arctic regions affects the salinity of surface waters, which is a driving feature of the global currents extending from the Arctic to the Antarctic ice sheet, where interaction with the Ross Ice Shelf in turn affects the stability of the West Antarctic Ice Sheet. The satellite picture of Byrd Glacier flowing into the Ross Ice shelf is a reminder that if the quite recently discovered fast ice streams should become invigorated by a change in the balance of salt and fresh water beneath the Ross Ice Shelf associated with global ocean currents, or by volcanic eruptions beneath the ice sheet (IAVCEI), the consequences could be dramatic. A partial collapse of the Antarctic Ice Sheet would release more fresh water than the total presently in rivers and lakes, but of course it would enter the ocean with disastrous consequences for the millions of people living in cities near sea level. This aerial view of a Moldaves Island shows how vulnerable the 250,000 inhabitants of the islands are to small increases in sea level.

IUGG has much to offer in basic research which can help us obtain a better understanding of climate change. Several Associations are strongly involved. There were many inter-Association sessions between IAHS, IAMAS, IAPSO, and IAVCEI at the Joint Assembly of IAMAS/IAPSO in July, 1997, and more will be found in the program for this IUGG General Assembly. The volcanoes of IAVCEI may exert a powerful influence on climate change, even to the extent of causing mass extinctions of dinosaurs, according to some experts. This cover of "Science News" warns us that ".. the World Warms". The book by Imbrie and Imbrie reminds us that we are currently within an ice age. If global warming is an established fact, this warming is occurring within an Ice Age which has already experienced many major climatic cycles without any intervention by or influence of humankind. It is because of uncertainties in prediction that a close watch is maintained for signals from the fast

ice streams in Antarctica. We really ought to be sure which way we are going before we take corrective action, and we should be confident about the consequences of any actions.

As cities grow larger, “Time” magazine headlines megacities. Many of the world’s megacities are situated in locations threatened by earthquakes, volcanic eruptions, landslides, floods, and rising sea-level. Volodya Keilis-Borok, past-president of IUGG, emphasized the idea that the basic science knowledge carried within the IUGG Associations should be brought to bear on megacity problems. Can some way be found to channel the IUGG scientific expertise to benefit society? I am pleased that IUGG vice-president Uri Shamir (past president, IAHS) is chairman of an IUGG Committee which will coordinate Association efforts in this direction. There is obvious overlap with the objectives of IDNDR (International Decade for Natural Disaster Reduction), which is drawing to a close. The concentration of population in megacities requires better management of resources, and also enhanced awareness of and mitigation of geological hazards. It is important to consider risk assessment and levels of acceptable risk. So far, it appears that many governments prefer to wait for a disaster and pay mop-up money rather than to provide significant research support for study of and prevention of hazards.

Mount Rainier is a beautiful mountain looming over Seattle. It is also a rotten volcano. Magma (IAVCEI) has been corroding the inside of the mountain through about 2,000 years since the last eruption. The atmosphere and water (IAMAS and IAHS), in the form of ice and running streams, have been attacking the outside of the mountain. Eventually the walls must break, and an eruption powered by subducted Pacific Ocean water (IAPSO) will produce a variety of explosive phenomena. During the volcanic eruption, there will undoubtedly be landslides, mudflows and floods, which could devastate much of the area around the volcano. A local volcanic disaster like this could have global consequences, not only through climatic change, but also in terms of the economy. Many of us wrote our abstracts using Microsoftware, and many of us flew here in Boeing aircraft. The headquarters of both companies are within striking distance of Mount Rainier, but I must add that the odds are very low for an eruption large enough to cause a global economic disruption.

Our human society is a small but influential part of the biosphere, perched between the solid earth and its fluid envelopes. Society extracts resources from the rocks and fluids of the environment, processes them, and returns them to the environment - to the earth cycles - as wastes, commonly in more toxic form that the original resource materials. This cover of “Time” magazine, which shows the globe of “endangered Earth” wrapped in cellophane and tied with string, reminds us that it is essential that we obtain a better understanding of how we as a society are affecting the Earth cycles, and contributing to environmental change. If we do irreparable damage and rupture the delicate films of air, water, and soil on which we depend, we will not be able to enjoy the luxury of conducting pure science to satisfy our curiosities.
I now declare this 22nd General Assembly of IUGG to be open. There is opportunity for all seven Associations to evaluate their priorities in terms of research curiosity and society’s needs. Enjoy your Symposia.

Opening Address

G. Balmino, Secretary General, IUGG

Honoured guests, ladies and gentlemen, dear colleagues. According to our Statutes, I have to report here on the administration of the Union since the last General Assembly. Since it is going, by nature, to be not as exciting as our President's speech which dealt with our Scientific Activities, I will make it short.

The membership of the Union has been stable. Compared to the previous period, this one did not see major changes although we received several requests for information about membership from quite a few countries — among which is Albania which entered IUGG to-day.

The Bureau met three times (in Copenhagen in 1996, in Birmingham, in 1997 and in Moscow, in 1998), plus one time here last Thursday. The 1996 meeting was followed by a meeting with the Association Presidents and Secretaries General and the second one by a formal Executive Committee meeting.

At these meetings and by correspondence during the past four years, the Bureau administered the Union affairs in accordance with our rules and with the Council decisions at Boulder.

The Executive Committee started activities to prepare this General Assembly at the Copenhagen meeting, worked with the Oversight Committee (created in Boulder in 1995), established the Scientific Programme Committee (with Prof. Kathy Whaler taking the chair) and gave first inputs to this Committee in terms of topics for joint symposia and Union lectures.

The Committee for Developing Countries, re-instated in 1995, established its mode of operation and has been working since with the Associations and Union Committees. The role of the Advisory Board on Scientific Policy was examined and it was decided to keep the Board in stand-by until reactivation becomes necessary. Proposals for future changes in Statutes and By-Laws were discussed. A task force (led by Vice-President U. Shamir) on the topics of "Megacities" and natural hazards was created and the Alliance for Capacity Transfer was initiated by IAMAS.
At its formal meeting in 1997, the Executive Committee interacted fully with the Organising Committee here and discussed logistics, financial and other aspects of the event. The Nominating Committee was established; it has been chaired by Don Williams, former President of IAGA. The Program Committee constructed the core scientific Program of this Assembly.

Other main items of discussion and decision of the Executive Committee during the period were about the scientific activities of the Union, i.e. in the Associations and Committees and Commissions, also on administrative matters with deep implications on the IUGG future such as: the consequences of the planned (and now adopted) ICSU changes which IUGG studied thanks to an ad'hoc committee (led by Past President H. Moritz); the proposal for the creation of a non-paying category of membership, similar to what our sister Unions have.

This proposal has been discussed to-day and was accepted by the Council. It will allow many countries, in this category of Associates to formally participate in IUGG scientific activities.

We ought to be very happy of this for I think that many countries which are in a poor economic situation and where exist acute societal problems relating to environmental conditions and risks of natural disasters should belong, one way or the other, to the IUGG family.

The scientific activities of the Union are carried out by its Associations, inter-Association, inter-Union Committees and Commissions; they are reported yearly to ICSU, and also described in our Web page. All seven Associations held their Scientific Assembly at mid-term in the period, two of them jointly. Our major Commissions and Committees (on the Lithosphere, on Mathematical Geophysics, on the Earth Deep Interior, on Tsunamis) also held very successful meetings in the period.

The Union continued to sponsor permanent services which operate under the guidance of Associations and which belong to the Federation of Astronomical and Geophysical data analysis Services. They have a prominent role, even more important to-day as the quality of their products make them an integrated part of the research in geodesy and geophysics.

Our President has had, among many duties, the responsibility of our relationship with ICSU, and our links with various committees and programmes of ICSU are maintained thanks to the action of our representatives. ICSU has supported several IUGG projects, by providing seed money to some of them, and significant contributions to others.

IUGG also has very active liaison persons with other scientific organisations (UNESCO, WMO, other Unions) which are well-represented here to-night and which contribute to our work.

I would like now to conclude and say that this second period of my mandate has been different though equally exciting. From my position I could witness every day how IUGG activities have become more and more interdisciplinary and how the Union can play a unique role in linking the individuals, their energy, the resources in all countries for increasing our knowledge of planet Earth. IUGG is a big orchestra which plays more and more complex music, but it requires to change the conductor from time to time. This time has come, and at the end of this G.A. I will wish my successor to enjoy conducting the orchestra with new and exciting scores.

Thank you!

Opening Remarks by Treasurer

Søren Gregersen

IUGG is a federation of 7 independent associations who agree that it is practical and advantageous to work together for political reasons as well as for scientific reasons.

We have within IUGG a good atmosphere for interdisciplinary discussions. I see IUGG as a network for which the important key words are: global and international as well as interdisciplinary and disciplinary. This IUGG network is built for communication in many ways. Of special importance is communication between developing countries and developed countries.

I do see a fundamental need for this IUGG network. For some scientists it is obvious. For others it is not. But I do claim that the privileged, young scientist from the developed country needs this communication network more than he or she realizes.

I can tell you that the economic situation of IUGG is good. This is a very good basis for new scientific initiatives. I can also tell you that the budget for the general assembly alone is approx. 1 mill. pounds. And the IUGG budget in addition is just a little less than 1 mill. pounds for a 4-year period.

The number of member countries is 75. Too many of these are behind with their payments. As a consequence approx. one third are observers, they can not vote in council. One possibility to remedy this will be discussed during this general assembly, namely to accept non-paying, associate membership. I hope this will be accepted, so that we can strengthen the network rather than break it by throwing out members.

Please appreciate that a lot of people have worked to make this general assembly possible. Enjoy it, and get some good science done!

Keynote Speech by Rt Hon Michael Meacher MP, Minister for the Environment

As we approach a new millennium, we are faced with numerous challenges in protecting our environment, and the most challenging task which we, as government, have to address is climate change. I welcome the opportunity, presented by this General Assembly of the International Union of Geodesy and Geophysics, to re-affirm the UK's commitment to taking positive steps to address climate change, and to stress the importance of good science in underpinning the decisions which we, as government, have to take.

I know that during the coming week you will be discussing processes bearing on a range of environmental issues. I would like to reflect briefly on one particular issue, stratospheric ozone depletion, and the lessons we can learn from the experience of dealing with that. Alarm bells about the damaging properties of certain halogenated substances had been sounded several decades ago, but nevertheless the use of CFCs escalated greatly during the 1970s and 80s. Once the "ozone hole" was discovered in the mid 80s, by Joe Farman and his colleagues of the British Antarctic Survey, the mounting weight of scientific evidence about the cause of the problem brought about comprehensive international action. This happened despite the rearguard action by vested interests and naysayers. The Montreal Protocol and its various amendments, if fully implemented, should result in the recovery of the ozone layer in the latter half of the next century.

This is great success story; an achievement of which both scientists and politicians can be proud. The co-ordinator of the Ozone Convention Secretariat in UNEP has said "many in the world consider the Vienna Convention and its Montreal Protocol as outstanding successes and a model for solving other global environmental problems. It is a matter of great satisfaction that the governments listened to the scientists and took the steps recommended to protect the ozone layer. There is no doubt that the atmospheric scientists have started a new trend. They have demonstrated that science can be, and ought to be, the basis for policy".

Turning now to climate change. With the ozone story we expect that we are now reading the penultimate chapter, but in the case of climate change it is only the first chapter which is now unfolding. Again, alarm bells were rung a long time ago. Amazingly, the issue was first raised back in 1896, when Arrhenius published a paper calculating that extra carbon dioxide in the atmosphere would have a warming effect. The issue began to receive serious attention more recently, in response to increasing concentrations of greenhouse gases in the atmosphere and broader concerns about the global environment. Again, the need for good scientific understanding was apparent. This led to the founding of the Intergovernmental Panel on Climate Change, which provides the mechanism for scientists around the world to provide a consensus and report on the current state of knowledge about climate change. These scientists are currently engaged in producing the third in a series of major scientific assessments, and let me take this opportunity to record the gratitude of this government for their hard work in these assessments which provide an essential foundation for the policy process.

Meanwhile, recent work in the UK funded by my Department suggests that:

- Man-made greenhouse gas emissions have made a clear contribution to increased global temperatures in the last 50 years;
- And the Earth will warm by an average of 3 degrees Centigrade in the next 100 years, with the land warming faster than the sea.

As a result, by the 2050s we could see:

- Tropical forests die off in parts of northern Brazil;
- Tropical grasslands transformed to desert or temperate grassland;
- 20 % more people at risk of hunger in Africa;
- 20 million extra people at risk of flooding due to sea-level rise;
- 170 million extra people living in countries with extreme water stress; and
- Increased exposure to malaria.

The international community has begun to respond to these threats. Under the Kyoto Protocol, legally binding targets for a reduction in greenhouse gas emissions by developed countries were agreed. As part of this process, the UK has taken on a legally binding target to reduce emissions of greenhouse gases by 12.5 % by 2008-2012. We have also set a challenging domestic goal to reduce CO2 emissions by 20 % by 2010.

Last year, we published a climate change consultation paper, which began a debate on how the UK could meet these goals. The 600 written responses we received, and the views put forward at a number of seminars, were very encouraging. They showed that the vast majority of people and organisations were concerned about climate change and wanted to take action.

We are now developing our new climate change programme, and intend to consult on it later this year. This gives us the chance to put in place a far-reaching strategy to tackle climate change. We are aiming for a balanced programme, building partnerships between

Government, business, local authorities, voluntary groups and individuals. We will focus on measures that maximise the benefits, promote social inclusion and do not harm UK competitiveness.

This, however, is only a beginning; much more action will be needed. Climate change is going to be much harder to deal with than stratospheric ozone.

Our understanding of natural climate variability isn't perfect — so it's hard to distinguish man-made effects. The computer resources needed to model global climate are great, restricting the number of experiments which can be run. The range of natural processes which should be included in climate models is extensive. For instance, my Department part-funds a climate change research programme at the Hadley Centre based at Bracknell here in England. The Hadley Centre's General Circulation Model, in common with most others, has not yet been run with a fully interactive carbon cycle — although tests of just such a model have recently begun. So the scientific challenges are very great and, although tremendous achievements have been made in recent years, much remains to be done.

The challenges for politicians and for society are, however, much more profound. Numerous different greenhouse gases are involved, from diverse sources. Indeed, new greenhouse gases keep being detected in the atmosphere. But the most important is carbon dioxide. The developed world is quite addicted to the benefits brought by readily available cheap fossil fuel — and the developing countries naturally aspire to the levels of comfort and convenience we ourselves enjoy.

The complexity of the picture is compounded by various vested interests — perceived to be threatened, sometimes, by evenment discussion of what the future may hold. Moreover, vested interests also seek to influence the scientific process, because of its key position in the debate.

You will all have heard the claims of those who doubt the reality of man-made climate change. Some claim that warming trends have not been observed, or that if they have, they are due to natural causes. Others cast doubt on the magnitude of future warming, claiming that negative feedbacks will offset the effects of man-made gases. Some of the proponents of these ideas are respected scientists, and their beliefs sincerely held. The international community must include them, listen to them, analyse their ideas; in the same way that honourable scientific debate has been conducted for centuries and from which progress may be made.

Some of the so-called "sceptics" however, are funded by those with vested interests to protect. Where their poorly constructed or downright incorrect, ideas are properly denied the platforms accorded to sound science, they seek refuge in publications of their own, sometimes purporting to have an official status they cannot claim. Scientists everywhere have a duty not only to seek the truth, but also to speak up for it; and this is especially true of those supported by public funds. I appeal to all of you not to turn a blind eye to the mischievous, or worse, but to speak out whenever you come across misleading claims. Our descendants deserve no less.

And of course it is essential that you all publicise your work in the ways which have stood the test of time; in peer-reviewed journals, describing not only your findings but also your methodologies, and making all data available to others.

You have an intensive and busy fortnight ahead of you. I am delighted that this important meeting is being held here, and I wish you constructive and interesting deliberations over the next few days.

List of deceased Officers of IUGG and its Associations 1995 - 1999

Union

J. Coulomb (France)

International Association of Geodesy

Y. Boulanger (Russia)
S. Krynski (Poland)
T.J. Kukkamaeki (Finland)
Svend Saxov (Denmark)
R. Sigl (Germany)
H. van Gysen (South Africa)
L. Wilcox (USA)
A. Wassef (Egypt)

International Association of Seismology and Physics of the Earth's Interior

J. Drakopoulos (Greece)
Stephan Mueller (Switzerland)
Ziro Suzuki (Japan)

International Association of Volcanology and Chemistry of the Earth's Interior

Werner Giggenbach (New Zealand)

International Association of Geomagnetism and Aeronomy

D. Gurnett (USA)
D. Hunten (USA)
J. Lastovicka (Czech Republic)
V. Laursen (Denmark)
M. Nicolet (Belgium)
T. Pulkkinen (Finland)
R. Sridharan (India)
D.J. Stevenson (USA)

International Association of Meteorology and Atmospheric Sciences

Bernice Ackerman
Prof. R. Anathakrishnan (1911-1998)
William H. Best
Horace R. Byers (USA)
Henry Charnock (United Kingdom)
Max Diem
Hermann Flohn (Germany)
Theodore Fujita
Christian B. Junge (Germany)
Andrei Kolmogorov
Prof. P. Koteswaram (1915-1997)
Irving P. Krick (USA)
Hubert Lamb
David M. Ludlum
Patrick McTaggert Cowan (Canada)
William E.K. Middleton
Allan H. Murphy
Jerome Namias (USA)
Hand H. Neuberger
Marcel Nicolet (Belgium)
Hans Oeschger (Switzerland)
Jose Pinto Peixoto (Portugal)
Byron Phillips
Charles H.B. Priestly
Robert Ratcliffe
Reinhold R. Reiter (Germany)
Herbert Riehl (USA)
G.D. Robinson
Verner Soumi
Vern Suomi
J. Verne Hales
Bernard Vonnegut (USA)
E. Wendell Hewson

International Association of Hydrological Sciences

N. Abasto Lara (Bolivia)
M.C. Fuschini-Mejia (Argentina)

International Association of Physical Sciences of the Ocean

Mohammed El-Sabh (Canada)
Longfei Ye (China)

CLOSING PLENARY SESSION

Friday, July 30, 1999

Introduction by P. Wyllie, President of IUGG

Introduction

Welcome to the Closing Plenary Session of the 22nd General Assembly of IUGG. It is good to see that there are some hardy souls staying to the very end. From all reports I have received it is evident that the Assembly has been highly successful. You may be interested in the latest figures on attendance. By Thursday, total registration was 4,026 (plus accompanying members). Of these, about 3,400 are foreign registrants from 90 countries.

I must express my appreciation to the Executive Committee - the IUGG officers, Bureau members, Association Presidents and Secretaries-General. They have worked together as a team in order to generate the best science in each Association, and within the Union. Our earth sciences know neither disciplinary nor political boundaries, and the program has dealt with broad inter-Association processes as well as with our specialized subjects. The nature of the Program demonstrates how well the Associations have been working together so that we function as a Union. Special thanks are due to Kathy Whaler who took on the task of running the Program Committee, and satisfying the needs and demands of seven Associations requires patience and skill. I see Professor Ashour, who has devoted years to IUGG, as President and recently as Chairman of the Finance Committee, which guides your dollar contributions into the best scientific avenues. Near him is Professor Moritz, past President, who prepared the peaceful collaboration between Bureau and Associations from which we have benefited during the past four years.

Of course, in order for the General Assembly to work, there must be cooperation between the Union and the Birmingham organizers. Professor Hamlin has not only served on the IUGG Finance Committee, but also as our host, representing the Royal Society. He has a remarkable ability to compose a few sentences to defuse a developing argument, which has proved to be very useful in Council meetings. Other thanks will be delivered formally in due course, but I must mention the heavy responsibility carried so well by Professor Westbrook, with the professional assistance of Elke Versmessen, Conference Organizer. The closeness of the collaboration was demonstrated last Monday in the Beer tent with the Jazz Group, where Secretary-General Georges Balmino danced with Elke Versmessen, in style quite reminiscent of Fred Astaire and Ginger Rogers, while a few hundred registrants stood in line hoping that 5,000 loaves and fishes would be miraculously transformed into the 50,000 loaves and fishes required to satisfy earth and fluid scientists, notorious for their voracious appetites!

Now we move on to the reading of the Resolutions, which were organized from the rather random text received from seven Associations into the polished statements you are about to hear. Professor Shamir and his committee members worked extremely hard in their preparation."

Resolutions

There are 7 resolutions, each one is read in English by JoAnn Joselyn, incoming Secretary General of IUGG, and in French by Georges Balmino, outgoing Secretary General.

Introduction of new President by P. Wyllie

"The Resolutions give us some idea of where the Union is headed. Now it is my very pleasant duty to introduce the new Union President, Masaru Kono, who will guide and be guided by the new Association officers of the Executive Committee into the right paths for continued success of the Union.

I have known Masaru Kono through the past four years during his active and lively membership of the Executive Committee. He obviously has the best interests of the Union and the Associations at heart. At the IAGA Medieval Banquet, he and his charming wife were crowned King and Queen of the banquet. After an announcement that he would soon become Emperor, I was moved to join the many toast-makers with the following: "Long live the King, and after the election next week may the Emperor retain his clothes".

Masaru, I compliment you for taking on this task - indeed, I thank you for taking it on - and now you can introduce your new team.

Presentation of the officers for the period 1999-2003

Masaru Kono, the incoming President of IUGG, introduces the officers of the IUGG administration for the next period: Bureau members, Finance Committee members, and the Presidents and Secretaries General of the seven Associations.

Announcement about the next General Assembly

M. Kono announces that the 23rd General Assembly of IUGG will be held in the Summer of 2003, in Sapporo, Japan.

Formal Closing: P. Wyllie

In closing, I must add a few words about the invitations for the next General Assembly. Both Japan and India prepared strong, attractive proposals. Many of us would

like to go to both Hyderabad and Sapporo - but the Council had to choose one place for 2003. I am pleased to report that the decision was made without acrimony, in contrast with the debate associated with the selection of the location of the next International Geological Congress.

India's presentation has made a lasting impression, and the country and its science are now more familiar to many people here. It was a great exercise in Public Relations. After the decision was made to go to Sapporo, the Indian National Representative, Dr. Singh, told me a story reflecting India's accepting attitude. The story is too long for me to develop it here, so I'll tell you some key words and the punch line, and let your imaginations put the pieces together. Key words are: India, King, Prime Minister, a cut hand, prison, a royal hunting trip, a tribe of cannibals, capture, unfit food, releases from captivity and prison, and the key punch line is: "In the end, it was all for the best".

On that note of harmony, I declare the 22nd General Assembly to be closed, and deliver the official IUGG Presidential bell to my successor, Masaru Kono.

Resolutions of the Union Adopted at the XXII General Assembly

Birmingham, 30 July 1999

RESOLUTION 1: Integrated Global Earth Monitoring Systems (IGEMS)

The International Union of Geodesy and Geophysics,

recognising that:

1. contemporary science and technology have now made it possible to observe in a sustained fashion (i.e., monitor) geophysical phenomena, processes, and fields across all disciplines and in a truly global and near-real-time (synoptic) fashion (using remote sensing as well as direct sensing) for the first time, making Earth System Science fully feasible;

2. the International Council for Science (ICSU) -- together with CEOS (Committee on Earth Observing Satellites), IGFA (International Group of Funding Agencies (for global change research)), IOC (Intergovernmental Oceanographic Commission), WMO (World Meteorological Organisation), UNEP (United Nations Environmental Program) -- already has a well established Federation of Astronomical and Geophysical Services (FAGS), has moved forward with planning an Integrated Global Observing Strategy (IGOS) that links GOOS (Global Ocean Observing System), GCOS (Global Climate Observing System) and GTOS (Global Terrestrial Observing System), and with analogous initiatives underway in seismology, geodesy, geomagnetics, volcanology, hydrology, and other geophysical disciplines;

3. the IUGG has a well established role in fostering long-term geodetic and geophysical observations for the benefit of both geophysical research and human society, perhaps most notably through its several Permanent Services;

and noting with concern that:

4. national geodetic and geophysical observing systems are declining in many countries;

affirms that:

- IUGG will continue to play a leading role in the evolution and utilisation of an Integrated Global Earth Monitoring Systems (IGEMS) theme for the benefit of all scientists and societies;

and urges:

- governments and international agencies to sustain and improve national and international geodetic and geophysical monitoring systems and promote the free and unrestricted transfer of data.

RESOLUTION 2: Protecting the GNSS Radio Frequency Spectrum

The International Union of Geodesy and Geophysics,

recognising that:

1. space-based Global Navigation Satellite Systems (GNSS) such as GLONASS, GPS (existing global positioning systems), and GALILEO (planned European satellite positioning system) play a crucial role in all fields of geodesy and geophysics;

2. these elements constitute an essential system for modern society, for example in communication and in navigation of ships, airplanes and automobiles;

and noting that:

3. the world-wide radiofrequency spectrum is regulated through the International Telecommunications Union (ITU), and

4. at the next World Radio Conference (WRC) in April-May 2000, a vote will be taken on a proposal by the mobile satellite communication services (MSS) industry to share spectrum in the radio navigation band used for GLONASS, GPS and other satellite navigation services, which has the potential for undermining the capabilities, utility and future growth of GNSS;

recommends and urges that:

- the ITU should not make changes to the existing allocations of the radio frequencies for GNSS;

- IUGG Members and Associations work with their national organisations to ensure that the ITU does not allow encroachment into the frequencies used by the GNSS.

RESOLUTION 3: Geo-Sciences and Society

The International Union of Geodesy and Geophysics,

recognising that:

1. IUGG has a well established role and experience in development and application of the geo-sciences;

2. IUGG is committed to serving society by putting its expertise at the disposal of people, institutions and decision makers;

3. society is facing an unprecedented range of challenges that concern the earth and its atmosphere, oceans and freshwaters, the extreme hazards of earthquakes, volcanic eruptions, cyclones, floods, droughts, and other geophysical phenomena, and the interactions between human activities and the Earth environment which define sustainable development;

resolves:

1. to continue its efforts in developing and applying the geo-sciences in the service of society, in particular the prevention and mitigation of natural disasters in continuation of the International Decade for Natural Disaster Reduction (IDNDR) program beyond the decade, and considering the problems of megacities;

2. to strengthen its ties with the other disciplines that have a role in dealing with hazards and with sustainable development, to address these matters in a co-ordinated fashion;

3. to call upon the United Nations, national authorities and international funding bodies to support strongly international and national programs and institutions that develop and apply the geo-sciences, so as to improve our understanding of the geophysical world, and to create the basis for rational and effective decision making by individuals, institutions and governments.

RESOLUTION 4: International Monitoring System for the Comprehensive Test Ban Treaty

The International Union of Geodesy and Geophysics,

recognising:

1. the valuable contribution that data from the International Monitoring System for the Comprehensive Test Ban Treaty will have for geophysical research, earthquake monitoring, assessment of earthquake and tsunami hazards, and education;

2. that the International Monitoring System for the Comprehensive Test Ban Treaty will include an important global, international seismological network of seismic, hydro-acoustic, infra-sound sensors;

3. that free and open international exchange of data is the cornerstone of science;

and noting that:

4. Article IV Section A.10 of the Comprehensive Test Ban Treaty states that "The provisions of this Treaty shall not be interpreted as restricting the international exchange of data for scientific purposes";

requests:

- that open, free and undelayed access be guaranteed to all raw and processed waveform data from the International Monitoring System for the Comprehensive Test Ban Treaty, and be made available from the International Data Centre in Vienna, Austria, to other seismological data centers;

and encourages:

- the International Monitoring System for the Comprehensive Test Ban Treaty to join the Federation of Digital Broad-band Seismographic Networks.

RESOLUTION 5: Support of the International Climate and Global Change Programs

The International Union of Geodesy and Geophysics,

recognising:

- the importance and the success of the international climate and global change programs sponsored or co-sponsored by the International Council for Science (ICSU), namely: the World Climate Research Program (WCRP), the International Geosphere Biosphere Program (IGBP) and the International Human Dimensions Program (IHDP);

resolves:

- to continue its commitment to and involvement in these programs, and to call for continuing strong leadership and support of these essential programs, which provide crucial scientific guidance to society into the future of the world's environment.

RESOLUTION 6: Invitation of a General Assembly

The International Union of Geodesy and Geophysics,

recognising:

1. the importance of making each General Assembly a scientific success, and

2. the magnitude of the financial implications of an IUGG General Assembly,

requires:

1. that organisations inviting IUGG to hold a General Assembly in their country submit their detailed invitation to the IUGG Secretary General no later than 6 months prior to the General Assembly preceding the General Assembly they wish to invite;

2. that this invitation include details of all pertinent conditions relevant to the successful conduct of a large scientific meeting, including: the venue, climate, facilities, human resources and physical infrastructure available, lodging opportunities, transportation links;

and recommends:

3. that the inviting organisation take financial responsibility for the General Assembly in cooperation with the Union.

RESOLUTION 7: **Thanks**

The International Union of Geodesy and Geophysics

- Gratefully records its appreciation for the organisation and arrangements made for the XXII General Assembly. On behalf of all participants, the Council expresses its warm thanks to the UK National Committee for IUGG, to the Royal Society, to the University of Birmingham, to the Local Organising Committee, to the Program Committee, and to all others involved in making the XXII General Assembly a scientific success and an enjoyable meeting on the campus of the University of Birmingham.

Résolutions de l'Union Adoptées à la XXII Assemblée Générale

Birmingham, 30 Juillet 1999

RESOLUTION 1: **Systèmes Globaux Intégrés de Surveillance de la Terre (Integrated Global Earth Monitoring Systems, IGEMS)**

L'Union Géodésique et Géophysique Internationale (UGGI),

reconnaissant:

1. que la science et la technologie actuelles permettent d'observer de façon durable, c'est-à-dire de surveiller, les phénomènes et processus géophysiques de façon à la fois interdisciplinaire, réellement globale et pour la première fois en temps réel, ce qui rend possible l'étude du "système Terre";

2. que le Conseil International des Unions Scientifiques (CIUS) - en collaboration avec le Comité pour les Satellites d'Observation de la Terre (CEOS), le Groupement International des Agences de Financement (IGFA) pour la recherche dans le domaine du changement global, la Commission Océanographique Intergouvernementale (COI), l'Organisation Météorologique Mondiale (OMM), le Programme des Nations Unies pour l'Environnement (PNUE), soutient déjà la Fédération des Services Astronomiques et Géophysiques (FAGS), et est en train de planifier une Stratégie d'Observation Globale et Intégrée (IGOS) regroupant le Système Global d'Observation des Océans (GOOS), le Système Global d'Observation du Climat (GCOS) et le Système Global d'Observation de la Terre (GTOS),

- et que des initiatives analogues existent en sismologie, géodésie, géomagnétisme, volcanologie, hydrologie ainsi que dans les autres disciplines de la géophysique;

3. que l'UGGI a un rôle bien établi d'incitation à des programmes d'observation à long terme en géodésie et géophysique au bénéfice de la recherche scientifique et pour le bien de la société, peut-être plus spécifiquement à travers ses différents Services Permanents;

et considérant avec inquiétude le fait:

4. que les systèmes d'observation géodésique et géophysique nationaux sont en déclin dans beaucoup de pays;

affirme que:

L'UGGI continuera à jouer un rôle moteur dans l'évolution et l'utilisation de Systèmes Globaux Intégrés de Surveillance de la Terre (IGEMS) au bénéfice de tous les scientifiques et de la société dans son ensemble;

et exhorte:

les gouvernements et les agences internationales à soutenir et améliorer les systèmes de surveillance géodésique et géophysique nationaux et internationaux, ainsi qu'à favoriser l'échange libre et sans restriction des données.

RESOLUTION 2: **Protection du spectre des fréquences-radio alloué aux Systèmes Globauxde Navigation par Satellites (GNSS)**

L'Union Géodésique et Géophysique Internationale (UGGI),

reconnaissant:

1. que les systèmes Globaux de Navigation par Satellites (GNSS) tels que GLONASS, GPS (actuellement opérationnels) et GALILEO (futur système européen de positionnement par satellite) jouent un rôle crucial dans tous les domaines de la Géodésie et de la Géophysique;

2. que ces systèmes constituent un élément essentiel de la société moderne, par exemple pour les communications et la navigation des navires, avions et automobiles;

et considérant:

3. que le spectre mondial des fréquences-radio est contrôlé par l'Union Internationale des Télécommunications (UIT);

4. et qu'à la prochaine Conférence Mondiale des Radiocommunications (World Radio Conférence) en avril-mai 2000 une proposition des industriels, regroupés au sein des Services de communication Mobile par Satellites (MSS), de procéder au partage de la bande de radionavigation utilisée par GLONASS, GPS et les autres services de navigation par satellites sera soumise au vote, cette proposition étant de nature à saper les performances, l'utilité et le développement futur des GNSS;

exhorte:

- l'UIT à ne pas modifier l'attribution existante des fréquences-radio aux GNSS;

- les Pays Membres et les Associations de l'UGGI à travailler de concert avec leurs organismes nationaux pour faire en sorte que l'UIT n'autorise pas d'empiétement sur les fréquences utilisées par les GNSS.

RESOLUTION 3: Les Sciences de la Terre et la Société

L'Union Géodésique et Géophysique Internationale (UGGI),

reconnaissant:

1. que l'UGGI a un rôle et une expérience reconnues dans le développement et l'application des sciences de la Terre;

2. que l'UGGI s'est engagé à servir la société en mettant sa compétence au service et à la disposition des populations, des institutions et des responsables;

3. que la société doit faire face à une série de défis sans précédent en ce qui concerne la Terre, son atmosphère, les océans et les eaux douces, les risques extrêmes liés aux tremblements de terre, aux éruptions volcaniques, aux cyclones, aux inondations, aux sécheresses et autres phénomènes naturels, ainsi qu'aux interactions entre l'activité humaine et l'environnement géophysique qui définissent les conditions d'un développement durable;

décide:

1. de continuer ses efforts de développement et d'application des sciences de la Terre au service de la société, en particulier pour la prévention et la réduction des catastrophes naturelles en prolongeant le programme de l'IDNDR au-delà de la décennie et en considérant les problèmes des mégapoles;

2. de resserrer ses liens avec les autres disciplines qui jouent un rôle en ce qui concerne les risques et le développement durable, afin de traiter ces problèmes de façon coordonnée;

3. de faire appel aux Nations Unies, aux autorités nationales et aux bailleurs de fonds internationaux pour qu'ils supportent fermement les programmes et les institutions nationales et internationales qui développent et appliquent les géosciences, de façon à améliorer notre connaissance du monde géophysique et à créer les bases requises pour une prise de décision rationnelle et efficace de la part des individus, des institutions et des gouvernements.

RESOLUTION 4: **Système International de Surveillance pour le Traité d'Interdiction Générale des Expériences Nucléaires**

L'Union Géodésique et Géophysique Internationale (UGGI),

reconnaissant:

1. la contribution appréciable que les données du Système International de Surveillance de l'application du Traité d'interdiction générale des expériences nucléaires pourront apporter à la recherche en géophysique, à la surveillance des tremblements de terre, à l'évaluation des aléas liés aux séismes et aux tsunamis, ainsi qu'à l'éducation;

2. que le Système International de Surveillance dudit traité comportera un important réseau sismique à caractère global et international comprenant des capteurs sismiques, hydro-acoustiques et infrasonores;

3. qu'un échange libre et ouvert des données est la pierre angulaire de la science;

et considérant:

4. que l'article IV, section A.10 dudit traité déclare que "Les clauses de ce Traité ne doivent pas être interprétées comme restreignant l'échange international des données à des fins scientifiques";

requiert:

- qu'un accès libre, ouvert et immédiat à toutes les données originales (formes d'onde) brutes et données traitées en provenance du Système International de Surveillance de l'application du Traité d'interdiction générale des expériences nucléaires soit garanti, et que ces données soient mises à disposition d'autres centre de données sismiques par le Centre International de données situé à Vienne (Autriche);

et encourage:

- le Système International de Surveillance de l'application du Traité d'interdiction générale des expériences nucléaires à rejoindre la Fédération des Réseaux de Sismographes Digitaux à Large Bande.

RESOLUTION 5: **Soutien aux programmes internationaux pour le climat et les changements globaux**

L'Union Géodésique et Géophysique Internationale (UGGI),

reconnaissant:

- l'importance et le succès des programmes internationaux de recherche sur le climat et les changements globaux soutenus en tout ou partie par le Conseil International pour la Science (ICSU), à savoir: le programme mondial de la recherche sur le climat (WCRP), le programme international géosphère-biosphère (IGBP) et le programme international sur la dimension humaine (IHDP);

décide:

- de poursuivre son engagement et sa participation au sein de ces programmes;

et appelle:

- au maintien d'un leadership et d'un soutien forts à ces programmes essentiels qui fournissent à la société des orientations scientifiques décisives pour l'avenir de l'environnement planétaire.

RESOLUTION 6: **Invitation pour une Assemblée Générale**

L'Union Géodésique et Géophysique Internationale (UGGI)

reconnaissant:

1. l'importance d'assurer le succès scientifique de chaque Assemblée Générale et
2. le niveau élevé des implications financières d'une Assemblée Générale de l'UGGI;

requiert:

1. que les organisations invitant l'UGGI à tenir son Assemblée Générale dans leur pays soumettent une invitation détaillée au Secrétaire Général de l'UGGI au moins 6 mois avant l'Assemblée Générale précédant celle qu'ils souhaitent organiser;
2. que cette invitation donne tous les détails concernant les conditions nécessaires au succès d'une réunion scientifique importante comprenant: le lieu de la réunion, les conditions climatiques, les commodités, les ressources humaines et les infrastructures disponibles, les possibilités de logement, les moyens de transport;

et recommande:

3. que l'organisation qui présente l'invitation prenne la responsabilité financière de l'Assemblée Générale, en coopération avec l'Union.

RESOLUTION 7: **Remerciements**

L'Union Géodésique et Géophysique Internationale

est heureuse d'exprimer son appréciation et ses remerciements pour l'organisation et les dispositions prises à l'occasion de la XXIIème Assemblée Générale. Au nom de tous les participants, le Conseil exprime ses remerciements les plus chaleureux au Comité National du Royaume Uni pour la Géodésie et la Géophysique, à la "Royal Society", à l'Université de Birmingham, au Comité Local d'Organisation, au Comité en charge du programme scientifique et à tous ceux et celles qui ont contribué à faire de la XXIIème Assemblée Générale un succès scientifique et une réunion agréable sur le complexe universitaire de Birmingham.

Bureau of the Union for 1999-2003

President:	M. Kono (Japan)
Vice-President:	U. Shamir (Israel)
Secretary General:	J.A. Joselyn (USA)
Treasurer:	A.W. Hansen (Denmark)
Members:	J. Chen (China), H.K. Gupta (India), L.V. Shannon (South Africa)
Assistant Secretary General:	TBA
Assistant Treasurer:	TBA

Executive Committee for 1999-2003

- The Bureau
- The Past President of the Union: P.J. Wyllie (USA)
- The Presidents of the Associations:

IAG:	President:	F. Sanso (Italy)
	Secretary General:	C.C. Tscherning (Denmark)
IASPEI:	President:	B.L.N. Kennett (Australia)
	Secretary General:	ER. Engdahl (USA)
IAVCEI:	President:	S. Sparks (United Kingdom)
	Secretary General:	S.R. McNutt (USA)
IAGA:	President:	D.J. Kerridge (United Kingdom)
	Secretary General:	H.W. Kroehl (USA)
IAMAS:	President:	H. Davies (Switzerland)
	Secretary General:	R. List (Canada)
IAHS:	President (95-01)	J.C. Rodda (United Kingdom)
	President elect (01-05)	K. Takeuchi (Japan)
	Secretary General:	G.J. Young (Canada)
IAPSO:	President:	P. Rizzoli (USA)
	Secretary General:	F.E. Camfield (USA)

Finance Committee for 1999-2003

President:	A.F. Spilhaus (USA)
Secretary:	P. Pinet (France)
Members:	V.K. Gaur (India), E. Groten (Germany), M.J. Hamlin (United Kingdom)

ADMINISTRATIVE AND SCIENTIFIC REPORTS

The President's Report Presented to the first Council meeting, Sunday July 18th, 1999

As usual, most of the items in a President's report are covered in detail elsewhere (especially in the Council Meeting Agenda Book, and the Council Minutes to follow), and the Report of the Secretary-General is particularly informative. Therefore, I will just elaborate on the background of the more significant activities.

Guide-lines

Guide-lines for the new Executive Committee were presented at the 21st General Assembly of IUGG in Boulder, 1995, in the 1994 report of the Advisory Board on Scientific Policy, printed in the 1995 I.U.G.G. Chronicle No. 226, p. 88-96. As IUGG vice-president I was chairman of the Advisory Board with members the seven Association presidents plus G. Backus and R. Hide. Following the Report was my Commentary discussing proposed structural changes for IUGG and the nature and functions of the General Assemblies, and a focus for the future of IUGG (p. 97-98). Two articles elaborated on "Earth Observing Systems" (C. Mooers, p. 99-100), and "Self Destruction of Megacities" (Past-President V. Keilis-Borok, p. 100-103).

It was concluded at the first Bureau Meeting (1996) that instead of re-appointing a similar Advisory Board, there was an opportunity to implement some of the proposals in the Report through action committees. The Advisory Board could be reactivated by the next Executive Committee, or whenever it seemed necessary. Three significant committees in this role were: (1) the Megacities Task Force (chairman U. Shamir, Vice President IUGG), (2) the Committee for Developing Countries (Chairman S. Uyeda), and (3) the Alliance for Capacity Transfer (Organizer R. List). Their activities are included in the Council Agenda Book on p. 73, 106, and in report of the Secretary-General (p. 119).

The information gathered by Seiya Uyeda for the Committee for Developing Countries demonstrated unambiguously that one objective of IUGG specified in several forms in the Advisory Board Report - that of reaching out to scientists in developing countries, or countries in need - was being satisfied in many ways. An extraordinarily high percentage of Union and Association resources is channeled in one way or another toward developing countries. Of course, the union in return thus gains access to colleagues, information and data needed to understand global processes.

Planning the General Assembly Program for 1999

The dominant theme between 1995 and 1999 was, of course, the preparation for this General Assembly. Much time was spent in establishing the financial basis for the Assembly, and the brunt of this effort was carried by our hosts, Mike Hamlin and Graham Westbrook of Birmingham, and IUGG Treasurer and Vice-President, Soren Gregersen and Uri Shamir, who served on the Oversight Committee. The details were eventually sorted out, but the problems confirmed the need for clarification of financial responsibility at the time an invitation is offered to Council to host a General Assembly.

According to the IUGG Statutes, the Executive Committee meets midway between General Assemblies, when there is a rather frantic General Assembly program planning discussion. Past-President H. Moritz had invited the Association presidents to meet with the Bureau at its first meeting, only one year after the 1991 General Assembly. The direct contact and communication proved to be so beneficial that we continued in the same way during this period. Associated with the first Bureau meeting in 1996 was a meeting with Association presidents and secretaries-general which accepted as main agenda item the future of IUGG and especially the nature of the program for the 1999 General Assembly. A spirited discussion led to selection of preferred Union Symposia, and to several inter-Association and Association symposia which could be considered as follow-ons to the Union topics. I was delighted at the way the Association presidents worked together, along with their secretaries-general and the Bureau, and they clearly had a good scientific time.

By the time the Executive Committee met in 1997 for the statutory meeting, the ideas for these symposia had been passed through the Association committees, and the specific plan fell into place quite smoothly. Kathy Whaler had been persuaded by phone in 1996 to accept the position of Chairperson of the Program Committee, and by now it is clear that this was an excellent choice, and we owe Kathy Whaler a vote of thanks. The Program Committee (with Association secretaries-general playing very strong roles) still had nearly 2 years of work ahead, and I think that the program before us demonstrates the effectiveness of their work. There are two distinctive features of this program: (1) the large number of shared, inter-Association symposia, and (2) the emphasis on "Geoscience in the Service of Society", the title of U1, the first Union symposium. Unfortunately, the convenors of this symposium were unable to complete their work (personal problems), but although U1 was cancelled, its title remains a theme for the Assembly, as you can see from many other symposia.

Meetings and Association General Assemblies

I attended many meetings in addition to those of the IUGG Bureau and Executive Committee, and ICSU. Thanks to the US National Science Foundation and to my home, California Institute of Technology, I had an account for

discretionary travel which I used to attend as many Association General Assemblies as my schedule would allow. I managed to join at least Opening Ceremonies and Executive Committee meetings of 6 of the 7 Associations - Secretary General Georges Balmino was IUGG representative at the IAG meeting for which I had a conflict. At Opening Ceremonies I was permitted to deliver a three-part message: "Greetings from IUGG: you are all members of IUGG: welcome to the General Assembly in Birmingham, 1999". At some I delivered longer illustrated lectures about IUGG science and societal problems, and the relationship of the Association science to that of the Union. At the Executive Committee meetings I gained much information and understanding useful for Union business at the IUGG Executive Committeee meetings. The Associations indicated satisfaction at this formal recognition by IUGG of their General Assemblies.

Because India was preparing an invitation for the General Assembly in 2003, I also joined the meeting of the Second Asian Seismological Commission in Hyderabad, December 1998. Harsh Gupta was a gracious host showing Claude Froidevaux, Bob Engdahl (IASPEI) and me their impressive facilities and accommodations.

We have tried to strengthen the relationships and communication between IUGG and IUGS, and with our offspring, the Lithosphere Program. This has been facilitated by my personal friendships with presidents Robin Brett (IUGS) and Alan Green (ILP). I have attended the business parts of each annual meeting of the IUGS Executive Committee, and joined parts of ILP business meetings whenever I could. Robin Brett has reciprocated by attending parts of our Bureau and Executive Committee Meetings. Alan Green has participated in most of the same meetings. I think that this has resulted in much better understanding of what each organisation hopes to accomplish, and I think that all are stronger as a result. I must say that the current set of officers in Associations and Union form a remarkably dedicated and cooperative group.

The International Council for Science (ICSU)

I attended three meetings of ICSU. The General Assembly in Washington, 1996, followed by the Extraordinary General Assembly in Vienna, 1998, involved a major reevaluation of ICSU's goals, and a significant revision of its statutes. The details are summarized in the Report of the Secretary-General, p. 123.

Robin Brett and I have worked together representing Earth sciences in the broadest sense in relationships with ICSU. In our first engagements with ICSU we found ourselves concerned that despite the fact that many ICSU programs involved earth sciences, there was emphasis on thin-skin short-duration processes. In a beautifully prepared, well-written ICSU pamphlet called "Planet Earth" (or something similar), neither IUGS nor IUGG was included in the large number of ICSU bodies listed as being involved or relevant. This suggested to us that something was amiss in relationships between ICSU and its two earth science unions. We have tried to bring to the attention of all ICSU gatherings the fact that the future of human society in the next century depends not only on the recent climate and potential global warming, but also on resources and land-use, and adjustment to geological hazards such as earthquakes and volcanoes, in addition to a wide array of interlocking earth processes. Many scientists in our Associations have close working connections and strong involvement with ICSU Committees, and this engagement will surely continue, but we would like to see closer connections with our unions.

In the new ICSU the role of the unions remains to be ascertained. In the old system, it had been customary for presidents of IUGS and IUGG to alternate on the Executive Board, through the General Committee. With the new Statutes, the General Committee was abolished, and there is no mechanism to ensure that Earth sciences is represented in the administration. Past-President Helmut Moritz (member of former ICSU Executive Board) chaired an IUGG committee to respond, as requested, to the proposed ICSU statute changes. A detailed report was submitted. Apparently the fact that few of this committee's objections resulted in changes was due to different views expressed by other groups. It seems that the role of the unions is to be diminished compared with that of National Representatives.

We want to ensure that there is representation of Earth sciences in the ICSU administration. At the 1998 meeting, when the size of the Executive Board was being debated, Brett and I argued that given the dominance of physical scientists and biologists in the Union Presidents and National Representatives, there should be some mechanism for ensuring disciplinary representation and balance in the Executive Board. The point was heard, received, and we believe we have assurance that the Nominating Committee must find a way to provide disciplinary representation. We shall see at the General Assembly in Cairo next September. IUGG has nominated Robin Brett, of IUGS, for the Executive Board. The problem is that distribution by nationality must be considered too, and the nominations are already heavy in US candidates.

World Conference on Science

In 1998, UNESCO/ICSU invited the Unions to submit suggestions for the program, topics and speakers, for the World Conference on Science to be held in Budapest, June 1999. I solicited input from all Associations, and received two kinds of responses: (1) we should not waste our time on this kind of operation, (2) given a World Conference on Science, it is essential that Earth sciences be strongly represented. I subscribed to view (2), so I prepared a substantial, constructive report obviously emphasizing geophysics and the Earth sciences and hoping to influence the Organisation Committee with the relevance and importance of earth sciences for the 21st

century. I consulted with Robin Brett of IUGS, and he endorsed the IUGG document, and IUGS submitted additional suggestions. By early 1999, the distributed program still contained only the loosest of headings, with no speakers or lecture titles.

This world gathering (by invitation only) was clearly different from our kind of scientific conference. I had continued correspondence with UNESCO and ICSU, responding to specific questions with suggestions on various topics, and received grateful letters with assurances that Earth sciences would be well represented in the Progam. But Robin Brett and I perceived little tangible response manifest in programmatic form. We heard that this was considered to be more of a "political" conference than a scientific one.

Drafts of the long documents which were to be the Report and Recommendations from the Conference were distributed to everyone for comments some months before the Conference, before a detailed Program was made public. These documents were excellent, and presumably they were endorsed officially at the Conference which gave them credibility to whatever organisations are expected to respond to them. IUGG and IUGS were represented at the Conference by Uri Shamir and Robin Brett, respectively.

U.S. National Committee for IUGG, and AGU (American Geophysical Union)

As senior US officer in IUGG, I was invited to attend all meetings of the USNC/IUGG, twice a year at the AGU meetings in May and December. AGU organizes the National Committee meetings on behalf of the US National Academy. AGU has been strongly involved in American participation in IUGG, and IUGG owes a great deal to many contributions from AGU through the generosity and enthusiasm of Fred Spilhaus, Executive Director, who is also Secretary of the IUGG Finance Committee.

I have participated in many lively discussions about the structure, statutes, and future of IUGG at these meetings through eight years, first in preparation for the Boulder General Assembly (1995), and then in preparation for the Birmingham Assembly. Overall these discussions have had a very positive influence on IUGG affairs, as seen in much of the business before this Council; but we do have to watch for potential conflicts between American and international interests.

Appreciation: the IUGG Associations

I refer to my comment above: "the current set of officers in Associations and Union form a remarkably dedicated and cooperative group." One of the pleasures of working as President through the past four years, which included its share of aggravations, was the friendly collaboration and assistance which I received from all members of the Bureau, and the Association presidents and Secretaries-General. The same spirit of cooperation existed among the Associations as well. About 7 years ago there was some discussion about dividing IUGG into "fluid" and "solid" components, an idea which disappeared from view after a meeting held by then-president Helmut Moritz.

The program for this Assembly, with so many co-sponsored symposia, is testimony to the fact that not only do the "fluid" and "solid" sciences overlap and interact, but also that the officers of the Associations can collaborate to demonstrate and elucidate the overlap.

Welcome to an interdisciplinary General Assembly

Finally, I welcome you formally to this General Assembly, and hope that you can find symposia of interest not only in your own fields of specialization, but also in broader areas of interest. We must find some way for the scientific expertise of IUGG participants to be applied to societal problems, and I suggest that you explore the program for symposia of this kind.

Report of the IUGG Secretary General

For the period from the 21st General Assembly to March 18, 1999

1. Membership in the Union

IUGG has 75 Member Countries which distribution throughout the world is as follows:

Europe	32	North and Central America	4	Asia	18
Africa	11	South America	6	Oceania	4

This is one less than at the closing of the 21st General Assembly (Boulder, USA; 1995). Several countries have withdrawn from membership due to non payment of dues since more than eight years (many more in some cases) – with no answer to regular letters sent by the Treasurer and the Secretary General.

Several countries are in observer status according to Statute 14, for being unfortunately in serious arrears of payment.

The current membership history is summarized in the table below.

Member Countries	Epochs of Admission & Termination	Categories	Units
Albania	1997	1	1
Algeria	1971	1	1
Argentina	1927	4	5
Australia	1919	5	7
Austria	1948	3	3
Belgium	1919	4	5
Bolivia	1960	1	1
Brazil	1922	3	3
Bulgaria	1930	1	1
Burundi (**)	1987-1995	1	1
Canada	1919	6	10
Chile	1924	2	2
China	1977	6	10
Colombia	1938-1971	1	1
Croatia	1992	1	1
Cuba (**)	1960-1996	1	1
Czech Republic	1993	1	1
Czechoslovakia	1924-1993	2	2
Denmark	1923	4	5
Dominican rep.	1957-1971	2	2
Egypt	1924	2	2
Estonia	1991	1	1
Ethiopia	1952	1	1
Federal Republic of Yugoslavia	1996	1	1
Finland	1927	3	3
France	1919	8	20
Germany /dem.rep./	1964-1990	5	7
Germany F.R.	1951	8	20
Ghana	1957-1987	1	1
Greece	1922	3	3
Guatemala	1957	1	1
Guinea(**)	1987-1995	1	1
Haiti	1956-1971	1	1

Hungary	1930	2	2
Iceland	1967	1	1
India	1947	5	7
Indonesia	1951	3	3
Iran	1957	1	1
Iraq (**)	1983-1996	1	1
Ireland	1946	2	2
Israel	1951	1	1
Italy	1919	6	10
Ivory Coast (**)	1975-1996	1	1
Japan	1919	8	20
Jordan	1979	1	1
Kenya (**)	1975-1997	1	1
Korea	1960	2	2
Korea /dem.rep./	1967	1	1
Lebanon	1967	1	1
Libya (**)	1979-1996	1	1
Luxemburg	1971	1	1
Ex-Yugoslavian Rep. of Macedonia	1995	1	1
Madagascar (**)	1967-1995	1	1
Malaysia	1967	1	1
Mexico	1922	2	2
Monaco	1967	1	1
Mongolia	1995	1	1
Morocco	1924	1	1
Mozambique	1983	1	1
Myanmar (Burma)	1957	1	1
Nepal	1975-1987	1	1
Netherlands	1925	4	5
New Zealand	1927	1	1
Nigeria	1971	2	2
Norway	1923	4	5
Pakistan	1952	2	2
Peru	1925-1979	1	1
Philippines	1951	3	3
Poland	1924	2	2
Portugal	1919	2	2
Romania	1930	1	1
Russia	1992	10	30
Saudi arabia	1971	1	1
Senegal (**)	1960-1995	1	1
Sierra Leone	1967-1983	1	1
Slovak republic	1993	1	1
Slovenia	1994	1	1
South africa	1924	3	3
Spain	1922	5	7
Sudan	1955	1	1
Sweden	1923	4	5
Switzerland	1923	3	3
Syria (**)	1948-1995	1	1
Taipei - Acad. of Sciences	1995	4	5
Tanzania	1975	1	1
Thailand	1923	2	2
Tunisia	1927	1	1
Turkey	1949	2	2
UK	1919	8	20

Uruguay	1924	1	1
USA	1919	11	35
USSR	1954-1992	10	30
Vietnam	1931	1	1
Venezuela	1975	1	1
Yugoslavia (*)	1924-1991	3	3
Zaire (**)	1991-1997	3	3
Zimbabwe	1967	1	1

(*) Adhesion in 1924 under the name of « Royaume des Serbes Croates et Slovènes » becoming Yugoslavia in 1929. Membership terminated in 1991 considering the geo-political changes. (**) Stand by in application of Statute 14j

Since the 21st General Assembly, we have received requests for information about membership applications from Albania, Azerbaijan, Colombia, Koweit, Lettonia, Papua New-Guinea, Peru, Turkmenistan and Ukraine. Albania only submitted an application which was reviewed by the Executive Committee at its 1997 meeting, resulting in provisional membership which is going to be submitted to Council for ratification.

In October 1996, the Federal Republic of Yugoslavia acquired membership after the UN sanctions had been lifted

(UN resolution no. 1074 of October 1st, 1996) – with this name ("Serbia, Montenegro" had been dropped from the previous name).

2. Administration

2.1- Bureau

It met three times:

- in Copenhagen, Denmark (June 20, 1996)
- in Birmingham, UK (Sept. 17, 1997)
- in Moscow, Russia (Sept. 21-22, 1998).

The first meeting was followed by a meeting with the Association Presidents and Secretaries General (June 21-22, 1996) and the second one by a formal Executive Committee meeting (Sept. 18-20, 1997).

The Bureau on these occasions and by correspondence, dealt with all administrative matters. Some decisions were taken which, in conformity to the Statutes, did not require the consultation of the Executive Committee. In other cases items were debated and presented or submitted by correspondence to the Executive Committee for decisions or advices.

The Assistant Treasurer P. Knudsen was replaced by A.W. Hansen in mid-1998.

2.2 - Executive Committee

It formally met one time, in Birmingham, UK, Sept. 18-20, 1997. Besides a first meeting of the newly elected Executive Committee had taken place in Boulder at the end of the 21st General Assembly (July 13, 1995). An informal meeting also took place on the first year of the period, jointly with the Bureau (Copenhagen, Denmark, June 21-22, 1996).

At the 1996 and 1997 meetings, the Associations reported in detail on their scientific activities, projects and meetings, allowing for fruitful discussions across all disciplines covered by IUGG.

The Copenhagen meeting main outcome were the following:

- start of activities on the Union and UK sides to prepare for the 1999 G.A. (with the chairman of the UK Organising Committee being invited): work of the Oversight Committee (created in Boulder in 1995), plans, budget, establishment of the Scientific Program Committee (with Kathy Whaler, UK, taking the chair), inputs to this Program Committee (first list of symposia and of possible Union lecture topics), scheduling,...
- establishment of the mode of operation of the Committee for Developing Countries with large contribution from the Associations,
- examination of the role and work of the Advisory Board on Scientific Policy, and conclusion that it had terminated its duties for the time being and would be re-activated any time in the future when a need is perceived – for instance to develop a statement of new goals,
- proposals for future changes in the Statutes and By-Laws for:

- making the election procedures more transparent (i.e. going one step further than the previous changes),
- encouraging scientists from non IUGG Member Countries to participate in the Union activities,

- creation of a Task Force (led by Vice-President Shamir) on the topics of "Megacities" in relationship with natural hazards,
- start of an initiative by IAMAS (later named Alliance for Capacity Transfer) to set up a tight collaboration between the World Meteorological Organisation, the World's universities teaching atmospheric sciences, and

several IUGG Associations, in aspects of research, education and operations by weather services,

- finalization of the IUGG home-page on Internet, with proper links to the Associations' home-pages.

At the 1997 meeting held in Birmingham, the main items of discussion (and decision) were:

- the preparation of the 22nd G.A.: the place of the '97 meeting was chosen so that full interaction with the chairpersons of the Organising Committee (G. Westbrook) and of the Program Committee (K. Whaler) was made possible. The Program Committee had met for two days prior to the Executive Committee meeting, allowing for the construction of the core scientific program of the General Assembly.

In summary:

- eight Union Symposia, 49 Joint Symposia involving several Associations and/or Inter-Union/Association Committees or Commissions, and four Union Lectures were decided (topics were proposed for these),
- logistics aspects were debated: concerning the Union side, and the participants' side (housing, registration,...); the Executive Committee visited the premises and estimates of needs (lecture rooms, administrative facilities,...) were given and discussed,
- financial aspects (share of risks, and of possible benefits/losses, between the Royal Society, the University of Birmingham and the Union) were resolved to satisfaction,
- grants guide-lines were discussed,
- preparation of circulars was debated,
- continuing the publication of the Union Symposia with AGU was decided.
- the scientific activities of the Associations, of the Committees and Commissions. In particular the chairman of the Inter-Union Commission on the Lithosphere (of the International Lithosphere Program) was invited and presented the highlights of his Commission (which is very trans-disciplinary, across IUGG and IUGS).

- the Megacities Task Force, created in Copenhagen, found its pace and joined forces with a "Decade Cities" project initiated by IAVCEI. Focusing the Earth Sciences on urban issues was found most relevant to all IUGG Associations because of the complete knowledge which the Associations have of the problems at stake, of the data, of the global observing systems to which they contribute.
- the Committee for Developing Countries, after a year of thorough investigations, found that the Committee could not do more than what the Associations are doing in this area in terms of fostering and supporting research by various means (education/summer schools and workshops, regional meetings, financial support of scientists, direct help in equipment, free provision of journals, books,...). It was concluded that the Committee should be disbanded after the 22nd G.A..
- the reactions against the ICSU planned structural changes, for which an ad'hoc committee (led by Past President Moritz) was formed (Recommendations established by this committee were subsequently passed to ICSU, but with little effect).
- the conclusion of the preparatory work on ACT (Alliance for Capacity Transfer) and the approval of the project (with subsequent formalization between IUGG, WMO and UCAR).
- the establishment of a memorandum "On invitations for IUGG General Assemblies", which was later sent to Member Countries which had expressed intention to submit a proposal for 2003.
- the finalization of proposals for changes in Statutes and By-Laws (following the proposals already made at the Copenhagen meeting).
- the proposals for establishing the Nominating Committee, for the election of Officers (Bureau, Finance Committee Members) at the 22nd G.A. (the Nominating Committee was subsequently formed, chaired by D. Williams, former President of IAGA).
- the proposal for the creation of a non-paying category of membership, similar to what our sister Unions: IAU, IUGS, URSI, have: an ad'hoc Committee was created (led by the Secretary General Balmino) to study the proposal. It later concluded on its feasibility, and proposed all necessary changes in the IUGG Statutes and By-Laws to accommodate the new category. These were accepted by a majority of the Executive Committee members (by correspondence) and the proposal will be submitted to the Council.
- the decisions on the dates of all administrative meetings (Council, Executive Committee, Bureau) during the 22nd G.A..

2.3 - Secretariat

The work of the Secretariat again increased continuously over this (second) period mostly due to electronic communication and the ever growing number of messages, documents to be circulated,...

The work is performed thanks to two part time secretaries (who also work for the Bureau Gravimétrique International – one of the FAGS offices, and for a department of the French Space Center). A large part of the logistics is covered by the French Space Agency.

The SG has managed the daily administration of the Union, the circulation of all information and documents of interest, the announcement of meetings, reports of administrative or

scientific nature. He prepared a large part of the material which composed the Comptes-Rendus of the 21st General Assembly. He has prepared the agendas and the minutes of the meetings of the Bureau and Executive Committee and participated in all these meetings at which he presented a summary report of the Secretariat works. He also prepared and circulated the program and agendas of the meetings that the Council, the Executive Committee and the Bureau will held at Birmingham and visited in 1997 (with other members of the Executive Committee and Bureau) the place of this coming General Assembly.

He visited the Union President for administrative discussions and on the occasion of personal travel for scientific business. He travelled to the FAGS Council Meetings (in 1996, 1997, 1998, 1999) as one of the representatives of IUGG. He attended two meetings of the Unions' Secretaries General at ICSU in 1996 and 1997. He attended the IAG Scientific Assembly where he represented IUGG (Brazil, 1997).

Whenever known, changes in the composition of the National Committees were immediately put in the computerized data base and the information circulated widely. This data base is permanently updated. The address, telephone, and fax numbers of over 3 000 persons related to IUGG are in computerized form and constitute the basis of the last part of the Year-Book (published each year since 1996 and mailed to about 1 200 persons).

The SG has prepared the annual report to ICSU for 1995, 1996, 1997 and 1998 as well as the requests for ICSU-UNESCO grants every year (presentation of several projects at a time) following inputs from the Associations and Committees/Commissions. He also managed the allocation of grants to the organizers of fifteen symposia, workshops, schools in different areas, and shared with the Treasurer the responsibility of allocating grants to individuals to attend the 22nd General Assembly in relation with the Union Symposia.

The SG provided the information about and requests for membership and organised the provisional admission of new Member Countries.

He also contributed the preparation of the circulars for the 22nd General Assembly, collected needs in office space and logistics (in general) of the Union components for this event. He liaised on a regular basis (daily, at times) with the Organising Committee in Birmingham to answer all questions and to help solving problems which required his input. He updated and renewed the agreement with AGU to publish the G.A. Union symposia proceedings.

The SG prepared the proposals for changes in the Union Statutes and By-Laws which are to be discussed by the Council at Birmingham, in particular the proposal for the creation of a non paying category.

The SG served as Secretary of the Nominating Committee in preparing and mailing circulars, and in encouraging nominations by the Member Countries.

The Assistant Secretary General (P. Pinet) is responsible for the home-page on Internet (http://www.obs-mip.fr/uggi), which contents and formatting are prepared by a secretary. The contents are updated about twice a year by an engineer (more frequently as concerns the National Committees data). He has ensured some co-ordination between the Secretaries General of the Associations in order to have some harmonisation in the home-pages of all Associations.

The Assistant SG has attended all administrative meetings at Boulder and subsequently all Bureau and Executive Committee meetings, at which he records the elements for the minutes in real time.

2.4 - Finance Committee

It met in August 1997 in Copenhagen (Denmark). He examined the financial situation at mid-term, with respect to the budget projected in 1995, the financial involvement of the Union in the 22nd General Assembly.
The Finance Committee will report to the Council.

3. Scientific Activities of the Union

3.1 - The Associations

Their activities have been reported and discussed at the 1996 and 1997 meetings (meeting of the Associations' Presidents and SGs with the Bureau, meeting of the Executive Committee – see 2.2).

They have been summarized each year in the annual report of IUGG to ICSU, of which they constitute the core. The report was sent yearly to all Adhering Bodies or National Committees, and was also put on Internet. In particular, the Scientific Assemblies which the Associations have held in 1997, were reported in the 1997 report to ICSU. In summary, we had the following:

• **IAG**	September 3-9, 1997 Rio de Janeiro (Brazil)	350 participants
• **IASPEI**	August 18-29, 1997 Thessaloniki (Greece)	1040 participants
• **IAVCEI**	January 19-24, 1997 Puerto-Vallarta (Mexico)	600 participants
• **IAGA**	August 4-15, 1997 Uppsala (Sweden)	1200 participants
• **IAHS**	April 23-May 3, 1997 Rabat (Morocco)	500 participants
• **IAMAS & IAPSO**	July 1-9, 1997 Melbourne (Australia) (jointly)	1100 participants

The IUGG President, P. Wyllie, attended all these meetings (sometimes partly) but the IAG one (attended by the Secretary General).

Besides the Associations put a lot of effort in the preparation of the 22nd General Assembly, and especially in the scientific program. They met, under the leadership of K. Whaler, in Birmingham on Sept. 16-17, 1997, and again (at the same place) on March 24-26, 1999.

3.2 - Scientific Commissions and Committees

- **Inter-Union Commission on the Lithosphere (ICL)**, from the International Lithosphere Program (ILP): many projects have been successfully terminated during the 4-year period, so that the program is almost completely renewed. One of ICL/ILP's new projects has already made an impressive start, it is the Earthquakes and Megacities Initiative (EMI) with the primary goal of developing a program of interdisciplinary research aimed at mitigating earthquake risk to megacities.

Two ICL/ILP reports are appended, one by the ICL/ILP President and Secretary (A. Green, J. Erzinger), one by the IUGG representative (S. Gregersen), which contain all (summarized) information.

- **Committee on Mathematical Geophysics (CMG)**: the report by its chairman (W.R. Peltier) is appended. CMG held two important meetings since the 21st General Assembly:

  - in Santa-Fe, USA (June 17-21, 1996)
  - in Cambridge, UK (June 12-18, 1998).

- **Committee on the Study of the Earth Deep Interior (SEDI)**: the report of its chairman (K. Lambeck) was not yet received at the date this report was finalized. SEDI held two meetings during the period:

  - in Brisbane, Australia (1996) ~ 150 participants
  - in Tours, France (July 1998).

- **Tsunami Commission**:
  This commission created long ago by IAPSO and IASPEI, is an Inter-Association commission now including IAPSO, IASPEI and IAVCEI. It organised and/or sponsored many meetings from 1995 to 1999, in addition to a major bi-annual International Tsunami Symposium held in Melbourne, Australia (July 2-4, 1997) in conjunction with the IAMAS-IAPSO joint Scientific Assembly. The full report of the Commission written by its chairman, V. Gusiakov, is appended.

3.3 - Committee for Developing Countries

This committee was formed at the last Council meeting held in Boulder in July 1995. It was chaired by S. Uyeda, Bureau Member, and composed of representatives in the Associations.

The report of the chairman is appended and will be presented orally to the Council when it meets at Birmingham.

3.4 - Services

The Union sponsors Permanent Services which operate under the guidance of Associations, and belong to the Federation of Astronomical and Geophysical data analysis Services (FAGS). Some are related to other Unions. These are:

- the International Gravity Bureau (BGI)
- the International Center for Earth Tides (ICET)
- the International Earth Rotation Service (IERS), with IAU (International Astronomical Union)
- the International GPS Service for Geodynamics (IGS)
- the Permanent Service for Mean Sea Level (PSMSL)
- the International Service for Geomagnetic Indices (ISGI)
- the Quaterly Bulletin of Solar Activity (QBSA) with URSI (Union des Radio-Sciences Internationales)
- the World Glacier Monitoring Service (WGMS)

The report on FAGS has been written by the secretary of the Federation (N. Andersen) and is appended.

4. Relations with ICSU

The IUGG President, P. Wyllie, represented the Union in the General Committee and attended the General Assemblies as well as the 1998 Extraordinary Assembly. These were the following:

- General Committee meeting # 34, Chiang Mai (Thailand), Oct. 7-9, 1995 (also attended by Vice-President H. Moritz member of the ICSU Executive Board)
- General Committee meetings # 35 and 36, Washington DC (USA), Sept. 23 and 27-28, 1996.
- 25th General Assembly, Washington DC (USA) Sept. 24-26, 1996.
- General Committee meeting # 37 and Extraordinary General Assembly, Vienna (Austria), April 23-25, 1998.

The Extraordinary General Assembly was called to discuss and vote on proposed amendments to ICSU statutes which resulted from an independent review of ICSU (IUGG was strongly against some of these changes, but to no effect). The main changes resulting from the meeting were:

- ICSU's acronym and logo remain as they are, but the actual name of ICSU was changed to the International Council for Science;
- the objectives were amended to include encouragement of strengthening of human and physical scientific resources and promotion of the public understanding of science;

- the General Committee was abolished, the Executive Board increased in size and the Officers recognised as a decision-making body;
- the Vice Presidents have been given specific responsibilities, namely scientific planning and review, and external relations;
- two new categories of committee were set up, namely policy committees and special advisory committees;
- the nominating procedure was changed;
- review procedures were established and will be incorporated for interdisciplinary bodies including the scientific committees.

Other aspects of these changes will appear in the President's report.

ICSU and UNESCO have planned a large meeting called "World Conference on Science" to be held in Budapest (Hungary), 26 June - 1 July 1999. IUGG is to send Vice-President U. Shamir as delegate to WSC; he will give a lecture on "Water: Science, Society and Politics". Report on this event will likely be given at Birmingham.

IUGG benefited from the ICSU grants programme at different levels according to the year. Three projects were supported in 1996 (total amount: 23 900 $), three in 1997 (for a total of 21 500 $), only one (with 11 000 $- in 1998 - the year the grants system changed), three in 1999 (one in category I, with 30 000 $; two in category II, with a total support of 11 000 $). Besides, the ICL/ILP project EMI (see above), co-sponsored by IUGG, IUGS and IGU, obtained a grant of 50 000 $ in 1999.

5. Relations with ICSU Committees and Programs, and other Organisations

They are summarized in the reports provided by the Union representatives on these Committees, Programs and organisations, which are appended. Below is the list of these entities and of the IUGG liaison persons:

- Cartographic Office of the U.N.: J. Kakkuri
- ICSU Committee on Space Research (COSPAR): J. Luhmann
- ICSU International Geosphere-Biosphere Program (IGBP): C.J.E. Schuurmans
- Instituto Panamericano de Geografia e Historia (IPGH): W. Torge
- ICSU Scientific Committee on Antarctic Research (SCAR): T. Hirasawa
- ICSU Scientific Committee on the Problems of the Environment (SCOPE): R.E. Munn
- ICSU Scientific Committee on Oceanic Research (SCOR): L.V. Shannon and R.A.Duce
- ICSU Scientific Committee on Solar-Terrestrial Physics (SCOSTEP): D.J. Williams
- ICSU Scientific Committee on Water Research (SCOWAR): H.J. Colenbrander
- United Nations Educational, Scientific and Cultural Organisation (UNESCO): R.D. Adams
- World Meteorological Organisation (WMO): R. List

6. Conclusion

Like individuals and most organisations, IUGG has seen many changes and experienced a great acceleration in its mode of operation over the last periods. The Internet revolution has made communications so fast that it has sometimes been difficult to cope with the volume of messages and information which arrives daily at the S.G. office. On the other hand, such a tool has brought more transparency in the daily life of the Union and allowed solving problems in an efficient way.

Circulating quickly the information between the Associations and various Committees and Commissions has become all the more important as the activities of IUGG have become almost entirely interdisciplinary. It is, I believe it, one of two characters of the science we do which will more and more dominate in the future. The other one is the ever growing internationalization of this science where IUGG has a unique role to play: geosciences nourish themselves with facts and data which are everywhere on our planet, and IUGG is one of the international structures which can help emerge everywhere the ability to understand and use these data and our environment in the most thoughtful manner for our children.

In the establishment and maintenance of the mechanisms by which the Union and its components operate, the SG is like a conductor. But the orchestra is becoming bigger and bigger and requires to change the conductor more often than in the past, more often than what I thought when I was given this position in 1991. This is why I do not wish to stay in office longer. I will be happy to help my successor as will be necessary in becoming acquainted with the complexity of the duty, and I am sure that new blood and style will do a lot of good to IUGG.

Rapport du Secrétaire Général de l'UGGI

Pour la période écoulée entre la 21eme Assemblée Générale et le 18 Mars 1999

1. Pays Membres de L'union

L'UGGI compte 75 Pays Membres dont la répartition au niveau mondial est la suivante:

Europe	32	Amérique du Nord et Centrale	4	Asie	18
Afrique	11	Amérique du Sud	6	Océanie	4

Soit un pays de moins qu'à la clôture de la 21ème Assemblée Générale (Boulder, USA; 1995). Plusieurs pays ne sont plus membres de l'Union du fait du non-règlement de leur cotisation depuis plus de huit ans (et même beaucoup plus dans certains cas) — les lettres de rappel adressées régulièrement par le Trésorier et le Secrétaire Général restant sans réponse.

Plusieurs pays, ayant malheureusement de nombreuses années de retard de paiement de leur cotisation, sont en position d'Observateur, par application du Statut 14.

Le tableau ci-après récapitule l'historique des adhésions à l'Union.

Pays Membres	Périodes D'adhésion et fin	Catégories	Unités
Albanie	1997	1	1
Algérie	1971	1	1
Argentine	1927	4	5
Australie	1919	5	7
Autriche	1948	3	3
Belgique	1919	4	5
Bolivie	1960	1	1
Brésil	1922	3	3
Bulgarie	1930	1	1
Burundi (**)	1987-1995	1	1
Canada	1919	6	10
Chili	1924	2	2
Chine	1977	6	10
Colombie	1938-1971	1	1
Croatie	1992	1	1
Cuba (**)	1960-1996	1	1
République Tchèque	1993	1	1
Tchécoslovaquie	1924-1993	2	2
Danemark	1923	4	5
Rép. Dominicaine	1957-1971	2	2
Egypte	1924	2	2
Estonie	1991	1	1
Ethiopie	1952	1	1
Rép. Fédérative De Yougoslavie	1996	1	1
Finlande	1927	3	3
France	1919	8	20
Allemagne/rep. dem./	1964-1990	5	7
Allemagne F.R.	1951	8	20
Ghana	1957-1987	1	1
Grèce	1922	3	3
Guatemala	1957	1	1
Guinée (**)	1987-1995	1	1

Haiti	1956-1971	1	1
Hongrie	1930	2	2
Islande	1967	1	1
Inde	1947	5	7
Indonésie	1951	3	3
Iran	1957	1	1
Irak (**)	1983-1996	1	1
Irlande	1946	2	2
Israel	1951	1	1
Italie	1919	6	10
Côte D'ivoire (**)	1975-1996	1	1
Japon	1919	8	20
Jordanie	1979	1	1
Kenya (**)	1975-1997	1	1
Corée	1960	2	2
Corée /Rep. Dem./	1967	1	1
Liban	1967	1	1
Libye (**)	1979-1996	1	1
Luxembourg	1971	1	1
Ex Rép. Yougoslave De Macédoine	1995	1	1
Madagascar (**)	1967-1995	1	1
Malaysie	1967	1	1
Mexique	1922	2	2
Monaco	1967	1	1
Mongolie	1995	1	1
Maroc	1924	1	1
Mozambique	1983	1	1
Myanmar (Burma)	1957	1	1
Népal	1975-1987	1	1
Pays Bas	1925	4	5
Nelle Zélande	1927	1	1
Nigéria	1971	2	2
Norvège	1923	4	5
Pakistan	1952	2	2
Pérou	1925-1979	1	1
Philippines	1951	3	3
Pologne	1924	2	2
Portugal	1919	2	2
Roumanie	1930	1	1
Russie	1992	10	30
Arabie Saoudite	1971	1	1
Sénégal (**)	1960-1995	1	1
Sierra Leone	1967-1983	1	1
Rép. Slovaque	1993	1	1
Slovénie	1994	1	1
Afrique Du Sud	1924	3	3
Espagne	1922	5	7
Soudan	1955	1	1
Suède	1923	4	5
Suisse	1923	3	3
Syrie (**)	1948-1995	1	1
Taipei - Acad. des Sciences	1995	4	5
Tanzanie	1975	1	1
Thailande	1923	2	2
Tunisie	1927	1	1
Turquie	1949	2	2

UK	1919	8	20
Uruguay	1924	1	1
USA	1919	11	35
URSS	1954-1992	10	30
Vietnam	1931	1	1
Vénézuela	1975	1	1
Yougoslavie (*)	1924-1991	3	3
Zaire (**)	1991-1997	3	3
Zimbabwe	1967	1	1

(*) Adhésion en 1924 sous le nom de "Royaume des Serbes Croates et Slovènes" devenu Yougoslavie en 1929. L'adhésion a pris fin en 1991 compte tenu des changements géopolitiques. (**)En attente, en application du Statut 14j

Depuis la 21ème Assemblée Générale, plusieurs pays nous ont contacté en vue d'une éventuelle adhésion à l'Union: l'Albanie, l'Azerbaïdjan, la Colombie, le Koweït, la Lettonie, la Papouasie-Nouvelle-Guinée, le Pérou, le Turkménistan et l'Ukraine. Seule l'Albanie a soumis une candidature qui a été examinée par le Comité Exécutif durant sa réunion de 1997, et qui a débouché sur une adhésion provisoire qui sera soumise au Conseil pour ratification.

En Octobre 1996, l'adhésion de la République Fédérative de Yougoslavie a été définitivement acceptée suite à la levée par les Nations Unies des sanctions la concernant (Résolution des Nations Unies n° 1074 du 1er Octobre 1996) - sous ce nom (les mentions de Serbie et Monténégro étant supprimées du nom précédent).

2. Administration

2.1- Bureau

Il s'est réuni trois fois:

- à Copenhague, Danemark, (20 juin 1996)
- à Birmingham, Royaume Uni (17 septembre 1997)
- à Moscou, Russie (21-22 septembre 1998).

La première réunion fut suivie d'une réunion avec les Présidents d'Associations et les Secrétaires Généraux (21-22 Juin 1996) et la seconde d'une réunion formelle du Comité Exécutif (18-20 septembre 1997).

En ces occasions, et par correspondance, le Bureau a traité toutes les affaires administratives et a pris, lorsque l'avis du Comité Exécutif n'était pas requis, les décisions qui s'imposaient conformément aux Statuts. Dans d'autres cas les problèmes furent discutés en réunion et présentés ou soumis par correspondance au Comité Exécutif pour décision ou avis.

A.W. Hansen a pris la suite de l'Assistant Trésorier P. Knudsen à la mi-1998.

2.2 - Comité Exécutif

Il s'est réuni formellement une fois, à Birmingham, Royaume Uni, du 18 au 20 Sept. 1997. Une première réunion du Comité Exécutif nouvellement élu s'est tenue par ailleurs à Boulder à la fin de la 21ème Assemblée Générale (13 juillet 1995). Une réunion informelle a également eu lieu la première année du mandat, conjointement avec celle du Bureau (Copenhague, Danemark, 21-22 Juin 1996).

A la fin des réunions de 1996 et 1997 les Associations firent le compte-rendu détaillé de leurs activités scientifiques, projets et réunions, ce qui permit des discussions constructives abordant toutes les disciplines couvertes par l'UGGI.

Les principaux résultats évoqués lors de la réunion de Copenhague furent les suivants:

- Premières démarches entreprises par l'Union et le Royaume Uni pour préparer l'AG de 1999 (le Président du Comité d'Organisation du Royaume Uni étant invité): travail du Comité de Surveillance (créé à Boulder en 1995), projets, budget, mise en place du Comité des Programmes Scientifiques (Présidente: Kathy Whaler, Royaume Uni), éléments nécessaires à ce Comité des Programmes (première liste des symposia et des thèmes des éventuelles conférences), calendrier,...
- Mise en place du mode de fonctionnement du Comité pour les pays en voie de développement avec une grande implication des Associations,
- Examen du rôle et du travail du Conseil Consultatif sur la politique scientifique, et décision de le mettre en sommeil. Il pourra être réactivé dans le futur si nécessaire - par exemple pour préparer des recommendations sur de nouveaux objectifs,
- Propositions de changements dans les Statuts et le Règlement Intérieur:

- améliorer la transparence des procédures d'élections (un pas supplémentaire par rapport aux derniers changements),

- encourager les scientifiques issus de pays non membres à participer aux activités de l'Union,
- Création d'un groupe de travail (conduit par le Vice-Président Shamir) sur le thème "mégapoles" en relation avec les désastres naturels,
- lancement du projet "Alliance for Capacity Transfer" de IAMAS pour mettre en place une collaboration étroite dans les domaines de la recherche, de l'enseignement et des activités des services météorologiques, entre l'Organisation Météorologique Mondiale, les Universités dans le monde enseignant les Sciences Atmosphériques, et quelques Associations de l'UGGI,
- Finalisation de la page web de l'UGGI, et des liens appropriés avec les sites Internet des Associations.

Durant la réunion qui s'est tenue à Birmingham en 1997, les principaux points de discussion (et décision) furent:

- la préparation de la 22ème Assemblée Générale: le lieu de la réunion de 1997 fut choisi afin de permettre des échanges aussi fructueux que possible entre les présidents du Comité d'Organisation (G.Westbrook) et du Comité des Programmes (K. Whaler). Le Comité des Programmes s'était réuni durant deux journées avant la réunion du Comité Exécutif afin de définir les grandes lignes du programme scientifique de l'Assemblée Générale.

En résumé:

- 8 symposia de l'Union, 49 symposia communs impliquant plusieurs Associations et/ou Comités Inter-Unions/Inter-Associations ou Commissions, et 4 conférences de l'Union furent décidés (des sujets furent proposés pour ces dernières),
- les aspects logistiques furent abordés: du point de vue de l'Union et de celui des participants (logement, inscription,...); le Comité Exécutif a visité les locaux et des estimations des besoins (salles de conférences, installations administratives) furent évaluées et discutées,
- les aspects financiers (partage des risques et des bénéfices ou pertes éventuelles, entre la Royal Society, l'Université de Birmingham et l'Union), qui aboutirent à un accord satisfaisant,
- la politique à suivre concernant les subventions fut débattue,
- la préparation des circulaires fut discutée,
- Il fut décidé du maintien de la publication des Comptes-Rendus par l'A.G.U.

- les activités scientifiques des Associations, des Comités et de Commissions. En particulier le Président de la Commission Inter-Union sur la Lithosphère (du Programme Lithosphérique International) fut invité et présenta les centres d'intérêts de sa Commission (qui est interdisciplinaire, à cheval sur l'UGGI et l'UGSI).
- le groupe de travail sur les Mégapoles, créé à Copenhague, a trouvé son rythme de croisière et joint ses forces à celles du projet "Villes de la décennie" initié par AIVCIT. Concentrer les Sciences de la Terre sur les questions urbaines fut jugé de la responsabilité de toutes les Associations de l'UGGI, compte tenu de la connaissance approfondie qu'elles ont des problèmes en jeu, des informations, des systèmes globaux d'observations auxquelles elles contribuent.
- le Comité pour les pays en voie de développement, après une année d'études minutieuses, a jugé qu'il ne pouvait faire plus que ce que font les Associations dans ce domaine en matière de développement et de support de la recherche par divers moyens (enseignement/écoles d'été et ateliers de travail, aide directe à l'équipement, fourniture gratuite de journaux, livres...). Il fut décidé de demander que le Comité soit dissous après la 22ème Assemblée Générale.
- les réactions contre les changements structurels prévus du CIUS, pour lesquels un comité ad'hoc (conduit par le Président sortant Moritz) a été mis en place (des avis émis par ce comité furent par la suite communiqués au CIUS, mais avec peu d'effet).
- la conclusion du travail préparatoire sur ACT (Alliance for Capacity Transfer) et l'approbation du projet (avec une formalisation ultérieure entre l'UGGI, l'OMM et l'UCAR — Centre Américain de Recherches Atmosphériques).
- la ratification d'une charte "A propos des Invitations pour les Assemblées Générales" qui fut ensuite envoyée aux Pays Membres qui avaient formulé leur désir de soumettre une proposition pour 2003.
- la finalisation des propositions de changements des Statuts et du Règlement intérieur (faisant suite aux propositions déjà faites à la réunion de Copenhague).
- les propositions visant à mettre en place le Comité de Nomination, pour l'élection des Officiers (Bureau, Membres du Comité des Finances) à la 22ème Assemblée Générale (le Comité de Nomination fut par la suite constitué, présidé par D. Williams, Président sortant de AIGA).
- les propositions pour la création d'une catégorie d'adhésion à titre gratuit, comparable à celle que nos Unions sœurs UAI, UGSI et URSI ont mise en place: un Comité ad'hoc fut créé (conduit par le Secrétaire Général G. Balmino pour étudier la proposition). Il conclut plus tard à sa faisabilité et proposa tous les changements à apporter aux Statuts et au Règlement Intérieur de l'Union pour tenir compte de la nouvelle catégorie. Ces changements furent acceptés par une majorité des Membres du Comité Exécutif (par correspondance) et la proposition sera soumise au Conseil.
- les décisions sur les dates de toutes les réunions administratives (Conseil, Comité Exécutif, Bureau) pendant la 22ème Assemblée Générale.

2.3- Secrétariat

Le travail du Secrétaire est en constante augmentation durant ce second mandat, du fait du développement des communications électroniques et du nombre toujours croissant de messages, documents à diffuser,...

Le travail est réalisé grâce à deux secrétaires à temps partiel (qui travaillent aussi pour le Bureau Gravimétrique International - l'un des Bureaux de FAGS, et pour un Département du Centre Spatial Français). Une grande partie des dépenses de logistique est prise en charge par l'Agence Spatiale Française.

Le Secrétaire Général gère les affaires courantes de l'Union, la diffusion de toutes les informations et documents d'intérêt, l'annonce des réunions, les rapports de nature administrative ou scientifique. Il a préparé une grande partie des documents constituant les Comptes-Rendus de la 21ème Assemblée Générale. Il a rédigé les agendas et les minutes des réunions du Bureau et du Comité Exécutif et participé à toutes ces réunions; à chacune d'elles il a présenté un compte-rendu des travaux du Secrétariat. Il a également préparé et diffusé le programme et les agendas des réunions que le Conseil, le Comité Exécutif et le Bureau tiendront à Birmingham, et visité en 1997 (avec d'autres membres du Comité Exécutif et du Bureau) les locaux qui accueilleront cette prochaine Assemblée Générale.

Il a rendu visite au Président de l'Union pour discuter de problèmes administratifs et l'a aussi rencontré à l'occasion de déplacements personnels de nature scientifique. Il a été l'un des deux représentants de l'UGGI participant aux réunions du Conseil de FAGS (en 1996, 1997, 1998, 1999). Il a assisté à deux réunions des Secrétaires Généraux d'Unions, organisées par le CIUS en 1996 et 1997. Il s'est rendu à l'Assemblée Scientifique de l'AIG où il a représenté l'UGGI (Brésil, 1997).

Les changements dans la composition des Comités Nationaux ont été, dès leur réception, insérés dans la base de données et largement diffusés. Cette base de données est mise à jour régulièrement. Les adresses, n° de téléphone, fax et e-mail de plus de 3000 personnes s'intéressant à l'UGGI sont sous forme informatique et constituent la base de la dernière partie de l'Annuaire (publié chaque année depuis 1996 et expédié à environ 1200 personnes).

Le Secrétaire Général a préparé le rapport annuel au CIUS en 1995, 1996, 1997 et 1998 ainsi que les demandes annuelles de subventions CIUS-UNESCO (présentation de plusieurs projets à chaque fois) grâce aux documents fournis par les Associations et Comités et Commissions. Il s'est également chargé de l'attribution des subventions aux organisateurs de 15 symposia, ateliers de travail, écoles dans différentes disciplines, et partagé avec le Trésorier la responsabilité de la répartition des subventions aux scientifiques désirant participer à la 22ème Assemblée Générale en liaison avec les symposia de l'Union.

Le Secrétaire Général a fourni les informations concernant les demandes d'adhésion et organisé l'admission provisoire de nouveaux Pays Membres.

Il a aussi contribué à la préparation des circulaires de la 22ème Assemblée Générale, recueilli les besoins en bureaux et logistique (en général) des composantes de l'Union pour cet événement. Il a assuré une liaison régulière (journalière, à certains moments) avec le Comité d'organisation à Birmingham pour répondre à toutes ses questions et aider à résoudre certains problèmes qui nécessitaient son intervention. Il a mis à jour et renouvelé l'accord avec l'AGU pour la publication des Comptes Rendus des Symposia de l'Union de l'Assemblée Générale.

Le Secrétaire Général a rédigé les propositions de changements dans les Statuts et le Règlement Intérieur de l'Union, propositions qui seront discutées par le Conseil à Birmingham, en particulier le projet de création d'une catégorie à titre gratuit.

Le Secrétaire Général sert de Secrétaire au Comité de Nomination: il a préparé et expédié les circulaires, et suscité auprès des Pays Membres l'émergence de nouvelles candidatures.

L'Assistant Secrétaire Général (P. Pinet) est responsable de la page Web sur Internet (http://www.obs-mip.fr/uggi), dont le contenu et la mise en forme sont assurés par une secrétaire. Le contenu est mis à jour environ deux fois par an par un ingénieur (plus souvent en ce qui concerne les informations relatives aux Comités Nationaux). Il a servi de lien entre les Secrétaires Généraux des Associations afin d'obtenir une certaine homogénéité des pages web de toutes les Associations.

L'Assistant Secrétaire Général a participé à toutes les réunions administratives à Boulder et par la suite à celles du Bureau et du Comité Exécutif, où il a noté en temps réel tous les éléments nécessaires à la rédaction des minutes.

2.4- Le Comité des Finances

Il s'est réuni en Août 1997 à Copenhague (Danemark). Il a examiné la situation financière à mi-mandat du budget prévu en 1995 et l'engagement financier de l'Union dans la 22ème Assemblée Générale.

Le Comité des Finances fera son rapport au Conseil.

3. Activites Scientifiques de L'union

3.1- Les Associations

Les Associations ont fait un compte-rendu de leurs activités scientifiques durant les réunions de 1996 et 1997, rapports qui ont fait l'objet de discussions (réunion des Présidents et Secrétaires des Associations avec le Bureau, réunion du Comité Exécutif - voir 2.2).

Ces activités scientifiques ont été résumées chaque année dans le rapport annuel de l'UGGI au CIUS, dont elles constituent le cœur. Le rapport a été envoyé chaque année à tous les Organismes Adhérents ou Comités Nationaux, et mis sur le Web, en particulier les comptes rendus des Assemblées Scientifiques organisées par les Associations en 1997 ont été publiés dans le rapport annuel au CIUS de 1997. En voici la liste:

• **AIG**	3-9 Sept. 1997 Rio de Janeiro (Brésil)	350 participants
• **AISPIT**	18-29 Août 1997 Thessaloniki (Grèce)	1040 participants
• **AIVCIT**	19-24 Janv. 1997 Puerto-Vallarta (Mexique)	600 participants
• **AIGA**	4-15 Août 1997 Uppsala (Suède)	1200 participants
• **AISH**	23 Avril - 3 Mai 1997 Rabat (Maroc)	500 participants
• **AIMSA et AISPO**	1-9 Juillet 1997 Melbourne (Australie) (conjointement)	1100 participants

Le Président de l'UGGI, P. Wyllie, a participé à toutes ces réunions (parfois partiellement) sauf à celle de l'AIG (suivie par G. Balmino).

Les Associations ont par ailleurs consacré beaucoup d'énergie à la préparation de la 22ème Assemblée Générale, et tout particulièrement au programme scientifique. Elles se sont réunies, sous la direction de K. Whaler, à Birmingham les 16 et 17 Sept. 1997, et une seconde fois (au même endroit) du 24 au 26 Mars 1999.

3.2 - Commissions et Comités scientifiques

- **Commission Inter Union sur la Lithosphère (ICL)** du Programme Lithosphérique International (ILP). Plusieurs projets ont été menés à leur terme avec succès durant cette période de quatre ans, de sorte que le programme est presque entièrement renouvelé. L'un des nouveaux projets d'ICL/ILP a déjà montré un début prometteur, il s'agit de l'Initiative sur les Mégapoles et les Tremblements de Terre (EMI) dont le principal objectif est le développement d'un programme de recherche interdisciplinaire visant à atténuer les risques de tremblements de Terre dans les mégapoles.

Deux rapports de ICL/ILP sont joints en annexe: l'un rédigé par les Président et Secrétaire de ICL/ILP (A. Green, J. Erzinger), l'autre soumis par le représentant UGGI (S. Gregersen), tous deux contiennent un résumé de toutes les informations.

- **Comité de Géophysique Mathématique (CMG)**: Le rapport de son Président (W.R. Peltier) est joint en annexe. CMG a tenu deux importantes réunions depuis la 21ème Assemblée Générale:

  - à Santa-Fé, USA, (17-21 Juin 1996)
  - à Cambridge, U.K., (12-18 Juin 1998).

- **Comité sur l'Etude de l'Intérieur de la Terre (SEDI)**: Le rapport de son Président (K. Lambeck) ne nous est pas encore parvenu au moment de la rédaction de ce rapport. SEDI a tenu deux réunions durant ce mandat:

  - à Brisbane, Australie (1996) ~ 150 participants
  - à Tours, France (Juillet 1998).

- **Commission sur les Tsunamis**:
  Cette Commission créée à l'origine par l'AISPO et l'AISPIT, est une commission inter-Association impliquant aujourd'hui l'AISPO, l'AISPIT et l'AIVCIT. Elle a organisé et/ou subventionné plusieurs réunions de 1995 à 1999, y compris un symposium majeur et international bi-annuel sur les tsunamis, à Melbourne, Australie (2-4 Juillet 1997), en collaboration avec les Assemblées scientifiques communes de l'AIMSA et de l'AISPO.

Le rapport complet de la commission rédigé par son Président, V. Gusiakov, est joint en annexe.

3.3 - Comité pour les pays en voie de développement

Ce Comité a été créé durant la dernière réunion du Conseil, qui s'est tenue à Boulder en Juillet 1995. Il est présidé par S. Uyeda, Membre du Bureau, et composé des représentants des Associations. Le rapport du Président est joint en annexe et sera présenté oralement au Conseil à Birmingham.

3.4 - Services

L'Union subventionne des Services permanents qui fonctionnent sous la direction des Associations, et relèvent de la Fédération des Services d'Analyses de Données d'Astronomie et de Géophysique. Certains ont des liens avec d'autres Unions. En voici la liste:

- le Bureau Gravimétrique International (BGI),
- le Centre International des Marées Terrestres (ICET),
- le Service International de Rotation de la Terre (IERS) avec l'UAI (Union Astronomique Internationale),
- le Service GPS International de Géodynamique (IGS),
- le Service Permanent du niveau moyen des Mers (PSMSL),
- le Service International des Indices Géomagnétiques (ISGI),
- le Bulletin trimestriel d'Activité Solaire (QBSA) avec l'URSI (Union des Radio-Sciences Internationales),
- le Service Mondial de Surveillance des Glaciers (WGMS).

Le rapport de FAGS a été écrit par le Secrétaire de la Fédération (N. Andersen) et est joint en annexe.

4. Relations avec le CIUS

Le Président de l'UGGI, P. Wyllie, a représenté l'Union au Comité Général et participé aux Assemblées Générales ainsi qu'à l'Assemblée Extraordinaire de 1998. Ces réunions sont énumérées ci-après:

- Réunion du Comité Général n°34, Chiang Mai (Thailande) du 7 au 9 Octobre 1995 (également suivie par le Vice-Président H. Moritz, Membre du Comité Exécutif du CIUS).
- Réunions n°35 et 36 du Comité Général, Washington DC (USA) 23 et 27-28 Septembre 1996.
- 25ème Assemblée Générale, Washington DC (USA) du 24 au 26 Septembre 1996.
- Réunion n°37 du Comité Général et Assemblée Générale extraordinaire, Vienne (Autriche) du 23 au 25 Avril 1998.

L'Assemblée Générale Extraordinaire a été appelée à discuter et à voter sur les modifications proposées aux Statuts du CIUS, qui faisaient suite à un "audit" mené de manière indépendante par le CIUS (l'UGGI s'est fortement opposée à quelques-uns de ces changements, mais sans succès).

Les principaux changements résultant de cette réunion furent:

- le sigle et le logo du CIUS restent inchangés mais le nom actuel du CIUS a été remplacé par Conseil pour la Science;
- les buts ont été modifiés afin d'inclure l'encouragement au renforcement des ressources scientifiques aussi bien au niveau des moyens que des personnes ainsi que l'amélioration de la compréhension des questions scientifiques par le public;
- le Comité Général a été supprimé, le Comité Exécutif a vu son importance augmentée et les officiers reconnus en tant qu'organe de décision;
- les Vice-Présidents ont été dotés de responsabilités précises, à savoir la définition de programmes scientifiques, leur critique, et les relations extérieures;
- deux nouvelles catégories de Comité ont été mises en place, à savoir Comités politiques et Comités consultatifs spéciaux;
- la procédure de nomination a été changée;
- des procédures d'examen critique ont été mises en place et concerneront les organismes interdisciplinaires compris les Comités scientifiques.

D'autres aspects de ces changements figureront dans le rapport du Président.

Le CIUS et l'UNESCO ont prévu une importante réunion nommée "Conférence mondiale sur la Science" qui se tiendra à Budapest (Hongrie), du 26 Juin au 1er Juillet 1999. L'UGGI doit envoyer le Vice-Président U. Shamir comme représentant à cette réunion.

Il donnera une conférence sur "L'Eau: Science, Société et Politique". Un rapport sur cette manifestation devrait être fait à Birmingham.

L'UGGI a bénéficié du programme de subventions du CIUS à différents niveaux selon les années. Trois projets ont été subventionnés en 1996 (montant total 23 900 $), trois en 1997 (pour un total de 21 500 $), un seul (avec 11 000 $ en 1998, l'année où le système des subventions a changé), trois en 1999 (un en catégorie I, avec 30 000 $, deux en catégorie II, avec un soutien financier total de 11 000 $). En outre, le projet EMI d'ICL/ILP (voir plus haut) subventionné conjointement par l'UGGI, l'UGSI et l'IGU, a obtenu une subvention de 50 000 $ en 1999.

5. Relations avec les Comites et les Programmes du CIUS, et d'autres Organisations.

Elles sont résumées dans les rapports fournis par les représentants de l'Union auprès de ces comités, programmes et organisations, rapports qui sont joints en annexe. Ci-après est énumérée la liste de ces entités et des officiers de liaison auprès de l'UGGI:

- Bureau Cartographique des Nations Unies: J. Kakkuri
- Comité du CIUS sur la Recherche Spatiale (COSPAR): J. Luhmann
- Programme International du CIUS sur la Géosphère-Biosphère (IGBP): C.J.E. Shuurmans
- Institut Panaméricain de Géographie et d'Histoire (IPGH): W. Torge
- Comité Scientifique du CIUS sur la Recherche Antarctique (SCAR): T. Hirasawa
- Comité Scientifique du CIUS sur les problèmes de l'Environnement (SCOPE): R.E. Munn
- Comité Scientifique du CIUS sur la Recherche Océanique (SCOR): L.V. Shannon et R.A. Duce
- Comité Scientifique du CIUS sur la Physique (Solaire-Terrestre) (SCOSTEP): D.J. Williams
- Comité Scientifique du CIUS sur la Recherche sur l'Eau (SCOWAR): H.J. Colenbrander
- L'Organisation des Nations Unies pour l'Education, la Science et la Culture (UNESCO): R.D. Adams
- L'Organisation Météorologique Mondiale (WMO): R. List

6. Conclusion

Ainsi que tout individu et comme la plupart des organisations, l'UGGI a connu beaucoup de changements et fait l'expérience d'une importante mutation de son mode de fonctionnement au cours des dernières périodes. La révolution de l'Internet a rendu les communications si aisées qu'il a été parfois difficile de faire face au volume de messages et d'informations qui parviennent chaque jour au Bureau du Secrétaire Général. D'un autre côté, un tel outil a apporté une plus grande transparence dans la vie quotidienne de l'Union et permis de résoudre les problèmes de façon efficace.

Diffuser rapidement les informations auprès des Associations et Comités et Commissions divers est devenu d'autant plus nécessaire que les activités de l'UGGI sont devenues presque entièrement interdisciplinaires. C'est, je le crois, le premier des deux phénomènes qui caractérisent le plus la Science d'aujourd'hui, qui deviendront prépondérants dans le futur. Le second est l'internationalisation de cette science où l'UGGI a un rôle unique à jouer. Les géosciences se nourrissent de faits et d'informations qui peuvent provenir de partout sur notre planète, et l'UGGI est l'une des structures internationales qui peut faciliter en tout endroit l'émergence de la capacité à comprendre et à utiliser ces données et notre environnement de la manière la plus intelligente qu'il soit pour notre descendance.

Dans la mise en place et le maintien des mécanismes par lesquels l'Union et ses composantes fonctionnent, le Secrétaire Général joue le rôle de chef d'orchestre. Mais l'orchestre grossit de plus en plus et exige le remplacement de son chef plus fréquemment que par le passé, plus souvent que ce que j'imaginais quand j'ai obtenu cette fonction en 1991. C'est pourquoi je ne souhaite pas poursuivre cette mission plus longtemps. Je serai heureux d'aider mon successeur le temps qu'il se familiarise avec la complexité de sa tâche, et je suis sûr que du sang nouveau et un style différent apporteront beaucoup à l'U.G.G.I.

Financial Reports

Report of the Treasurer for the period 1 January 1995 - 31 December 1998

The financial transactions of IUGG have been governed by the budget adopted by the Council at the General Assembly in Boulder in 1995.

The budget in Boulder anticipated US $ 1,430,000.- membership dues for the 4-year period. This goal has been reached.

The item 3, Assembly surcharge, is an amount of US $ 10,000.- received from the organizer of the Boulder General Assembly, AGU, based on an economical decision by the IUGG Executive Committee. The Assembly surcharge for the Associations did not go through the IUGG treasurer's office. It was paid directly to the Associations by AGU.

Grants from ICSU have been disappointingly small, only slightly more than half of that anticipated. This has meant a reduced project activity, since these grants are used fully for Association projects and activities.

The income from the publications has been lower than in the budget, caused by small sales amounts in the IUGG symposia series.

Several expense items have been kept lower than expected in the budget (in round figures):

savings on administration	US $ 30,000
savings on travel	US $ 70,000

The expense item symposia has been according to the budget, while the Associations have received less than in the budget for the years 1996-1998. The Association allocations were for these years based on a reduced membership income to IUGG, the decision of Council in 1995 being that the allocations must be half of the IUGG income, taking into account the common expenses for publications and inter Association programs.

The amount set aside by the Council in 1995 for the Committee on Developing Countries has not been used in the period. The money is now used for grants for the 1999 General Assembly.

Altogether this means that IUGG came out of 1998 with approximately US $ 400,000.- in the bank, which is about the yearly money flow. This is more than convenient and suitable for generally being able to pay bills. In fact it is advisable that IUGG will make a budget for the coming period, which reduces slightly the ratio between reserves and yearly money flow.

The result of the 4-year period has been achieved by a restrictive policy. The resulting economical situation is a very good base for scientific initiatives in the coming 4-year period.

The classification of the Member Countries in categories at the end of 1998 is presented in Table 1. Altogether 315 units were payable to IUGG for 1998, i.e. an amount of US $ 410,000.-

Table 1. Classification of Member Countries according to categories at the end of 1998.

Category	Number of units	Number of Member Countries
1	1	36
2	2	12
3	3	8
4	5	7
5	7	3
6	10	3
7	15	0
8	20	4
9	25	0
10	30	1
11	35	1
12	40	0

The number of Member Countries is now 75 compared to 81 four years ago.

A large number of Member Countries is in arrears of payment medio MAR 1999 (Tables 2 and 3). These are according to the IUGG Statutes in Observer Status. And this has been specified in letters to these countries from the treasurer's office. The arrears amount to 105 units, i.e. of the order of US $ 130,000.- This is less than in 1995 (162 units), due mainly to withdrawal of countries with long term arrears.

Table 2. Arrears of payment of membership subscriptions medio March 1999.

Number of years of missing payments	Number of Countries	Number of payable Units
9 (1990-1998)	1	9
8 (1991-1998)	1	8
7 (1992-1998)	5	35
6 (1993-1998)	1	6
5 (1994-1998)	2	10
4 (1995-1998)	1	4
3 (1996-1998)	4	18
2 (1997-1998)	3	10
1 (1998)	4	5

Table 3. Countries in serious arrears of payment medio March 1999.

Number of years	Countries
9	Tanzania
8	Sudan
7	Bolivia, Korea Dem., Tunisia, Uruguay, Zimbabwe
6	Guatemala
5	Morocco, Vietnam
4	Ethiopia
3	Ex-Yugoslavian Rep. of Macedonia, Indonesia, Mongolia, Saudi Arabia

These serious arrears for so many Member Countries constitute a limitation on IUGG activities and present unreasonable inconveniences to the treasurer's office.

Consequently I urge the responsible authorities of those countries to seek agreements with IUGG concerning payment of debts to the IUGG, and to establish regular payments of their dues.

Finally I want to thank those with whom I had good co-operation as treasurer of IUGG: the IUGG Bureau, the IUGG Finance Committee and the Presidents and General Secretaries of the Associations. I would also like to thank the Assistant Treasurer Per Knudsen (until Aug. 1998) and Aksel Walloe Hansen (since Aug. 1998), and the Secretaries at various times in the IUGG treasurer's office in Copenhagen, Jette Rogen and Allis and Lise Gregersen.

April 8, 1999

Soren Gregersen
Treasurer, IUGG

Report of the IUGG Finance Committee 1995-1999

Concerns of the Finance Committees at the beginning of the period centered on the financing of the General Assembly in Birmingham and on implications for future General Assemblies in light of the difficulties the British were having in accepting full financial responsibility for the Birmingham one. The Finance Committee reviewed specific proposals for the Birmingham situation and made suggestions. It also suggested policy that should be applicable to future assemblies. Based on our experience, we recommended that the Union require that the budgets for assemblies be planned to produce a small surplus and that the Union share in any deficit/surplus that should occur in a way proportional to the risk and the oversight of the financial aspects of the Assembly that the Union takes on. More risk requires more oversight and in return a higher share of the surplus if one is produced. The IUGG now has a reserve that provides the ability for it to share the financial risk of a General Assembly to a limited extent.

Another aspect of the assemblies that the Finance Committee has been concerned about is the per registrant surcharge that the Union requests be returned to it. The Finance Committee strongly believes that this surcharge is an important way of providing funds to the Union and to the associations. On the other hand, the amount of the surcharge must be limited so that the registration fee does not become a barrier to attendance.

During the period, attention shifted slowly from the financing of the General Assembly to the much broader and more complex issue of participation in the Union; the effect of participation on the finances, and the effect of cost on participation itself, in areas such as the registration fee and expanding membership. Member subscriptions are the primary income source of the Union. In recent years several countries have had to ask for reductions in their category and increasing numbers are delinquent in payments. The Finance Committee has analyzed the current categories of all member countries. We used an index that weights the size of a country's overall economy equally with its participation at General Assemblies. Our categorization in accord with this index produced a list of countries that are below the appropriate level. We realize that each case is an individual one and our recommendations reflect individual judgment. The following table shows the current category, the category indicated by the index, and our recommended category. We hope the concerned member countries will act on our recommendations.

CATEGORY			
Country	**Current**	**Indicated**	**Recommended**
United States	11	12	12
Japan	8	10	10
Germany	8	9	9
Brazil	3	5	4
Switzerland	3	5	5
Netherlands	4	5	5
Sweden	4	5	5
South Korea	2	4	3
Austria	3	4	4
Mexico	2	3	3
New Zealand	1	2	2
Czech Republic	1	2	2
Israel	1	2	2
Malaysia	1	2	2
Venezuela	1	2	2

To enhance participation in the Union, a category of non-paying Associate Member has been introduced. The Finance Committee advised the Council on the terms proposed for this program and views as one of its roles assuring that the implementation of this program enhances participation in the Union without undermining its financial base. The Union's Statutes give the Finance Committee both the responsibility and authority to act on behalf of the membership in these areas.

The budget for 2000-2003 that was adopted by the Council accompanies this report. The only variance in this budget from that proposed by the Finance Committee to the Council was in the surcharge in the General Assembly registration. At the strong urging of the association officers the surcharge was raised so as to provide more funds from the registration fees for travel to assemblies by scientists from developing countries. This budget is very close to balanced over the four year period. It assumes a fairly low inflation rate and an increasing unit value with inflation. The budget demands that we hold the number of membership subscriptions units constant. The Union can do this by successfully encouraging an increased category for some of the current members, as noted above and by adding new members to offset losses. New in this budget is an item of approximately $30,000 a year for inter-association initiatives aimed at developing countries and $40,000 for the support of the participation of individual scientists from developing countries in the next General Assembly. We believe these two items represent a strong commitment to enhancing participation.

We are also pleased to note that the Council accepted the Finance Committee's recommendation that grants for participation in IUGG activities may be given to any scientist without regard to the membership status of his or her country.

Attia Ashour
Chairman, Finance Committee

IUGG Income and Expense statement for 1996 through 1999

(thousands of US dollars)

RECEIPTS

	1992-1995 TOTALS	1996	1997	1998	1999 (est)	Totals for 1996-1999 Estimate	Budget
1. Member Subscriptions	1,316.4	353.5	352.2	327.2	360.0	1,392.9	1,486.0
2. ICSU Grants	163.5						
3. Assembly surcharge	80.0		10.4		120.0	130.4	80.0
4. Contracts with UNESCO etc.	59.2	23.9	21.5	11.0	41.0	97.4	124.0
5. Sales of Publications		1.6	1.8	2.1	2.0	7.6	15.0
6. Miscellaneous	13.2						
a. Interest		6.1	7.9	12.5	12.0	38.5	28.0
b. Gain by Exchange		0.1		0.1		0.2	
Total Receipts	**1,632.3**	**385.2**	**393.8**	**352.9**	**535.0**	**1,666.9**	**1,733.0**

EXPENDITURES

11. Administration							
11.1 Personnel	88.7	18.3	16.6	16.3	17.0	68.2	105.0
11.2 Quarters							
11.3 Supplies	10.3	1.5	1.1	0.3	2.0	4.9	16.0
11.4 Communications	12.0	3.9	1.2	1.1	2.0	8.1	8.0
11.5 Travel. Adm. Only	216.8	20.1	38.8	19.1	70.0	148.1	234.0
11.6 Miscellaneous	1.1				8.0	6.0	
11.7 Travel, representation		0.9	2.9	6.6		10.4	
12. Publications, Printing	73.0	12.8	11.2	10.7	11.0	45.7	54.0
13. Assemblies	65.6						
13.1 Organisation		(1.9)			5.0	3.1	5.0
13.2 Travel					30.0	30.0	30.0
14. Symposia	56.7	11.0	15.5	18.0		44.5	50.0
15. Allocations	568.0						
15.1 Assembly surcharge allocation	80.0	191.9	166.4	163.3	162.0	683.6	685.0
15.2 Assembly surcharges					120.0	120.0	80.0
15.3 Contracts with ICSU		30.0	15.4	11.0	41.0	97.4	124.0
16. Dues & Grants							
16.1 ICSU	36.5	11.2	11.7	12.2	12.0	47.2	50.0
16.2 Inter-Union Science	124.0	30.0	29.0	29.0	29.0	117.0	113.0
16.3 Inter-Association Science	39.5	8.0		18.7	6.7	33.4	24.0
17. Committee on Developing Countries		1.8			7.0	8.8	28.0
17a. ICSU grant to IAGA	43.9						
17b. ICSU grant to IAG	19.4						
17c. ICSU grant to IASPEI	54.9						
17d. ICSU grant to EQ prediction							
17e. ICSU grant to IAVCEI	21.8						
17f. ICSU grant to IAHS	23.5						
18. Miscellaneous	11.6				2.0	7.3	12.0
a. Fees		1.5	1.4	1.4			
b. Loss on exchange		0.1	0.8	0.1			
Reserve for General Assembly		25.0	25.0	25.0	25.0	100.0	100.0
Total Expenditures	**1,547.3**	**366.1**	**337.2**	**332.8**	**549.7**	**1,585.8**	**1,718.0**
Net Income	85.0	19.0	56.6	20.2	(14.7)	81.1	15.0
Cash and reserves 1/1	159.3	244.3	288.3	370.0	415.1	100.0	100.0
Cash and reserves 31/12	244.3	288.3	370.0	415.1	425.4	425.4	290.0

Income and Expense statements for each of the constituent Associations of IUGG 1995 through 1998

(US dollars)

RECEIPTS

	IAG	IAPSO	IAHS	IAGA	IAMAS	IASPEI	IAVCEI
1. IUGG Allocation	105,021.60	88,556.41	88,356.13	117,535.55	98,521.60	94,813.37	81,029.00
2. UNESCO Grants	2,000.00		30,413.00	11,000.00			
3. Other Grants	16,400.00	86,625.00	140,567.73	64,035.93		123,200.00	19,217.00
4. Contracts with UNESCO			22,929.00				
5. Sales of Publications	4,110.21		1,189,529.36	14,067.67		54,824.91	
6. Miscellaneous	8,888.64	100,538.76	114,542.25	34,056.88	4,225.39	40,482.33	111,475.00
a. Gains on exchange	2,512.36		(795.23)		5,013.45		
b. Interest	3,792.86	11,204.26	22,643.75		2,389.47		
c. Others	25,064.81		10,376.20		42,640.00		
Total Receipts	**167,790.48**	**286,924.43**	**1,618,562.19**	**240,696.03**	**152,789.91**	**313,320.61**	**211,721.00**

EXPENDITURES

11. Administration		34,549.64	147,336.00	8,070.50	8,605.36		
11.1 Personnel						8,696.96	27,086.00
11.2 Quarters	797.19	28,639.57			166.32		
11.3 Supplies	3,050.13					4,097.78	12,493.00
11.4 Communication	225.10		2,292.91			4,869.45	5,021.00
11.5 Travel	18,177.50	29,632.41	35,543.63		20,743.23	44,602.37	13,334.00
11.6 Miscellaneous	10,291.49		336.50			1,287.12	19,668.00
12. Publications		45,121.77	909,855.91	29,329.81	2,053.77		
12.1 Proceedings, Assemblies	9,111.42						
12.2 Proceedings, Symposia							
12.3 Periodicals	2,549.17		176,200.89			22,838.80	4,641.00
12.4 Others			34,556.57				19,265.00
13. Assemblies			28,025.00	91,997.85	16,788.41		
13.1 Organisation	4,764.48		344.95				32,580.00
13.2 Travel	28,133.37		5,250.94			56,812.71	9,548.00
14. Symposia	3,133.20		8,204.00	18,847.20	939.26		
14.1 Organisation			1,778.00				24,785.00
14.2 Travel			2,641.84			52,192.25	7,054.00
16. Grants	11,782.98	99,698.65	185,420.81	33,618.86			41,791.00
17. Contracts with UNESCO			20,924.00	7,800.00	130.79		
18. Miscellaneous	5,674.35	814.40	131,759.22	861.59	40,787.00	8,150.00	19,563.00
Total Expenditures	**97,690.38**	**238,456.44**	**1,690,471.17**	**190,525.81**	**90,214.14**	**203,547.44**	**236,829.00**
Net cash flow	70,100.10	48,467.99	(71,908.98)	50,170.22	62,575.77	109,773.17	(25,108.00)

IUGG Budget 2000 - 2003

(US dollars)

RECEIPTS

	2000	2001	2002	2003	Period Total
Assumed units	270	270	270	270	1080
1. Membership Subscription	363,528	370,799	378,215	385,779	1,498,320
3. Assembly Surcharges				120,000	120,000
4. Contracts with ICSU					
5. Sales of Publications	1,500	1,500	1,500	1,500	6,000
6. Other income					
6.1 Interest	16,859	18,495	18,400	19,575	73,328
6.2 Miscellaneous					
7. **Total Receipts**	**381,887**	**390,793**	**398,114**	**526,854**	**1,697,648**
8. Cash on Hand and in Banks 1/1	421,476	462,363	459,988	489,371	421,476
Total	**803,363**	**853,158**	**858,102**	**1,016,225**	**2,119,124**

EXPENDITURES

11. Administration					
11.1 Personnel	20,000	20,600	21,218	21,855	83,673
11.2 Quarters					
11.3 Supplies and Equipment	2,000	1,500	1,500	1,500	6,500
11.4 Communications	2,500	2,500	2,500	2,500	10,000
11.5 Travel	38,000	76,000	41,000	71,000	226,000
a. Administrative					
b. Representational					
12. Publication Printing	12,000	12,300	12,608	12,923	49,830
13. General Assemblies					
13.1 Organisation				5,000	5,000
13.2 Travel Grants				30,000	30,000
14. Symposia	15,000	15,000	15,000	5,000	50,000
15. Allocations					
15.1 Annual Allocation	181,500	184,944	189,247	192,753	748,443
a. Associations (directly)					
b. Inter-Association Science					
15.2 Assembly Surcharges				80,000	80,000
a. Associations					
b. Union					
15.3 Contracts with ICSU					
16. Dues and Grants					
16.1 1ICSU	13,000	13,325	13,658	14,000	53,983
16.2 Inter-Union Science	34,000	34,000	34,000	34,000	136,000
17. Developing Countries					
17.1 Inter-Association Initiatives	20,000	30,000	35,000	40,000	125,000
17.2 GA Participation				40,000	40,000
18. Miscellaneous	3,000	3,000	3,000	3,000	12,000
Reserve for General Assembly					
19. **Total Expenditures**	**341,000**	**393,169**	**368,730**	**553,530**	**1,656,429**
General Assembly Reserve Balance	100,000	100,000	100,000	100,000	100,000
20. Cash on Hand and in Banks 12/31					
(cash includes reserve for General Assemblies)	462,363	459,988	489,371	462,695	462,695
Total	**803,363**	**853,156**	**858,102**	**1,016,225**	**2,119,124**

Report of the Chair of the Programme Committee
The Scientific Programme, and Hints for the Future

The Union and Inter-Association part of the scientific programme for the General Assembly has developed very closely to the provisional programme presented to, and approved by (after some modification), the Executive in September 1997. The main changes are:

- Union Symposium "Geoscience in the Service of Society" was cancelled. This was after a long struggle to get Eirah Gorre-Dale approved as Lead Convenor (the original suggestion for the job), her withdrawal due to a change in employment, the appointment of Jill Andrews as a replacement, and her subsequent withdrawal for family reasons. Between Eirah and Jill, I had made several abortive attempts to find a suitable replacement for Eirah, and put in more effort after Jill had been forced to pull out — I was seeking someone with good media contacts, an understanding of the pitfalls in conveying science to policy makers/politicians, the media and the public, and with at least a basic understanding of some aspects of geoscience, and suitable people with the time to do this are extremely thin on the ground. This was by then close to the time abstracts were due so, after consultation, I waited until abstracts were submitted (and no invitations had been issued to speakers); as these did not seem to me to form the core of the "flagship" symposium we had hoped this would be, I decided to cancel the symposium. Those who had submitted abstracts were asked whether they wished to suggest another symposium for which they would like their abstract considered, or whether they preferred to withdraw them. I reallocated those whose authors didn't respond. Many found a "home" in the IASPEI theme "Education and Outreach in the 21st Century". This will also include a presentation by a freelance radio/TV presenter with a first degree in Geology on how to present geoscience to the media.
- Union Symposium "Geophysical Hazards and Risks: Predictability, Mitigation and Warning Systems" and the follow-on Inter-Association Symposium with the same title. Mohammed El-Sabh was the original Lead Convenor for both, but he died suddenly as the programmes were being finalised. Tom Beer (previously a co-convenor) took over from him at short notice. The Inter-Association Symposium is dedicated to his memory.
- Union Symposium "Volcanism – Mechanisms and Consequences". It took me a long time to establish a set of convenors for this Symposium (the originally suggested Lead Convenor didn't even bother to decline my invitation), and then there were further last-minute convenor withdrawals, which resulted in chaos at the scheduling stage! Wally Johnson was largely responsible for pulling everything together at the last minute. However, there were significant numbers of uninvited abstracts, despite the "scope" paragraph clearly stating that the Symposium was by invitation only, which were left unallocated to other Symposia/Workshops until very late on. (Other Union Symposia which were by invitation only but yet attracted large numbers of uninvited abstracts chose instead to have associated poster sessions).
- Union Symposium "Geophysical Aspects of the Comprehensive Test Ban Treaty" was extended from the originally envisioned half day to a full day at the request of the Convenors.
- Henry Charnock (a local organising committee member) died soon after the scientific programme of this Assembly was finalised. I was approached by former students and colleagues about organising a special symposium in his memory at this meeting, particularly because it is in his home country, but it was too late by then to add to the programme. After much dialogue between me and his former students and colleagues, and the convenors of Inter-Association Symposium "Atmospheric and Oceanic Connections between the Polar Regions and Lower Latitudes", it was decided to include a session in honour of Henry in this Symposium, and this was advertised in the second circular. However, only one paper was submitted to this session, which has been subsumed into the other sessions for this Symposium, and the special session cancelled.
- Inter-Association Symposium "The Signature of Large-Body Impacts on Earth" was cancelled due to insufficient numbers and quality of abstracts, largely as a result of a major meeting on impacts held in South Africa this week.
- Inter-Association Symposium "Oceanic, Continental and Continental Margin Volcanic Provinces..." was dedicated to Keith Cox (a co-convenor), who died in a boating accident last year.

Other than that, there were minor changes to co-convenors for, and the lengths and timing of, Inter-Association Symposia/Workshops. It was very gratifying to see that we chose some (what have turned out to be) really topical subjects, based on the far larger number than we had anticipated high calibre abstracts they have attracted. I left each Association's programmes in the safe hands of its Secretary General, although it was entirely my fault that the "scope" paragraph for IAVCEI's Symposium VS3 was omitted from the Second Circular. At our meeting in March, the Scientific Programme Committee also looked at the overview and decided that, although the programme is very full, we had the balance about right.

We added the British Geophysical Association annual Bullerwell Lecture, to be given by Philip England, FRS (University of Oxford), to the programme. Some of the time freed by the cancellation of "Geoscience in the Service of Society" is to be used by Adam Dziewonski

(Harvard University), one of the recent Crafoord prize winners. His lecture will be introduced by the Union President, immediately following the IASPEI Plenary Session.

There were no obvious major gaps in the scientific programme, and we did not get large numbers of abstracts for a subject area for which there was no appropriate Symposium/Workshop. In a few cases, authors had to be a little inventive in which Symposium/Workshop they submitted abstracts to, and convenors a little understanding in accepting them — for instance, the "Palaeomagnetism applied to Tectonics" Symposium within IAGA was rather more specialised in its scope than perhaps was ideal.

This General Assembly has far more Inter-Association Symposia/Workshops than has previously been typical. I think this is a feature to be welcomed — it should make the Assembly more a Union meeting, and less meetings of the 7 Associations that happen to be in the same place at the same time — and hope it will continue. The success of some in particular in attracting uninvited abstracts suggests it is also popular with delegates, and several convenors also put in tremendous effort to make sure they invited first rate speakers from all the disciplines covered by their subject. However, I suspect that it has created a large number of headaches for Association Secretaries General, who have had to juggle the scheduling of these, as well as their own, Symposia/Workshops. They may have suggestions as to how the system could be improved for future General Assemblies.

I don't have any particular words of wisdom either for the Committee, or for my lucky (!) successor. However, one specific recommendation is to consider employing a press officer/someone to deal with the media once the programme is ready at future General Assemblies. Birmingham found someone to prepare a press release which has generated quite a bit of interest that we've not fully been able to capitalise on. I'm sure I've faced just the usual mix of problems, which before simply as a delegate I was blissfully unaware of — convenors who weren't asked whether they were willing to undertake the task due to communication breakdowns (and this affected particularly those nominated by "outside" organisations like the ILP, SEDI, etc.), convenors who didn't do what they were supposed to do (such as producing "scope" paragraphs of roughly the right length to go into the Call for Abstracts, finding suitable "homes" for abstracts that don't belong in their Symposium/Workshop, or at least referring them back to the appropriate Secretary General, and putting together a programme for the time allocated) when they were supposed to, abstracts submitted to Union Symposia that were by invitation only (it might be worth stating this even more clearly for future Assemblies, but I suspect it will make little difference), and so on. I think that Secretaries General and Convenors had a particularly difficult time this year caused by the logistic problems Birmingham faced in handling the abstracts for this Assembly, so that they were not getting abstracts in a readable form on a reasonable timescale from Birmingham, and discrepancies remained for a very long time between the Birmingham database and the abstracts convenors had received directly from authors. This delay had knock-on effects in that the Programme Committee did not have anything like a full set of draft Symposia / Workshop schedules for its March meeting, and acceptance letters to authors went out very late (in fact, one of my colleagues never received one, and only found out his paper was accepted when he found it scheduled on the web programme!; at least some of the acceptance letters to overseas authors went out surface mail, too), which in turn meant that the fact that some abstracts had gone missing was not identified until very late. Another specific problem that should be noted for the future is that convenors were not told how many half days their Symposium/Workshop had been allocated when they were preparing their programmes — the only information they had was the provisional day(s) it had been scheduled. The problems with the abstract database in particular highlights a serious issue for future General Assemblies, that of IT support. Having seen the Birmingham staff struggling to do things manually that could have been done much quicker automatically with a relatively simple macro, I think consideration should be given to having a paid computer officer as one of the staff members (not necessarily full-time for the whole organisation period), or budgeting for a large amount of computer consultancy work. I also wonder if the Birmingham office was under-staffed – I've lost count of the number of times I heard "we never thought it would take so long"! I ended up spending a lot of time on things that I would say were properly the responsibility of Birmingham – without support, and in my "spare time". I don't know how the staffing levels compare with Boulder, but I suggest this item is given close scrutiny for future General Assemblies. Parts of the problems are created by perceptions amongst the community (and I am as guilty as the next person in this respect) – now everything is on computer, we expect things to happen instantaneously. Convenors, Secretaries General, those who've submitted abstracts, can't understand why the information sent back last week hasn't been incorporated, why questions haven't been answered, why files haven't been reformatted from MS Word into something that can be read on a unix machine, why everything isn't up on the web and searchable, and so on. This is by no means a criticism of the Birmingham staff, who I would say have done an excellent job under sometimes difficult circumstances. I would also like to thank the Secretaries General for their advice and support, and the tremendous effort they have put in. The President has also been a welcome voice of calm, reason and understanding.

Apologies for not presenting this report in person.

K.A. Whaler
14th July 1999

Report of the Inter-Union Commission on the Lithosphere (ICL/ILP) and Report of the Union Representative on ICL

Inter-Union Commission on the Lithosphere (ICL) International Lithosphere Program (ILP)

Alan G. Green, President. Jörg Erzinger, Secretary General

Through international multidisciplinary research Projects and Coordinating Committees, researchers involved in the Inter-Union Commission on the Lithosphere (ICL) and the associated International Lithosphere Program (ILP) seek to elucidate the nature, dynamics, origin, and evolution of the lithosphere. They operate under the umbrella of four program themes:

- The Geoscience of Global Change
- Continental Dynamics and Deep Processes
- Continental Lithosphere
- Oceanic Lithosphere.

ICL/ILP Projects

Over the past four years, ICL/ILP Projects have progressed significantly; numerous final papers, books, maps, and reports are either published, submitted for publication or in an advanced state of preparation. Projects completed or planned for completion include:

- **Space Geodesy and Global Change**
  Co-leaders: *S. Zerbini and R. Bilham*
- **Global Seismic Hazard Assessment Program (GSHAP)**
  Co-Leaders: *H.K. Gupta and D. Giardini*
- **World Map of Active Faults**
  Co-leaders: *V. Trifonov and M. Machette*
- **Paleoseismicity of the Late Holocene**
  Co-Leaders: *R. Yeats and Y. Kinugasa*
- **Three-dimensional Modelling of the Earth's Tectosphere**
  Co-Leaders: *F. Schwab, H.T. Hsu and Y.T. Chen*
- **Global Geoscience Transects**
  Co-Leaders: *A. Jayko and D.C. Mishra*
- **Processes in the Lithosphere as Reflected in Integrated Petrological and Geophysical Studies**
  Co-Leaders: *S. Sobolev and P. Ray*
- **Dynamics of the Subcontinental Mantle: From Seismic Anisotropy to Mountain Building**
  Co-Leaders: *A. Vauchez and L.P. Vinnik*
- **Utrahigh Pressure Metamorphism and Geodynamics in Collision-Type Orogenic Belts**
  Co-Leaders: *Cheng Yuqi and W. Schreyer*
- **The Ocean-Continent Lithosphere Boundary**
  Co-Leaders: *M. Talwani and J.-C. Sibuet*

A formal call for new ICL/ILP Projects was distributed to the international earth science community in 1997. Of the forty-one proposals submitted for the two rounds of competition, five were eventually accepted as new Projects and one as a new Coordinating Committee. A sixth proposal concerning ultra-high pressure metamorphic rocks received a high rating, but requires modification before final acceptance by the ICL/ILP Bureau. The two continuing and five new Projects that will take ICL / ILP into the next millennium are:

- **Earthquake Recurrence Through Time**
  Co-leaders: *D. Pantosti and A. Hull*
- **Mantle Plumes, Hot Spots and Geodynamics of Continental Rifting and Break-Up**
  Co-leaders: *U. Achauer and M. Wilson*
- **Earthquakes and Megacities Initiative**
  Co-Leaders: *F. Bendimerad and F. Wenzel*
- **Global Strain Rate Map**
  Co-leaders: *W. Holt and A.J. Haines*
- **Origin of Sedimentary Basins**
  Co-leaders: *S. Cloetingh and W. Sassi*
- **Global Impact Studies**
  Co-Leaders: *V. Sharpton, D. Stoeffler and R. Grieve*
- **Hydrogeology of the Oceanic Lithosphere**
  Co-Leaders: *H. Elderfield and E. Davis*

Through the results of ICL/ILP Projects we now have a markedly improved understanding of many dynamic processes that have influenced the evolution of our planet. These results have important implications for hydrocarbon and mineral exploration and for natural hazard assessment. Soon to be published are comprehensive global maps of active faults and uniform seismic hazard estimates. Many ICL/ILP Projects have been successful in bringing together scientists working in developed and developing countries. This has been a major achievement.

Earthquakes and Megacities Initiative (EMI)

One of ICL/ILP's new Projects has already made an impressive start. The "First Earthquakes and Megacities Workshop" was held in Seeheim, Germany from September 1 to 4, 1997. A total of 95 participants from 30 countries attended the event. One of the primary goals was to develop a program of interdisciplinary research aimed at mitigating earthquake risk to megacities. Present at the workshop were representatives from ten United Nations and non-governmental agencies, four funding

agencies, twelve natural sciences, engineering and social science organisations, and three private companies. In addition, many countries, major cities, government agencies, universities and other organisations were represented. Expertise among attendees spanned the earth sciences (geology, geophysics, seismology), engineering (civil, structural, mechanical), social sciences (geography, urban planning, economics, political science), emergency management (planning, response) and emergency medicine. A complete set of workshop proceedings has been published by the United Nations University and an associated textbook is in an advanced state of preparation.

Official launching of the Earthquakes and Megacities Initiatives (EMI) in early 1998 was a principal outcome of the workshop. EMI's primary objective will be to promote and coordinate natural science, engineering and social science research aimed at developing practical solutions for the assessment and mitigation of earthquake risk to megacities. Special efforts will be made in developing capacities in megacities of the developing world, where the effects of earthquakes can be devastating to the people, their economy, their culture, and their environment. EMI's action plan includes four key elements:

- **The Scientific Agenda** will promote multi-disciplinary research to evaluate the effects of earthquakes on large urban areas and to develop technologies and methods for the mitigation of such effects.
- **The Twin Cities Project**, in which personnel from megacities with advanced knowledge on mitigation procedures would share their knowledge with personnel from megacities that do not have similar levels of experience and/or expertise. Seven pairs of cities have already been invited to participate in this Project.
- **The Regional Centers Project**, in which megacities with active mitigation programs would contribute expertise to large areas and provide the motivation to build partnerships with managers of large metropolitan centers, international development agencies and risk mitigation advocates.
- **The Training and Education Program** will involve knowledge and information sharing to build local and regional capacities.

A second major workshop concerned with the effects of earthquakes on large urban centers will be held in Manila, November 29 to December 4,1999.

Continuing and New ICL/ILP Coordinating Committees
Some of ILP's most important work is conducted by its Coordinating Committees. The ILP Bureau considers it important to rotate periodically (every 5 years or so) the executive and members of these committees. In 1997 and 1998, the Bureau renewed the executive of three Coordinating Committees. The leaders of the ongoing and new Coordinating Committees are now:

- **CC-1 Regional Committees - Himalayas**
  Co-leaders: *Quasim Jan, Mao Xuchang and J.-P. Burg* - (new executive)
- **CC-1 Regional Committees - Andean**
  Co-leaders: *V. Ramos and M. Strecker* - (new executive)
- **CC-1 Regional Committees - EUROPROBE**
  Leader: *D. Gee*
- **CC4 Continental Drilling**
  Co-leaders: *M. Zoback and R. Emmermann*
- **CC-7 International Commission for the Earth Sciences in Africa**
  Co-leaders: *A. B. Kampunzu and S. Muhongo* - (new executive)
- **CC-8 Coordination of Lithospheric Transects**
  (new Coordinating Committee)
  Co-Leaders: *L. Brown, 0. Oncken and B. Drummond*

The EUROPROBE Coordinating Committee, which is jointly supported by the European Science Foundation (ESF), promotes and manages numerous major cooperative projects that involve scientists from eastern and western Europe. Each project has a scope that is comparable or greater than a typical ICL/ILP Project. A major success of the Continental Drilling Coordinating Committee is the recent launching of the International Continental Drilling Program (ICDP), which is currently funded by the United States, Germany, Japan and China. Other countries may be joining this program before the end of 1999.

ICL/ILP Web Page

Further details on the ICL/ILP Projects and Coordinating Committees may be obtained from the ICL/ILP web page:

http://www.gfz-potsdam.de/pb4/ilp/

The Inter-Union Commission on the Lithosphere (ICL)

Soren Gregersen, Union Representative on ICL

The ICL is an activity with 2 parent unions, IUGS, our sister union in geology, and IUGG as equal partners. The commission runs the International Lithosphere Program (ILP), which consists of time limited projects and co-ordinating committees, which can last for a longer time.

Many projects have been successfully terminated during the 4-year reporting period, so that the program is almost completely renewed. The list of terminated projects is (including latest scientific leaders):

- **Space geodesy and global change** (*S. Zerbini and R. Bilham*),
- **Global seismic hazard assessment program (GSHAP)** (*H.K.Gupta and D.Giardini*),
- **World map of active faults** (*V. Trifonov and M. Machette*),
- **Paleoseismicity of the late Holocene** (*R. Yeats and Y. Kinugasa*),
- **Three-dimensional modelling of the earth's tectosphere** (*F. Schwab, H.T. Hsu and Y.T Chen*),
- **Global geoscience transects** (*A. Jayko and D.C. Mishra*),
- **Processes in the lithosphere as reflected in the integrated petrological and geophysical studies** (*S.Sobolev and P.Ray*),
- **Dynamics of the subcontinental mantle: From seismic anisotropy to mountain building** (*A.Vauchez and L.P.Vinnik*),
- **Ultrahigh pressure metamorphism and geodynamics in collision-type orogenic belts** (*Cheng Yuqi and W. Schreyer*),
- **The ocean-continent lithosphere boundary** (*M. Talwani and J.-C. Sibouet*).

Many projects have been proposed and considered at meetings and in e-mails by the ICL Bureau. One project has continued from the previous period:
S. Cloetingh and W. Sassi: Origin of sedimentary basins.

Six projects have now been endorsed for the coming years:

- *D. Pantosti and A. Hull*: **Earthquake recurrence through time**,
- *U. Achauer and M. Wilson*: **Mantle plumes, hot spots and geodynamics of continental rifting and break-up**,
- *V. Sharpton, D. Stoeffler and R. Grieve*: **Global impact studies**,
- *H. Elderfield and E. Davis*: **Hydrogeology of the oceanic lithosphere**,
- *F. Bendimerad and F. Wenzel*: **Earthquakes and megacities**,
- *W. Holt and A.J. Haines*: **Global strain rate map**.

Many other projects have been discussed and not accepted after proposals by individual scientists or groups:

- Conjugate margins in the South Atlantic,
- Deep crustal processes,
- Paleostress, geodynamics, neotectonics and natural studies in the West Pacific-Asia region,
- Fluid regime in the earth's lithosphere,
- Geophysics of metastable conditions in crustal blocks,
- WEGENER: Kinematics and dynamics, strain, and stress in the African-Eurasian/Arabian plate boundaries zones,
- The ocean-continent lithosphere boundary (continuation of the present project),
- Oceanic plateaus and hotspots: their structure, composition, evolution and role in the growth of continents,
- Correlation between the surface and deep structure of the earth,
- Paleomagnetism of volcanic rocks and dykes of meso- and neo-Proterozoic age from some of the Indian cratonic blocks,
- Seismic Q and crustal evolution of the Middle East,
- Processes and geodynamics in formation and exhumation of the ultrahigh-pressure metamorphic terrain (a modification could possibly be accepted in spring 1999).

In addition to working through time-limited projects the ICL operates via coordinating committees, which are mainly regionally based:

- Himalayas (*Quasim Jan, Xiao Xuchang and J.P. Burg*)
- Andean (*V. Ramos and M. Strecker*)
- Europrobe (*D. Gee*)
- International commission for the Earth sciences in Africa (*A.B Kampunzu and S. Muhongo*)
- Continental drilling (*M. Zoback and R. Emmermann*)
- Coordination of lithospheric transects (*L. Brown, O. Oncken and B. Drummond*).

From the IUGG side the scientists appointed to the ICL bureau are:
Alan Green (President) from Switzerland (crustal and shallow studies),

Mary Fowler from UK (crustal studies),

Hans Christian Larsen from Denmark (continental margins), and

Teriyaki Kato from Japan (geodesy).

In the Bureau are also 3 geologists:

Joerg Erzinger (Secretary General) from Germany (ocean bottom geology),

John Percival from Canada (Precambrian rocks), and

Sun Shu from China (sedimentology).

The Bureau is completed by the Past President Kevin Burke from USA (broad scale, global geologist) and a representative for the National Committees on lithosphere studies, Marta Mantovani from Brazil (geologist, volcanologist).

The 2 parent Unions IUGG and IUGS send representatives to the Lithosphere Bureau and commission meetings, as well as UNESCO. I act as the IUGG representative and stay in close connection with liaison scientists from the following Associations:

IAGA Sven-Erik Hjelt, Finland
IAG Peter Wilson, Germany and UK
IAVCEI Marta Mantovani, Brazil
IASPEI Soren Gregersen, Denmark.

The liaison to IAHS, IAPSO and IAMAS is through the General Secretaries or through the IUGG Executive Committee.

IUGG appoints 2 Bureau members every 2 years and agrees with IUGS on appointments of the President and Secretary General every 5 years, as well on appointment of a common Bureau member every 2 years. It is naturally very important that efficient scientists of good scientific standing are appointed. The appointed scientists have so far been able to carry through a very successful program. During the IUGG General Assembly in Birmingham the ICL will hold its yearly Bureau and commission meetings in which I will participate. For the ICL commission meeting all interested scientists are invited. The ICL also cosponsors 11 of our symposia at this General Assembly.

Reports of Union (Inter-Associations) Commissions and Committees

Report of the IUGG Committee for Developing Countries (CDC)

Seiya UYEDA (Chair, IUGG CDC)

1. Introduction:

At the IUGG Council Meeting of the 21st General Assembly (G. A.), Boulder, 1995, a new IUGG Committee for Developing Countries (CDC) to be composed of representatives from Associations and chaired by a Bureau member was established. The membership of this IUGG CDC is: Seiya Uyeda (Chair, Bureau), H.K. Gupta (IASPEI), Luis Barreto (IAGA), Pierre Hubert (IAHS) and Subba Rao Durvasula (IAPSO). Other Associations, while their Secretary Generals (S.G.) co-operated with CDC, did not appoint a member. In order to save the IUGG CDC money ($7K/year) to assist travels of scientists from developing countries to G.A., CDC held no meeting and the work was done by correspondence mainly with Association representatives and S.G.s. The term "developing countries (DC)" having no clear definition, we use it just for convenience with the understanding that it means broadly the countries in need, including former eastern block countries.

2. Work of CDC:

One of the immediate mandates of the Council to IUGG CDC was to explore possibilities of raising Union level funds for travel expenses of DC scientists to IUGG meetings. It was also noted that the problems were not just the travel money, but were with wider perspectives, including education, training, instrumentation, publication, communication, regional organisation and so forth.

Considerable efforts have been made through personal connections to sound possibilities of raising additional Union level funds from such agencies as JICA (Japanese International Co-operation Agency), UNESCO and some private foundations. The possibilities were found to be extremely dim. Common reaction was that either it is difficult to choose IUGG from many scientific unions equally wanting funds or a continued Union level fund is too general for any agency who might consider one-shot grants for some specific or regional purposes.

Associations were solicited to provide information on what they have been doing on these matters.
As anticipated, reports from Associations indicated that much has been and is being done by themselves and they prefer the present situation rather than having an additional Union level CDC. This indicated that the raison d'etre of the IUGG CDC was questionable. Late in 1998, up-dated reports were solicited from the Associations and the IUGG affiliated CMG, ICL and SEDI (Committees hereafter) to probe if this first impression was substantiated.

It was found that much of ICSU grants and UNESCO subvention to IUGG are being used quite effectively by projects and travel support for DC through Associations and Committees. They often manage to obtain substantial extra funds from outside sources or publication income, which are also used for assisting DC scientists. Most Associations seem to manage to devote some $ 30-60K/year for DC, which should be compared with their annual IUGG budget of about $ 25K.

3. Reports from the Associations and Committees:

3. 1 - Associations:

IAG has its own CDC (F. Sanso, President). Over the last three years, it has given 15 grants of $ 8K ($ 125K in total) to young/DC scientists to attend meetings such as training schools in Indonesia and Malaysia. The annual average spending for CDC is approximately $ 40K.

IASPEI has had its own CDC since 1991 in response to IUGG request. R.D. Adams chaired it until 1997, Gary Gibson is the present Chair, and Harsh Gupta (Vice-Chair) is IASPEI representative to the IUGG CDC. IASPEI CDC publishes semi-annual News Letters, carrying news useful for DC scientists. Its activity includes running workshops, training courses with ICSU support, regional assembly/ regional working groups in DC, publication transfer to DC and travel assistance, at a level of about $ 10K/year. IASPEI CDC expressed a concern that in exploring new funding for the Union CDC, care should be taken not to take funds that would otherwise have gone to Associations or to individual DC. During the last three years, IASPEI's funding for assisting DC scientists, on top of the above $ 10K/year, was as follows:

Year	Activity	Funding	Source
1996	Instrumentation WS (India)	$ 8.2K	IUGG/ICSU
	Regional Assembly (China)	$ 25K	NAS/ICSU
		$ 33.2K	
1997	IASPEI G. A. (Greece)	$ 25K	NAS/ICSU & IASPEI
1998	IDNDR Conference (Chile)	$ 15K	IASPEI
	Regional Assembly (India)	$ 25K	NAS/ICSU
		$ 40K	

IAGA has its CDC (Luiz Muniz Barreto, chair and representative to the IUGG CDC). They have a support of about $ 10K/year for six projects, from Pan-American Institute of Geography and History. In 1996, $ 7.8K was used for INTERMAGNET (not for travel). For the Induction Workshop at Onuma, Japan, a total of about $50K from LOC and IUGG was spent to support the travel of 37 attendees, about 20 of whom were from DC and received $ 23K of travel assistance. In 1997, for IAGA G. A. in Uppsala, Sweden, contributions from the Swedish Academy of Sciences, UNESCO (via an ICSU student travel grant of $ 7.7K) and IAGA, totalling $ 65K, were spent for financial assistance for attendees. Of the total of 122 scientists who received the assistance, 107 were from DC. The actual amount paid for DC scientists was $ 60.7K. In 1998, IAGA co-sponsored Conferences and Workshop in Romania, Brazil, Ukraine, Japan, the Czech Republic and Costa Rica. $ 9.4K was sent to the organizers of these meetings, a great part of which was used for travel assistance. In 1999, IAGA will support at least two conferences in India. In addition, IAGA scientists, preferentially those from DC and students going to IUGG G.A. in Birmingham, will be helped at approximately a level of $ 35K. In summary, the figures for the last three years are:

Year	Activity	Funding	Source
1996	INTERMAGNET (not for travel) Induction WS (Japan)	$ 7.8K $ 23K **$ 30.8K**	IAGA LOC/IUGG
1997	IAGA G.A.(Sweden)	**$ 60.7K**	LOC/ IAGA/ UNESCO
1998	WS in Romania, Brazil, Ukraine, Japan, Czech and Costa Rica.	**$ 56.4K**	IAGA cosponsor
Annual average for the three years: $ 50 K			

IAMAS: A good part of IAMAS budget goes to support DC (mostly young) scientists. $ 2.5-3.0K/year is reserved to those IAMAS Commissions that meet quadranually in international conferences of their own, i.e. $15-18K per 4 year cycle. This is augmented by support for the big IAMAS Meeting between IUGG G.A.s and the IAMAS Assembly during the IUGG G.A. Meeting ($ 15K each). For the 1997 IAMAS/IAPSO Joint Meeting in Melbourne, there were also outside resources amounting to about $ 12K to help DC scientists. IAMAS makes it a condition for organizers of the big IAMAS meetings to produce substantial support for DC scientists as well as provisions for low-budget accommodation.

The direct contributions to DC scientists were:

1996	$ 14.5K	
1997	$ 15K	
1998	$ 0K	
1999	$ 15K	(budgeted)

IAHS has its "Task Force for Developing Countries (TFDC)". Pierre Hubert (representative to IUGG CDC) informs that IAHS has a special edition office (IAHS) which publishes 5 to 10 "Red Books" per year (mainly proceedings of IAHS symposia) as well as the bimonthly journal "Hydrological Sciences Journal". These publications are distributed entirely free of charge to more than 70 libraries in countries in need. In 1994, a "Training Assistance Program" (TAP) was launched and $ 7.9K was used for one Doctoral dissertation and one special publication. TAP, however, had to be disbanded in 1997, due to lack of funds:

The approximate amounts spent for IAHS/TFDC operations in the last three years were:

1996	$ 24K
1997	$ 36K
1998	$ 39K

For 1999, the budget is expected to be of the same magnitude as in 1998.

IAPSO has its own CDC (Subba Rao Durvasula, Chairman). IAPSO provided full or partial travel grants to scientists from 26 developing countries and 20 former Soviet and Eastern Europe scientists in 1995. Support for DC scientists during 1997 was $ 22.5K and fell into three categories:

1. Direct support by the LOC for the IAMAS/IAPSO Joint Assembly in Australia amounted to $ 20K ($ 12K to IAMAS and $ 8K to IAPSO).
2. IAPSO received a grant from SCOR of $ 4.5K to assist scientists from DC, that included Russia, Bulgaria, Estonia and India.
3. About $ 10K of IAPSO funds were used to support scientists from DC.
   IAPSO had no meeting activities in 1998. 1998 funding is carried forward to 1999 to support scientists at the 1999 IUGG G.A. in Birmingham.

IAVCEI: Wally Johnson (SG, IAVCEI) seriously questions the merit of the IUGG CDC. In IAVCEI, co-operation with scientists from countries in need is essential as many active volcanoes are in these countries. Whole IAVCEI has been operating in this philosophy so that there is no need for a separate Commission or Sub-committee and 'Drawing the line' between what is for DC and what is not, cannot be done meaningfully. From 1995 to 1997, about 80% of IAVCEI income (through IUGG grants,

membership fee and others) was devoted to DC science, the total amount being $ 118K. For 1998, it was about $ 45K (figure not yet finalized). Approximate yearly breakdown is:

1995	$ 32K
1996	$ 42K
1997	$ 44K
1998	$ 45K (approximate)

3.2 - Committees:

Three IUGG affiliated Committees or Commissions (CMG, SEDI and ICL) operate through related Associations and W.R. Peltier (Chair, CMG) considers that IUGG interactions with DC would best be pursued through Associations themselves.

ICL: It is an Inter-Union (IUGS and IUGG) Commission of the International Lithosphere Program (ILP) of ICSU. A. Green (President) reports that a large portion of the ILP budget goes to scientists working in DC and in the former eastern block countries. It is natural because the problems that ICL deals with are global and regional, including many DC. In each of 1997 and 1998, approximately $ 25K was used to assist them. In addition, a successful fund raising made more than $ 24K for DC scientists to attend the "1st Earthquakes and Megacities Workshop" in late 1997. Similar amount is expected for the "2nd Earthquakes and Megacities Workshop, Manila, 1999".

4. Union Allocation to CDC:

The Union has $ 7K/year specifically allocated to CDC, which is actually used to help DC scientist's travel to G.A. (4 x $ 7K=$ 28K). For the 1999 G.A., there will be in addition $ 35K from a so-called Geohost fund (budgeted on the UK side) and IUGG regular science money of $ 30K, and an Extra fund of $ 40K, a large fraction of which being used for DC scientists.

5. Conclusion:

From what we have learned, it now appears clearly that:

1. Additional sources of funding on a scale that would make the IUGG CDC an effective organisation are not apparent.
2. Good work is being done by the Associations and Committees, tailored to meet specific needs and no other effective way could be identified that would surpass the efforts already being made at Association level. This is so because Associations and the Committees are in closest contact with the DC scientists.
3. On account of the above observations, and in support of the discussion at the 1997 Executive Committee Meeting (Birmingham), IUGG CDC concludes that the work for DC is best done at the Association and Committee level and proposes that the IUGG CDC be disbanded.

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Report on the activities of the Committee on Mathematical Geophysics (CMG) 1995–1999

W.R. Peltier, CMG Chair, Department of Physics, University of Toronto
Toronto, Ontario, M5S 1A7 Canada

Introduction

The Committee on Mathematical Geophysics is an Inter-Association Commission of the IUGG that began life as an outgrowth of the Upper Mantle Project in the 1960's. Its initial focus was in the area of seismology. In the most recent period of operation, from 1994 through 1999, it has been successfully transformed into a group that seeks to serve as a bridge between the seven distinct Associations that form the Union as a whole. While its focus has remained on the development of novel mathematical methods and theoretical ideas that are important across the entire spectrum of the scientific interests of the Union, this focus has been enlarged to encompass the broadest possible range of geophysical and geodetic applications. Although maintaining a strong interest in the solid earth, the Committee has very actively sought to engage scientists working on fluid aspects of the planet, including atmospheric scientists, oceanographers, volcanologists and hydrologists.

During this period the membership of the Committee has consisted of the following four persons:

Richard Peltier
CMG Chair
Department of Physics
University of Toronto/Canada
(Geophysical Fluid Dynamics)

Daniel Rothman
CMG Secretary-North America
Department of Earth and Planetary Sciences MIT/USA
(Granular media, scaling)

Roel Snieder
CMG Vice-Chair
Department of Theoretical Geophysics Utrecht University/ Netherlands Antipolis/France
(Theoretical Seismology)

Didier Sornette
CMG Secretary-Europe
Lab. de Physique de la Matière Condensée
Université de Nice-Sophia-
(Physics of the earthquake source)

International Conferences on Mathematical Geophysics

During its most recent five year period of operation the CMG has organized three highly successfully week long Conferences, focused on a wide range of topics in theoretical geophysics. The locations of these meetings and the themes selected for each were as follows:

1 *June 19-24, 1994*

Location: Villefranche sur Mer, France
Topic: Complex Space-Time Geophysical Structures

2 *June 17-21, 1996*

Location: Santa Fe, New Mexico, USA (hosted by the Santa Fe Institute)
Topic: Complex Systems in the Earth Sciences

3 *July 12-17, 1998*

Location: Cambridge, England (hosted by the Isaac Newton Institute)
Topic: The Dynamic Earth

For these three meetings the Chairs of the Local Organizing Committees were respectively Anne Sornette (U. Nice), John Rundle (U. Colorado) and Herbert Huppert (Cambridge U.). The first of these meetings was the best financed, its organizers having raised in excess of US $ 150, 000, including the IUGG contribution of $ 8, 000, from a wide range of European (primarily French) and US and Canadian sources. The second meeting was much less well funded as significant support is not available from the US to cover the participation of US based scientists in US meetings, nor is significant support available from Europe to cover the costs of the participation of Europeans in meetings held outside of Europe! The clear implication is therefore that for a meeting to be successfully financed it must be held in Europe ! For the third of these meetings we therefore returned to Europe. Although the event in Cambridge was much better financed than that in Santa Fe, with significant support from Schlumberger, NERC, EPSRC and LMS as well as from the IUGG itself, it was most successful in terms of the quality of the scientific programme which was both excellent and very wide ranging.

Outlook for the future

The CMG organized International Conferences on Mathematical Geophysics continue to play an extremely important role in preserving and enhancing the vitality of the Union as a whole. In general the goal of broadening the activities of this group to make it more inclusive of the full range of IUGG scientific interests has been moved forward very substantially in the past five years. However, much remains to be done. It will be important in my view, if the impetus to change that already exists is to be further developed, that the new membership of the Committee that is to be appointed in 1999 include high profile scientists from the “fluid earth science” community. The very significant mathematical advances that are occurring in the general areas of fluid mechanics and magnetohydrodynamics will continue to provide an excellent focal point for CMG activity. These theoretical advances will be vital to progress in the general area of Global Change Research, an area in which the Union needs to develop a much stronger presence than has been possible in the recent past.

The present CMG group is now committed to holding its next International Conference on Mathematical Geophysics in the year 2000 at the Conference Centre in Villefranche sur Mer, the site of the first in the above described series of most recent events. Very significant funding has already been secured from the EU in support of this event through the hard work of our European Secretary Didier Sornette. This new funding, in the amount of approximately US $ 80, 000 will in fact also support a CMG summer school that we are tentatively planning to hold the following year at a southern European location. Our hope is that we will be able to make these next events even more successful than their immediate predecessors. All are invited !!!

Report for the period 1995-1999 on the activities of the Inter-Union Committee: Study of the Earth’s Deep Interior (SEDI)

Kurt Lambeck, SEDI Chairman

The principal function of SEDI is to facilitate cross disciplinary research directed at a better understanding of the structure and dynamics of the Earth’s Deep Interior. The definition of what is deep is purposely not well established but a broadly used definition is depths below about 400 km. However, SEDI interest can include the shallower zones if processes therein impinge on the deeper regions. Attention is paid to avoiding overlap with the Lithosphere Program which addressees the shallower regions, with the recently established Gordon Conferences, and with the IUGG Mathematical Geophysics Committee which addresses more mathematically oriented aspects of the physics of the Earth. Overlaps do, however, occur and this is indeed desirable to ensure that the various groups do not work in isolation of each other.

The main way in which SEDI meets it objective is through the biannual SEDI conference and by supporting symposia at other Earth Sciences venues. The principal ones are the IUGG symposia and the Association symposia, particularly IASPEI and IAGA. In addition, SEDI has supported symposia at EUG, EGS meetings and at the UK Geoscience 1998 conference.

In keeping with past practices at both the Boulder (IUGG 1995) and Birmingham (1999) meetings, SEDI was cosponsor of a substantial number of symposia rather than organizing its own symposia. Amongst other reasons, this permits those scientists involved in SEDI activities to permeate the relevant Association programs and to encourage cross-discipline presentations.

The two important SEDI functions since the 1995 IUGG have been the biennial meetings: in Brisbane, Australia, in 1996 and in Tours, France, in 1998. The first meeting was held as an experiment in conjunction with the Western Pacific AGU meeting. This turned out to be successful in that SEDI succeeded in retaining its own identity in its science programs and that it did attract participants who would not normally be associated with SEDI. It was, however, concluded that such joint meetings will be the exception rather than the rule.

The highlight of this meeting was a sharply focused debate on iron in the core, including the presentation of new experimental, theoretical and numerical results. Other strong programs included sessions on the physical properties of the deep mantle, including experimental and theoretical results, on geodetic constraints on deep mantle processes and on the geodynamo and core dynamics.

The 1998 SEDI meeting in Tour, France, attracted a larger audience and resulted in a very intense 5-day program covering all areas of the Earth's deep interior, including the physical, chemical and thermal constitution of the core and mantle, core mantle interactions, properties and dynamics of the inner core, the geodynamo (theory and observations), and experimental results on the deep earth processes. Both meetings were highly successful in attracting scientists from a wide range of disciplines and one is beginning to see the results of an increasing interaction in the scope of the papers presented. The feature of the SEDI meetings in not having parallel sessions and in allowing sufficient time for discussion during the poster sessions must be one element for this success.

The next SEDI meeting is to be held in Exeter (England) in 2000 and while the program can be expected to have a strong focus on geomagnetism, a broad interdisciplinary program is anticipated, indeed expected.

In addition to the SEDI biennial meetings and the IUGG symposia, SEDI also cosponsored symposia at Association meetings, notably IASPEI in Greece, and IAGA in Sweden. The scope of these symposia is partly restricted by the nature of the Association program but it does appear that SEDI's role is influential in broadening the scope of the Association meetings.

With the large numbers of competing and/or complimentary meetings held each year one issue that has faced SEDI has been the matter of what symposia to support. The annual EGS and biennial EUG meetings, for example, have raised the question of whether by supporting symposia at all of their meetings we are not diluting the SEDI focus. To this end it has been decided that SEDI supports symposia arranged by the two associations in alternate years: the EUG biennially and the EGS during the intervening years. This is with the proviso that there are no particular compelling reasons to do otherwise. It is not the practice of SEDI to support national meetings but one exception was made in that the UK Geoscience 1998 meeting was supported as a once off venture because of the opportune and outstanding program organized on the dynamics of the deep mantle and core with a good cross fertilisation of disciplines.

The newly established Gordon Research Conferences (GRC) "The Interior of the Earth" raised some matters of competition with both SEDI and CMG but this is now resolved by the GRC agreeing to hold their meetings in odd numbered years whereas, both SEDI and the Committee for Mathematical Geophysics hold their meetings in even numbered years. The last two have a loose agreement to co-ordinate the time of their meetings such that participants can attend both with reasonable convenience. With a desire to hold the SEDI meetings outside of north America and Europe from time to time, this has of course, not always been achieved.

In addition to its conference functions SEDI endeavors to encourage young scientists through the award of the Doornbos Prize at the time of its biennial meetings. This prize is awarded for outstanding presentations by young scientists during the meeting. Recipients in 1996 were:

- Dr. Xiaodong, for his work on the rotation of the inner core, and
- Drs. Sri Widiyantoro and Robert van der Hilst for their work on the tomographic imaging of the mantle.

Recipients in 1998 were:

- Dr. Denis Andrault, for experimental investigations of the iron phase in the core,
- Dr. Andreas Tilgner, for experimental contributions to the understanding of the geodynamo, and
- Dr. Lidunka Vocadlo, for her theoretical work on the properties of iron in the inner core.

The SEDI committee believes that the informal structure of SEDI continues to be highly successful in bringing together scientists from different disciplines and in accentuating new research directions into the structure and dynamics of the deep earth. It is becoming increasingly recognised that progress into the understanding of the deep earth will only come about through a concatenation of the different approaches, experimental, theoretical, and numerical, of the various sub-disciplines of geophysics and geochemistry. SEDI serves the purpose of facilitating these linkages and will continue to do so over the next decade.

IUGG TSUNAMI Commission Activities Report 1995-1999

Viacheslav K. Gusiakov, Chair, IUGG Tsunami Commission

The activity of the IUGG Tsunami Commission in 1995-1999 was centered on the following six main areas:

1. Upgrading the status of the Commission,
2. Sponsoring of tsunami related meeting, conferences and workshops,
3. Publication of proceedings, reports and scientific articles,
4. Coordinating the tsunami related research projects,
5. Coordinating the Field Tsunami Surveys,
6. Supporting information exchange through electronic Tsunami Bulletin Board and dedicated Web sites.

1. Upgrading the status of the Commission

The IUGG Tsunami Commission (IUGG/TC) is an Inter-Association Commission responsible for international coordination of tsunami related meetings, researches, field surveys and other tsunami related efforts. Since 1995, the IUGG/TC is chaired by Viacheslav K. Gusiakov (Novosibirsk, Russia) with James F. Lander (Boulder, USA) serving as Secretary and Yoshinoby Tsuji (Tokyo, Japan) and Stefano Tinti (Bologna, Italy) as Vice-Chairmen. Currently, the Commission membership includes 33 members representing 12 countries (Australia, Canada, Chile, Greece, Italy, Japan, Korea, Portugal, Russia, Turkey, United Kingdom, USA).
Until 1995, the International Tsunami Commission had been jointly sponsored by two Associations - IASPEI and IAPSO, but this was expanded to include the IAVCEI in view of importance of volcanic generated tsunamis. This required the agreement of the three associations and the IUGG Executive Council. This was accomplished in the fall of 1996. The IAVCEI has nominated Y. Nishimura (Usu Volcano Observatory, Hokkaido University, Japan) to serve as a official IAVCEI representative at the UIGG/TC. The official representatives of IASPEI and IAPSO are commission members Kenji Satake (Geological Survey of Japan, Tsukuba, Japan) and Fred Camfield (U.S. Army Corps of Engineers Waterways Experiment Station, Vicksburg, USA), respectively.

2. Sponsoring of Tsunami Related Meeting, Conferences and Workshops

The 18th International Tsunami Symposium was held in Melbourne, Australia, on July 2-4, 1997, in conjunction with the Joint Assemblies of IAMAS and IAPSO. This was the first symposium held in the Southern Hemisphere since the 1974 Symposium in Wellington, New Zealand. The Symposium was convened by Dr. Roger Braddock. A total of 40 papers were presented in 10 sessions chaired by Dr. V. Gusiakov, Dr. K. Satake, Dr. E. Pelinovsky, Dr. N. Shuto, Dr. F. Gonzalez, Dr. W. DeLange and Dr. E. Bryant. Authors were present from Australia (6), Indonesia (2), New Zealand (2), Japan (18), Russia (4), Greece (2), Turkey (1), and the United States (5). On average, there were about 30 attendees in each session. Whenever it was possible, the presentations were followed with a lively question and answer period. The biannual business meeting of the Commission was held on Wednesday evening, July 2 at the Melbourne Congress Center.

In addition to this major biannual international Tsunami symposium, in the period from 1995 to 1999, the IUGG/TC sponsored and/or its officers participated as officially invited representatives of the IUGG/TC in the following Tsunami-related meetings, conferences and workshops:

- IOCARIBE Tsunami Warning System Workshop held in St. John, Virgin Islands, on May 23-24, 1996 (J. Lander)
- XV Session of the International Coordination Group for the Tsunami Warning System (ICG/ITSU) in the Pacific held in Papeete, Tahiti, July 24-26, 1995 (V. Gusiakov, J. Lander)
- Two Great Tsunamis: U.S. - Japan Anniversary Symposium and joint UJNR Workshop was held in Hilo, Hawaii on April 1-3, 1996.(J. Lander)
- International Workshop “Tsunami Mitigation and Risk Assessment” held in Petropavlovsk-Kamchatkiy, Russia on August 21-24, 1996 (V. Gusiakov, J. Lander, Y. Tsuji)
- GITEC Project Working Meeting held in Reykjavik, Iceland on September 5-9, 1996 in conjunction with XXII General Assembly of the European Seismological Commission (V. Gusiakov, S. Tinti).
- The Second Caribbean Conference on Natural Hazards and Disasters held in Kingston, Jamaica on October 9-12, 1996 (J. Lander)
- Caribbean Tsunami Workshop held in Mayaguez, Puerto Rico on June 11-13, 1997 (V. Gusiakov, J. Lander).
- XVI Session of the International Coordination Group for the Tsunami Warning System in the Pacific held in Lima, Peru, September 22-25, 1997 (V. Gusiakov, J. Lander)
- Tsunami Sources Workshop held in Thessaloniki, Greece on August 18-31, 1997 in conjunction with XX General Assembly of the International Association of Seismology and Physics of Earth Interiors (V. Gusiakov, S. Tinti, Y. Tsuji)
- International Workshop on Bathymetry and Coastal Topography Data Management held in Seattle, USA on March 20 and 21, 1998 (V. Gusiakov, J. Lander)
- International Conference “Modern Preparation and Response Systems for Earthquakes, Tsunami and Volcanic Hazards” held in Santiago, Chile on April 27-30, 1998 (V. Gusiakov, J. Lander)
- HAZARDS’98, 7th International Conference on Natural and Man-Made Hazards, May 17-22, 1998, Chania, Crete, Greece (V. Gusiakov, J. Lander)

- Tsunami Workshop sponsored by the European Union, UNESCO, and the Laboratory of Detection and Geophysics held in Paris, France on 26-28 May, 1998, (J. Lander, S. Tinti)
- Okushiri Tsunami Workshop held in Sapporo, Japan on July 9-13, 1998 (J. Lander, Y. Tsuji)
- ICG/ITSU Officers Meeting held in Honolulu, USA on January 25-29, 1999 (V. Gusiakov, J. Lander)

3. Publication of Proceedings, Reports and Scientific Articles

- Proceedings of the 1995 Tsunami Symposium in Boulder, CO, USA. was published by Kluwer Academic Publisher as a 218-page book titled "Perspectives on Tsunami Hazard Reduction" with the IUGG/TC member. J. Hebenstreit served as the Editor.
- Proceedings of the Kamchatka Tsunami Workshop was edited and published by V. Gusiakov, IUGG/TC Chair as 68-page report: "Tsunami Mitigation and Risk Assessment", Computing Center, Siberian Division, Russian Academy of Sciences, Novosibirsk, 1997.
- International Tsunami workshops in Paris (May 26-28, 1998) and in Sapporo (July 9-13, 1998) were followed by publication of volumes of abstracts.

4. Research Projects c oordinated by the Commission

Tsunami Inundation and Modeling Exchange Project

The TIME (Tsunami Inundation and Modeling Exchange) Project was launched in 1991 by the initiative of Prof. N. Shuto (Project Leader) and Dr. E. Bernard (IUGG/TC Past-Chair) as a joint project of the IUGG/TC and ICG/ITSU. Disaster Control Research Center of Tohoku University (DCRC/TU)has been acting as the center of TIME to transfer its technique of the tsunami numerical simulation to the countries that suffer tsunami damage and are needed in the preparation of tsunami inundation maps. During these years, the software was transferred to 12 institutes in 10 countries. Since 1995, the DCRC/TU trained two Indonesian scientists in the use of the programs, Dr. Gegar Sapta Prasetya and Mr. Nur Adi Kristanto. Copies of the codes were sent to Mr. Aldo Drago of the Malta Council for Science and Technology, and Dr. Modesto Ortiz of Mexico, an earlier recipient, had shared a copy with Prof. Aurelio Mercado, University of Puerto Rico, Mayaguez, who used it to model the 1918 Puerto Rico tsunami.

Historical Tsunami Database for the Pacific, 47 B.C. – 1999 A.D.

This is the joint project of the IUGG/TC and ICG/ITSU launched in 1997 and directed to improve the situation with catalogization of historical tsunamis in the Pacific by means of organizing them in the form of the database containing the comprehensive historical tsunami catalog in the Pacific along with all the meaningful reference information related to the tsunami problem in this region. This database summarizes the long-term efforts of many research groups and individuals in collecting, refining and digitizing the tsunami related data and, upon accomplishment, will represent the updated, revised and homogenous tsunami data set. During 1997-1998, the beta version of the database along with supporting graphic shell was developed by the Tsunami Laboratory of Siberian Division, Russian Academy of Sciences recorded on a CD-ROM and distributed among the regional project coordinators for further data editing and refining. It is expected that the final version of the database will be published as a multi media CD-ROM "Tsunamis in the Pacific, 47 B.C. – 2000 A.D." soon after the millenium is over and the observational data set for the year of 2000 is become available.

As the first step to the development of the Internet-based version of tsunami database, the dedicated Web-site was established by the Tsunami Laboratory of the Institute of Computational Mathematics and Mathematical Geophysics in Novosibirsk, Russia (http://tsun.sscc.ru/htdbpac) in the end of 1998. This site contains the on-line historical tsunami catalog in the Pacific, covered the whole historical period of observations (47 B.C. to 1998) and currently contains 1490 events. The specially developed data management software allows for a remote user to make data retrieval by complex criteria and to obtain the resulting list of tsunamigenic events with their basic source parameters.

Improvement of gridded bathymetry on a regional and global basis.

Among the tsunami research community, the importance of gridded data on bathymetry and coastal topography has been emphasized and discussed at several meetings and workshops. At its business 1997 meeting, the IUGG/TC established the Working Group on Digital Bathymetry with the purpose to formulate the policy and standards in further developing the DBM and to represent the IUGG/TC interest in other international bodies dealing with bathymetry data (IOC, IHO, BODC, NGDC, GEBCO Guiding Committee, etc.). The first international workshop dedicated to this particular subject was sponsored by the NSF and conducted in Seattle, USA on March 20-21, 1998 with a Commission member Prof. H. Yeh as the leading convener. The second workshop of that type is planned to be conducted in Birmingham, UK in conjunction with the IUGG General Assembly.

5. Coordinating the field: Tsunami Surveys

Since July 1, 1995 to December 31, 1998, 29 tsunamigenic events in the Pacific occurred. Most of these tsunamis were small local and regional events observed only on mareo-graph records, however, among them there were 9 damaging events with 6 of them resulted in human loss. The IUG/TC coordinated and its members participated in the field surveys following all most destructive and

damaging recent tsunamis:

- *Mw8.0 October 9, 1995*
  Jalisco (Mexico), earthquake and tsunami
- *Mw7.9 January 1, 1996*
  Sulawesi (Indonesia), earthquake and tsunami
- *Mw8.2 February 17, 1996*
  Irian Java (Indonesia), earthquake and tsunami
- *Mw7.8 February 21, 1996*
  Chimbote (Northern Peru), earthquake and tsunami
- *Mw7.1 July 17, 1998*
  Aitape (Papua New Guinea), earthquake and tsunami

These field surveys provided large amounts of high quality observational data usually inaccessible by any other way.

6.Supporting Information Exchange through Electronic Tsunami Bulletin Board and Dedicated Web Sites

In 1995 – 1998 the officers and members of the IUGG/TC actively participated in the information and data exchange through the Tsunami Bulletin Board (Tsunami BB), the dedicated electronic network established in the end of 1992 by PMEL/NOAA. In 1996. the routine maintenance of the Tsunami BB was transferred to the International Tsunami Information Center (ITIC) in Honolulu (USA). Currently, this network is being used by some 150 tsunami researches and practitioners in 15 countries to share the data and information of recent tsunamigenic events. The IUGG/TC is also trying to coordinate the development of the tsunami dedicated Web-site established in last years by many research centers, institutions and individuals.

Reports of Union Representatives on ICSU Committees

Report on COSPAR Activities 1995 - 1999

Janet Luhmann, IUGG Liaison Officer to COSPAR

Here is a brief summary of what I encountered during my term as IUGG Representative to COSPAR.

From my participation in one of the COSPAR Council meetings (in Birmingham), and my reading of the various memoranda distributed by COSPAR Director Prof. S. Grzedzielski, it is my impression that COSPAR is currently deeply involved in a process of making many internal changes. Under the leadership of Prof. G. Haerendel, there has been significant activity devoted to improving COSPAR's visibility and communication with the world-at-large. For example, COSPAR's WWW page development, and a major redesign of the editing and production processes for Advances in Space Research, are in work. On the whole, there does not seem to be a major mandate relating to interactions with other Associations. For example, soliciting IUGG/COSPAR joint project ideas from our Association Secretaries General in response to a Haerendel communication on ICSU grants in 1996, received a weak response (only one). My interpretation is that there are too many pressing matters occupying the leadership of all of our groups. (The dominant activity at the COSPAR Council meeting had mainly to do with voting on membership and locating the next two meetings - in Warsaw and Houston respectively). The COSPAR meeting in 2002 (Houston) is to be a World Space Congress. I suggest that IUGG consider becoming a visible participant in the World Space Congress. Perhaps IUGG could provide a booth for the display area of the Congress and co-sponsor a number of appropriate symposia.

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Federation of Astronomical and Geophysical data analysis Services FAGS

Report to IUGG for the period 1996-1999

Paul Pâquet, President
Niels Andersen, Secretary

The Federation of Astronomical and Geophysical Data Analysis Services (FAGS) is sponsored by three of the ICSU Unions, the IUGG, URSI and the IAU. The two IUGG representatives during this period have been Dr. O.B. Andersen and Dr. G. Balmino. The current President of FAGS is Dr. Paul Paquet, who replaced Dr. O.B. Andersen in 1998. Dr O.B. Andersen continues to serve the FAGS Council until 1999.

A summary of the present Council membership, Permanent Services and their Directors is attached to this report. (Attachment 1).

FAGS provides the framework within ICSU within which a wide range of geophysical and astronomical services are supported and ratified. Although in every case, the money made available through FAGS to the individual Services is much less than the cost of operating the Services, we are continually reminded that the imprimatur provided by FAGS and ICSU frequently enables the generation of additional support from other sources. This is essential, as the funding provided by FAGS itself has remained relatively constant over many years, and is gradually declining in real terms. The support of the sponsoring Unions continues to be important. The IUGG contribution ($ 12.000 per annum) is greater than that of the other two Unions, which have a smaller interest in the Services.

A summary of the financial allocations is included for information. (Attachment 2).

In addition to its annual review of reports from the Permanent Services, and allocating funds to support them, the FAGS Council has been involved in several other activities.

In 1996 the FAGS could welcome the eleventh member, The international GPS Service for Geodynamics (IGS) recognising the permanent nature of GPS as an important and established system for science as well.

As mentioned in the last report of FAGS to IUGG a review of FAGS as part of the on-going ICSU review of interdisciplinary bodies has taken place.

The result of this review is very encouraging for FAGS, as the General Committee of ICSU "believes that FAGS serves an important and sufficiently distinct purpose to justify its separate and continued existence".

FAGS have taken good notice of the Review Body advices on further improvements of FAGS especially concerning the recommendation, that FAGS should be more visible in the scientific community. A brochure describing FAGS has been prepared and further a FAGS www-homepage

has been realised first on the address: http://www-gik.bauverm.uni-karlsruhe.de/~fags/ and now transferred to the address: http://www.kms.dk/fags/ reflecting the change of address of FAGS Secretariat.

Attachment 1.

Council members were in 1998:

President	*P. Paquet* (Belgium)
Representative of IAU	P. Paquet (Belgium) *E.A. Tandberg-Hanssen* (U.S.A.)
Representative of IUGG	*O.B. Andersen* (Denmark) *G. Balmino* (France)
Representative of URSI	*H. Rishbeth* (United Kingdom) *R. Booth* (Sweden)
Acting Secretary	*Niels Andersen* (Denmark)
Past Secretary	*H.-G. Wenzel* (Germany)

Permanent Services:
International Earth Rotation Service (IERS):
Dr. Daniel Gambis
Director Central Bureau of IERS
Observatoire de Paris
61 Av. de l'Observatoire
F-75014 Paris
France

Bureau Gravimétrique International (BGI):
Dr. Georges Balmino
Director BGI
Observatoire Midi-Pyrenées
18 Avenue Edouard Belin
F-31401 Toulouse cedex 4
France

International GPS Service for Geodynamics (IGS):
Dr. Ruth E. Neilan
Director IGS Central Bureau
Jet Propulsion Laboratory/Caltech
MS 238-540
4800 Oak Grove Drive
Pasadena, California 91190
U.S.A.

International Center for Earth Tides (ICET):
Prof. Dr. Bernard Ducarme
Director ICET
Royal Observatory of Belgium
Avenue Circulaire 3
B-1180 Bruxelles
Belgium

Permanent Service for Mean Sea Level (PSMSL):
Dr. Phillip L. Woodworth
Director PSMSL
Bidston Observatory
Birkenhead
Merseyside L43 7RA
United Kingdom

International Service of Geomagnetic Indices (ISGI):
Dr. Michel Menvielle
Director ISGI
CEPT
4 Av. de Neptune
F-94107 Saint-Maur-des-Fossés
France

Quarterly Bulletin of Solar Activity (QBSA):
Dr. Kiyoto Shibasaki
Nobeyama Radio Observatory
National Astronomical Observatory
Minamimaki, Minamisaku
Nagano 384-13
Japan

International Space Environment Service (ISES):
Dr. Richard Thompson
IPS Radio and Space Services
P.O. Box 5606
West Chatswood NSW 2057
Australia

World Glacier Monitoring Service (WGMS):
Prof. Dr. Wilfried Haeberli
Director WGMS
Department of Geography
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Attachment 2.

FAGS Budgets for the years 1995 to 1999 in $ US

1995	1996	1997	1998	1999
Balance at January 1st	+ 1 425.60	+ 3 146.60	+ 4 819.79	+ 2 430.21
ICSU contribution	+ 50.600.00	+ 49 100.00	+ 45 000.00	+ 40 000.00
IAU Contribution	+ 6 121.00	+ 5 573.19	(+ 5 000.00)	+ 5 000.00
IUGG contribution	+ 10 000.00	+ 12 000.00	+ 12 000.00	+ 12 000.00
URSI contribution	+ 2 000.00	0.00	+ 4 000.00	+ 2 000.00
Total income:	**+ 70 146.00**	**+ 69 819.79**	**(+ 70 819.79)**	**+ 61 430.21)**
Expenditure:				
IERS	- 18 000.00	- 17 000.00	- 16 000.00	- 13 000.00
BGI	- 4 800.00	- 5 000.00	- 5 000.00	- 5 000.00
IGS	0.00	- 5 000.00	- 5 000.00	- 7 000.00
ICET	- 10 500.00	- 9 000.00	- 8 000.00	- 7 000.00
PSMSL	- 10 500.00	- 10 000.00	- 9 000.00	- 8 000.00
ISGI	- 5 700.00	0.00	- 5 000.00	
	- 3 500.00	- 3 500.00		
QBSA	- 5 200.00	- 4 500.00	- 4 500.00	- 4 000.00
ISES	- 1 300.00	0.00	0.00	0.00
WGMS	- 3 800.00	- 4 000.00	- 4 000.00	- 3 000.00
CDS	- 4 800.00	- 5 000.00	- 4 500.00	- 4 500.00
SIDC	- 2 400.00	- 2 500.00	- 2 750.00	- 3 000.00
FAGS Secretariat	0.00	- 3 000.00	- 1 000.00	
Total expenditure	**- 67 000.00**	**- 65 000.00**	**- 68 250.00**	**- 58 000.00**
Balance at 31st December	**+ 3146.60**	**+ 4 819.79**	**+ 2 430.21**	**+ 3 430.21**

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Report on the activities of the International Geosphere Biosphere Programme (IGBP)

C. J. E. Schuurmans, IUGG Representative

Brief History

The International Geosphere Biosphere Programme (IGBP) was established within ICSU in 1986 with the aim: To describe and understand the interactive physical, chemical and biological processes that regulate the total Earth System, the unique environment that it provides for life, the changes that are occurring in this system, and the manner in which they are influenced by human activities. This ambitious goal was tackled by defining specific objectives, or key questions. So, in 1990 an IGBP Research Strategy was published proposing 6 Core Projects and 3 Overarching or Integrative Activities. For each of the Core Projects and Integrative Activities a Workplan was developed and collectively published as IGBP in Action: Workplan 1994-1998. Besides, a popular-scientific description of the Programme was issued under the title: Global Change: Reducing Uncertainties. Implementation and further planning were realised in meetings of the Scientific Steering Committees (for each Core Project), the Scientific Committee (for the Programme as a whole), the Scientific Advisory Council (with representatives of the National IGBP Committees) and the First IGBP Congress (Germany, 1996). Meanwhile, two new Core Projects were defined, bringing the total number at 8. At the time of reporting, early 1999, the management of the IGBP has started the process of synthesis of the Core Projects, as well as the synthesis of the full programme. It is foreseen that the result inaugurates a new phase of IGBP from 2001 onwards. This might involve also a new structure of the programme.

Relevance to IUGG

Subjects:

The scientific objective of IGBP, as far as it concerns research on the physical, chemical and biological interactions in the System Earth, is extremely relevant to IUGG and most of its Associations. At the Core Project level there might even be an overlap with activities of some of the Associations, especially IAMAS, IAPSO and IAHS. For that reason a list of the 8 Core Projects and the 3 Integrative Activities seems to be in order.

Core Projects of IGBP:

- Biospheric Aspects of the Hydrological Cycle (**BAHC**);
- Global Change and Terrestrial Ecosystems (**GCTE**);
- Global Ocean Ecosystem Dynamics (**GLOBEC**);
- International Global Atmospheric Chemistry Project (**IGAC**);
- Joint Global Ocean Flux Study (**JGOFS**);
- Land- Ocean Interactions in the Coastal Zone (**LOICZ**);
- Land- Use/Cover Change (**LUCC**);
- Past Global Changes (**PAGES**).

Integrative Activities of IGBP:

Global Analysis, Interpretation and Modelling (**GAIM**);
Data and Information System (**IGBP-DIS**);
System for Analysis, Research and Training (**START**);
Core Projects LUCC an GLOBEC are the ones which have been added at a later stage. Of the remaining six, BAHC, GCTE, IGAC, JGOFS and PAGES are the most well developed.

Nature of the IGBP research:

IGBP research differs in nature and character with the research covered by the Associations of IUGG. The main difference is in the intention of the research: IGBP wants to answer certain questions of society and of policy makers in regard to global change. In doing so it is realised and accepted that the research must be multi-disciplinary and that in most cases only the integrated result is useful for application. In addition, IGBP must accept that results in most cases have to be differentiated regionally. Finally, in the IGBP research there is a sense of urgency, since policy makers and society need guidance in making decisions regarding human impact on the global and regional environment.

Contributions to IGBP research:

Like most research conducted under the auspices of ICSU contributions to IGBP research are mainly arising from national and regional research groups or organisations. Research projects initiated by individual investigators or institutes may also become part of IGBP, when such projects are recognised by the respective Steering Committee as being a significant contribution. The benefits of inclusion in IGBP may b e: 1. Availability of an internationally agreed scientific plan, 2. Access to the network of IGBP scientists and data bases, 3. Advantage of scale, because of inclusion of national efforts into a much larger coherent effort, 4. Easier to obtain funding.

Results

In 1995 an evaluation of IGBP has taken place. At that time the Evaluation Committee concluded that the IGBP is an outstanding and generally well conducted scientific programme that provides added value to the sum of national and regional activities. The evaluation had taken into consideration the scientific aspects of IGBP, but has not peer reviewed the scientific output as such. At the time of reporting, 4 years later, a review of the scientific output is still not available, but the following information is relevant.

IGBP at present is in the process of preparing so-called Science Reports, for each of the mature Core Projects. The first of such reports is available as IGBP Science No. 1, A Synthesis of GCTE and Related Research. The report is presented as an executive summary of the major findings of GCTE thus far. It is a well-structured and extremely informative document of problems and present answers in this area of research. Among other things, the report contains an up to date description and annual budget of the terrestrial carbon cycle. Significant other new results are also present in the regular IGBP Report Series, waiting to be summarised in an IGBP Science Synthesis of the relevant Core Project in the next two years.

Future Developments

Plans of the Scientific Committee of IGBP not only involve the production of Core Project Syntheses, but also a Synthesis of IGBP as a whole. This is to be realised in a meeting of the IGBP Congress (Japan, May 1999), and a series of workshops, culminating in an IGBP Open Science Conference, 2000/2001. Another important development is the further structuring of linkages to the World Climate Research Programme (WCRP) and the International Human Dimensions Programme (IHDP). In this way a further synthesis is being pursued, namely the coupling of the global biogeochemical cycles and the physical climate system (IGBP + WCRP) and the incorporation of human factors in Earth System Models (IGBP + WCRP + IHDP). In practice this synthesis will be based upon national research programmes on the global change subject. A clear example of such programmes is published in the report German Global Change Research 1998 (ed. E. Ehlers & T. Krafft, Bonn, 1998). A very readable description of the Earth System Research aimed at has already been published by ICSU in 1996 under the title Understanding our Planet (ed. John S. Perry, Paris, 1996).
It is clear that scientific research is a necessary basis for obtaining such understanding. Scientists within IGBP believe that given the vast size and complexity of the Earth System, we cannot rely on the traditional methods of science, but more interdisciplinary and international cooperation is needed. Given sufficient funding, this can well go in parallel with the more detailed fundamental research interests within IUGG.

Report on the activities of the Scientific Committee on Antarctic Research (SCAR) 1995 – 1999

Takeo Hirasawa, Liaison Officer of IUGG to SCAR

SCAR has four permanent scientific Working Groups which are related closely to IUGG. They are the Working Groups on Geodesy and Geographic Information (related to IAG of IUGG), Solid-Earth Geophysics (IASPEI, IAHS, IAPSO), Physics and Chemistry of the Atmosphere (IAMAS) and Solar-Terrestrial and Astrophysical Research (IAGA). During the XXII SCAR (Cambridge, UK, in 1996) and the XXV SCAR (Concepcion, Chile, in 1998) meetings, the nationally appointed representatives to the above four working groups met for the discussion of scientific researches in Antarctica.

1. WG on Geodesy and Geographic Information

a. **Permanent Geodesy Observatories**: The WG noted the continued success of the Geodesy Infrastructure for Antarctica (GIANT) program and its valuable contribution to the definition of global and regional geodetic reference frames. The Wg recommends Japan and Chile to support the on-going operation of the at VLBI and GPS facilities at Syowa and the O'Higgins VLBI observatory and encourages Councile of Managers of National Antarctic Programs (COMNAP) to support the retrieval of GPS data from geodetic observatories by satellite communication, for near-real time use of data by the international geodetic research community.

b. **Geodetic Reference Frame**: Considering the widespread use of the International Terrestrial Reference Frame (ITRF), the increasing use of precise positioning in Antarctica for many scientific purposes, and the need for a common reference frame for Antarctic and global geographically referenced information, the WG recommends to adopt and support use of ITRF as the basic geodetic reference frame in Antarctica and the GRS80 ellipsoid for computation of precise geographic coordinates in that reference frame.

c. **Place Name in Antarctica**: Considering that, in the interests of both clarity and operational safety, the general principle of 'one name per feature' should apply for a new feature names, the WG recommends every national Antarctic naming authority to refer to the SCAR Composite Gazetteer of Antarctica (CGA) in considering all proposals for new place names and avoid adding new place names to features already named.

2. WG on Solid-Earth Geophysics

a. **Seismic and geomagnetic field monitoring**: Recognizing the importance of global seismic and absolute geomagnetic field monitoring in understanding the structure of the deep interior of the Earth, the WG supports the continued operation of existing broad-band seismographs and magnetometers on the Antarctic continent and also encourages the establishment of new ones both permanent and temporary in optimal locations.

b. **GPS and gravity**: Recognizing the importance of permanent GPS sites and absolute gravity measurements to geodynamic studies and in providing ground truth for upcoming satellite missions, the WG encourages the establishment of new permanent GPS sites and absolute gravity measurements in optimal locations.

c. **Seismic profiling**: Recognizing that seismic profiling oversnow is essential to an understanding of the geological structure of the Antarctic continent, the WG strongly recommends further expansion of this activity.

d. **Acoustic profiling**: Recognizing that swath mapping and high-resolution acoustic profiling essential for the identification of glacial neotectonic and other developments in and around Antarctica related to Global Change, the WG welcomes the expansion of these activities and recommends their integration with coring and drilling.

3. WG on Physics and Chemistry of the Atmosphere

a. **FROST project**: A workshop was held on 21 July 1998 to review the achievements of Antarctic First Regional Observing Study of the Troposphere (FROST). Excellent progress has been made with FROST project, which has been the major focus of the WG 1992. FROST is planned to draw to a close in 2000 and a full report on the project will be provided to SCAR XXVI meeting. New initiatives are needed because that the FROST project is coming to an end. The following initiatives are considered:

1) Reference Antarctic Data for Environment Research (READER)
The WG agrees that WG should produce the best climatological fields for Antarctica of key variables, such as near-surface temperature, wind velocity, cloud cover/long wave radiation, single station analyses of upper atmosphere temperature trends from radiosonde data (including cooling in the lower stratosphere) etc.

2) Atmospheric chemistry
The WG recognizes that new initiatives for the group in atmospheric chemistry are desirable. As a first step the WG has asked the chemistry within the group to consider potential new activities in this field that could be pursued.

b. **Recommendations**:
Eighteen following recommendations were adopted in XXIV and XXV SCAR meetings:

1) the global change programme,
2) shipborne meteorological observations,
3) automatic weather stations,
4) upper air observations,
5) the El-Nino southern osallation,
6) the WMO global telecommunications System (above in XXIV SCAR),
7) WG on physical and chemical oceanography,
8) AGO data,
9) upper air meteorological profiles,
10) clouds and energy balance studies,
11) international programme for drifting buoys,
12) new Hampshire workshop,
13) Cambridge workshop,
14) solar spectrophotometers,
15) atmosphere re-analyses,
16) King George Island,
17) weather forecasting symposium, and
18) STRATEOLE (above in XXV SCAR).

4. WG on Solar Terrestrial and Astrophysics

a. **AGONET**: This is the Antarctic Geophysical Observatory Network. A Major past activity has been the establishment of a central database. During the past two years it has become increasingly apparent that the technology of the Internet and the World Wide Web has changed the nature of the community needs for access to data. Data which could previously only be accessed in the central database is now available on the home pages of the host institution. It has become clear that the now ripe for substantial improvement of the access to data using the most modern tools.

b. **HF Radars**: Concerning the development of the SUPERDARN networks of HF radars in the Antarctic, the WG notes that there are several valuable opportunities to extend the coverage of the Antarctic network using sites in Tasmania, New Zealand, Kerguelen Island, and Zhongshan stations, and that over the next few years there will be unparalleled opportunities for collaborative research with space-craft and conjugally located radars.

c. **Recommendations**: Six following recommendations were adopted in XXIV and XXV SCAR meetings:

1) AGONET,
2) cost of meeting,
3) electromagnetic interference,
4) HF Raders (above in XXIV SCAR),
5) cost of meetings, and
6) importance of magnetometer data (above in XXV SCAR).

d. **Meeting of SCAR in Tokyo 2000**: It is agreed that the WG would organize further workshops and meetings during the 2000 SCAR meeting in Tokyo. The Group has identified the need to capitalize on the enhanced ability to combine a variety of data from all parts of Antarctica. It also recognizes the global importance of Antarctica in Solar Terrestrial Physics. The next solar maximum will occur in the year 2000. It wishes to hold the flowing series of workshops in Tokyo:

- Inter-hemispheric Conjugacy in Solar Terrestrial Data.
- First results from the solar maximum.
- Long-term trends in the Upper Atmosphere.
- Antarctic Astrophysical Workshop.
- Overview and co-ordination of National plans and activities in Antarctic STP.

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Report on the activities of the Scientific Committee on the Problems of the Environment (SCOPE) for the period 1995-1999

Ted Munn

SCOPE (the Scientific Committee on Problems of the Environment) was established by ICSU in 1969 to provide an interdisciplinary forum on environmental issues. SCOPE has grown over the years and is now supported by a worldwide network of 40 National Academies and Research Councils, and 22 international Scientific Unions, Committees and Societies. At each of its General Assemblies, SCOPE elects an Executive Committee and develops its work program for the next three years. SCOPE has a small but effective full-time secretariat located in the ICSU building (51 boulevard de Montmorency, 75016 Paris, France). Funds to support SCOPE's work are provided by contributions from SCOPE National Committees, an annual subvention from ICSU (and through ICSU from UNESCO), an annual subvention from the French Ministry of the Environment, contracts with UN bodies, particularly UNEP, and grants from Foundations and industrial enterprises. Unions such as IUGG do not provide financial support.

The mandate of SCOPE is:

1. to assemble, review and assess information on human-made environmental changes and the effects of these changes on people;

2. to assess and evaluate the methodologies of measurement of environmental parameters;
3. to provide an intelligence service on current environmental research; and by the recruitment of the best available scientific information and constructive thinking, and
4. to act as a corpus of informed advice on priority environmental issues - either global or shared by several nations.

The outputs of SCOPE assessments are sometimes in the form of scholarly monographs, a few are published as papers in the scientific literature, and occasionally they are published as popular paperbacks. In 1997 one such work drew rave reviews: The Work of Nature: How the Diversity of Life Sustains Us, written by science-writer Yvonne Baskin (Island Press). Several of the SCOPE monographs have had a major impact on research directions in the environmental sciences (e.g., those published on the biogeochemical cycles of sulphur, carbon, nitrogen, mercury and phosphorus; and the several monographs on ecotoxicology). Some of these syntheses have also played a seminal role in the development of specific international research programmes (e.g., SCOPE 12, Principles of Ecotoxicology; SCOPE 29, The Greenhouse Effect, Climatic Change and Ecosystems; and SCOPE 47, Long-Term Ecological Research; an International Perspective). [In this connection, it should be noted that SCOPE does not carry out research but clarifies high-priority issues for bodies such as IGBP]. Other syntheses have provided important scientific inputs into intergovernmental policy formulations (e.g., SCOPE 28, The Environmental Consequences of Nuclear Winter; SCOPE 55, Functional Roles of Biodiversity: A Global Perspective; and SCOPE 58, Sustainability Indicators). SCOPE also undertakes joint syntheses with international and intergovernmental organisations such as UNEP, UNESCO, EC, WHO and the UN Commission on Sustainable Development.

Some recent publications of note include:

- A series of papers published in AMBIO (Vol. 26, no. 8, Dec. 1997) on Linking Biodiversity and Ecosystem Functioning of Soils and Sediments, contributed by a SCOPE Working Group;
- SCOPE 50: Radioecology after Chernobyl;
- SCOPE 51: Biogeochemistry of Small Catchments;
- SCOPE 52: Methods to Assess DNA Damage and Repair;
- SCOPE 53: Methods to Assess the Effects of Chemicals on Ecosystems;
- SCOPE 54: Phosphorus in the Global Environment: - Transfers, Cycles and Management;
- SCOPE 55: Functional Roles of Biodiversity: A Global Perspective;
- SCOPE 56: Global Change: Effects on Coniferous Forests and Grasslands;
- SCOPE 57: Particle Flux in the Ocean;
- SCOPE 58: Sustainability Indicators;
- Emerging Environmental Issues of the 21st Century: a chapter in a UNEP/Oxford University Press monograph: Global Environmental Outlook (in press). The SCOPE chapter will also be published separately in AMBIO in 1999;
- RADTEST: Radioactivity from Nuclear Tests (in press).

SCOPE held its General Assembly in June 1998 at Rutgers University in the USA. The 1998-2001 scientific programme approved by the Assembly focuses on the concepts and practices of sustainability in the 21st century during an era of increasing global change. Projects are organized under three clusters of closely-related themes:

1. Managing societal and natural resources;
2. Ecosystem processes and biodiversity;
3. Health and the environment.

The projects are interdisciplinary in SCOPE, and many of them require inputs from scientists within the IUGG sphere. A few examples of such topics include: The Role of Environmental Sciences in Agricultural Practice; Nitrogen Transport and Transformation; Behaviour of Large-Scale Ecosystems; Use of Stable Isotopes to Study Biogeochemical Cycles in Relation to Global Change; Interactions of the Major Biogeochemical Cycles; Mercury Transport and Transformation; Cadmium in the Environment; and Radioactivity at Nuclear Sites.

The IUGG representative to SCOPE has for many years been R.E. Munn (Canada), who has also been Editor-in-Chief of the SCOPE Publication Program. [In fact, Professors Munn and George Garland (former Secretary-General of IUGG) were the IUGG representatives on the ad hoc committee established by ICSU in the mid-sixties that led to the creation of SCOPE.] Dr. Munn has just retired from SCOPE, and IUGG should take steps to appoint his IUGG successor. There are clearly many benefits to be gained by both IUGG and SCOPE through IUGG membership in SCOPE.

Summary Report on the activities of the Scientific Committee on Oceanic Research (SCOR) for the period 1995 - 1999

L. Vere Shannon (President: IAPSO) and Robert Duce (President: IAMAS)

SCOR was established by ICSU in 1957 as the first of its interdisciplinary bodies, and is charged with the promotion of international activities in oceanography. Since its inception SCOR has conducted much of its scientific business through suites of small, finite-life Working Groups which address narrowly focussed scientific topics. A total of 115 SCOR Working Groups have been formed since 1957, of which 15 are current, addressing topics ranging from the ecology of sea ice to the role of wave breaking on upper ocean dynamics and from coastal modeling to the biogeochemistry of iron in sea water, the responses of coral reefs to global change and the effect of small changes in the composition of sea water on salinity and density. SCOR has a policy of ensuring that the membership of its Working Groups is truly international and includes the most competent scientists working on a particular topic. It is the considered opinion of both IAPSO and IAMAS that the outputs of the various Working Groups have collectively been one of SCOR's great successes. Not only have they contributed substantially to the advancement of the science per se, but they have also made meaningful contributions to the advancement of the science of oceanography in many developing countries.

Another area in which SCOR has been particularly successful has been in taking the lead in the planning of longer-term, large-scale international research programmes in oceanography designed to address issues of the role of the ocean in global climate change viz Joint Global Ocean Flux Study (JGOFS) and Global Ocean Ecosystem Dynamics (GLOBEC). We shall comment more specifically on these initiatives presently. SCOR also serves as an official scientific advisory body to the Intergovernmental Oceanographic Commission (IOC) of UNESCO. The long-standing partnership between SCOR and IOC has been particularly beneficial to the development of international marine science and its successful application throughout the world. In this respect, SCOR is currently involved in the IOC assessment of the state of ocean sciences for sustainable development.

SCOR prides itself in being a truly democratic international science body. Its members are the various national "Committees for SCOR" which exist in approximately 40 countries. Each national Committee elects or nominates three scientists to represent it in SCOR. Other individual members of SCOR include the Chairs of all SCOR scientific subsidiary bodies and the representatives of other ICSU organisations. The Executive Committee of SCOR comprises elected members (including the President), co-opted members, ex officio members (which include the Presidents of IAPSO, IAMAS and IABO) and the SCOR Secretariat (headed by an extremely competent and hard working Executive Director, Ms Elizabeth Gross). From time to time SCOR undertakes a strategic re-assessment of its role, mission and performance, the most recent review having taken place in 1997. An outcome of this latest re-evaluation is a decision that SCOR will play a stronger role in facilitating the provision of the best scientific understanding needed to underpin policy decisions.

The Executive Committee of SCOR meets annually, and every second year there is a General Meeting (which incorporates the Executive Meeting) and which usually coincides with a meeting or special symposium on some internationally important oceanographic topic. Recent SCOR Executive Committee meetings were: Cape Town (November 1995), Southampton (September 1996 - GM), Rio de Janeiro (September 1997) and Amsterdam (November 1998 - GM). The 1996 GM coincided with a Symposium on Mid-Ocean Ridges and the most recent one (1998) with a Symposium on the Biogeochemistry of Iron in Sea Water. It is appropriate to comment briefly on two very successful larger-scale SCOR initiatives viz JGOFS and GLOBEC and then to outline two new/proposed programmes viz GEOHAB (Global Ecology of Harmful Algal Blooms) and SOLAS (Surface Ocean Lower Atmosphere).

JGOFS: The formal transition from the field programmes of JGOFS to an intensive period of data assembly, analysis, modeling, interpretation and synthesis commenced in 1997. This "write-up" phase is critical if the global picture of the oceanic carbon cycle, which is the JGOFS objective, andthe true value of the investment in the research since JGOFS commenced in 1998 is to be realised. This final phase is expected to last about four years. The latest estimates suggest that temperate oceans act as a sink for atmospheric CO2 and equatorial regions act as a source, although the regional picture is obviously much more complicated.

GLOBEC: GLOBEC was accepted in 1996 as one of the core projects of the IGBP. The following year saw the publication of the GLOBEC Science Plan (GLOBEC Report No.9, IGBP Report No.40). The draft Implementation Plan prepared during 1997 and 1998 was circulated for comment late last year and is expected to be finalised and published early in 1999. The role of GLOBEC is to advance the understanding of the structure and functioning of the global ocean ecosystem, its major sub-systems, and its response to physical forcing so that a capability can be developed to forecast the responses of the marine ecosystem to global change. GLOBEC has four research foci viz Retrospective analysis and time-

series analysis; Process studies; Predictive and modeling capabilities; Feedback from changes in marine ecosystem structure. GLOBEC has four major regional programmes viz GLOBEC Southern Ocean Programme (SO-GLOBEC); Small Pelagics and Climate Change (SPACC); ICES-GLOBEC Cod and Climate Change (CCC); PICES-GLOBEC Climate Change and Carrying Capacity Programme (CCCC). GLOBEC is obviously highly relevant to world fisheries, and one of the highlights of 1998 was the publication of a GLOBEC Special Issue in Fisheries Oceanography (Vol. 7, No. 3/4). GLOBEC is very capably chaired by Dr Roger Harris and continues to go from strength to strength. As is the case of JGOFS, the Presidents of IAPSO and IAMAS are proud to be associated with GLOBEC through SCOR.

GEOHAB: Following an extremely successful planning workshop held in Copenhagen in October 1998, at which goals and objectives for a new SCOR-IOC programme on harmful algal blooms were formulated and an outline structure for a science plan drawn up, GEOHAB was launched. ICSU has committed funds to support the start up of this new initiative in 1999. Like JGOFS and GLOBEC, GEOHAB is both timeous and relevant to the needs of society.

SOLAS: Since late 1996 SCOR and IGBP have jointly supported the preliminary development of a potential new international research program, SOLAS (Surface Ocean-Lower Atmosphere Study). The primary goal of SOLAS would be to address key interactions among the marine biogeochemical system, atmospheric chemistry, and climate, and how the marine and atmospheric biogeochemical system affects and is affected by past and future climate and environmental change. Examples of the types of issues that might be addressed include the effect of marine sulfur emissions on climate through their influence on cloud albedo; the impact of changing patterns of atmospheric nitrogen deposition to the ocean on marine biota; and the influence of changes in marine biogeochemistry on open ocean uptake of anthropogenic CO2. Discussions about SOLAS took place at the annual meetings of the scientific steering committees of several related international research efforts (e.g., WCRP, JGOFS, IGAC) and at other meetings with the international scientific community during 1998. Interest in the further development of SOLAS was sufficient for SCOR and IGBP to form a Planning Committee to develop an open science meeting for the eventual development of a detailed science plan for SOLAS. This committee is chaired by Dr Peter Liss and Dr Robert Duce, and it includes representatives from WCRP, JGOFS, IGAC, GLOBEC, etc. The SOLAS Planning Committee met in December, 1998 in Norwich, England and developed an outline for the SOLAS Open Science Meeting. This meeting will take place in January, 2000 at a site to be determined shortly. Approximately 200 scientists are expected to attend.

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Report on (SCOSTEP) activities 1996 - 1999

D. J. Williams, IUGG Liaison Officer to SCOSTEP

This is a report on the activities of SCOSTEP (Scientific Committee for Solar-Terrestrial Physics) for the period 1996 - 1999. SCOSTEP is a scientific committee of the International Committee of Scientific Unions (ICSU) and is responsible for: 1) the conduct and sponsoring of international meetings in the scientific area of solar-terrestrial physics and 2) the coordination and organisation of international scientific programs in solar-terrestrial physics. The substance of this report was extracted from material generously made available by J. H. Allen, the Scientific Secretary of SCOSTEP.

In August 1997 the 9th Quadrennial Solar-Terrestrial Physics (STP) Symposium was held in Uppsala, Sweden, jointly with the IAGA 8th Scientific Assembly and IAMAS-MAC scientific sessions. The Symposium was highlighted by review sessions in the discipline areas of the six Working Groups of the SCOSTEP Solar-Terrestrial Energy Program (STEP), a seven-year-old program that ended in December 1997. Approximately 300 participants daily attended the week-long Symposium. The site of the next Quadrennial STP Symposium in 2001 has not yet been determined. Leading candidates at this time are Boulder, Colorado (USA) and Innsbruck, Austria, with Hanoi (site of IAGA's 9th Scientific Assembly in 2001) a less likely choice.

At the Uppsala Symposium, SCOSTEP helped organize a special evening session for consideration of international space weather issues. Approximately 500 participants from the international ST community attended the discussions. A key result of this special session was a request to SCOSTEP from the participants to lead an oversight effort to provide a coordinated international space weather program. This effort has become one of the major post-STEP activities undertaken by SCOSTEP.

As mentioned above, SCOSTEP's large, international scientific program, STEP, came to its scheduled end in December 1997. Its seven year history was marked with numerous satellite launches, new ground based observations, and the participation of thousands of

scientists in hundreds of international campaigns and monitoring efforts to record significant aspects of the integrated sun-earth system. It has resulted in a greatly expanded understanding of the sun-earth system that is directly impacting the developing international space weather program. Financial support from several participating countries allowed an international STEP newsletter to be assembled by SCOSTEP and distributed to some 4000 scientists worldwide. The December 1997 newsletter signaled the official end of STEP.

Four new post-STEP programs have begun five-year terms. They are: I) STEP Results, Applications, and Modeling Program (SRAMP); II) Equatorial Processes Involving Coupling (EPIC); III) Planetary Scale Mesosphere Observing System (PSMOS); IV) International Solar Cycle Study (ISCS). Organisational activities (workshops, communications, meetings of opportunity, etc) have begun in all four of these programs. The SCOSTEP activity in the international space weather arena is at the present time included as a designated sub-element of the SRAMP effort. Activity and interest in the space weather area is rapidly increasing. It is this reporter's opinion that the international space weather work will evolve into a major SCOSTEP program in its own right.

SCOSTEP continues to participate directly in the ICSU Committee on Science and Technology in Developing Countries (COSTED). SCOSTEP plays a unique role in this area because of its organisation and coordination of major international scientific programs dealing with the sun-earth system and its effects on the world's populations. It routinely invites and encourages the participation of developing countries in these international programs. As a result of this experience SCOSTEP will be an important contributor to the capacity building program being initiated by ICSU.

The results of the external review of ICSU have stimulated SCOSTEP to begin a detailed evaluation of its long-term future. The SCOSTEP Bureau has formed a special sub-group specifically to look into this issue. SCOSTEP's goals, its relation to other international solar-terrestrial organisations, and the unique characteristics of its contributions to the international scientific scene will be considered in detail. While not stated explicitly, it is expected that the sub-group will discuss the relevance of SCOSTEP's goals and activities to its 29 subscribing Adherents. Plans are to have the sub-group report at the next Bureau meeting at the IUGG General Assembly in Birmingham, July 1999. This Bureau meeting will be very important for not only will SCOSTEP's long-term future be discussed, but a new President and Vice-President will be elected to lead the organisation into the next millennium.

SCOSTEP maintains an extensive WWW homepage on the internet. The address is
http://www.ngdc.noaa.gov/stp/SCOSTEP/scostep.html
It has proven to be very convenient for easy access to SCOSTEP's organisation and activities. All interested parties are encouraged to access the site and communicate with the SCOSTEP secretarial offices.

Report on the activities of the Scientific Committee of Water Research (SCOWAR) for the period 1995-1999

H.J. Colenbrander

The SCOWAR Committee has completed its mandate and has been disbanded last year. I do not think the result of their work has been very successful. In fact I have never seen the final report. The last meeting I have participated in was during the last IAHS Scientific Assembly in Rabat in 1997.

Reports of IUGG Liaison Officers with Intergovernmental Organisations

Report on the activities of the United Nations Cartographic Office 1996 - 1999

Juhani Kakkuri, Finnish Geodetic Institute, Masala

Introduction

During the period 1996 - 1999 I took part in the following United Nations Regional Cartographic Conferences:

1. The 6th United Nations Cartographic Conference for the Americas in New York, 1-4 April 1997;
2. The meeting of the Special Working Group of the UN Regional Cartographic Con-ferences i Aguascalientes, México, 25-25 March 1998.

The author of this report participated in the conferences mentioned as a liaison of the IUGG. During the conferences he met officials of the UN Cartographic Office.

A. The 6th Conference for the Americas

The 6th United Nations Regional Cartographic Conference for the Americas lasted four days. The conference was held in accordance with the Economic and Social Council decision 1993/225 of 12 July 1993.
Eighty-two delegates from 26 countries were present, including some from beyond the Americas, Europe, Africa, Asia and the Pacific. There were also some representatives of non-governmental scientific organisations, namely those from ICA, ISPSR, IUGG, and FIG. Apart from the detailed conclusions drawn from governmental and non-governmental organisations, some more specific aspects emerged as draft resolutions, in particular number 2, "Establishment of a working group of delegates and experts to define mission and focus of the 7th United Nations Regional Cartographic Conference for the Americas". The content of this resolution was as follows:

1. Recommends the convening, under the guidance of the Secretary-General and within available resources, of a special working group of delegates and experts from all United Nations regional cartographic conferences and the member states of the Economic Commission for Europe within 12 months to re-engineer the operation of the regional conferences to ensure that they are relevant to regional and global needs and address issues of importance to local, national and international users of spatial data and land-related information in the twenty-first century, and to refine the provisional agenda for the 7th United Nations Regional Cartographic Conference for the Americas;

2. Further recommends that the special working group:

a) Develop a generic template for member States to use in reporting the status of sur-veying, mapping, charting, cadastral and GIS activities, together with relevant national indicators, and request all member States to utilize the template in making their country report to the United Nations regional carto-graphic conferences;

b) Investigate the timing of United Nations regional cartographic conferences to ensure that the conferences in Africa, Asia and the Pacific and the Americas are followed by intervals of approximately 12 months, those in turn to be followed by an interregional United Nations cartographic conference at which global experiences are shared and the resolutions of the regional conferences are brought together to provide a global perspective in policy- and decision-making for all member States and the United Nations;

c) To report to the Economic and Social Council within 18 months on the preferred structure;

3. Also recommends that the generous offer of the Government of México to host the special working group of delegates and experts should be pursued.

Other resolutions focused on a GIS infrastructure for the Americas, Spatial Data Infrastructures (including the role of the cadastre), the development of Global Maps, promotion of enabling geomatics technologies, the Inter-American Biodiversity Information Network, and Regional Meetings on Advanced Satellite Imaging Systems.

B. The Meeting held in Aguascalientes

The meeting was based on the resolution 2 of the 6th United Nations Regional Cartographic Conference (UNRCC) for Americas. The mandate of the meeting was as follows:

a) to re-engineer the operation of the regional conferences to ensure that they are relevant to regional and global needs and address issues of importance to local, national and international users of spatial data and land-related information in the 21st century;

b) to refine the provisional agenda for the 7th United Nations Regional Cartographic Conference for the Americas;

c) to develop a generic template for member states to use in reporting the status of surveying, mapping, charting, cadastral and GIS activities;

d) to investigate the timing of United Nations Regional Cartographic Conferences (for Africa, Asia and the Pacific, and the Americas) those in turn to be followed by inter-regional UN Cartographic Conferences at which global experiences are shared and the resolutions of the regional conferences are brought together to provide a global perspective in policy- and decision-making for all member states and the United Nations.

The meeting was chaired by Dr. Carlos M. Jarque from the National Institute of Statistics, Geography and Informatics

of México (INEGI). The United Nations Secretariat was represented by Mr. Hermann Habermann, Director, United Nations Statistic Division.

Mr. Habermann first told about the reorganisation of the UN Secretariat. From the 1st of January 1998 cartographic matters had been merged to the Statistic Division. No money nor personnel came, because only one man had been working on cartographic issues and he will be retired.

Outcome of the meeting was as follows:

Two proposals were on the table, one from the United States of America, the other from México.

The main idea of the proposal from the Unites States of America was the co-ordination and communication of Global Spatial Data Infrastructure (GSDI) activities and the UN's role in it. They proposed that:

a) regional permanent committees on GIS should be established;

b) The UNRC/GSDI conference should be annually convened;

c) The GDSI co-ordinating committee should be established to co-ordinate the work of the permanent committees in conjunction with the annual UNRC/GSDI conference.

The regional permanent committees and the GSDI co-ordinating committee would not be official entities of the UN, but would be associated with the UN GSDI Conferences. The GSDI Co-ordinating Committee would be open for all UN member states, non-governmental organisations, and forums representing academia and industry. The United States of America offered to serve as a Permanent Secretariat of the Executive Board, GSDI Co-ordinating Committee.

The Mexican proposal represented a more traditional UN approach. They proposed that:

a) A United Nations World Cartographic Information Commission (GIC) should be established where all the regions of the world meet with the international geographic agencies;

b) Regional Conferences continue to exist as a part of the Geographic In-formation Commission.

It was obvious that Dr. Jarque and Mr. Habermann had decided to have a commission (GIC) in the United Nations. The draft resolution which was adopted in the meeting was based on the Mexican proposal. The proposal of the United States of America was practically put aside without discussion. The chairman stressed that the purpose was only to reorganise the UN Regional Cartographic Conferences. Therefore many international scientific organisations present in the meeting did not give any presentations how they will contribute to UNRCC's (ICA, ISPRS, ISO, IUGG, IPGH and IBGE).

C. Concluding Remarks

As I know, the Aguascalientes meeting has until now received no special mandate from the United Nations Economic and Social Council. It is obvious, however, that the United Nations is taking the cartographic issues under reorganisation. Therefore, because the international scientific organisations can also in future offer useful information and guidance to the United Nations, it is important that the IUGG continues keeping contacts with the United Nations Cartographic Office.

IUGG-UNESCO Relations, 1995-1998 Report to IUGG

R D Adams, IUGG Liaison Officer to UNESCO

UNESCO continues to be one of the main UN agencies responsible for science, and as such one of the principal sources of income to ICSU and its constituent Unions, including IUGG. During the period covered by this report, however, there has been a change in the mechanism of this funding. Initially, following the setting up of a formal agreement between the two bodies in 1946, ICSU received an annual subvention from UNESCO, which was used to support activities in ISCU and its Unions that were in line with UNESCO's objectives. This arrangement changed in 1996, when under a new Framework Agreement ICSU agreed to undertake certain tasks, which were governed by annual contracts from UNESCO. The main UNESCO support for IUGG activities now appears to be routed to the Union itself for specific projects, although there are still strong direct links between some individual Divisions of UNESCO and appropriate Associations of IUGG. An example of direct high level collaboration is the Earthquakes and Megacities Initiative, in which IUGG in collaboration with the International Geographical Union (IGU) and the International Union of Geological Sciences (IUGS) draws on UNESCO funds through ISCU. This funding is of the order of $ 50,000 a year.

It must still be stressed that UNESCO itself is not a funding agency to provide equipment or to undertake major operational programmes. Its role is to help in coordination, in planning, and in some cases to help seek funding from major funding agencies.

Three UNESCO Divisions continue to be the main contacts with IUGG Associations. These Divisions all host international programmes relating to IUGG activities. It is sometimes difficult to find activities of IAG and IAGA that are closely related to UNESCO's main fields of interest; during this period, however, both Associations have received grants to assist scientists from developing countries to attend their assemblies.

The Division of Earth Sciences has strong links with IASPEI and IAVCEI. This Division hosts the International Geological Correlation Project (IGCP) which is jointly administered by UNESCO and IUGS, and provides modest funding for approved projects. Although these projects have in the past been mainly geologically oriented, those recently approved include some of broader interest such as seismotectonics and seismic hazard assessment, and broad studies of natural hazards.

The Division of Water Sciences works closely with IAHS, and this work is also supported by an International Hydrological Programme and the Hydrology and Water Resources Department of the World Meteorological Organisation, Geneva.

IAPSO and the Tsunami Commission have strong links with UNESCO's Intergovernmental Oceanographic Commission, and the Division of Water Sciences.

In addition there is now a Bureau for Coordination of Environmental Programmes, headed by an Assistant Director-General.

Known relations and contacts between UNESCO and individual IUGG Associations are summarised below. There is now much administrative freedom and in some cases support is given directly to individual groups in an Association, without being routed through the Secretariat. In addition some UNESCO support is routed through UNESCO's regional offices, rather than through Paris-based Divisions. While this freedom can have advantages it would help if the Association Secretariats were kept informed. For these reasons, it cannot be guaranteed that all UNESCO support for IUGG-related activities are included in this summary.

IAG

IAG received $ 7,700 support for its Scientific Assembly in Rio de Janeiro, 1997.

IASPEI

No direct support has been received through the Secretariat, but there has been some support for IASPEI-related activities. In particular, training courses organised by GeoForschungsZentrum Potsdam, have received support of $ 6,000 in 1995 and $ 7,000 in each of 1996 and 1997. In 1998, $ 7,000 was given to the training course held in conjunction with the Assembly of the Asian Seismological Commission in Hyderabad, India.
At the Assembly in Thessaloniki, Greece, in 1997 UNESCO gave $ 7,000 support to a joint session with the IASPEI Committee for Developing Countries.

IAVCEI

There has been no direct financial support, but some joint activities. UNESCO is a sponsor of the IAVCEI video "Reducing Volcanic Risk", released in 1997.
IAVCEI has updated and expanded an earlier UNESCO monograph "The surveillance and prediction of volcanic activity", as "Monitoring and mitigation of volcanic hazards" in 1996. UNESCO sponsored the purchase of about 50 copies for distribution to selected volcanological observatories in developing countries. UNESCO's Jakarta office co-sponsored the IAVCEI Merapi Decade Volcano Workshop in Indonesia, 1997.

IAGA

IAGA received an ICSU grant from UNESCO-derived funds of $ 7,700 to help young people attend its Assembly in Uppsala, Sweden, in 1977.

IAMAS

IAMAS has had no direct contact with UNESCO except at the personal and informal level, but does have close contacts with the World Meteorological Organisation.

IAHS

IAHS works closely with the Division of Water Sciences, and with the International Hydrological Programme, in many joint activities.

IAPSO

IAPSO has close dealings with the Intergovernmental Oceanographic Commission of UNESCO. In particular, they provided $ 10,000 support to help participants from developing countries attend the joint IAMAS/IAPSO Assembly in Melbourne in 1997.

Tsunami Commission

The Tsunami Commission has received much support from the IOC. Two contracts totalling $ 10,000 during 1997 have helped with the development of the Expert Tsunami Database for the Pacific, and a further two contracts in 1997 and 1998 for a total of $ 20,000 have helped develop the Historical Tsunami Database for the US Pacific Coast.

In addition, travel support of $ 3,000 was given to participants to the International Tsunami Measurements Workshop in Colorado, in 1995.

SEDI

The Study of the Earth's Deep Interior programme has had no contact with UNESCO during this period.

UNESCO continues to provide excellent support for IUGG-related activities, although this is stronger in some fields than others. Constituent groups of IUGG are urged to continue to seek this support, bearing in mind UNESCO's particular interests in the fields of environmental studies, natural hazards, fostering science in developing countries and training.

Report of the IUGG Liaison Officer with WMO, the World Meteorological Organisation

Roland List, Secretary General, IAMAS and IUGG Liaison Officer with WMO

The Liaison Officer of IUGG has attended all annual meetings of the Executive Council of WMO in Geneva since 1996 and will also participate in the WMO Congress in May 1999. IUGG has Co-operative Agreement with WMO which gives IUGG a voice during the deliberations in Congress and Executive Council. Of particular interest to IUGG are the major research, observation and measuring programs of WMO, carried out mostly in collaboration with ICSU. These projects are related to Weather, Climate and Climate Change, i.e. aspects specially covered by IAMAS, but often also involving IAHS, IAPSO, IAGA, IAVCEI and even IAG. IUGG (IAMAS) is also involved in the organisation of joint scientific meetings with WMO. Of particular interest for scientific bodies such as IUGG and its Associations, is the ongoing discussion on the free availability of weather and climate data. It is not long ago that meteorological and climatological data were often considered as strategic information and relating to national economies. In addition, National Meteorological and Hydrological Services, NMHSs, like a certain data monopoly as an advantage over the private sector in order to secure financial support from their governments. Aviation, for example, provides more than half the funding of NMHSs in more than half the countries. Nevertheless, WMO has always taken the stand that data should be freely available to research. Resolution 51 of Congress XII (1995) was a first, crucial statement of such a policy. There is no question that this aspect will be a major item again at Congress XIII in May, 1999. A complicating factor is the request by many governments to have more self-supporting NMHSs. There are also strong trends to privatize some Services, at least partially. This evolution will continue into the next decade. The Executive Council of 1998, ECIL, also approved a new 10-year plan. This plan does not contain any surprises, it is a continuation of present activities. It does not show any adaption of program management and management structure to the ever increasing Internet traffic. Further, WMO, formerly IMO, has always been the leader in applications of top transmission technology. Its trunk line now operates at a baud rate of 9600. The advent of the Internet led to a proposal of IAMAS for a IUGG-WMO "ALLIANCE FOR CAPACITY TRANSFER, ACT", a free exchange on the Internet of information, knowledge, technical know-how, software, etc. in the field of atmospheric and weather-related sciences, between National Meteorological and Hydrological Services, University Departments in Atmospheric Sciences, Research Institutions, individual scientists and the private sector. The IUGG Executive approved this plan in 1996. A document was then submitted to the WMO-EC in 1997 proposing such an ALLIANCE. The support for ACT was very strong and the Secretary General of WMO, Prof. P.O.G. Obasi signed the necessary letter of agreement. More details about ACT are to be found in a document attached to this report to the IUGG Assembly 1999. [The Alliance was later joined by the US University Corporation for Atmospheric Sciences.] The expenses for the IUGG Liaison with WMO (~ $ 2500/a) cannot be charged to IUGG, they are supposed to come out of the IAMAS budget.

ANNEX

Proposed WMO and IUGG Alliance for Capacity Transfer, (ACT) in Meteorology and Atmosphere–Related Sciences, including Hydrology and Oceanography

The Goal of "ACT" is:

To stimulate and expand voluntary collaboration and exchange of information and data, within and across the boundaries between the NMHSs, the university community, and scientific community at large through the use of the Internet.

Specific Objectives of "ACT" are:

- To provide close links between operations and research, between individual scientists and Universities, and meteorological and hydrological services;
- To facilitate interactive research, also between developing and developed countries;
- To facilitate access to and exchange of meteorological and related data within the context of Resolution 40 of WMO Congress-XII, when applicable;
- To facilitate cooperation within regions or scale- or subject-related groups;
- To facilitate application of newly developed scientific insights and technologies;
- To provide and exchange software for operations, data processing, synthesis and modelling;
- To develop new approaches to education and training; and
- To create international "Discussion", "Support" and "Help" Bulletin Boards and other means for discussion and collaboration through the Internet.

Within the Alliance for Capacity Transfer, "Capacity" is defined as the knowledge, experience and capabilities of the individual meteorologists and scientists and their institutions. "Capacity" includes ways of doing things as well as products, i.e. procedures, technologies, data processing, conceptual and numerical modelling, theoretical approaches, results and interpretations of data, data itself, and software. "Capacity" applies to operations, observations, measurements in general, but also to management of services and projects as well as educational and training aspects. It further includes knowledge of equipment of all kinds used in pursuing the goals and objectives.

ACT will consist of a loose and flexible framework which will make use of currently available Internet Web sites relating to Meteorology, Hydrology and Oceanography. These sites are currently within WMO, Meteorological and Hydrological Services, UCAR, IUGG and other organisations. They represent the availability of a large pool of dedicated scientists, often retired and willing to volunteer as resource persons, collaborators and advisors. ACT will provide fast links to and between groups most knowledgeable about specific problems and solutions within certain regions or groups of similar interests. Generally, there will be no charges involved.

The Alliance will rely heavily on the use of the Internet, an inexpensive and effective means of communication among large numbers of people and institutions. Major hubs (Web pages) will be arranged.

Universities and individuals will contribute their own Web pages, all interlinked within the major hubs. Participating organisations would be responsible for the funding of their own tasks; there will be no transfer of funds necessary.

Reports of IUGG Representatives on Other Bodies

Report on IUGG/IAG activities 1995-1999 related to the Panamerican Institute of Geography and History (PAIGH)

Wolfgang Torge, Hannover

The reporter has been appointed as IAG representative to PAIGH in 1991, and as IUGG liaison officer in 1995.

The International Association of Geodesy (IAG) continued its cooperation with PAIGH, which started through a joint agreement on cooperation signed in 1990. From the previous period, we mention two joint symposia (San Jose 1990, IUGG Gen. Ass. Vienna 1991) and a jointly organized workshop in Asuncion 1993, together with the US Defense Mapping Agency (now US National Imagery and Mapping Agency NIMA). The latter one was the start of a subcontinent wide project of precise geodetic positioning, which was carried out in the period 1995 - 1999. Within the SIRGAS (Sistema de Referencia Geocentrico para America del Sur) project, a continental geocentric reference frame was established for South America, by cooperation of practically all South American countries, and under the sponsorship of IAG, PAIGH, and NIMA. IAG scientists are represented at the SIRGAS project committee and in the project's working groups.

The SIRGAS Working Group I organized in 1995 an extended GPS observation campaign including 58 sites all over the South American continent. The processing of the observation data was coordinated by the IAG representative and discussed in several international meetings (1996 in Santiago de Chile, 1997 in Isla Margarita, Venezuela). These meetings were financially supported by PAIGH. The results of the processing are precise three-dimensional geocentric station coordinates in the International Terrestrial Reference Frame (ITRF) which is installed and maintained by the IAG International Earth Rotation Service (IERS). The coordinate set was officially released as the final SIRGAS result during the IAG Scientific Meeting in Rio de Janeiro 1997.

An increasing number of SIRGAS sites is being equipped with permanently observing GPS receivers. These stations provide their observation data to the IAG International GPS Service (IGS). They are processed by the Regional Network Associate Analysis Center (RNAAC) which is coordinated by the IAG representative in the SIRGAS Project at Deutsches Geodaetisches Forschungsinstitut (DGFI), Munich, Germany. The continuous monitoring and processing provides thus the maintenance of the SIRGAS reference frame. The SIRGAS coordinates have been adopted as the basis for the national reference networks by several South American countries.

In SIRGAS Working Group II, the national geodetic reference networks of the individual South American countries are installed as a densification of the continental network and in connection with the existing (classical) horizontal networks. The IAG, by means of its official representative and some cooperating institutions (university and research institutes) gave considerable assistance to several countries (Argentina, Brazil, Colombia, Peru, Venezuela).

SIRGAS Working Group III was officially installed during the IAG Scientific Assembly, Rio de Janeiro 1997. Its task is to define and to realize the vertical reference system in connection with the classical leveling networks based on different tide gauges of the South American continent. The first scientific meeting of this Working Group was held in 1998 in Santiago de Chile. The vertical reference system is closely related to the Earth's gravity field (geoid determination, gravity correction of spirit leveling, mean sea level deviation from the geoid at tide gauges). Consequently there is a close cooperation between SIRGAS Working Group III and the IAG International Geoid Service (IGeS).

The IAG Geoid Commission (Subcommission for South America) is collecting gravity data from all South American countries in cooperation with PAIGH in order to improve the geoid determination. All the national geodetic agencies coordinating their activities in the meetings of the "Directores de los Institutos Geograficos de Sudamerica, DIGSA") agreed to provide these data. Several countries started to perform improved geoid computations on the basis on the IAG coordinated procedure. The data base of the precise gravimetric observations in the united Latin American gravity network (RELANG) is maintained by PAIGH and presently moved from Canada (which is no longer a PAIG member) to Colombia. There is a strong interest of IAG (Commission III and Bureau Gravimétrique International, BGI), in this PAIGH activity.

During the period 1995-1999, several scientific and organisational meetings took place, which were sponsored by PAIGH, in coordination with IAG. The outstanding event was the IAG Scientific Assembly in Rio de Janeiro 1997, the first IAG Congress in Latin America at all. An international school on geoid determination was organized by IAG in Rio de Janeiro after the IAG Scientific Assembly. PAIGH not only cooperated in the scientific program organisation, but also gave support by travel grants. Financial support by PAIGH to the travel costs was also given to a number of participants (including the IAG representative) at the SIRGAS working group meetings, and to the geoid school in Rio. This is also expected for South American participants at the IAG General Assembly in Birmingham 1999, where

special meetings on the SIRGAS and the South American Geoid projects are under preparation.

The intensive activities of IAG in South America and the close cooperation with PAIGH have driven a lot of initiatives in several countries. As a consequence, there has become more awareness of IAG in the continent. In Colombia, which left IUGG in the seventies, there is an actual discussion to return into the Union, driven in particular by the IAG activities.

With respect to the other Associations of IUGG, the result is less favorable. From the six geophysical Associations of IUGG only two responded to a corresponding investigation started by the reporter in 1995. Although a multitude of activities in South America was mentioned, there is obviously no cooperation with PAIGH. No suggestions were made how to eventually establish such a cooperation. Although the PAIGH Secretary General welcomed the appointment of an IUGG liaison officer to PAIGH, there was no reply from the presidents of the PAIGH commissions for Geophysics and Cartography, on the question of how to start an eventual cooperation, and in which areas of common interest.

As a result, the reporter concludes:

- a cooperation between IUGG and PAIGH can be extremely successful on the Association level as demonstrated by IAG. This is due to the personal engagement of Association scientists with a long experience in Latin America, and the organisational effort of the Association's administration,
- the attempts to trigger cooperation top-down i.e. through an IUGG liaison officer, failed, due to lacking personal contacts with scientists engaged in South America, and related to either IUGG or PAIGH.

It is proposed to abolish the post of an IUGG liaison officer to PAIGH, but to encourage the Associations to appoint Association representatives, in order to exploit the possibilities which obviously exist through a close cooperation, for promoting geodesy and geophysics in South America.

PRESIDENTIAL ADDRESSES OF THE ASSOCIATIONS

International Association of Geodesy

Distinguished Guests, Friends and Colleagues, Ladies and Gentlemen,

It is a pleasure to welcome you to the Opening Session of the IAG General Assembly here in Birmingham. It is at General Assemblies where the many facets of geodetic research become visible and interactions between geodetic and geophysical research become more pronounced. My welcome goes therefore, first of all, to you as researchers who, over the past four years, have contributed in one way or other to our discipline. A special welcome goes to the past IAG presidents who are present at this meeting: Helmut Moritz (1979-83), Ivan I Mueller (1987-91), Wolfgang Torge (1991-95) and to the award winners who will be honored later on this morning: Torben Krarup, the recipient of the Levallois Medal, Veronique Dehant, the winner of the Bomford Prize, and Cheinway Hwang, this year's winner of the IAG Young Author Award.

It is the 22nd General Assembly of the IUGG, and the 35th of the IAG when counting from its beginnings in 1864. These quadrennial events mark time for the IAG as an organisation. We look back on achievements and forward to challenges. We also remember those who have gone before us and who have shaped this organisation which we are proud to represent. May I ask you to stand to pay your respects to those who served the IAG as officers and who died during the past four years:

Isetan Hazay, Hungary in 1995
Attalah M.Wassef, Canada in 1995
Guy Bomford, UK in 1996
Erik Tengström, Sweden in 1996
Yuri D. Boulanger, Russia in 1997
Stanislaw Krynski, Poland in 1997
Tauno J. Kukkamäki, Finland in 1997
Svend Saxov, Denmark in 1998
Rudolf Sigl, Germany in 1998
Hermann van Gysen, South Africa in 1998
Luman Wilcox, USA in 1999

Three former IAG presidents - Bomford, Boulanger, Kukkamäki - where among those who passed away during this period. Let us honor their memory.

When I checked the records I was surprised to learn that one has to go back all the way to 1909, i.e. to a time before the IUGG was formed, to find England as a host of an IAG General Assembly. There was one in Edinburgh in 1936, but considering the results of the last election in Scotland I felt that declaring Edinburgh to be an English city would clearly be a political statement. So let me thank our English colleagues for taking the initiative to invite us to an unambiguously English city and to show us at the same time that Birmingham is much more than a reminder of the industrial revolution. I want to mention specifically Allan Dodson and Paul Cross for their work on our behalf.

To summarize the accomplishments of four years in 20 minutes is bound to be incomplete.. What you will see and hear are highlights of four years in the life of the IAG, not a detailed record of all the fascinating and interesting research that took place. For details, I would ask you to consult the Section reports.

When the Executive met for the first time in November 1995, a few months after the Boulder General Assembly, it started a broad discussion on the future direction of the IAG by looking at the following questions:

- What is the role of the IAG? (Scientific super-structure; catalyst; honest broker; provider of geodetic products?)
- Does the IAG have (or need) a distinct profile?
- Which major research questions in geodesy remain unsolved?
- Which global projects would result in major geodetic progress?
- What are functional models of international scientific cooperation?
- Are strengths and weaknesses of the IAG due to its structure?
- Which alliances are strategic for IAG?

The result of the initial discussion was the identification of four priority areas of IAG activity:

- Research,
- Education,
- Developing countries,
- Services and communications.

A fifth priority emerged out of the ongoing discussions in the Executive Committee and came to the forefront during the past two years. It has to do with the

- Structure of the IAG.

I will order my presentation around these priority areas and will make brief remarks on the first three and the last. The fourth priority, services and communications, will be presented in detail in the Secretary General's report and in the report of the Editor-in-chief of the Journal of Geodesy presented later in this session. Research activities in the sections will be highlighted by each section president.

IAG Research 1995-99

The three general IAG research priorities that emerged from the discussion in the first executive meeting in Copenhagen were:

- Identify the focus of IAG research for the next decade,
- Strongly support any initiative that may lead to a high-resolution satellite gravity mission,
- Investigate the potential advantages of an 'IUGG Fundamental Reference and Calibration Network'.

The first priority acknowledges the fact that the definition of a research focus for IAG may not be as simple as it was in the past. Over the years, IAG has continuously extended the scope of its research. While during the first hundred years of IAG history the extensions were incremental and did not result in a change of the underlying methodology, this has changed fundamentally during the last forty years. Geodesy today is a very different and far more complex scientific enterprise than forty years ago. Those of us who lived through this change have been very fortunate because there were interesting challenges all across the spectrum of geodetic research activities. Because of the unprecedented growth of these activities, there is the danger, however that the major goals of geodetic research are becoming blurred and that no meaningful focus exists anymore to which all the different research activities can contribute. By formulating the first objective, the Executive wanted to start a thinking process, which would eventually lead to a clearly defined focus for IAG research.

After the initial discussions in November 1995, a major step forward in this direction was made at the Potsdam meeting in April 1997. At this meeting, R. Rummel presented a proposal for a Global Integrated Geodetic and Geodynamic Observing System (GIGGOS) that incorporates many of the current activities and relates them to a common framework. Starting from this concept, he outlined the direction of future geodetic research. The proposal emphasized that the adoption of such a concept would not only give a focus to IAG research, but would also result in a much higher visibility of the IAG contribution to Earth Sciences in general. After some lively discussion, the Executive agreed to consider this proposal at its next meeting after more details had been made available. The proposal was further discussed at the Section II symposium in Munich in 1998. It resulted in a resolution to the Executive Committee recommending that a broad-based discussion on this concept and its implications for the IAG structure should be started at the General Assembly in Birmingham. The Executive, at its meeting in March 1999 in Paris, concurred with the intent of this resolution. Three sessions of the IAG-G6 symposium on Wednesday next week (July 28) have been reserved to (1) analyze the current structure as represented by Sections, Commissions and Special Study Groups, to (2) review the research contributions of the Services affiliated with IAG, and to (3) discuss alternative structures for IAG research. We invite all of you to participate in these discussions and especially in the panel discussion on Wednesday afternoon.

The second priority recognizes the difference in accuracy that currently exists between the various methods of global positioning (SLR, VLBI, GPS) on the one hand and the methods of global gravity field and geoid determination on the other. One obvious reason for the lower accuracy in gravity field approximation is the lack of dedicated satellite missions for gravity field research. Such missions would result in a much more consistent global resolution of the gravity field than is available today. In 1995, when this discussion started, no mission in this area had been approved. The role of the IAG in promoting such missions can only be supportive, using its credibility as a scientific organisation to make the case to the space agencies involved. This has been done to the extent possible by many individuals working within IAG as well as by myself as the president. The situation at this point in time is much more promising than it was back in 1995. There is the realistic possibility that three dedicated gravity missions may be launched within the next five to six years and that we actually may be entering a decade of potential field satellite missions. At this point, two of these missions are scheduled to go ahead and the decision on the third one will be made towards the end of this year. If all three missions are successful, our knowledge of the Earth's gravity field will change dramatically and research in this area will advance by leaps and bounds.

The third research priority is more exploratory in nature. In the past, the collocation of different measurement systems on the same fundamental stations has provided valuable information that would not have been obtained by operating individual observational networks. With the growing interaction between the geosciences, the idea of establishing an 'IUGG Fundamental Reference and Calibration Network' was a natural outgrowth of this past experience. A small working group consisting mainly of CSTG members under the chairmanship of G. Beutler was charged to look into this question and to recommend whether or not IAG should take the leadership in organizing such a network. After meeting a number of times, the committee reported back to the Executive at the Potsdam meeting in 1997 and recommended that a specific effort in this area was not required. An International Space Geodetic Network (ISGN) exists already as a combination of all space geodetic techniques and is well suited to take over the tasks planned for the IUGG network. The addition of different measurement systems, such as seismic and magnetic data, was unlikely to add essential information. The Executive decided to follow this recommendation and to not promote such a special network.

IAG Section Research 1995-1999

During the reporting period the Sections through their Commissions, Special Study Groups and Services were the IAG bodies in which major advances in geodetic research were accomplished. They will be highlighted in the brief reports of the Section Presidents later on in this session and will be discussed in detail in the reports presented in the IAG symposia G1 to G5, later this week. To give a flavor of the accomplishments, I would like to mention a few as examples, without any claim to completeness.

- The active role of IERS in defining and implementing a global reference frame and the emergence of GPS as a major tool to accomplish frame realization at regional and local scales due to advances made in modeling, techniques, and quality control.
- The SIRGAS project which exemplified how a reference network for a whole continent can be established in a relatively short time, given the information base provided by Services such as IGS and IERS and the cooperation between the different countries in this part of the world.
- EUREF and EUVN which are the ongoing efforts in Europe to integrate classical network information with space geodetic data. This work, done under the auspices of Commission X, is exemplary for countries considering such action because it provides insight into the effort required and the gain achieved.
- The active role of Commission VIII, commonly known as CSTG, in coordinating the different space techniques used for geodesy and geodynamics. It has led to a proposal for new IAG Services in SLR and VLBI to be decided upon at this meeting. It also has resulted in a major international project exploring the potential of GPS/GLONASS integration.
- The continuing efforts of the Wegener Commission to use space and terrestrial methods for the solution of regional geodynamics problems in Europe and similar efforts, such as Geodyssea, in other parts of the world.
- The publication of the new Global Geopotential Model EGM96 by NASA/OSU/NIMA after comprehensive testing of alternative solutions by a working group of the IAG Geoid Service. It was exemplary in showing the contribution IAG can make to such an effort.
- The coming of age of airborne gravimetry as a method of high-resolution local geoid determination and as a potential tool for resource exploration.
- The advances made in using GPS for the remote sensing of the atmosphere and the potential impact of such techniques on science and every day life.
- The successful efforts to use multiresolution techniques as an analysis tool in geodesy.
- The work performed by SSG 4.176 on Temporal Variations of the Gravity Field, which is exemplary for its interaction with other groups working in the field and its high level of participation.
- The increasing activity of the Services in providing research products free of charge to the geodetic and geodynamic community while continuing their role as international data providers. In this context the high visibility of IGS in the GPS user group must be specifically mentioned. It is the only link many users have to IAG and its Services.

There are many other achievements that will be mentioned in the Section Highlights given later on and in the reports to be published in the Travaux. Since most of the accomplishments mentioned above were the result of a team effort, no individuals have been named. However, the vision and the drive of many who were involved in these projects is one of the great assets of IAG. Without such leaders we would not be where we are today.

IAG Educational Activities 1995-99

Two priorities were defined in 1995 in the area of education and training:

- Develop an overall strategy for IAG educational activities and coordinate them globally,
- Develop a plan for IAG-approved graduate courses at the Ph.D level and make them available worldwide.

International Summer Schools have been conducted by IAG since 1973 when the first of them, held in Ramsau, Austria, had a formative influence on many who are active in IAG today. Since then, Summer Schools have been an acknowledged, albeit a somewhat spontaneous activity of IAG. They were organized by interested individuals and concentrated on research topics of current interest. In recent years, the demand for a different type of summer school, which presents the current status in areas of rapid technological advance (GPS, Geoid), has been increasing. The character of such schools is perhaps best described as advanced training courses with a considerable amount of hands-on experience. In contrast to the research-oriented Summer Schools, they are offered on a more regular basis. Since the overall activity in this area has been steadily increasing, it was felt that IAG should take the initiative in developing a concept for a broad offering of such schools and for coordinating and promoting them on a world-wide scale. The first IAG Vice-President, F. Sanso, declared his willingness to spearhead such an effort.

Since 1995, nine such schools have taken place, of which three had a research focus, three a training focus and the remaining three were somewhere in between. The majority of these courses were held in Europe, with only two being organized in other parts of the world, one in South America, the other one in Indonesia. There were plans for other schools outside Europe, which unfortunately had to be cancelled because of economic or organisational difficulties.

In terms of a general strategy for the coordination and promotion of such schools, the discussion is still in flux. At this point it is clear that IAG will conduct such schools only upon invitation. This invitation may come from one or several countries that agree to be responsible for the local organisation. IAG selects a team of lecturers making maximum use of qualified individuals in the specific geographic area where the school takes place. Once approved by the Executive, promotion and financial support will be available from IAG.

The idea behind the second priority is to make the best use of specific expertise available in a larger region to offer a variety of graduate-level courses of high quality to PhD students in that region. IAG would accredit these courses as being of PhD-level quality and the academic centers would form a loose association and would recognize course and research work done at different centers for credit. A related idea was that a student who completed such a program would in some way be accredited as an 'IAG-scholar'. Because education is in general a national, and in some cases even a provincial mandate, the difficulties of creating an international degree are obvious. However, it seemed to be worthwhile to explore the idea in the context of the EU and its emphasis of defining consistent degree requirements. A subcommittee of the EC was formed to explore this question. Its final report has not yet been delivered.

IAG in Developing Countries 1995-99

Four priorities were identified in IAG's interaction with developing countries:

- Restructure the IAG Committee on Developing Countries (CDC) by regions,
- Improve the communication between the CDC and the IAG Executive,
- Use a major portion of the IAG Fund to provide financial support to promising young scientists from developing countries to attend IAG activities,
- Publish the CDC newsletter in the IAG section of the Journal of Geodesy.

Although the 'Internationale Erdmessung' was formed more than hundred years ago, the center of IAG activities is still in Europe. To give but one example, the number of IAG-sponsored meetings that took place during the reporting period was thirty-two. Twenty-two of them were held in Europe, two in North America, and eight in the rest of the world. Although some of these eight were major IAG meetings (Rio and Tokyo), the fact remains that IAG is simply not visible in many of the developing countries. To change this, the actions above were proposed.

The proposal to restructure the IAG Committee on Developing Countries by regions was made by the delegates from those countries at the Boulder meeting. It was felt that geodetic work in South America, Africa, and South-East Asia was too different to be meaningfully discussed in a group composed of delegates from all these countries. In addition, travel costs for a committee working on a global scale would simply be prohibitive and thus prevent a consistent functioning of the committee. It was therefore decided to work with smaller committees on a regional to continental scale and to delegate one representative for each region as contact person to the IAG. To give voice to the concerns of different regions, the First Vice-President of the IAG, Fernando Sanso, was asked to be the direct contact to the regional representatives. The concept worked very well in South America where SIRGAS had prepared the ground for cooperation, and where the IAG Scientific Assembly in Rio focussed some of the efforts. It also had a good start in South-East Asia where cooperation had been initiated through the Tropical Summer School. The economic downturn in the region put some of the planned activities on hold; as the situation starts to stabilize, this activity will start again. Despite the good participation of African countries in Boulder, a corresponding Committee for Africa has so far not been established, despite major efforts by the Executive Committee.

To provide young scientists in these regions with the funds to attend IAG-sponsored meetings, it was decided that most of the IAG Fund (voluntary contributions) and a part of the IAG budget would be used for this purpose. This clearly is a long-term investment, which is made with a very small financial base, and it remains to be seen how successful it will be. Cooperation with some of the major national and international research institutions working in some of these regions might provide much better leverage for the rather limited IAG funds. The IAG Fund is currently overextended and your support of these efforts and your generosity will certainly be appreciated. The idea to publish the CDC Newsletter as part of the IAG Newsletter in the Journal of Geodesy has unfortunately not let to any practical results. After the untimely death of A. Wassef, nobody has been willing to coordinate this effort.

Restructuring the IAG

The discussions about the research focus of the IAG soon expanded into a discussion on whether or not the current structure adequately supports IAG research goals. Currently, IAG research goals are de facto defined by Section research. This produces a tendency to compartmentalize research and to obscure the view for the global forces that are driving geodesy today. Since the Section structure goes essentially back forty years, when terrestrial methods completely dominated geodesy, it appears to be high time to review the structure in terms of the fundamental change that has taken place since then. Modifying Section titles and changing Section goals may not be enough to take into account the fact that space methods today pervade all of geodesy and are a major part

of the research done in the Sections. These methods have changed the geodetic emphasis from local and regional problems to global problems. Not in the sense that global problems are the only ones that matter, but in the sense that global, regional, and local problems can all be solved in the same consistent framework and often with the same observational procedures. They have also made it very obvious that a new level of integration of all geodetic techniques is required. The question therefore is whether the current structure of IAG gives the best support to the major problems facing geodesy today.

The development of the Services over the last few years seems to indicate that there are weaknesses in the Section approach which hinder IAG to be as effective in research as it could be. Many of the Services, which grew out of IAG, are now affiliated with FAGS and serve a much wider science spectrum than IAG. In the case of IERS where numbers are available, only about one third are traditional geodetic users. In the case of IGS, the user group has a spectrum that is considerably wider than even the geosciences. This indicates that geodetic products are in demand by a much larger group than that encompassed by IAG. To restructure IAG in such a way that more of these users would become interested in participating in IAG activities would therefore be worthwhile considering. This would require a stronger involvement of the Services in IAG decision making.

Another indicator that IAG research may be too much confined by the Section structure becomes apparent when looking at the program of this meeting. IAG is involved in 13 Inter-Association and Union Symposia, as opposed to five Section and one Association symposia. The reason for this is that, in addition to the three or four Inter-Association symposia proposed by IAG, more than double that number was proposed by other Associations who wanted IAG involved in the topics discussed. This again indicates that the effect of geodetic research is positively recognized outside our self-imposed boundaries. If IAG wants to represent all forces driving geodesy today, the current structure should be examined. This examination will be driven by IAG research priorities. Thus, the question of a new IAG structure is closely linked to the question of an IAG research focus discussed earlier.

The Executive has discussed these questions over the past few years. At this point opinions on an appropriate IAG structure differ widely, but there seems to be a general agreement that looking at these questions seriously and with an open mind will be beneficial to the IAG. It was therefore decided that a discussion of this question should start at this meeting and should be as broad based as possible. All of you are invited to join this discussion on Wednesday next week and to express your opinions in the panel discussion which will be part of this program. We will look at both the research focus and the structure question. It is hoped that in this way a process can be initiated which will lead to a clear proposal in about two years' time. We invite you to be part of this process.

Concluding Remarks

Let me close this address by expressing my sincere thanks to all members of the Bureau and the Executive Committee. They have been far more than an administrative body and have personally contributed to many of the achievements that I have outlined earlier. May I ask you to express your appreciation by a round of applause while all the members of the Bureau and Executive stand. I would also like to extent these thanks to those of you who contributed to the work of the IAG by working on Commissions, Services, Special Study Groups, Committees, the Council and on the Editorial Board. IAG can only survive if this voluntary work continues. I hope that the challenges that are facing geodesy during the coming decade will make you want to be involved in this work.

Klaus-Peter Schwarz,
IAG President

International Association of Volcanology and Chemistry of The Earth's Interior

This will be my and Wally's last IAVCEI meeting as President and Secretary General of IAVCEI. Steve Sparks (United Kingdom) and Steve McNutt (USA) will be taking over our respective duties at the end of this IUGG General Assembly. We have had an exciting and privileged time since 1995 when we started our work together for IAVCEI and we are sure that the Association will be able to grow and prosper with the two Steves jumping into our vacating saddles! I, of course, will continue to serve ex officio on the new IAVCEI Executive Committee as Past President.

The last four years have been busy ones. IAVCEI personal membership has been introduced (a "first" for any IUGG Association), a Secretariat established, and our members now have a greater say in how the Association is run than was the case under the pre-July 1995 Statutes and By-Laws. IAVCEI members have organised three major international meetings - the 1997 General Assembly in Puerto Vallarta (Mexico), the 1998 International Volcanological Congress in Cape Town (South Africa), and the 1999 General Assembly in Birmingham (United Kingdom). Arrangements are progressing well also for the IAVCEI General Assembly to be held in Bali (Indonesia) in the year 2000. There have been many other important meetings too, mostly organised by the different Commissions of IAVCEI.

We have tried to continue the policy (from the 1991-99 quadrennial) of strengthening the CEI part of the Association and we now have active Commissions in Granites, Arc Volcanism, Physical and Chemical Properties of Materials of the Earth's Interior (in association with IASPEI), and Ocean Island Volcanism, as well as on-going geochemical and petrological interests in the Commissions on Volcanic Lakes, Large-Volume Basaltic Provinces (which soon may be renamed Large Igneous Provinces - LIPs), and Chemistry of Volcanic Gases. Strengthening the CEI part of IAVCEI has not taken place without some criticism from the more traditional "V" parts of the Association. Much more work needs to be done in making the boundary seamless between volcanology on the one hand and petrology and geochemistry on the other.

We have tried also to give full support to the United Nations' International Decade for Natural Disaster Reduction (IDNDR) mainly through our Decade Volcano Project which is managed as a Sub-Commission of the Commission for the Mitigation of Volcanic Disasters. Furthermore, volcano and volcanic-hazard awareness continues to be a dominant theme in IAVCEI. Two videos, calendars, posters, and a book have been sponsored and distributed. Two Sub-Committees have provided recommendations on Safety on Volcanoes and Crises Protocols. The IAVCEI Web Page has been established and developed. There are now, indeed, scores of volcano web pages, including four volcano "live cams", educational pages, and volcano data sites. Our newsletter, IAVCEI News, desk-topped by the IAVCEI Secretariat, has a new format and never seems to go without a range of articles on different themes (although we still need to establish a continuous flow of spontaneously and voluntarily contributed materials!).

We have tried to work hard also in expanding and cementing IAVCEI's role within the IUGG family of scientific Associations. Our aim has been to reach beyond our own field and to establish new collaborations in fields other than VCEI. We need, for example, to continually re-evaluate how we participate in IUGG General Assemblies, as we have done for this General Assembly. IAVCEI is participating in 23 inter-Association symposia and only three of these are uniquely ours. This "experiment" is grounded on the premise that we must promote inter-Association technical sessions if we are to participate effectively in interdisciplinary IUGG assemblies. There has been some criticism that this approach will lead to a loss of identity and influence within the Union. We believe that the opposite is the case! By taking the lead with this approach we broaden our horizons and engage new ideas and approaches to the problems of magma genesis, their rise, eruption, and effects on the global environment. There would be little need for us to attend IUGG General Assemblies if we were to have only IAVCEI sessions.

The last four years – working within an Association that is based entirely on the hard work and creative participation of its members – have been rewarding and fun for us. Thank you for the privilege and opportunity.

Grant Heiken, IAVCEI President
Wally Johnson, IAVCEI Secretary-General

International Association of Geomagnetism and Aeronomy

Distinguished Guests, National Delegates of IAGA, Colleagues and Friends, welcome to the IAGA Conference of Delegates during the 1999 IUGG General Assembly. IAGA has had a pleasant and eventful four years since the 1995 General Assembly. Here are just a few of the highlights.

The sciences which the IAGA community is concerned continue to be quite healthy with exciting discoveries and advances in the understanding. Some of such disciplines are quite old; indeed the geomagnetism may be classified as one of the oldest "modern" science if we considered its origin in the publication of "De Magnete" by William Gilbert which is way back in 1600! Other disciplines are very young: the solar-terrestrial physics, for instance, became a really observational science when rockets and satellites became available in the 1950s. It is a marvelous thing that both of these branches of IAGA sciences show substantial development in the recent years.

Now we are heading into the 21st century. It is perhaps a good time to reconsider the strategies for promoting our science. IAGA has been the international center for the sciences included in "Geomagnetism and Aeronomy" and undoubtedly that role will be borne by IAGA in the coming years, too. For this purpose, we have chosen a dedicated and talented people to form the Executive Committee for the next quadrennium (1999-2003). Under their guidance, IAGA will continue to be the focus point of the intermational cooperation as well as the scientific activities.

In the last four years, we tried to keep the good IAGA tradition by organizing the high quality meetings and by providing support for young scientists or those from developping or troubled countries. I am quite happy that we did rather well in this respect. In fact, when we examined the account of IAGA for this period, we found that IAGA spent more money for the support of these scientists than what was received from the IUGG! There is of course some trick in arriving such a conclusion. The national committees which organized the last and a former IAGA Scientific Assembly (Sweden and UK) contributed much in supporting them on behalf of IAGA. For this and other efforts, I am particularly indebted to Rolf Bostrom and Michael Gadsden.

Finally, it is a pleasure to acknowledge the great efforts of the IAGA leaders in the last four years. Executive Committee members as well as the Division and Inter-Divisional Commission leaders tried very hard to make the meetings very exciting, and to make people wish to attend the activities of IAGA. I am very grateful to all of them, but particularly to JoAnn Joselyn, our Secretary-General, who carried out the every day job of IAGA with efficiency and grace and without complaints.

Masaru Kono,
IAGA President 1995 - 1999

International Association of Hydrological Sciences

Congratulations to Professor Kuniyoshi Takeuchi and to the other new officers of the Association and of the Commissions who were elected at the IAHS General Assembly in Birmingham in July. Kuni will take over the presidency at the Scientific Assembly in Maastricht in July 2001 and will serve as President-Elect until then, according to the statutes and bye-laws which were adopted by the Association in 1993. My thanks go to those officers who have served the Association since Boulder, and to those remaining in office until 2001. My thanks also go to those who stood for office in Birmingham but who were not elected.

Of course, many other things happened in Birmingham other than the elections. Mr Michael Meecher, UK Minister for the Environment, made an IUGG-relevant speech at the Opening Ceremony which, in an excellent way, set the tone for the rest of the Assembly. There were five successful IAHS symposia and five even more successful workshops. There was a lot of very interesting inter-association and Union scientific activity. Gordon Young became media-attractive, amongst other things, being interviewed on the BBC Breakfast programme immediately after the Secretary of State for Foreign Affairs. Dan Rosbjerg did an excellent piece of work refining the changes in the statutes and bye-laws, to the extent that they were agreed unanimously by the Assembly. Pierre Hubert sang most marvellously at the IAHS dinner in the Botanical Gardens. Uri Shamir succeeded in piloting through the sessions of the IUGG Council the changes to the IUGG system of elections which make the procedure very much like that of IAHS. Uri was also re-elected as Vice-President of the Union. IAHS was able to support a considerable number of participants from countries in need, thanks to the financial help from DFID, UNESCO, WMO, the Rotary Foundation, BHS and the Institute of Hydrology. There were five new red books available at Birmingham due to the fine efforts of the editors, contributors and of Penny Kisby and the staff of the IAHS Press. The Bookshop sold a record number of books, a few ties, but not a single IAHS umbrella — so much for help for IAHS finances from the British weather!

We had discussions of the HELP initiative and of FRIEND at the Assembly and a presentation on Theoretical Hydrology by the rapporteur, Enda O'Connell. There was a request from IAPSO to establish a joint commission on the area of fresh water inputs to the oceans and Gert Schultz handed over the task of chairing the IAHS/WMO Working Group on GEWEX to Alan Hall, after 10 years of excellent work.

At the IUGG level, Gordon and I contributed to the discussions in the several meetings of the IUGG Executive Committee and in the meetings of the Council, ensuring the IAHS voice was heard in their deliberations. The beer tent was not as popular as in Vancouver or Boulder, but other aspects of the organisation of the Assembly were really good. Mike Hamlin and his colleagues had put in a lot of effort to ensure the various aspects of the Assembly ran smoothly, as did Angela Gurnell and Paul Webster on behalf of IAHS.

As for the future, the IAHS calendar is very full for the Millennium, with perhaps the symposium on the 'Extremes of the Extremes' in Iceland presenting the most eye-catching title. Then we come to the 6th Scientific Assembly in Maastricht in 2001. Much work was accomplished in Birmingham on the programme for Maastricht by our Dutch colleagues and a number of Bureau members. It will be an exciting meeting, the first one for IAHS where a co-ordinated set of symposia and workshops will address a single theme, in this case 'New Hydrology for a Thirsty Planet'. The 23rd General Assembly in Sapporo, Japan, in 2003 still seems a long way off—fortunately.

John C. Rodda,
IAHS President

MINUTES OF COUNCIL MEETINGS

Minutes of the First IUGG Council Meeting

22nd General Assembly, Birmingham (UK), July 18-30, 1999

Date: Sunday July 18 (9 a.m. - 5 p.m.)

Place: Senate Room (Aston Webb Building)

Participants:

- National Delegates at Council

Australia	K. Lambeck
Austria	H. Suenkel
Belgium	P. Paquet
Canada	R. Stewart
China	Chen Yun-Tai
Czech Republic	V. Cermark
Denmark	C. C. Tscherning
Egypt	A. A. Ashour
Finland	J. Kakkuri
France	P. Hubert
Germany	E. Groten
Hungary	J. Adam
Iceland	A. Snorrason
India	R. N. Singh
Indonesia	J. Kahar
Ireland	A.W.B. Jacob
Italy	C. Morelli
Japan	S. Aramaki
Korea (South)	C. Baag
Netherlands	F. C. Zuidema
New Zealand	D. Rhoades
Nigeria	O. Coker
Norway	B. J. Harsson
Poland	L. W. Baran
Portugal	A. Torres
Romania	C. S. Sava
Russia	G. Sobolev (observer until item 8 bis)
Slovenia	M. Brilly
South Africa	C. L. Merry
Spain	F. Vidal
Taipei	Cheng-Hong Chen
Thailand	T. Thambumroong
Turkey	H. Meteris
United Kingdom	M. Hamlin
United States	C. Mooers
Zimbabwe	D. L. Jones

[italics for countries with observer status only]

- Executive Committee
- Finance Committee

Opening at 9.00 a.m. by P. Wyllie, President of IUGG.

G. Balmino had appointed beforehand two scrutineers for the 3 Council meetings:

- J. Adam, delegate of Hungary,
- H. Suenkel, delegate of Austria.

1. Presentation of the credentials

Number of delegates:
27 national delegates are present at the opening, 25 eligible to vote. The total number of member countries eligible to vote is 52 (75 minus 23 in Observer status). The quorum (=17) is reached. Other national delegates will arrive in the course of the meeting, their number amounting to 36, of which 3 are in Observer status.

2. Approval of agenda

At the request of the Finance Committee, 3 additional items are submitted to the Council:

a. Two memberships issues (to be placed after item 8),

b. Organisation of future General Assemblies (to be placed between items 14.a and 14.b),

c. Presentation and adoption of the budget for 1999-2003 (to be placed after item 26).

Egypt and Denmark second the motion; 23 votes are in favour out of 25. The items are added. Then one proceeds to a vote on the agenda, which is unanimously approved.

3.Approval of the minutes of the Council meeting at Boulder (1995)

The minutes of the Boulder meeting are unanimously approved.

4. The General Assembly

Summary Report by the local organisers.
G. Westbrook, Chairman of the Organising Committee, presents an overview of the preliminary attendance, budget, grant funding and abstracts.

- ***Pre-registrations***: 3350, of which one finds: Japan: 386; USA: 764 (against 2066 at Boulder General Assembly, but pre-registration at Boulder was closed 6 weeks earlier). IAGA has 762 pre-registrations. The projected final number is about 3800-3900 participants, considering that there is usually a large proportion of on-site registrations at general assemblies

- ***Preliminary Finances***:
  Income for Registration fees: £821,330
  Income for Exhibition: £30,000
  Total income to date: £ 851,330
  Expenditure estimate: £ 910,582
  Balance: - £ 59,232

Considering the contingency of £ 64,516 (100 K$) and additional income from further registrations, the budget should be in surplus.

- ***Grants:***
  A total of £ 230 k has been allocated for 566 grants (out of 2 700 applications) of which £ 67 k come from the UK.

- ***Abstracts:***
  About 6 500 abstracts were submitted, 5236 were accepted, not including IAHS abstracts, which have been processed separately. About 1000 were redundant and a some were not accepted. There are about 2600-2700 posters. It is noted that e-mail abstracts were a source of significant extra work because of the large variation in their style and length in spite of the instructions given on format.

Scientific Program:
Chairperson, K. Whaler gives a brief history of the work of the Scientific Program Committee (SPC) with emphasis on the outcome: large number (47) of inter-association symposia, Union symposia (with the unfortunate of U1), Union lectures, addition of Bullerwell lecture, Crafoord Prize celebration with A. Dziewonski (in the time slot of U1). She thanks the Organising Committee and the Birmingham University staff for carrying out the implementation of the program.

P. Wyllie expresses extended thanks towards G. Westbrook, K. Whaler, the Local Organising Committee, and especially E. Versmessen, the administrator of IUGG99.

G. Westbrook and E. Versmessen respond to K. Whaler's report. They are of the opinion that there is a need to draw up some clear guidelines on what the task of the programme chair is.

5. The President's Report

P. Wyllie gives a very substantial and thorough overview of his actions during his 4 years of Presidency (cf. copy of handouts in annex, in particular "Snow White and the 7 dwarfs").

6. The Vice-President's Report

U. Shamir has worked with S. Gregersen in the Oversight Committee for the General Assembly but left most of the responsibility to S. Gregersen. He has been convening Union Symposium U4.
He was representative of IUGG at WCS held in Budapest (with about 2 000 attendees) and presented a talk, entitled "Scientists and public decision-making". Earth Sciences were also represented by R. Brett, President of IUGS. Issues discussed at the WCS included: science and ethics; women in science; the roles of government and the private sector in supporting science, national investment in R&D. Strangely enough, a parallel meeting with the NGOs was organised by ICSU, separately from WCS, at another location in Budapest.
U. Shamir mentioned his involvement in the World Commission on Dams, established in April '98. Its goals are focused on the social implications of these projects upon society and the environment. The work includes a study of about 150 dams in the world, 10 dams being studied in depth.

7. The Secretary General's Report

G. Balmino gives a summary report for the 4 year period, based on the full report presented in the agenda book (see copy of handouts in annex).
W. Johnson asks about IDNDR which was not mentioned in the 3 previous reports. G. Balmino says that the IDNDR committee faded away after Boulder. Actually, the IDNDR Program was terminated one week before with a closing symposium in Geneva. J. Rodda who attended this meeting says that IAVCEI had a great poster in its own name, which also raised the flag of IUGG. Following a question on the availability of the yearly Union report to ICSU (which is distributed to all National Committees and also available on the Internet), Denmark criticises the lack of responsiveness of the National Delegates and Committees towards the Associations and Secretaries General.

8. The Treasurer's report

S. Gregersen refers to the 4 year report sent on beforehand to all National Committees, and comments that the IUGG administration has not been expensive. Institutions to which the President, Vice-President and Secretary General belong have supported a great deal of the cost and should be thanked by IUGG. The Union is well funded going into an active 4 year period. Slightly expanded activities could be considered.

8. bis. Two membership issues raised by the Finance Committee

a. **First issue**
   A. Ashour, President of the Finance Committee, presents the first issue. The Finance Committee received an official request last winter from Russia, asking to lower its category from 10 to 6. If it is approved and considering that the fees paid cover more than the fees of category 6 for 1998, the membership would be continued without interruption.
   This is turned into the following motion: "The Council approves the request from Russia to lower their category from 10 to 6 to be effective from 1 January, 1998".
   S. Gregersen comments that if accepted, Russia would not be in Observer Status right after the vote since it would become a paid-up member.
   The motion is seconded by USA. The Russian delegate points out that the number of scientists is less in Russia than in former USSR. P. Wyllie congratulates Russia for their efforts in having paid their fees up to 1997.

Nigeria says that they are in Observer status because they have been unable to pay their fees fully in category 2, and that going to category 1 would solve their problem. G. Balmino replies that they have not made the formal request in timely fashion as Russia did. F. Spilhaus emphasises the fact that discussion on this point between Russia and the Finance Committee began as early as 1997. P. Wyllie states that one should not see any generality in this proposal for Russia, given the context. One proceeds to a financial vote. 31 countries are present, of which 29 are eligible to vote.

Each ballot is weighted by the category of the country. 121 votes are in favour (no abstention, no opposition).

b. **second issue**
The motion proposed by the Finance Committee is the following:

For all future elections for membership, whether provisional or by the Council at a meeting, the formal resolutions shall read: " Elect xxx with membership to be effective at the first of the calendar year for which dues are paid. This offer of membership will be open only so long as country dues are paid before the end of the next calendar year."

S. Gregersen says that the present practice shows that some new members did not pay their dues and went directly into Observer Status. The Finance Committee president recommends that any new application should come to the Finance Committee before any decision is made.

The motion is seconded by the USA.
Vote unanimously in favour (no abstention): 129 affirmative ballots (31 countries weighted by categories).

9. Applications for membership

- The confirmation of membership for Albania is put to vote. 32 countries are eligible to vote at the time we proceed. 2/3 majority is requested, that is 21.
Vote result: 27 positive ballots. Membership is confirmed but it remains subject to the fulfilment of the motion previously past (cf. 8.bis.2). Membership applications arrived between March 18 and July 18, 1999. Several inquiries have been made from: Azerbaijan, Colombia, Kuwait, Latvia, Papua-New-Guinea, Peru, Turkmenistan, Ukraine, and recently Sri Lanka. None was followed by a formal application. G. Balmino points out that their difficulty in the payment of the membership fee in hard currency. A. Ashour recalls that Peru was a very active IUGG member (e.g., IASPEI General Assembly organised in 1973) but ceased membership in 1979 in Canberra.

10. Proposed changes of Statutes (S) and By-Laws (BL)

G. Balmino proposes to treat the first 4 items: a, b, c, d, and to vote in ensemble on these after discussion.

a. Revision of wording (change of ICSU name) (S3, S4, S15): no objection

b. Improved description of the Union objectives (S1):

USA proposes a better formulation of S1.d: "to promote co-ordination world-wide of scientific activities in the disciplines of interest to the Union".

c. **Participation of non-Member Countries scientists (BL2)**
USA proposes a better wording of BL2. After discussion and amendment, the final proposed text is: "Scientists from all countries may attend scientific meetings of the Union and of the Associations. They may also act as observers in Commissions of the Union and in the Associations."

d. **Small modification in (BL9): "Two years at the latest" to be replaced by "about two years".**
Result of the vote on a, b, c, d:
28 countries eligible to vote are present at that time.

Proposal a: 28 yes, 0 no;
Proposal b: 27 yes, 1 no;
Proposal c: 27 yes, 1 no;
Proposal d: 28 yes, 0 no.

e. **Improvement of the election procedures (BL10)**
G. Balmino explains the mechanism on a detailed transparency. Egypt argues that the last minute process of nomination from the floor is very useful and should be kept. U. Shamir sees ample benefit and advantage for the countries in the new procedure as the counter propositions are better instructed and advised.
USA mentions the issue of the number of Member Countries requested for supporting the late nominations and says that USNC recommends 3. G. Balmino says that it is not a key point and it can be modified. The objective is openness.
USA replies that they are ready to test this new system. W. Johnson recalls that IAVCEI has adopted such a process in Boulder. This procedure is much more transparent and makes a lot of sense from the point of view of the Associations. Egypt thinks that additional candidates by nomination from the floor should be limited to people already selected and proposed by their National Committee. His feeling is that the present system is much more democratic than the proposed one. U. Shamir comments that the proposal allows for better participation of some countries in the process, since some of them are not present at the General Assembly; it is more democratic. This view is supported by J. Rodda (IAHS president) and F. Camfield (IAPSO Secretary General). J. Chen wonders about the case when a candidate withdraws his nomination or passes

away at the last moment. USA presents a proposal made by USNC to compromise between the new process and the old system of nomination from the floor. G. Balmino is very much in favour of the USNC proposal. The text (slightly amended) is as follows:

"The officers of the Union and Associations and the National Committees shall be informed by the Nominating Committee of the list of nominations at least 8 months before the General Assembly. They may make further nominations and/or recommendations to the Nominating Committee at least 3 months before the General Assembly. If new nominations for a given position are supported by at least 3 Presidents or equivalent officers of National Committees of Member Countries, and if they are accompanied by the written acceptance of possible nomination and resume outlining the position, research interests and Union related activities of the candidates, they shall be added to the list initially established. The Nominating Committee shall send the final list of nominations to the officers of the Union and Associations and to the National Committees at the latest 2 months prior to the General Assembly.

Renominations, from those previously nominated for the Bureau and Finance Committee, may also be made over a period of 48 hours, following the close of the first Council meeting at the Assembly. Such nominations shall be submitted in written form to the Secretary General, supported by at least three members of the Council and accompanied by the same documentation as required with the original nominations. The Council delegates shall be informed of these additional nominations, together with their resumes, at least 24 hours before the elections.

No one can be a candidate for more than one position in the election. Elections shall be by secret ballot."

The motion is seconded by Belgium. P. Wyllie asks to proceed to vote on the amended version of the USNC. The result is: 28 in favour, 1 against, 1 abstained (32 delegates were present at this time)

f. **Creation of a Category of Associates (S4, S12, S13, S14, S16, S17, S18, S19, S20; BL4, BL6, BL10, BL11, BL14, BL18)**
G. Balmino presents a summary of the proposal (see copy of the handouts in annex). France asks how we would react to the request of a country in category 1 to become a category A member. S. Gregersen says that there cannot be any quantitative standard evaluation but only an appreciation from the Council, given the circumstances. UK would like the category A countries not to be considered as members participating in the Council. UK is afraid of the risk of allowing them entry. S. Gregersen replies that one looses part of the invitation if one excludes them from the Council. Nigeria feels that members should be encouraged to pay and not to come without paying. P. Wyllie replies that the National Committees have to persuade the governments to pay the membership fees. W. Johnson emphasises that invitation should be real. However, the sense of inclusion should not generate discrimination and 2nd, 3rd class members. The Finance Committee President says that the Finance Committee has examined this proposal and supports the opening of the Union. However, there is a concern that all category 1 members may request a shift to category A. Associates are therefore welcome but should not be members since they do not pay. As for Observer countries, they should be transferred to Associates after one term of non-payment. Associate should not be a category of membership. G. Balmino makes it clear that an Observer could be transferred to Associate according to the proposed rules but not in an automatic fashion. USA asks if an Observer member has a voice. G. Balmino says that it has been and should be so, with a proposed extension of rights to voting on scientific matters. Romania proposes that the so-called category A member countries should be termed "candidate members". The term "Associate" is in use by other Unions. AGU says that they have an Associate status. P. Wyllie asks for a straw vote on the chosen terminology. The vote is in favour of the terminology "Associate member" versus "Associate".

A second straw vote is made on the question: "Associate Members are not allowed to sit in Council". The result is: 17 yes, 4 no, abstention: 5. P. Wyllie noted that this was coupled with a proposal that Members in Observer status should be given a vote on scientific matters. If the new Associate Members do not sit in Council, then the situation reverts to the existing statutes, and the Members in Observer status do not vote. USA would have liked a revision of the statutes in a streamlined fashion to be more positive towards the Associates. The proposal from the Executive Committee was more positive and welcoming than the Council straw vote. H. Moritz supports the proposal of G. Balmino and says one should keep it this way. Egypt points out the implicit contradiction between "Associate Member" terminology and the non-participation in the Council. UK is in favour of the proposal made by G. Balmino with amendments following the above straw vote results. The motion (made by UK and seconded by South Africa) is: " to accept the proposal for Associate Members as written in the agenda book, with the amendments that 'Associate Members are not allowed to sit in Council' (following the straw vote), and that 'the Members in Observer status have no vote in Council', following the current statutes". The result of the vote is: 23 yes, 3 abstentions, 0 no. The 2/3 majority requested in this matter is reached.

g. **Modification to S27**
G. Balmino explains the reason for the proposed modification which is to give equal authority to English and French in the statutes and by-law texts, without implying that either one (or both) is (are) the official language(s) of the Union – although all meetings have been conducted in English for a number of years. USA comments that English is the most used scientific language. On the other hand, one could propose to use any other language with an English version. Norway and Romania question the need for 2 languages. G. Balmino says that IUGG started with French, then English was used shortly afterwards. Other languages could be used but the IUGG staff, unlike that of UNESCO, is not sufficient for dealing with multilingual texts. USA proposes a motion with the text stating that: "all official documents of the Union shall be in English"; it is seconded by Korea. UK proposes the motion that the modified S27 presented by G. Balmino be voted upon; it is seconded by Australia. The discussion proceeds towards the two motions. P. Wyllie decides to vote on the initial proposal. The result is: 14 in favour, 8 against, 6 abstained. The 2/3 majority is not reached, so it is not passed. Then a vote takes place on the USA proposal; the result is: 10 Yes, 9 No, 9 abstained. The required 2/3 majority is not reached; the USA proposal is not passed. In consequence, there will be no change to the present statute 27.

h. **Structuring of some S and BL articles (with (a), (b),...).**
These additions are unanimously accepted: (28 Yes).

11. Appointment of the Resolution Committee

P. Wyllie and G. Balmino introduce the Resolution Committee member list, with four names. It is desirable to have a fifth person. C. Mooers volunteers and is appointed to the Resolution Committee. The final composition is: U. Shamir (Israel, chairman), B. Ducarme (Belgium), C. Mooers (USA), H. Moritz (Austria), V. Shannon (South Africa).

12. Preparation of the elections

G. Balmino presents the slates prepared by the Nomination Committee, which has been chaired by D. Williams, Past President of IAGA, USA (cf. list in annex). He then recalls briefly the present procedure which allows for additional nominations over 48 hours, supported by at least 3 Council Members.

13. The USNC Proposal to create a working group to develop a statement of goals

USA introduces the proposal and comments on it. U. Shamir recalls the existence of the Advisory Board chaired by H. Moritz, and then P. Wyllie. It was put on stand-by in 1997. The report was distributed to Council as part of the agenda package. Denmark says that it is the responsibility of the Executive Committee to plan the scientific future, and this is not the role of the Council. P. Wyllie asks USA how they wish to proceed. USA puts the motion to vote on it; it is seconded by Czech Republic. Belgium opposed to the motion. Before proceeding to the vote, G. Balmino reads statute 9, §2 which states that: "The duties of the Executive Committee shall be to further the scientific objectives of the Associations through effective co-ordination and through the formulation of general policies to guide the scientific work of the Union". The result of the vote is: 3 in favour, 19 opposed, 6 abstentions. The USNC proposal is not passed.

14. Proposal (s) for the place and date of the 23rd General Assembly, in 2003

a. **Presentation of proposal(s)**
Indian and Japanese representatives present their proposals, being given half an hour each.
The meeting is adjourned at 4.45 p.m..

MINUTES OF THE SECOND IUGG COUNCIL

22nd GENERAL ASSEMBLY, Birmingham (UK), July 18-30, 1999

Date: Friday July 23, (9 a.m. - 5 p.m.)
with the elections in the morning

Place: Senate Room (Aston Webb Building)

Participants:

- National Delegates at Council

Algeria	A.K. Yelles-Chaouche
Australia	K. Lambeck
Austria	H. Suenkel
Belgium	B. Ducarme
Brazil	D. Blitzkow
Canada	R. Stewart
China	Chen Yun-Tai
Czech Republic	V. Cermark
Denmark	C. C. Tscherning
Egypt	A. A. Ashour
Estonia	R. Room
Finland	J. Kakkuri
France	R. Schlich
Germany	E. Groten
Hungary	J. Adam
Iceland	A. Snorrason
India	R. N. Singh
Ireland	A. W. B. Jacob
Italy	C. Morelli
Japan	S. Aramaki
Korea (South)	C. Baag
Netherlands	F. C. Zuidema
New Zealand	D. Rhoades
Nigeria	O. Coker
Norway	T.A. Blix
Poland	L. W. Baran
Portugal	L. Mendes- Victor
Romania	C. S. Sava
Russia	G. Sobolev
Slovenia	M. Brilly
South Africa	C. L. Merry
Spain	F. Vidal
Sweden	O. Kulhanek
Switzerland	H. Lang
Taipei	Cheng-Hong Chen
Thailand	T. Thambumroong
Turkey	H. Meteris
United Kingdom	M. Hamlin
United States	C. Mooers
Vietnam	N.T.K. Thoa
Zimbabwe	D. L. Jones

[italics for countries with observer status only]

- Executive Committee
- Finance Committee

Opening at 9.00 am by P. Wyllie, President of IUGG.

G. Balmino had appointed beforehand two scrutineers for the 3 Council meetings:

- J. Adam, delegate of Hungary.
- H. Suenkel, delegate of Austria.

Presentation of the Credentials

Number of delegates:
38 National Delegates are present at the opening, 36 eligible to vote. The total number of member countries eligible to vote is 52 (75 minus 23 in Observer status). The quorum (=17) is reached. Other national delegates will arrive during the course of the meeting, their number amounting to 41, of which 3 are in Observer status

14 bis. The Organisation of the future General Assemblies

This item was added at the request of the Finance Committee. M. Hamlin recalls the joint decision in Boulder on the financial responsibility for this General Assembly to be shared between the inviting country and the Union. This proved to be very positive and he proposes that one should continue along these lines, both as a recommendation of the Finance Committee and in the name of the UK delegate. USA asks if the Union could fulfil its financial responsibility in the worst case scenario. S. Gregersen replies that the Union is not able to accept responsibility for the worst case, and that all steps have to be taken to avoid being in this situation. Denmark supports the Finance Committee recommendation.
P. Wyllie says that the Executive Committee was very pleased with the way of working with an Oversight Committee; however he has some concern about the formal shared financial responsibility, when different views between the Local Organising Committee and IUGG representatives are potential conflicts and may lead to friction. U. Shamir says that the Local Organising Committee in Birmingham was deeply committed; the Bureau had two members who attended many meetings to help in co-ordination. The Local Organising Committee indeed took the responsibility, but important decisions were made jointly with IUGG. UK points out that very few countries can take the financial responsibility.
P. Wyllie notes that here in 1999 we have two countries inviting with full responsibility, and in 1996 both Brazil and South Africa were competing to host the 2000 Geological Congress. UK said it would be very helpful to have precise information on the budget of previous General Assemblies. It is very curious that the Union has no transparent records of the cost and financial regulation of the past General Assemblies. Korea suggests decreasing the length of the General Assembly instead of increasing the fees. P. Wyllie replies that this has been a recurrent discussion and that it would be very difficult to reduce the length of the meeting. France comments that if the financial risks are shared, it

may be difficult to establish rules in the decision process; in case of conflicting views, who would have the final word? Besides, there are different ways of presenting the financial report of the General Assembly, resulting in demonstrating losses or benefits completely depending on the accounting procedure. F. Spilhaus says that we are talking of a limited participation of IUGG. The Oversight Committee should make the process work. UK says that the risk had indeed been limited to 100 K$ for IUGG. Switzerland is concerned about the increase of registration fees. S. Gregersen replies that it is independent of the way we proceed. J. Rodda comments that the increase of the cost of living is never discussed, and this is a lot more than the sole fees. M. Kono has doubts about this procedure, considering that the involvement for the country is much more than the 100 K$ quoted in the case of Birmingham. U. Shamir says that an insurance policy was taken out by the University of Birmingham in case the loss went beyond the 100 K$ ceiling. UK says that, if the Finance Committee recommendation is meant to be a motion, it should be made clear that this is intended only for the countries which need financial support. S. Gregersen agrees that the recent procedure of collaborative oversight without forced financial sharing sounds acceptable, and P. Wyllie thinks that this encapsulates the spirit of the discussion. Korea insists that IUGG should not be committed in the financial risk with General Assemblies. At this point, P. Wyllie states that no vote is requested at the present time.

14. Proposal (s) for the place and date of the 23rd General Assembly, in 2003

Selection

The Indian and Japanese Delegates are each accompanied by one representative, respectively H. Gupta and Y. Kamide. P. Wyllie explains how difficult our task of selecting the site of the next General Assembly is: “It is difficult because we have two very attractive, carefully prepared proposals from two good friends of IUGG, involving the efforts of personal friends of many of us – and we can go to only one place in 2003. We hope that whichever country does not become our next host is not too disappointed, and can maintain the warmth and friendship which we all appreciate”. The selection is not a simple process, because the two invitations have appeals of different kinds to an audience which may be guided by different philosophies. For example:

1. There are those who seek the most efficient meeting, which will attract the best cutting edge scientists, as well as young folk from developing countries.
2. Others may tend to give more weight to the IUGG objective of reaching out to scientists from developing countries, and maximising their participation.

The Association Secretaries General are the ones most intimately involved in the details of organising the symposia and the speakers, and with the room sizes, distributions and technical facilities. They are primarily responsible for the scientific program. After the two presentations last week, and following visits and questions at the two booths, the Secretaries General met to review the two invitations. This was a very searching review. They set up a spread sheet of criteria and evaluated these for both locations, on the basis of information available. I have been asked to inform the Council that the Secretaries General agreed unanimously that the sensible decision for the best scientific General Assembly was to accept the invitation from Japan. The separation of the Assembly into two clusters was a significant concern - if the Delhi Convention Center were in Hyderabad, the recommendation would not be so clear. The recommendation of the Secretaries General was brought to the Executive Committee yesterday afternoon [with our two Japanese colleagues excused from the meeting], and after extended discussion the Executive Committee also agreed, without dissent, that the sensible decision was to accept the invitation from Japan.
The Executive Committee also discussed with the Secretaries General the philosophy that perhaps added weight should have been given to the invitation from the less developed country, to give our Indian friends the opportunity to host the General Assembly, because of the over-riding goal of IUGG to facilitate participation of scientists from developing countries.

The response was two-fold:

1. The Associations are already distributing their General Assemblies and other conferences to many parts of the world, and
2. Despite the sympathy for this view, the conclusion was that for the sake of the future of IUGG, the over-riding factor must surely be to maximise the quality of the scientific presentations. The General Assembly is the IUGG’s visible scientific face to the world.

There is a huge difference between running a conference for 500-1,000 participants, and one with 3,000-5,000 participants. My final point is that there is nothing in the Union Statutes to specify how to select among invitations, but it appears that traditionally the decision has been made by vote of Council. Therefore, the Secretaries General and Executive Committee offer their recommendation to Council in advisory capacity:

1. The invitation from Japan should be accepted because it offers the better prospect for the best scientific presentation, which should be the over-riding consideration.
2. Hearty congratulation and thanks should be delivered to our Indian colleagues for their impressive invitation, for running such a hard race from behind, and for pulling up so close. This will surely be a first step toward a successful bid in the future.

The topic is open for discussion. The Secretary General is ready to explain to you the criteria considered by the Secretaries General, and will answer any questions."

USA asks whether one could propose a motion for holding the 2007 General Assembly in the country not selected to day. G. Balmino replies that the present mechanism does not allow it. Russia asks how the prediction of the scientific quality of the General Assembly can be assessed. G. Balmino replies that the criteria only addressed factors impacting upon the quality of the scientific meeting. South Africa points out the difficulty of transportation from Africa, and the accommodation costs in Japan. There is a risk that very few participants from Africa will attend the meeting. Japan gives supplementary information on the preparation data: the national financial contribution should allow for the support of 550 to 1100 persons. In addition inexpensive housing will be available.

India replies that, given the rate of the Indian rupee, the quality to cost ratio is very high. France thinks that the recommendation of the Executive Committee is over-influencing the Council. France is willing to support the developing countries and therefore will support the Indian bid. Denmark declares that it supports Japan. Korea asks if India has stated that it will take full financial responsibility. P. Wyllie answers that this had been written in an early e-mail but not indicated in the official invitation letter. H. Gupta informs that indeed India is ready to take such responsibility. Aramaki declares that in the last 80 years Japan has never invited IUGG and is very eager to do it. The organisation is already very well planned and 7 committees (one for each Association) have been set up. H. Gupta informs that in India a similar structure is set up. Following a question from Korea, H. Gupta states that the registration fees mentioned in the brochure will be applied. However P. Wyllie thinks that it is unrealistic to freeze the cost of the fees so much ahead of time, given international and national economic fluctuations. Austria comments that, on the basis of his experience as organiser of the Vienna General Assembly, there are critical issues such as: financial and political stability, security aspects, … which he thinks would be better met in the case of Sapporo. U. Shamir recommends the Members of the Council to put considerable weight on the appreciation from the Executive Committee given the experience of the Secretaries General in the preparation of meetings across the world.

G. Heiken comments that both venues offer a large variety of field trips with volcanological interest. USA regrets that it looks like the Developing Countries are not in the position to invite IUGG for a General Assembly. Holding various meetings of smaller size should be encouraged. U. Shamir replies that the recommendation made by the Executive Committee applies only to this particular meeting, for which the venue in India was considered less attractive than Sapporo at the present time. P. Wyllie repeats that if facilities such as the Convention Center of New Delhi had been in Hyderabad, the issue might have been different.

One proceeds to vote. 38 countries are eligible to vote. The result is: 24 are in favour of Sapporo, Japan; 14 are in favour of Hyderabad, India. P. Wyllie declares that the next General Assembly of IUGG will be held in Sapporo, Japan (in early July 2003). He congratulates both India and Japan for their efforts in preparing outstanding proposals. H. Gupta congratulates S. Aramaki and Y. Kamide.

15. Elections

P. Wyllie has invited D. Williams, chairman of the Nominating Committee, to present the slates. D. Williams recalls the composition and work of the Nominating Committee. The consultation was made by e-mail; the committee paid attention to trying to have a balanced representation among the Associations, as well as geographically. He shows the final list of nominations (which had been posted and distributed more than one day earlier). He comments on the new nominees with respect to the first list.

a. **President**
Egypt thinks that there may be a conflict with the statutes: may a Bureau member be a voting member of an Association at the same time? In the present case, M. Kono would become President of IUGG and Past President of IAGA. G. Balmino comments that U. Shamir and H. Moritz were in such a position and it was not a concern since the rule had been changed before. The only condition is not to be a Bureau Member (or Finance Committee Member) and President or Secretary-General of an Association at the same time. One proceeds to vote. 38 country members eligible to vote are present at that time. The result is as follows:

M. KONO:
32 Yes, 1 No, 5 Abstained.

b. **Vice-President**
U. SHAMIR: 35 Yes, 3 No, 0 Abstained.

c. **Secretary General**
J-A. JOSELYN: 34 Yes, 3 No, 1 Abstained.

d. **Treasurer**
A. HANSEN: 35 Yes, 2 No, 1 Abstained. P. Wyllie congratulates these four people for their election.

e. **Bureau Members**
One votes for the selection of three out of the four candidates on the slate. The result is:

J. Chen:	26	V. Shannon:	25
H. Gupta:	27	K. Whaler:	25

There is a tie between V. Shannon and K. Whaler. M. Kono comments that with the selection of K. Whaler, there would be 3 Bureau Members belonging to IAGA and that this should be thought about. Egypt is against

this comment. Denmark thinks that there are too few women in the Bureau. USA points out that V. Shannon has made outstanding work as President of IAPSO. Denmark replies that K. Whaler did a great job as chair of the Scientific Program Committee (SPC). UK recalls, as explained by D. Williams, that K. Whaler was not put on the slate because of her affiliation to IAGA. We should not forget that she did a very dedicated job at the Scientific Program Committee. She would be very useful at the Bureau. J. Rodda asks about statute 21; we have a tie, why does the clause mentioned not apply? G. Balmino answers that it is not a "Yes / No" situation. After the second vote, if the tie remains, then it will be transferred to the President's decision.

One proceeds to a second vote on the choice between these two candidates. The result is:

V. Shannon: 22, K. Whaler: 15.

1 void ballot.
The elected additional Bureau Members are: J. Chen, H. Gupta, V. Shannon. They are congratulated.

f. **Finance Committee Members**
One votes for the selection of five out of the seven candidates on the slate. The result is:

O. Coker:	14	G. Perillo:	22
V. Gaur:	28	P. Pinet:	22
E. Groten:	30	F. Spilhaus:	26
M. Hamlin:	32		

The tie between G. Perillo and P. Pinet requires a second vote. The result is:

G. Perillo: 16 P. Pinet: 19

1 invalid vote
The elected members on the Finance Committee are: V. Gaur, E. Groten, M. Hamlin, P. Pinet, F. Spilhaus.
P. Wyllie congratulates the elected members.

16. Reports from Association Presidents

- **IAG (K.P. Schwarz)**
The Association has activities in five areas: Research, Education, Developing Countries, Services and Communications, Restructuring.
Priorities in research are presented (e.g., GIGGOS project: Global Integrated Geodetic and Geodynamic System, High-resolution gravity space missions, FRCN: Fundamental Reference and Calibration Network). New services have been created (IVS, ILRS).
IAG is today structured into 5 sections; there are plans to revise this organisation. A Steering Committee will make proposals in 2 years at the General Assembly of IAG.

- **IASPEI (C. Froidevaux)**
Among the current activities of IASPEI, seismic tomography has focussed much attention. On a global scale these efforts have revealed the 3D mantle structure with increasing resolving power. On this basis mantle density heterogeneities have been derived and incorporated in dynamical models. These models predict the present mantle circulation, including surface velocities, which can be compared with plate tectonics observations. They also predict another observable, the long wavelength geoid, with excellent success. Lithospheric density heterogeneities can also be derived from seismic and gravity data: dynamical models of intra-plate deformations can thus be compared with oberved kinematics based on space geodesy or radar interferometry.

How does IASPEI organize its activities, besides General Assemblies of IUGG? One approach is illustrated by the European Commission on Seismology (ESC) which has been active for more than 50 years and which, over the last period, met two times (1996, 1998). Its next meeting is scheduled for next year in Portugal. It has been very efficient in developping cooperation between scientists of both East and West, and now hopefully accross the Mediteranean sea (the 1998 meeting was held in Israel). A similar undertaking has now been started on a much larger region: the Asean Seismological Commission (ASC) covers Asia as well as Australia and New-Zealand. Its first meeting was held in Tangshan (China, 1996), and was followed by a second one 2 years later in Hyderabad (India). On both occasions a training course on seismological practice and risk analysis was organised before the regional scientific assembly. Next year ASC should meet in Tehran (Iran). Our hope is to see more and more scientists, in particular of the younger generations, meet and work together.

IASPEI also operates through its Commissions on seismic hazard and risk, wave propagation, geodynamics and tectonophysics, etc. It has been very active in the Global Seismic Hazard Assessment Project (GSHAP), as well as in the International Decade for Natural Disaster Reduction (IDNDR). These activities will soon come to an end, leaving a more unifying picture of hazard estimation. A continuation in the framework of the Earthquake and Megacities Initiative (EMI) would be very appropriate and reflect our strong involvement in societal issues.

Finally the field of education has received special attention in these last years. A 1200 page handbook with 3 CDs will soon be published. It depicts the state of the art in seismology. Special issues in various Scientific Journals continue to reflect either the scientific contributions discussed in our General Assemblies, or the topics discussed in smaller meetings organized by IASPEI Commissions.

- **IAVCEI (G. Heiken)**
G. Heiken reports with transparencies (see copy in annex) on the following items:

- renewal of officers,

- meetings: General Assembly in Puerto Vallarta, Mexico (1997), in Cape Town, South Africa (1998), plus a meeting on "Problems of Cities on Volcanoes", held in Roma and Naples (1998); future General Assembly in Bali (July 2000) and Scientific meetings in Martinique (2002), Quito (2002),
- formation of new commissions,
- Decade Volcanoes project,
- safety (for awareness of people in the field - 12 scientists were killed in the last years),
- publication of a paper on professional conduct of scientists during volcanic crises,
- production of two videos and calendars,
- publications and communication: IAVCEI news, IAVCEI website.

• **IAGA (M. Kono)**
The main points of the report are:

- meetings - e.g. the General Assembly in Uppsala in 1997, held jointly with SCOSTEP; the next one will be with IASPEI in Hanoi (Aug. 2001),
- publications: News, Bulletin of geomagnetic data, IAGA Guides,
- projects,
- efforts on space weather forecast,
- other aspects: contact with the society, support of young scientists and of scientists in developing countries.

• **IAMAS (R. Duce)**
The report covers:

- the meetings: Melbourne General Assembly, jointly with IAPSO (July 1998), future General Assembly to be held in Innsbruck, Austria (2001),
- the 10 Commissions,
- the ACT project (Alliance for Capacity Transfer in meteorology and atmosphere-related sciences including hydrology),
- the revision of statutes,
- the prospects: IGAC (International Atmosphere Chemistry Program), SOLAS (Surface Ocean-Lower Atmosphere Study), effects of marine biology on atmosphere and climate and vice versa.

• **IAHS (J. Rodda)**
The summary of the activities of the Association is as follows:

- meetings: General Assembly in 1997 in Rabat, Morocco and meeting with IAMAS and IAPSO in Melbourne in 1997, future General Assembly in Maastricht (Netherlands) in 2001,
- research: concept of reservoir sustainability, ground water modelling in Zurich, large-scale river basins (with meeting in Manaus), Handbook of maximum floods in the world,
- publications: IAHS is the largest hydrological publisher in the world (with 5000-6000 pages per year),
- individual "membership": about 2500 members (who do not pay).

• **IAPSO (V. Shannon)**
The report highlights the goals, activities and prospects of the Association:

- Oceanic research is at a cross-road with different fields.
- The 1995 General Assembly in Hawai was the most successful ever (700 registrants), despite the context (separation from the IUGG 21st General Assembly). The General Assembly in Melbourne (1997), with IAMAS, was a success too. Next General Assembly will be held in Mar del Plata (Argentina) in 2001.
- Interdisciplinary activities have been encouraged.
- Marine chemistry is to be revived (bridging across IAPSO and IABO).
- C. Munk received the Kyoto prize, which is very prestigious.

V Shannon extends special thanks to P. Wyllie for his openness, which eased the process of "reintegrating" IUGG.

17. Reports on significant Union activities

a. Report on "Megacities Council"
U. Shamir gives an overview. It should interest and involve all the Associations!
The project aims at studying and mitigating risks of hazards (earthquakes, volcanic eruptions, landslides, tsunamis, atmospheric and/or water pollution, electromagnetic storms, droughts, floods, snowstorms, sea level change, etc) for megacities and their impact on sustainability. U. Shamir convened symposium U4, which took place the day before; 4 papers were presented: Introductory lecture by Keilis-Borok, followed by papers by G. Heiken (on volcanoes), E. Plate (on typhoons), Yun-Tai Chen (on earthquake mitigation in China). The EMI (Earthquake and Megacity Initiative) project was initiated by the International Lithosphere Program (ILP) of ICSU, and IUGG, IUGS and IGU. It was supported by UNESCO, SSP in China and the Philippines. The twin cities project aims at fostering collaboration between, for instance one town hit (experienced) and one to be helped in mitigation planning. Several cities are already making plans, sometimes in "trio":

  • Kobe/Manilla / Beijing (?), with exchanges of M.O.U. at governmental level,
  • Los Angeles/Mexico,

- Bogota/Managua,
- Naples/Cairo,
- Tehran/Erevan.

IAVCEI has made a proposal to focus the Earth Sciences on urban issues. IUGG "Decade Nations" could nominate an urban center as a "Decade City". This proposal emphasises commonality in the issues addressed with different natural hazards: volcanoes, earthquakes, tsunamis, storm surges, hurricanes, ….

All Associations are going to take part in this.
A meeting will be convened in the second week of the General Assembly to decide on how to proceed.

b. Report from the Committee for Developing Countries (CDC) S. Uyeda comments on his report which appears in the agenda book on pages 73-77. The conclusion is that it is recommended to disband the committee. No Council Member objects. USA asks to what extent the Local Organising Committee tracks the activities with the Developing Countries. How is it publicised? S. Uyeda replies that not much exists apart from what is written and collected in the report. Nigeria stresses that from the CDC report, it looks as if the way it has been approached does not help the Developing Countries for what they need. IUGG does not give attention to the Developing Countries; we have been repeating for long about the need within IUGG to have a body stirring the enthusiasm of the Developing Countries to make them feel that they are totally belonging to IUGG. H. Moritz comments that it is difficult to find additional sources of funding for young scientists from Developing Countries. The creation of an association of friends of IUGG could generate some support to the Developing Countries. S. Gregersen fully agrees with Nigeria that the Union should support activities coming from the Developing Countries. P. Wyllie points out that a significant part of the budget is channelled to the Associations for helping the Developing Countries. G. Balmino recalls that we just adopted the proposal for the creation of Associate Members which is a partial answer to the concern of Nigeria. USA says that it would be good for IUGG to be visibly involved in the support of new Developing Countries. A. Ashour announces that the report of the Finance Committee to be presented in a moment touches on the aspect of many points concerning Developing Countries. Algeria notes the absence of a number of Developing Countries at the Council. The registration fees were extremely high for scientists from Algeria. This prevented many countries from coming to the Council meeting. Therefore we are losing the opportunities from people of Developing Countries to have contacts in order to develop projects (for instance with France, Canada, USA). Similarly, just a few participants will attend in Japan and as a result, projects in Developing Countries will not be encouraged. P. Wyllie thinks that it is a very valid point but the answer is not known about Japan. Algeria adds that there is a problem in the timely channelling of the information and also of grant money at the time of the General Assemblies. H. Moritz agrees with this point of view. In the past, this was simplified since IUGG used to waive the fees for people having received a grant from IUGG. R. List gives the example of the grants handed out by IAMAS. All the fees were covered by IAMAS. If one extrapolates, the fees of about 450 registrants have been paid by the Union. The origin of the funds has been: IUGG, IAMAS, the Government of Canada and the University of Toronto. One must realise that costs of secretariat and management are never charged, which actually maximises the funds going to Developing Countries. One should expel the idea that Associations are not doing the most for Developing Countries, which is supported by J. Rodda (IAHS funded 60-80 people). V. Shannon informs that IAPSO saved money on publication expenses (by extensive use of the Internet); this money was plowed back toward supporting Developing Countries. USA says that this global effort of the Associations must be highly publicised. U. Shamir considers that beyond the financial support, one should attempt at promoting the work of young people; more may be done. UK and G. Balmino roughly evaluate the part of the budget dedicated to Developing Countries at this General Assembly to be around £ 240K, which is about 25% of the total budget (answer to a question by France). Zimbabwe regrets the limitations set on the modifications proposed for the Associates and Observers with respect to the initial proposal (cf. item 10.f). P. Wyllie says that it is a first and positive step Egypt would like to see more co-ordination and improved organisation of the support to Developing Countries. Funding seems to always go to the same people which means that we are in a stagnant process. P. Wyllie agrees with the statement but part of the solution is in ensuring better communication from the National Committee to the scientists in a country. Nigeria says that he takes note of the amount of support to Developing Countries but local bodies should be better informed about this help, given the very small number of Developing Countries delegates present at Council. Russia complains that some grant allocations were announced as late as 3 weeks before this General Assembly, which was way too late in terms of travel plans and especially visas.

Report on Alliance for Capacity Transfer (ACT)

R. List recalls that this an action to integrate atmospheric and fluid-related activities through an alliance between WMO, IUGG, NMHS (National Meteorological and Hydrological Services) and university departments and research institutions in atmospheric sciences (cf. agenda book, pages 105-107). It consists mainly of free exchange of information, knowledge, technical know-how, software, etc on the Internet. A circular was sent out to all National Committees. He regrets that up to three weeks ago, he had not received a single answer from any of the Developing

Countries, whereas 30 K$ are available to start the project and especially help some countries getting on the Internet. Zimbabwe replies that they did not see this proposal. He wishes to get it and is eager to respond.

V. Shannon strongly supports this initiative, saying that it carries a positive vision and enthusiasm, but requires action; we must pursue along this line. R. Duce adds this is indeed a tremendous way to bring together contributions from different countries. We really want to have Developing Countries being part of this process. Portugal states that this information should be passed to the chairman of the group in charge with Developing Countries in Portugal.

G. Balmino recalls that the National Committees and correspondents of Associations are reached at the addresses which they provide yearly; it is important to be informed immediately of any change; P. Wyllie congratulates R. List for his undertaking and efforts.

20. Finances and budget (Finance Committee report)

This item has been moved upward in the agenda at the request of the Finance Committee since items 18 and 19 deal with matters which are going to be presented in the Finance Committee report. A. Ashour reads the Finance Committee report. Some Associations were late at producing their financial report; it is recommended that each Association set up an audit procedure and report every 4 years. On the other hand, he asks that the Finance Committee President participates in all Executive Committee meetings, either formal or informal, without voting rights and puts it as a motion. The motion is seconded by USA and Germany. Denmark is against the motion and states it is an abuse of power. F. Spilhaus, in the name of the Finance Committee, comments that this would allow for modifications of the budget in the course of a period; he feels that the present situation may be a limitation to the evolution and the achievement of some goals. Denmark replies that only in very extreme cases should the budget be modified. A. Ashour and G. Balmino agree that the motion could be changed into an invitation of the Finance Committee President to attend an Executive Committee meeting when needed. P. Wyllie says the Executive Committee apologises for some lack of communication with the Finance Committee in some occasions during the last period. However, he thinks that it is better to keep the two bodies separate, as stipulated in the statutes and bylaws, with independent checks and balances. Additional expenses would be incurred by having the Finance Committee attending the Executive Committee; presently, it is the Treasurer who must make the liaison and carry the information. A. Ashour points out that it is for the benefit of the Union that the motion is made. U. Shamir recommends that a continuous consultation between the Finance Committee and the Executive Committee be insured. He recalls that in the last period no critical events occurred and that no significant change in the modus operandi is requested. A. Ashour objects that two operations with financial implications went wrong in the last 4 years. S. Gregersen apologises for an operation where the appreciation was different between the Treasurer and the Finance Committee. G. Balmino points out that by-laws have to be modified if an additional member attends the Executive Committee in a permanent fashion. V. Shannon is not in favour of the motion. A. Ashour declares that he withdraws the motion and will revise it for the next Council meeting.

Then the various points in the report are discussed.

1. **Surcharge**: the Finance Committee proposes to continue applying a surcharge on the General Assembly registration fees, of 20 $ per participant, to go to the Association of affiliation of the registrant or to the Union in case of undesignated payment.
   V. Shannon is in favour of a surcharge of 30 $ (supported by Korea) to be channelled to the support of developing countries. Robert Duce supports it. C. Tscherning is against it. It is the job of the Associations to decide what to do with it. A. Ashour informs the meeting that the Finance Committee will consider their comments when drawing up the budget.
2. **Inter-Association science budget**:
   The proposal of the Finance Committee to allocate money to CMG and SEDI via the Associations is discussed. K. Lambeck (SEDI chairman) is in favour of identifying clearly this part of the budget, whereas C. Tscherning is of the Finance Committee opinion. U. Shamir thinks that clarification is needed on whether it is an amount of money set aside or at the disposal of the Associations. Is it a different way of supporting these activities? F. Spilhaus considers that the Union money should have a different paintbrush. G. Balmino thinks that Inter-association science budget should be settled by the Executive Committee. G. Balmino finally asks about decision on funding the activities of the two inter-Union bodies FAGS, ICL (SCL). S. Gregersen answers that one will continue to have identified budget items for these two bodies.
3. **Grants allocation**:
   The Finance Committee recommends that grants may be given to any individual without regard to the status of his country with respect to IUGG. The Associations' Secretaries General comment that this has already been the case in many instances (e.g., for this General Assembly). F. Spilhaus agrees but says that the intention of the Finance Committee is to make it the current policy of the Union. It is put as a motion seconded by USA and Germany. G. Balmino thinks that this motion may be useful. After some discussion on the emphasis to be put on the recommendation with respect to the present (non-official) IUGG policy, A. Ashour proposes an amendment. The text put to vote is: "The Finance Committee recommends that Council resolve that grants for participation in IUGG activities may be given to any scientist without regard to the membership

status of his or her country, which is consistent with current IUGG policy". The result of the vote is: 22 yes, 8 abstentions.

4. **Creation of a budgetary line for Developing Countries**:
The Finance Committee proposes to create a budget of approximately $ 32K/year for inter-Association projects that are new initiatives and that involve Developing Countries, and proposals to use these funds would be evaluated by a new committee. A discussion takes place, mostly among the Association Secretaries General, which reveals disagreement with the Finance Committee proposal. In particular, the work of the CDC (which has just been disbanded) concluded that the Associations are taking care of the Developing Countries in a very satisfactory fashion. If additional funds become available, the Associations will know how to make an optimal use of them for Developing Countries.

5. **Membership status of some countries**:
G. Balmino asks for clarification about the lists, provided by the Finance Committee, of countries in Observer status and of countries supposed to have withdrawn from membership. He takes the example of Vietnam (assumed by the Finance Committee to have withdrawn), for which the last year of payment was 1994, and of Tunisia, which is 8 years in arrears (assumed by the Finance Committee to have withdrawn). S. Gregersen answers that the lists are based on information immediately available in Birmingham, which will have to be checked before finalising the status of these countries. Vietnam points out that they are taking steps for paying their arrears before the end of this year (the Council applauds). S. Gregersen considers that this statement is equivalent to a request for extension of their Observer status (cf. statute 14.c, d). Following the above discussions, delegates from some countries express their discontent about the way Developing Countries are treated.
Nigeria thinks that Developing Countries are about to stay away from IUGG, which is becoming more and more in favour of the rich countries. Portugal declares that the report from the Finance Committee is unacceptable and against Developing Countries. A. Ashour, although he sympathises with the views of the Developing Countries, answers that the duty of the Finance Committee is to watch what is happening to the finances of the Union and that their recommendations are not directed against any country in particular. P. Wyllie and H. Moritz consider that the Union is indeed doing its best to reach out to the Developing Countries: creation of Associate Members, grants to scientists from non member countries, very significant support to Developing Country scientists at this General Assembly. P. Wyllie notes that the Executive Committee proposed the new system of Associate Members, but the Council voted that they should not attend Council meetings.

18. Countries in arrears of payment of their contribution

S. Gregersen mentions that 22 countries are in arrears of payment and that this is too many. The creation of the Associate membership is recalled. Zimbabwe asks how one goes back from Associate status to full membership. G. Balmino answers that this is clearly explained in the newly passed statutes (statute 13b).

19. Review of categories of Member Countries (By-Law 11.g)

The Finance Committee has analysed the current categories of all member countries; an index has been established based on country national income and scientist attendance of General Assemblies, as explained in the Finance Committee report. As a consequence, recommendations are being made to some countries to increase their category of membership. F. Spilhaus recognises that countries such as USA, Japan, Germany should move upwards in their contribution, given their national economies. Other countries such as Brazil could also move up given their scientific development.

C. Froidevaux encourages the Finance Committee to consider creating categories beyond 12. The 15 countries of the European Community form an economic and scientific entity probably of similar weight as the USA. However the financial contribution of the USA to IUGG is 3 times less than that paid by the group of the EC countries. New categories 13 and up should make it possible to correct this discrepancy. The proposal to create new Categories 13 and up was not supported, and the discussion included the following points: that the European member countries had more votes than USA, 15 to 1, despite the difference of only 3 to 1 in financial contribution; that the Finance Committee was constantly exploring the topic of appropriate levels of dues for all member countries; and that given the current financial climate in all governments, this was a bad time to ask any country for significant increase in subscriptions with the potential to generate reductions rather than increases.

In response to a question, F. Spilhaus answers that countries could move down a category. M. Hamlin mentions that the possible lowering of category of some countries would be generally by one step. Korea declares that they already have problems to pay their membership fee in category 2 and that it is impossible to go to category 3. France asks who decides on the Unit value. S. Gregersen replies that the Unit is fixed by the Council on the basis of a recommendation from the Finance Committee. Netherlands asks if this new category estimate is to be applied and accordingly invoices with new categories sent to countries. G. Balmino answers that this is only a proposal which will be made to the relevant countries. The invoice will correspond to the present category if the country does not follow this recommendation.

Meeting is adjourned at 4.30 p.m..

MINUTES OF THE THIRD IUGG COUNCIL

22nd G.A., Birmingham (UK), July 18-30, 1999

Date: Thursday July 29, 9:30 am

Place: Senate Room (Aston Webb Building)

Participants:

- National Delegates at Council

Algeria	A.K. Yelles-Chaouche
Belgium	B. Ducarme
Brazil	D. Blitzkow
China	Chen Yun-Tai
Czech Republic	V. Cermark
Denmark	A. Hansen
Egypt	A. A. Ashour
Finland	J. Kakkuri
France	R. Schlich
Germany	E. Grafarend
Hungary	J. Adam
Iceland	A. Snorrason
India	R. N. Singh
Ireland	A. W. B. Jacob
Italy	F. Mariani
Japan	S. Aramaki
Luxembourg	N. D'Oreye
Ex-Yugoslavian Rep. of Macedonia	V. Mihailov
Netherlands	C. Van den Akker
New Zealand	D. Rhoades
Nigeria	O. Coker
Norway	T.A. Blix
Poland	L. W. Baran
Portugal	L. Mendes- Victor
Romania	C. S. Sava
Russia	G. Sobolev
Slovac Republic	P. Moczo
South Africa	C. L. Merry
Sweden	O. Kulhanek
Switzerland	H. C. Davies
Taipei	Yih-Hsiung Yeh
Thailand	T. Thambumroong
United Kingdom	M. Hamlin
United States	C. Mooers
Vietnam	N.T.K. Thoa
Zimbabwe	F. Podmore

[italics for countries with observer status]

- Executive Committee
- Finance Committee

Opening at 9.30 a.m. by P. Wyllie, President of IUGG.

G. Balmino had appointed beforehand two scrutineers for the Council meetings; only one of them could attend the 3.rd Council: J. Adam, delegate of Hungary. G. Balmino took over the post of second scrutineer.

Presentation of the Credentials
Number of delegates:
26 National Delegates are present at the opening, 23 are eligible to vote. The total number of member countries eligible to vote is 52 (75 minus 23 in Observer status). The quorum (=17) is reached. Other national delegates will arrive in the course of the meeting, their number amounting to 36, of which 4 are in Observer status.

21. Changes of Statutes and By-Laws in some Associations

Editing and amendments of the statutes and by-laws of some Associations have been made. G. Balmino reports on those which are finalised. He met with the officers of IAGA and IAMAS during the General Assembly in order to check the coherence of the newly modified texts with the Union rules – taking into account of the changes adopted at the first Council meeting, especially the articles related to the Associate Members and the holding of officer positions in the Associations (see Annex). Other Associations, such as IAHS and IAPSO, are preparing some changes but they have not yet been finalised and will need approval by their respective Executive Committees. In any event, and as specified by Union statute 10, the Union rules always prevail.

The modifications in the IAGA and IAMAS statutes and by-laws are accepted unanimously by the Council.

22. Review of the list of inter-Union and inter-Association Commissions and Committees

G. Balmino informs the Council that good reports were presented at the 2nd Exec. Com. meeting on the works of the following bodies:

- Inter-Union Scientific Committee [previously called the International Commission] on the Lithosphere (SCL) of the International Lithosphere Programme (ILP);
- Inter-Association Committee on Mathematical Geophysics (CMG) – actually his chairman could not make his presentation to the Exec.Com., but his report appears in the agenda book;
- Inter-Association Committee on the Study of the Earth Deep Interior (SEDI);
- Joint IASPEI-IAVCEI-IAPSO Tsunami Commission.

The Exec. Com. concluded that these activities should be pursued and supported. K. P. Schwarz however comments that CMG still looks like a small group of scientists entertaining activity between them but not very effective at bridging across the Associations. H. Moritz says that this is an old discussion which is indeed due to lack of communication between CMG and the Associations, though the work of CMG is outstanding and duly

recognised by the Exec. Com. SCL/ILP will elect new officers in 2000. The other committees/commissions have already elected their new officers for the next period.

23. Relations with ICSU (projects financed) and ICSU Scientific and Special Committees (renewal of liaison officers):

The financial support to IUGG activities by ICSU over the elapsed period has been indicated in the Secretary General's report (cf. agenda book, pp. 115-125 and 126-137).

For the renewal and appointment of liaison officers for the coming period, G. Balmino presents a table (see Annex) with names of proposed Scientists for representing IUGG on the following committees and programmes:

a. FAGS (Federation of Astronomical and Geophysical data analysis Services)

b. SCL (Scientific Committee on the Lithosphere)

c. COSPAR (Committee on Space Research)

d. SCOWAR (Scientific Committee on Water Research): the committee is actually replaced by a new one; IAHS will appoint a liaison person

e. SCAR (Scientific Committee on Antarctic Research)

f. SCOPE (Scientific Committee on Problems of the Environment)

g. SCOR (Scientific Committee on Oceanic Research)

h. SCOSTEP (Scientific Committee on Solar-Terrestrial Physics)

i. IGBP (International Geosphere-Biosphere Programme)

j. WCRP (World Climate Research Programme)

There is no objection to any of the proposed liaison person names. Egypt asks for an additional liaison officer with COSTED/IBN (Committee on Science and Technology in Developing countries, merged with the International Biological Network in 1993); V. Gaur is appointed representative on this committee.

24. Relations with inter-governmental and other organisations (renewal of liaison officers)

G. Balmino presents the proposals for 1999-2003 for the following organisations (see table in Annex):

a. UNESCO: IAHS and IAPSO will appoint two additional representatives, one for hydrology, and one for relationships with IOC (International Oceanographic Commission), respectively.

b. Cartographic Office of the United Nations.

c. WMO (World Meteorological Organisation).

d. IPGH (Instituto Panamericano de Geografia e Historia): the post of liaison person at Union level is abolished following the report and conclusions by W. Torge; IAG will appoint someone to represent them.

e. IOCA (International Organisation of Civil Aviation). The Council does not object to any of the proposed names.

25. IUGG Publications

- **The Year-Book**
  G. Balmino reminds the Delegates of the importance to provide timely and accurate information each year (in the fall) to the Secretary General.
- **The Union page on Internet**
  G. Balmino thanks P. Pinet for having contributed the home page over the last period (the practical work was done by an engineer from the French Space Agency, CNES). The contents will be transferred to the site of the new Secretary General, in Boulder, sometime in the fall.
- Contract with AGU for the publication of the Birmingham Union Symposia. G. Balmino informs the Council of the renewal and update of the agreement, and that AGU has been since in close contact with the convenors of these symposia for ensuring proper publication of most papers presented. He thanks AGU and F. Spilhaus for this arrangement and for their help, which save a lot of work to IUGG.

26.Report from working group on Union goals

Such a working group was not created (cf. agenda item 13 - minutes of the first Council meeting). This point is therefore dropped from the agenda.

26bis. Presentation and adoption of the budget for 1999-2003

A. Ashour recalls that the Finance Committee has the responsibility for the budget of the Union. The previous proposal (presented at the second Council meeting) was withdrawn. The new proposal, to be discussed to-day, was distributed the day before (see Annex). A. Ashour moves the adoption of the budget; it is seconded by USA. Before voting on it, the question of the amount of the surcharge on registration fees at future General Assemblies, proposed to be reduced from 30 $ to 20 $, is discussed. A. Ashour says that the Finance Committee rationale for proposing it is that, in keeping the surcharge as low as possible, we would help keeping the fees low (which has been a worry for many participants to this General Assembly). V. Shannon does not agree on the proposal; he thinks that countries in need would benefit from this surcharge paid by the full spectrum of participants. B. Duce adds that, in this General Assembly, a significant amount of money was used for Developing Countries based on the 30 $ surcharge; if it is reduced, it means a reduction of 1/3. France makes the proposal that the surcharge be a fixed percentage of the registration fees. This is not seconded. South Africa thought that the 30 $ surcharge had been agreed at last Council meeting. P.

Wyllie answers that, like other parts of the Finance Committee report and proposal, it had not been decided but left to the Finance Committee when drawing up the budget. M. Hamlin points out, with respect to the request (which was turned down) of the Finance Committee at the previous meeting, how good it would have been to have the Finance Committee President at the Exec. Com. meeting to ease the debate. USA proposes that the following amendment to the budget proposal be put to a motion: "The surcharge will remain 30 $" – i.e. the same amount as at this General Assembly. It is seconded by Portugal and Romania. Egypt is against the trend of increase (we already went from 20 to 30; next time someone might propose a new increase from 30 to 40!). Nigeria is also not in favour of this amendment, he believes that what is needed is to have more Developing Countries at the Council, especially Delegates from Africa so as to discuss common problems and projects. Voting proceeds. Each ballot is to be weighted by the category of membership of the Delegate country since it is a financial matter. The result of the vote is: 76 in favour of 30 $, 27 against (i.e., 20 $), 18 Abstain. The surcharge will therefore remain at 30 $.

Then item 17 of the proposed budget is discussed. Item 17.2 does not pose a problem. P. Wyllie reports on the opinion of the Executive Committee on item 17.1, expressed at the meeting on the previous day. The intention is good but the proposal aiming to support undefined projects in Developing Countries is too loose. Associations have put a lot of effort on this and feel they would be more effective at using extra money if available. It is also considered that it is a matter of scientific policy, which is the prerogative of the Executive Committee. Portugal wonders if there is really a need for more earmarked money, aside from the Associations' budget, to improve on support and scientific decisions in favour of Developing Countries. G. Balmino points out the conclusions of S. Uyeda's report on CDC (agenda book, p. 73-77). The support by the Associations has been at a quite high level over the last period, ranging from 12-15 K$ to 30 K$ or more per Association and per year, which demonstrates that they have a good mechanism for interacting with Developing Countries. R. Duce comments that IAMAS has indeed spent 25 K$/year for Developing Countries and that 25-30 % of participants attending this General Assembly under IAMAS were supported by funds from IAMAS; it is very significant. USA understands that the Finance Committee proposal is for challenging the Exec. Com. to be more creative with Developing Countries.

M. Hamlin recalls the historical background for such a proposal and proposes to distinguish between the budgetary line 17.1 – which means more money for the Associations, and the text on page 2 of the Finance Committee proposal which reflects only thoughts of the Committee. With this understanding, P. Wyllie then calls for the vote on the motion for adoption of the budget with the amendment passed before. Romania declares that he is very impressed by the attention given to countries in need. The Council applauds. Voting proceeds, with each ballot being weighted by the category of membership. The result is: 121 Yes, 0 no, 0 abstentions. The budget is adopted unanimously.

27. Presentation and adoption of Resolutions

The texts of the resolutions, in English and in French, are distributed. U. Shamir comments on the way the work has been carried out by the Resolutions Committee; he gives an overview and then goes through the resolutions one by one, highlighting the essence of each one. Some modifications are proposed, discussed. Those accepted are immediately incorporated (they will be translated into French in the afternoon).

There is a discussion on whether to keep or drop resolution number 6: "Invitation of a General Assembly". Egypt does not think this resolution is necessary; it is an internal affair to be dealt with by the Council. G. Balmino recalls the text adopted by the Council at its last meeting in Boulder (for cases where the inviting country does not take full financial responsibility), and the memorandum established by the Executive Committee in 1997 (cf. agenda book p.54) and says this resolution is a way to have everything in a single document which is easy to refer to. Some changes in wording are proposed, and accepted without formal amendment.
U. Shamir asks for a vote about keeping this resolution. The result is: 15 in favour, 6 against, 7 abstain. The resolution is kept.

All resolutions will be read at the closing ceremony: in English by J-A Joselyn, incoming Secretary General of IUGG, and in French by G. Balmino, outgoing Secretary General.

The meeting is adjourned at 1:30 p.m.

LIST OF LECTURES AND SYMPOSIA HELD AT THE 22ND GENERAL ASSEMBLY OF THE INTERNATIONAL UNION OF GEODESY AND GEOPHYSICS

UNION LECTURES

UL1 Mars and the search for life elsewhere (Edward Stone, USA)
UL2 The State of the Mantle - Reconciling Structure and Processes (Brian Kennett, Australia)
UL3 Volcanic Hazards, Cities, and Public Awareness (Franco Barberi, Italy)
UL4 Variability of Weather and Climate (Brian Hoskins, UK)

UNION SYMPOSIA

U2 Global Change and Predictability
U3 Earth System Models and Earth System Predictability
U4 Megacities and Geophysics
U5 Geophysical Hazards and Risks: Predictability, Mitigation and Warning Systems
U6 Volcanism - Mechanisms and Consequences
U7 Integrated Global Monitoring Networks
U8 Geophysical Aspects of the Comprehensive Test Ban Treaty

INTER-ASSOCIATION SYMPOSIA AND WORKSHOPS

JSM01 Middle atmosphere dynamics and chemistry (IAMAS, IAGA, SCOSTEP)
JSS02 Physics and Chemistry of the Earth's Interior (IASPEI, IAVCEI, IAG, SEDI)
JSM03 Electrical Discharges in the Middle Atmosphere (IAMAS, IAGA)
JSM04 High-Latitude Surface/Atmosphere Interaction (IAMAS, IAPSO, IAHS)
JSP05 Data Assimilation in Meteorology and Oceanography (IAPSO, IAMAS)
JSA06 Space Weather Forecasting and Effects (IAGA, IAMAS, SCOSTEP)
JSS07 Anisotropy: From Mountain Building to Geodynamo (IASPEI, IAGA, IAVCEI, SEDI)
JWM08 Orographic Precipitation: Observations, Processes and Modelling, with Future Plans (IAMAS, IAHS)
JSA09 Polar Geophysics (IAGA, IAVCEI, IASPEI, IAG, IAPSO, IAHS, SCOSTEP)
JSA10 Planetary Exploration (IAGA, IAG, IASPEI, IAVCEI, IAMAS, IAHS, SCOSTEP)
JSG11 Sea-Level Changes and Vertical Ground Movements (IAG, IAPSO, IASPEI, IAHS, ILP)
JSH12 Ice Sheets, Oceans and the Earth's Shape: Modern Perspectives on Sea Level Change (IAHS, IASPEI, IAG, IAPSO, IAMAS, CMG)
JSS13 Constraints on Global Mantle Circulation (IASPEI, IAGA, IAVCEI, SEDI)
JSG14 Insights into Earth System Science: Variations in the Earth's Rotation and its Gravitational Field (IAG, IAPSO, IAMAS, IASPEI, IAGA, IAHS)
JSA15 Electromagnetic Methods For Monitoring Earthquakes and Volcanic Eruptions (IAGA, IASPEI, IAVCEI)
JSA16 Solar Variability and Climate (IAGA, IAMAS, SCOSTEP)
JSA17 Mantle-Core Structure, Properties, Coupling, and the Geodynamo (IAGA, IASPEI, IAVCEI, SEDI)
JSM18 Atmospheric and Oceanic Connections between the Polar Regions and Lower Latitudes (IAMAS, IAPSO)
JSA19 Geophysical Measurements Relevant to Hydrogeological Processes and Modelling (IAGA, IAHS, IASPEI, IAH)
JSA20 Mesosphere-thermosphere-ionosphere coupling and energetics (IAGA, IAMAS, SCOSTEP)
JSP21 Sources and Sinks of Environmentally Important Substances (Excluding CO2) (IAPSO, IAMAS, IAHS, IABO)
JSV22 Oceanic, Continental and Continental Margin Volcanic Provinces: Oceanic Plateaus, Flood Basalts and Seaward-Dipping Reflectors (IAVCEI, IASPEI, IAGA, ILP) Symposium Dedicated to the Memory of Keith Cox
JSP23 Geophysical Hazards and Risks: Predictability, Mitigation and Warning Systems (IAPSO, IASPEI, IAVCEI, IAHS, IAMAS, IAG, IAGA, IUGG Tsunami Commission, ILP) Symposium Dedicated to the Memory of Mohammed El-Sabh
JSM24 Water Fluxes and Water Availability over Continental Regions (IAMAS, IAHS)
JSP25 Ocean/Atmosphere Variability and Predictability (IAPSO, IAMAS, IAG)
JSM26 Chemistry and Transport in the Upper Troposphere and Lower Stratosphere (IAMAS, IAVCEI)
JSA27 High-resolution Geophysical Studies of Mineralized Zones (IAGA, IASPEI)

JSG28 Probing the Atmosphere by GPS (IAG, IAMAS)
JSV29 Magma physics versus volcano physics (IAVCEI, IASPEI)
JSV30 Arc Magmatic Rocks as Building Blocks for the Continents (IAVCEI, IASPEI, ILP)
JSS31 Geodetic Constraints on Tectonic Models (IASPEI, IAG)
JSM32 Small-scale and layered phenomena around the summer mesopause (IAMAS, IAGA)
JWS33 New Approaches to Data Collection, Data Processing and Data Dissemination (IASPEI, IAGA, IAHS, IAG, IAPSO, SCOSTEP)
JWA34 Long Term Ocean Bottom Geophysical Observatories (IAGA, IASPEI)
JSA35 Middle atmosphere electrodynamics: influences and processes (IAGA, IAMAS, SCOSTEP)
JSV36 Understanding Volcanoes by Geodesy, Seismology, Electromagnetics and Geochemistry (IAVCEI, IAGA, IASPEI, IAG, IAMAS, ILP)
JSA37 Earth's Gravity and Magnetic Fields From Space (IAGA, IAG, IASPEI, SCOSTEP)
JSP39 Dynamics of Rotating and Stratified Fluids (IAPSO, IAMAS, IAGA)
JSA40 Solid Earth Geophysical Data Fusion and Analysis Methods (IAGA, IASPEI, IAG)
JSM41 The Contribution of Satellite Observations to Global Climate, Ocean, and Terrestrial Monitoring (IAMAS, IAPSO, IAG, IASPEI, IAVCEI, IAHS)
JSS42 Tsunami Observations, Modelling and Hazard Reduction (IASPEI, IAPSO, IAVCEI, IUGG Tsunami Commission)
JSM43 Boundary-Layers over Complex Terrain and Heterogeneous Surfaces (IAMAS, IAHS)
JSS44 Structure of the Continental Lithosphere from Integrated Geophysical, Geological and Geochemical Studies (IASPEI, IAVCEI, IAGA, IAMAS, ILP)
JSA45 Effects of Solar Variability, Solar Wind and High Energy Particles on the Middle Atmosphere (IAGA, IAMAS, SCOSTEP)
JSS46 Seismic Tomography on Volcanoes and Volcanic Fields (IASPEI, IAVCEI)
JSV47 Volcano Seismology (IAVCEI, IASPEI)
JSA48 Characterization of the Lithosphere-Asthenosphere Boundary (IAGA, IAVCEI, IAPEI, ILP)
JSP49 Small-Scale Flow, Turbulence, and Mixing (IAPSO, IAMAS, IAVCEI)

ASSOCIATION SYMPOSIA AND WORKSHOP

International Association of Volcanology and Chemistry of the Earth's Interior (IAVCEI)

VS2 Magma Fragmentation and Explosive Eruptive Flows
VS3 Environmental Forcing of Volcanic Eruptions

International Association for the Physical Sciences of the Ocean (IAPSO)

P07 Stable Isotopes and Trace Substances: their use in Oceanography and Climate Research on various Timescales
P08 Biogeochemical constraints in the ocean – controls, modelling and prediction
P09 Estuarine Processes (Joint IAPSO/IABO)
P10 Coastal and Shelf Processes (Joint IAPSO/IABO)
P11 Closed, Semi-enclosed and Marginal Seas Physical, Chemical and Biological Properties (Joint IAPSO/IABO)
P12 Global Water Mass Analysis
P13 Dynamics of sea Ice and Ocean in Polar Seas
P14 Hydraulic Control and Entrainment in Straits, Sill Flows, and Density Currents
P15 Optical Oceanography & UV Radiation (co-sponsored by IOP and EOS)
P16 Recent Improvements to deep-sea research though use of submersibles, acoustic tomography and in-situ long term observations
PW1 Oceanographic Processes in the Coastal Seas around Developing Countries

International Association of Seismology and Physics of the Earth's Interior (IASPEI)

ST1 The Nature of Seismic Sources and the Prediction of Earthquakes
ST2 Seismotectonics

ST3 Strong Ground Motion, Earthquake Hazard and Risk (Linked to U4, U5, JSP23 and JSS42)
ST4 Earth Structure and Geodynamics (Linked to UL2, JSS07, JSS13, JSA17, JSS44 and JSA48)
ST5 Seismological Observation and Interpretation (Linked to U7, U8, JWA34 and JSA40
ST6 Physics and Chemistry of Earth Materials (Linked to JSS02)
ST7 Education and Outreach in the 21st Century (Linked to UL3 and U1)
SW1 New Systematic Approaches in Seismic Hazard and Earthquake Prediction Research

International Association of Meteorology and Atmospheric Sciences (IAMAS)

MI01 Atmospheric chemistry - climate interaction, Pt. I. Aerosols, clouds and climate (ICACGP)
MI02 Atmospheric chemistry - climate interaction, Pt. II: Trace gases, aerosols and climate (ICACGP, IRC, ICCL, ICDM)
MI03 Thunderstorm Charge and Discharge Processes (ICAE, ICCP)
MI04 Clouds - their dynamics, physics and parameterization (ICDM, ICCP, IRC)
MI05 Weather systems - their structure, organisation and interactions (ICDM, ICCP, ICCL)
MI06 Remote Sensing of the Atmosphere for Weather Forecasting and Climate Applications (ICDM, ICCL, IRC)
MI07 Atmospheric synergies and their numerical separation (IAMAS)
MI08 Radiation and clouds in polar regions (IRC, ICCP, ICPM)
MI09 Radiative properties and remote sensing of aerosols (IRC, ICACGP)
MI10 Cloud Fields - Measurement, Simulation and Parameterization
MI11 Non-linear Dynamics and Climate Prediction
MI12 Sources of variability in the middle atmosphere (ICMA, SCOSTEP)
MC01 Improvements and intercomparisons of climate system models and their component models (ICCL)
MC02 Detection and attribution of climate change (ICCL)
MC03 Sudden climate change (ICCL)
MC04 Quantitative precipitation forecasting (ICCP)
MC05 Land-falling tropical cyclones (ICCP)
MC06 Symposium on the quasi-biennial oscillation (QBO) and internal gravity waves
MC07 Radiative forcing and climate change (IRC, ICACGP)
MC08 Radiative effects of water vapor in climate models (IRC, ICCL)
MC09 Planetary atmospheres and their evolution (ICPAE)
MC10 Subtropical Anticyclone Dynamics (ICDM)
MC11 On the Use of Coupled Models for Practical Paleoclimate Studies
MW01 Intercomparison of Troposphere-Stratosphere GCMs (ICMA, SPARC)
MW02 On the Use of Global Datasets to Validate and Improve Atmospheric Processes in Climate Models (IAMAS)
MW03 Development of high resolution climate models (ICCL)
MW04 Tidal simulation in global models (ICMA)
MW05 Radiative processes in the mesosphere and lower thermosphere (ICMA, IRC)
MW06 Low frequency dynamics in the mid-high latitudes (ICMA)
MW07 Gravity wave sources and parameterization (ICMA, SCOSTEP/ PSMOS+EPIC, SPARC)
MW08 Quasi-decadal oscillation (ICMA, SCOSTEP)

International Association of Hydrological Sciences (IAHS)

HS1 Hydrological Extremes: Understanding, Predicting, Mitigating (ICWRS, ICSW; collaborating Association: IAMAS)
HS2 Interactions between the Cryosphere, Climate and Greenhouse Gases (ICSI with involvement of ICT, ICWQ; IAMAS)
HS3 Impact of land-use change on nutrient loads from diffuse sources (ICWQ, ICCE, ICASVR)
HS4 Integrated Methods of Catchment Hydrology - Tracer, Remote Sensing and New Hydrometric Techniques (ICT, ICRSDT, ICSW, ICGW, ICSI, ICWQ)
HS5 Impacts of Urban Growth on Surface and Groundwater Quality (ICGW, ICWQ, ICSW, ICCE, IAH, IAWQ)
HW1 Global Data Bases (ICASVR, ICWQ, ICSW, ICCE, WMO, IAHS/WMO Joint Working Group, IGBP-BAHC)

HW2	Hydro-Ecology: Riverine Ecological Response to Changes in Hydrological Regime, Sediment Transport, and Nutrient Loading (ICSW, ICWQ, ICCE, ICASVR)
HW3	Hydrology of Ice-Covered Rivers (ICSI, ICCE)
HW4	Regionalization of Parameters of Hydrological and Atmospheric Landsurface Models (IAHS/WMO Working Group for GEWEX, ICRSDT, IAMAS)
HW5	Interactions between surface and groundwater - quantity and quality (ICGW, ICWQ, ICSW, ICT)

International Association of Geomagnetism and Aeronomy (IAGA)

DIVISION I: Internal Magnetic Fields

GA 1.01	The Geodynamo: Theory, Observations And Models (with Div V)
GA 1.02	Electromagnetic Induction Studies
GA 1.03	Paleomagnetic Field Behavior
GA 1.04	Paleomagnetism: Contributions to Tectonics
GA 1.05	Rock Magnetism: Methods and Approaches in Rock Magnetism (Session A) and Magnetic Properties as Environmental Proxy Parameters (Session B)
GA 1.07	Separation of Internal and External Field Variations
JSA48/GA1.09	Characterization of the Lithosphere-Asthenosphere Boundary
JSS44/GA 1.10	Structure of the Continental Lithosphere from Integrated Geophysical, Geological and Geochemical Studies (with Div V)
JSV36/GA 1.11	Understanding Volcanoes by Geodesy, Seismology, Electromagnetics and Geochemistry (with Div V)
JSA38/GA 1.12	The Signature of Large-Body Impacts on Earth
JSA19/GA 1.13	Geophysical Measurements Relevant to Hydrogeological Processes and Modelling
JSA27/GA 1.14	High-resolution Geophysical Studies of Mineralized Zones
GA 1.15	Magnetostratigraphy and Time Scales from Excursions to Superchrons
JSV22/GA 1.16	Oceanic, Continental and Continental Margin Volcanic Provinces: Oceanic Plateaus, Flood Basalts and Seaward-Dipping Reflectors
JSA15/GA 1.18	Electromagnetic Methods For Monitoring Earthquakes and Volcanic Eruptions
JSA17/GA 1.19	Mantle-Core Structure, Properties, Coupling, and the Geodynamo
JSS13/GA 1.20	Constraints on Global Mantle Circulation
JSS07/GA 1.22	Anisotropy: From Mountain Building to Geodynamo
JSP39/GA 1.23	Dynamics of Rotating and Stratified Fluids
JSG14/GA 1.24	Insights into Earth System Science: Variations in the Earth's Rotation and its Gravitational Field

DIVISION II: Aeronomic Phenomena

GA 2.01	Imaging Riometers, Radars, and D-Region Chemical Models
GA 2.02	Electrodynamic Processes in the Generation of Ionospheric Irregularities (Observations, Theory, Simulations)
GA 2.03	Toward Answering Critical Problems in Ionospheric Research
JSA35/GA 2.04	Middle Atmosphere Electrodynamics: Influences and Processes
JSA20/GA 2.05	Mesosphere-Thermosphere-Ionosphere Coupling and Energetics
JSA45/GA 2.06	Effects of Solar Variability, Solar Wind, and High Energy Particles on the Middle Atmosphere (with Div IV)
GA 2.07	Ionospheric Impact on Magnetospheric-Ionospheric (M-I) Coupling (with Div II and III)
JSM01/GA 2.15	Middle Atmosphere Dynamics and Chemistry
JSM32/GA 2.16	Small-Scale and Layered Phenomena Around the Summer Mesopause
JSM03/GA 2.17	Electrical Discharges in the Middle Atmosphere

DIVISION III: Magnetospheric Phenomena

GA 3.01	Reporter Reviews
GA 3.02	Magnetospheric Substorm Onset: Observation, Theories, Models
GA 3.03	Determination of Polar Cap Boundary: Implications for Magnetospheric Energetics
GA 3.04	Growth, Propagation and Damping of ULF Waves in Magnetospheres
GA 3.05	Acceleration, Transport and Losses in the Inner Magnetosphere
GA 3.06	Aurora Processes: Magnetosphere, Ionosphere-Thermosphere Coupling, Arcs, and Microprocesses (with Div II)

GA 3.07 Foreshock, Bow Shock, Magnetosheath, Magnetopause, Cusp: Structure, Transients and Waves (with Div II, IV)
GA 3.08 Magnetotail Dynamics and Relationship to High-Latitude Ionospheric Phenomena (with Div II)
GA 3.09 Quantitative Tests and Intercomparison of Solar-Terrestrial and Geomagnetic Field Models (with Div II, IV, V)
GA 3.10 The Magnetosphere and Ionosphere under Northward IMF (with Div II)

DIVISION IV: Solar Wind and Interplanetary Field

GA 4.01 Cycle 23 Solar Events and Heliospheric Consequences
GA 4.02 CMEs, Eruptions and Flares: Onsets and Relationships
GA 4.03 Solar Magnetic Field: Reversals, Polar Field, Dynamo
GA 4.04 Energetic Particles in the Heliosphere: Local and Interstellar Sources, Solar Cycle Dependence and 3D Structure
GA 4.05 New insights on Coronal Heating and Solar Wind Acceleration
GA 4.06 Reporter Reviews
JSA16/GA 4.07 Solar Variability and Climate
GA 4.08 Interplanetary Medium and Geophysical Phenomena During Magnetic Storms (with Div. II, III, V)
GA 4.09 Turbulence And Solitary Structures In Space Plasmas: Theory, Experiment And Analysis (with Div III)
GA 4.10 Planetary Atmospheres, Ionospheres, Magnetospheres and Solar Wind Interactions (with Div II, III)
JSA10/GA 4.15 Planetary Exploration

DIVISION V: Geomagnetic Observatories, Surveys and Analyses

GA 5.01 Geomagnetic Observatories and Repeat Surveys: Instrumentation, Practice, and Analysis (with ICDC)
JWA34/GA 5.02 Long Term Ocean Bottom Geophysical Observatories
JSP23/GA 5.03 Geophysical Hazards: Risk Assessment, Mitigation and Warning Systems
JWS33/ GA 5.04 New Approaches to Data Collections, Data Processing and Data Dissemination
JSA06/GA 5.05 Space Weather Forecasting and Effects (with Div III)
GA 5.06 Production and Use of Geomagnetic Indices
JSA37/GA 5.07 Earth's Gravity and Magnetic Field from Space
GA 5.08 Analysis and Interpretation of Oersted and other Satellite Magnetic Field Survey Data (with Div I)
GA 5.09 Near-Earth Magnetic Reference Field Models
JSA09/GA 5.10 Polar Geophysics
GA 5.11 Contribution of Rock Magnetism (Petrophysics) to Anomaly Interpretation (with Div I)
GA 5.12 World Magnetic Anomaly Maps Derived from Marine, Airborne and Satellite Data
JSA40/GA 5.13 Solid-Earth Geophysical Data Fusion and Analysis Methods

Interdivisional Commission on History

GA 6.01 Long and Short Term Variability in Sun's History and Global Change (with Div IV)
GA 6.02 400 Years of Geomagnetism

Interdivisional Commission on Developing Countries

GA 7.01 Equatorial Geomagnetism and Aeronomy in Developing Countries

International Association of Geodesy (IAG)

G1 Positioning (Section 1)
G2 Advanced Space Technology (Section 2)
G3 Determination of the Gravity Field (Section 3)
G4 General Theory and Methodology (Section 4)
G5 Geodynamics (Section 5)
G6 Intersection Symposium: Geodesy beyond 2000 - The challenges of the first decade'

RESOLUTIONS ADOPTED AT THE XXII GENERAL ASSEMBLY BY THE IUGG ASSOCIATIONS

International Association of Geodesy

RESOLUTION 1

The International Association of Geodesy,

recognising

1. the vital interest to its national delegates of Global Navigation Satellite Systems (GNSS) such as GLONASS, GPS and GALILEO, for a tremendous range of future applications in all fields of geodesy and geophysics

2. the affordable support of GPS for sustainable infrastructure development, state-of-the-art transport navigation and guidance, and other industrial systems, and

3. the need to raise awareness of the global importance of GNSS and of critical issues affecting their use, since

a. for successful operation they require a dedicated radio frequency spectrum protected from incursions into the allocated bands,

b. this worldwide spectrum is supervised by the International Telecommunications Union (ITU) but decisions on band allocation are made by the World Radio Conference (WRC),

c. the next WRC in April/May 2000 will vote on proposals for the mobile satellite communications services (MSS) industry to share spectrum in the radio navigation band used by GLONASS, GPS and other satellite navigation services, so that

d. these proposals, if adopted, establish a dangerous precedent to undermine the capabilities, utility and future growth of GNSS,

considering

the extreme and critical importance of protecting existing radio frequency spectrum allocations to GNSS, and

recommends

1. the Association and its national delegates open active debate on spectrum issues to influence each country's position at ITU and the WRC-2000; specifically

a. in concert with related organisations they should promote international effort to change emphasis from purely telecommunication spectrum needs to include also those of existing and future satellite based positioning, navigation and timing systems, and

b. national delegates should approach their appropriate national institution or WRC delegate to register IAG's urgent concern for GNSS spectrum protection, while

2. the IAG secretary general be directed to send a letter, in consultation with GNSS radio frequency experts, to the appropriate official at ITU, advising them of the critical importance of this matter to IAG, in their scientific studies of the earth and in their practical applications of the results of this research; a copy of this letter to be posted on the IAG website.

Sponsored by Larry Hothem

RESOLUTION 2

The International Association of Geodesy,

recognising

1. the longstanding requirement for a precise and detailed determination of the Earth's gravity field and its fluctuation with time, documented in resolutions by IUGG, IAG and other organisations and resulting in development by NASA and ESA of the GRACE and GOCE missions, where

a. GRACE will be the first mission with satellite-to-satellite tracking between two low orbiters, and

b. GOCE will be the first with a gravity gradiometer, and

2. the urgent need for both types of mission,

a. GRACE concentrating on variations of earth gravity with time, and

b. GOCE on maximum spatial resolution,

so that the two types permit wide application of gravity research to solid earth physics, oceanography, glaciology, hydrology, geodesy and sea level determination

welcomes such developments, and urges the space agencies to pursue these developments with vigour.

Sponsored by R. Rummel as President of Section II

RESOLUTION 3

The International Association of Geodesy,

recognising

1. the accuracy of the instrumentation used for terrestrial electronic distance measurement and for measurements to satellites has improved greatly since IUGG adopted a resolution on the refractive index of air in 1963,

2. new absolute and relative measurements of the refractive index of air have been made since 1963,

3. more accurate refractive index formulae have been developed and older formulae have been found to be in error since 1963,

4. the international temperature scale was revised in 1990, and

5. a carbon dioxide content of air of 300 ppm is no longer appropriate noting the continuum dispersion formulae used by the recommendation below do not account for the effects of anomalous refractivity due to molecular resonances in the visible and near-infrared,

recommends

1. sub paragraphs (a) and (b) of Resolution No. 1 of the 13th General Assembly of IUGG (Berkeley 1963) be cancelled

2. the group refractive index in air for electronic distance measurement to better than one part per million (ppm) with visible and near infrared waves in the atmosphere be computed using the computer procedure published by Ciddor & Hill in Applied Optics (1999, Vol.38, No.9,1663-1667) and Ciddor in Applied Optics (1996, Vol. 35, No.9, 1566-1573),

3. the following closed formulae be adopted for the computation of the group refractive index in air for electronic distance measurement (EDM) to within 1 ppm with visible and near infrared waves in the atmosphere:

$$N_L = (n_L - 1)\, 10^6 = \left(\frac{273.15}{1013.25}\ \frac{N_g P}{T}\right)\ - \frac{11.27e}{T}$$

where N_L is the group refractivity of visible and near infrared waves in ambient moist air, T is the temperature in Kelvin (ITS-90),, $T = 273.15+t$, t is the temperature in degrees Celsius (ºC), p the total pressure in hectopascal (hPa) and e the partial water vapour pressure in hectopascal (hPa) and n_L is the corresponding group refractive index.
The group refractivity N_g of standard air with 0.0375 % CO_2 content at T = 273.15 K (0°C), p = 1013.25 hPa, e = 0.0 hPa is as follows:

$$N_g = (n_g - 1)\,10^6 = 287.6155 + \frac{4.88660}{\lambda^2} + \frac{0.06800}{\lambda^4}$$

where λ is the carrier wavelength of the EDM signal (in micrometre,) and ng the corresponding group refractive index. These closed formulae deviate less than 0.25 ppm from the accurate formulae (see (2) above) between -30ºC and +45ºC, at 1000 hPa pressure, 100% relative humidity (without condensation) and for wavelengths of 650 nm and 850 nm, for example. The 1 ppm stated before makes some allowance for anomalous refractivity and the uncertainty in the determination of the atmospheric parameters. Where required, the phase refractivity N_{ph} of standard air with 0.0375 % CO^2 content at T = 273.15 K (0ºC), p = 1013.25 hPa, e = 0.0 hPa may be calculated as follows:

$$N_{ph} = (n_{ph} - 1)\,10^6 = 287.6155 + \frac{1.62887}{\lambda^2} + \frac{0.01360}{\lambda^4}$$

where is the carrier wavelength of the signal (in micrometre,) and the corresponding phase refractive index.

Sponsored by the Ad-Hoc Working Group on Refractive Indices of Light, Infrared and Radio Waves in the Atmosphere (convener: J. M. Rüeger) of the IAG Special Commission SC3 on Fundamental Constants (SCFC).

RESOLUTION 4

The International Association of Geodesy,

recognising
1. the ultimate limit set by anomalous refractivity, due to absorption lines, to the accuracy of any continuous visible and near infrared refractive index formula, particularly the group refractive index,
2. the scarcity, particularly in the near infrared, of the absolute refractivity measurements of dry air and moist air, on which present dispersion formulae are based, and
3. the scarcity of direct measurements of the group refractive index, and

noting
the preliminary work done towards computing the magnitude of anomalous phase and group refractivity in the visible and near infrared,

recommends
1. further work on the effect of absorption lines on the phase and group refractive indices of air so as to compute the magnitude of anomalous refractivity for specific instruments and, ideally, provide software to correct for such effects, and
2. new absolute measurements of the refractivity of the constituent gases of the atmosphere (including water vapour) under non-laboratory conditions, with special emphasis on near infrared wavelengths.

Sponsored by the Ad-Hoc Working Group on Refractive Indices of Light, Infrared and Radio Waves in the Atmosphere (convener: J. M. Rüeger) of the IAG Special Commission SC3 on Fundamental Constants (SCFC).

RESOLUTION 5

The International Association of Geodesy,

recognising
1. the need for terrestrial and airborne gravity measurements due to the lack of gravity coverage over the polar caps by the planned satellite missions, and
2. the need for improved geoid models in the polar regions,

recommends a concerted international effort to compile existing available gravity data and to encourage new gravity surveys in the polar regions.

Sponsored by René Forsberg as President of Section III.

RESOLUTION 6

The International Association of Geodesy,

recognising
1. the increasing role played by space techniques in all branches of geodesy,
2. the support by the IAG-related services for a broad range of geoscience activities outside the IAG, and
3. the need to further strengthen the contribution of IAG to the other geosciences,

recommends
1. a process, to be set in motion to define long-term goals for IAG research and effective ways of directing IAG activities towards these goals,
2. a proposal resulting from this process, to be presented to a Council meeting at the Scientific Assembly in 2001, for implementation at the General Assembly in 2003, and
3. a Steering Committee, to be formed during the Birmingham meeting to initiate and organize the above process.

Sponsored by K.P.Schwarz as President of IAG

RESOLUTION 7

The International Association of Geodesy expresses its thanks to the local organising committee and to the University of Birmingham and their staff, not forgetting the contribution of the Guild of Students, for all that they have done to make this last IAG Assembly of the old Millenium a memorable one.

International Association of Seismology and Physics of the Earth's Interior

RESOLUTION 1

IASPEI

recognising	the increasing human and economic losses caused by natural hazards,
recognising	the proven and latent ability of scientific and technical knowledge to reduce natural disaster losses,
notes	that the International Decade of Natural Disaster Reduction is at its final stage,
urges	the United Nations, and national scientific and development organisations to expand and refocus support for worldwide hazard mitigation,
recommends	that international professional societies, particularly the IUGG and its Associations, continue IDNDR-related activities beyond the Decade, and
resolves	to continue and strengthen its geophysical programs related to earthquake and associated hazards.

RESOLUTION 2

IASPEI

recognising	the growing availability worldwide of digital and remote-sensing instrumentation systems,
notes	the proven application to earthquakes and associated hazards, of such systems for preparation, warning and response,
urges	all seismologists, earthquake engineers and risk reduction organisations to strengthen and expand such coordinated monitoring systems, and
resolves	to encourage research into improved theoretical and technological bases and applications of such systems.

RESOLUTION 3

IASPEI

recognising	the valuable contribution that data from the International Monitoring System for the Comprehensive Test Ban Treaty will have for the geoscientific research, earthquake monitoring, assessment of earthquake and tsunami hazards, and education,
recognising	that the International Monitoring systems for the Comprehensive Test Ban Treaty will include an important global, international monitoring network of seismic, hydroacoustic, infrasound sensors,
recognising	that free, open, international exchange of data is the cornerstone of seismology,
recognising	that Article IV Section A.10 of the Comprehensive Test Ban Treaty states that: «The provisions of this Treaty shall not be interpreted as restricting the international exchange of data for scientific purpose.»
recommends	that open access to all waveform data from the International Monitoring System for the Comprehensive Test Ban Treaty be available from the International Data Centre in Vienna, Austria, to all Data Centres of the Federation of Digital Broad-band Seismographic Networks, and
resolves	that the International Monitoring System/International Data Centre for the Comprehensive Test Ban Treaty be invited to join the Federation of Digital Broad-band Seismographic Networks.

RESOLUTION 4

APPRECIATION

Recognising the effort required to organize the General Assembly, IASPEI thanks and congratulates the members of the Local Organizing Committee for a most memorable meeting in Birmingham.

Association Internationale de Sismologie et Physique de l'Intérieur de la Terre

RESOLUTION 1

AISPIT

constatant	les pertes accrues causées aux plans humain et économique par les aléas naturels,
Reconnaissant	la capacité, démontrée ou potentielle, à réduire les pertes dues aux désastres naturels, capacité découlant de la connaissance scientifique et technique,
constatant	que la Décennie Internationale pour la Réduction des Désastres Naturels (IDNDR) entre dans sa phase finale,
encourage	les Nations Unies et les organisations nationales scientifiques et de développement à étendre et redéployer leur appui à un meilleur contrôle des aléas à l'échelle mondiale,
recommande	aux sociétés professionnelles internationales, en particulier à l'UGGI et à ses Associations, de poursuivre les activités liées à IDNDR au-delà de la décennie actuelle, et
décide	de poursuivre et renforcer ses programmes géophysiques relatifs aux tremblements de terre et aux aléas qui y sont associés.

RESOLUTION 2

AISPIT

constatant	la présence accrue à l'échelle planétaire de systèmes instrumentaux digitaux et de contrôle à distance,
dénote	l'applicabilité avérée desdits systèmes aux tremblements de terre et aux aléas associés, en termes de préparation, d'alerte et de réponse appropriée,
encourage	tous les sismologues, ingénieurs sismiques et organisations vouées à la réduction du risque, à renforcer et étendre pareils systèmes coordonnés de détection, et
décide	d'encourager toute recherche visant à améliorer les bases et applications théoriques ou technologiques de pareils systèmes.

RESOLUTION 3

AISPIT

constatant	la contribution très appréciable que les données du Système International de Détection, se situant dans le cadre du Traité pour l'Interdiction Totale des Essais Nucléaires (TITEN), vont représenter pour la recherche en géosciences, la détection des tremblements de terre, l'estimation des aléas liés aux séismes ou aux tsunami, ainsi que pour l'éducation,
reconnaissant	que ledit Système va inclure un réseau international de couverture globale, réseau fait de capteurs sismiques, hydroacoustiques et infrasoniques,
reconnaissant	que l'échange gratuit de données, ouvert et international, constitue la pierre angulaire de la science sismologique,

reconnaissant que l'article IV, section A.10, du Traité pour l'Interdiction Totale des Essais Nucléaires indique que "Les stipulations de ce Traité ne doivent pas être interprétées en terme de restriction des échanges internationaux de données à des buts scientifiques",

recommande qu'un accès libre aux diverses données de forme d'onde du Système International de Détection du TITEN soit accessible auprès du Centre International de Données à Vienne en Autriche, et ceci au bénéfice de tous les Centres de données de la Fédération des Réseaux Sismographiques Digitaux Large Bande, et

décide que le Système International de Détection du Centre International de Données du TITEN soit invité à joindre la Fédération des Réseaux Sismographiques Digitaux Large Bande.

RESOLUTION 4

APPRECIATION

Reconnaissant les efforts requis par l'organisation de l'Assemblée Générale, l'AISPIT remercie et félicite les membres du Comité Local d'Organisation pour la réunion éminemment mémorable de Birmingham.

International Association of Geomagnetism and Aeronomy

RESOLUTION 1

IAGA,

considering the scientific success of the International Geophysical Year (IGY) 1957/8 and the long term benefits of the actions taken at that time, and

recognising that these benefits resulted from international co-operation and co-ordination, and

noting that many current science programmes are directed towards studies of the physics and dynamics of the solar-terrestrial and solar-planetary systems,

recommends that national and international agencies support efforts and initiatives to develop collaborative programmes in these areas during the period 2003 to 2008 to mark the 50th anniversary of the IGY and to act as a springboard for future research.

RESOLUTION 2

IAGA,

recognising the efforts made by various agencies to install digital magnetometers in Russia at Dixon, Tixie Bay and Cape Chelyuskin observatories and to rapidly transmit data for production of the AE index, but

noting the closure of Cape Wellen observatory in the eastern part of Siberia in 1996,

urges that action is taken to start suitable magnetic observations at Pebek or a nearby site as soon as possible.

RESOLUTION 3

IAGA,

noting that Lunping Geomagnetic Observatory in Taiwan, which achieved INTERMAGNET standards in 1995, is in danger of closure, and

noting — the importance of the geomagnetic and sunspot number observations made in South-East Asia at Lunping, which have been made available to the scientific community through the World Data Centers since the early 1960's,

requests — that the Academy located in Taipei (China/Taipei) urge the appropriate agency to continue observations by setting up a new observatory and to continue to operate Lunping Observatory until an appropriate period of parallel observations has been completed.

RESOLUTION 4

IAGA,

recognising — the importance of monitoring solar ionising radiation (EUV and soft X-ray) for investigating the physics of the upper atmosphere and for space weather forecasting,

recommends — that support is given to the creation of a permanent space patrol for monitoring these radiations.

(Note: a similar Resolution has been passed by COSPAR and URSI)

RESOLUTION 5

IAGA,

noting — that legislative measures have recently been taken or presently are in preparation by its member countries to implement a sui generis right for the legal protection of databases, or to pass equivalent laws, and

noting — that the World Intellectual Property Organisation is attempting to put forward an international treaty to protect the owners or the creators of databases, and recognising the vital importance of securing free access to databases for the progress of scientific research and for the promotion of education in science,

urges — National Commitees to take the initiative in their respective countries to ensure free access to databases created for or by scientific activities and to advise, if necessary, appropriate authorities to take legislative action to ensure free access policies for scientific databases.

Association Internationale de Géomagnétisme et d'Aéronomie

RESOLUTION 1

L'AIGA,

considérant — le succès scientifique de l'Année Géophysique Internationale (AGI) en 1957-1958 et les bénéfices obtenus sur le long terme à la suite des actions alors entreprises, et

reconnaissant — que ces bénéfices ont résulté d'efforts de co-opération et de coordination internationale, et

notant — que de nombreux programmes scientifiques en cours ont pour objectif l'étude de la physique et de la dynamique des systèmes Soleil-Terre et Soleil-planètes,

recommande — que les agences nationales et internationales soutiennent efforts et initiatives en vue de développer des programmes en collaboration dans ces domaines, durant la période 2003-2008, pour marquer le 50ème anniversaire de l'AGI et servir de point de départ pour de futures recherches.

RESOLUTION 2

L'AIGA,

reconnaissant — les efforts déployés par de nombreuses agences pour installer des magnétomètres numériques en Russie, aux observatoires de Dixon, Tixie Bay et Cap Chelyuskin, et pour transmettre rapidement ces données pour le calcul de l'indice AE, mais

notant — la fermeture en 1996 de l'observatoire de Cap Wellen, situé à l'Est de la Sibérie,

demande instamment qu'une action soit engagée pour débuter dès que possible les observations magnétiques appropriées à Pebek, ou en un site proche.

RESOLUTION 3

L'AIGA,

notant — que l'observatoire géomagnétique de Lunping installé sur l'île de Taiwan, qui a satisfait aux standards INTERMAGNET en 1995, est menacé de fermeture, et

notant — l'importance des observations géomagnétiques et de nombre de taches solaires faites dans le Sud-Est asiatique, à Lunping, observations qui sont distribuées à la communauté scientifique via les Centres mondiaux de données depuis le début des années soixante,

demande — que l'Académie située à Taipei (Chine/Taipei) demande instamment à l'agence concernée de poursuivre ces observations grâce à l'installation d'un nouvel observatoire et de maintenir en activité l'observatoire de Lunping jusqu'à ce que des observations simultanées aient été effectuées durant une période appropriée.

RESOLUTION 4

L'AIGA,

reconnaissant — l'importance du suivi des radiations solaires ionisantes (EUV et rayons X mous) pour l'étude de la physique de la haute atmosphère et pour le prévision en météorologie de l'espace,

recommande — que soit soutenue la création d'une veille spatiale permanente pour le suivi de ces radiations.

(Note: une résolution similaire a été adoptée par le COSPAR et l'URSI)

RESOLUTION 5

L'AIGA,

notant — que des dispositions législatives ont récemment été prises ou sont actuellement en préparation par ses pays membres pour définir un droit sui generis de protection légale des bases de données, ou pour adopter des lois équivalentes, et

notant — que l'Organisation Mondiale de la Propriété Intellectuelle prend actuellement l'initiative de proposer un traité international de protection des propriétaires ou des créateurs de bases de données, et

reconnaissant — l'importance vitale, pour le progrès de la recherche scientifique et le développement de l'enseignement des sciences, de protéger le libre accès aux bases de données,

demande instamment aux Comités nationaux de prendre l'initiative dans leurs pays respectifs afin de garantir le libre accès aux bases de données créées pour ou à la suite d'activités scientifiques, et d'engager, le cas échéant, les autorités compétentes à prendre les mesures législatives permettant de garantir une politique de libre accès aux bases de données scientifiques.

International Association of Hydrological Sciences

Resolution on Hydrological Observing Networks

The International Association of Hydrological Sciences:

expresses concern at the past and continuing decline of national hydrological observing networks*, in both developed and developing countries, leading to a severe decline in the total quantity of data being collected world-wide;

recognising: (1) that this loss of information is undermining our ability to monitor the state of the world's water resources and to assess the risk of floods, droughts and damage to health, infrastructure and the natural environment,

(2) the urgency for a comprehensive vision of the world's freshwater, and

(3) that humans are now and will continue to be an integral part of the terrestrial water cycle, but that there is a severe lack of information on water demands, infrastructure and their impact on the hydrological regime;

encourages national and international agencies to:

(1) ensure that representative observation networks for hydrological variables are maintained, both now and in the future,

(2) seek mechanisms by which to initiate or resume observations in locations where serious data gaps now exist,

(3) promote the free and unrestricted transfer of hydrological data, in particular through the application of WMO Resolution 25 (Cg-XIII),

(4) promote the use of existing national and global data archives and their continued development,

(5) compile systematic information on water use and infrastructure and other pertinent socio-economic data,

(6) assist WMO and UNESCO in identifying and disseminating critical hydrological data sets, socio-economic data related to water, as well as derived products.

IAHS also encourages individual scientists and institutions to make wise and appropriate use of the data on which their work depends and to acknowledge clearly the origin of those data.

International Association of Physical Sciences of the Ocean

RESOLUTION 1

IAPSO

recommends that the IUGG establishes a “Commission on Geophysical Risk and Sustainability” which addresses scientific challenges along the lines of IDNDR.

RESOLUTION 2

IAPSO

supports the development of integrated global geophysical networks and encourages the active participation of physical oceanography.

RESOLUTION 3

IAPSO

supports the formation of a “Joint IAG/IAPSO Special Study Group on the Geodetic Effects of Non-Tidal Processes” - as proposed by Richard Gross/IAG.

RESOLUTION 4

IAPSO

encourages the participation of the other Associations of IUGG in the forthcoming “Joint assemblies of IAPSO and IABO”, Mar del Plata/Argentina 2001.

RESOLUTION 5

IAPSO

proposes the establishment of a “Joint Commission on Groundwater Seawater Interactions”.

RESOLUTION 6

IAPSO

recommends a data base of Global Undersea Pressures (GLOUP) he established under the auspices of the IAPSO Permanent Service for Mean Sea Level.

RESOLUTION 7

IAPSO

endorses the establishment of a Steering Working Group for Sea Level related to Climate, jointly with Global Sea Level Observing System of the IOC, and other interested bodies.

RESOLUTION 8

IAPSO

recommends that IAPSO and IAG establish a joint working group for scientific advice and the promotion of geodetic fixing of the tide gauge benchmarks in the Global Sea Level Observing System and regional networks.

RESOLUTION 9

IAPSO

recommends that IAPSO, in association with IAG, and through the IUGG, encourages NASA and ESA to energetically pursue their GRACE and GOCE geodetic missions, for the determination of the permanent component of ocean circulation.

LIST OF USEFUL ACRONYMS

ACR	Antarctic Climate Research
ADOS	African Doppler Survey
AE	Auroral Electrojet
AIEA	Agence Internationale de l'Energie Atomique
AIGA	Association Internationale de Géomagnétisme et d'Aéronomie
AIH	Association Internationale des Hydrogéologues
AISH	Association Internationale des Sciences Hydrologiques
AISPIT	Association Internationale de Sismologie et de Physique de l'Intérieur de la Terre
AISPO	Association Internationale des Sciences Physiques de l'Océan
AIVCIT	Association Internationale de Volcanologie et de Chimie de l'Intérieur de la Terre
AMA	Antarctic Middle Atmosphere
ASRO	Abbreviated Seismic Research Observatory
ASSA	Austrian Solar and Space Agency
AWRA	American Water Research Association
AWS	Automatic Weather Stations
BGI	Bibliographie Géodésique Internationale
BGI	Bureau Gravimétrique International
BGS	British Geological Survey
BHI	Bureau Hydrologique International
BIH	Bureau International de l'Heure
BIPM	Bureau International des Poids et Mesures
BIRPS	British Institutions Reflection Profiling Syndicate
BRGM	Bureau de Recherches Géologiques et Minières (France)
CAS	Commission on Atmospheric Sciences
CCCO	Committee on Climate Changes and the Ocean
CCF:	ICSU Climate Coordinating Forum
CERESIS	Centro Regional de Sismologia para America del Sur
CFC	Chloro-Fluoro-Carbons
CIRA	COSPAR International Reference Atmosphere
CIRES	Cooperative Institute of Research in Environmental Sciences
CIUS	Conseil International des Unions Scientifiques
CMG	Commission for Marine Geology
CNES	Centre National d'Etudes Spatiales (France)
CNRS	Centre National de la Recherche Scientifique (France)
COBOL	Coastal Boundary Layer
COCORP	Consortium for Continental Reflection Profiling
CODATA	Committee on Data for Science and Technology
COI	Commission Océanographique Intergouvernementale
COSPAR	Committee on Space Research
COSTED	Committee on Science and Technology in Developing Countries
COSTED/IBN	Committee on Science and Technology in Developing Countries / International Biological Network
COTES	Conventional Terrestrial Reference System
COWAR	Committee on Water Research
CRT	Cathode Ray Tube

CSAV	Ceskoslovensk· Akademie VËd (Czechoslovak Academy of Sciences)
CSS	Center for Seismic Studies
CTD	Conductivity Temperature Depth
CTGREF	Centre Technique du Génie Rural des Eaux et Forêts (France)
CTS	Committee on the Teaching of Science (ICSU)
DARPA	Defense Advance Research Projects Agency
DECORP	Deutsches Continentales Reflexions Programm
DHI	Décennie Hydrologique Internationale
DMA	Délégation Ministérielle de l'Armement (France)
DMA	Defense Mapping Agency (USA)
DOTS	Development of Transportable Systems
DWDSS	Directory of World Digital Seismic Stations
DWWSSN	Digital WWSSN Stations
ECA	Economic Commission for Africa
ECOR	Engineering Committee on Oceanic Resources
ECORS	Etude Continentale et Océanique par Réflexion et Réfraction Sismiques
EGS	European Geophysical Society
EISCAT	European Incoherent Scatter Facility
ELAS	Electromagnetic Lithosphere Astenosphere Studies
EMSLAB	Electromagnetic Sounding of the Lithosphere, Astenosphere and Beyond
ERB	Earth Radiation Budget
ERBSS	Earth Radiation Budget Satellite System
ERS	Environmental Research Satellite
ESA	European Space Agency
ESC	European Seismological Commission
ESCAP	Economic and Social Commission for Asia and the Pacific
ESF	European Science Foundation
EUV	Extreme Ultra Violet
FAGS	Federation of Astronomical and Geophysical Data Analysis Services
FAO	Food and Agriculture Organisation
FGGE	First GARP Global Experiment
FIG	Fédération Internationale de Géomètres
FIPY	First International Polar Year
GARP	Global Atmospheric Research Programme
GATE	GARP Atlantic Tropical Experiment
GCM	General Circulation Model
GDSN	Global Digital Seismic Network
GEBCO	General Bathymetric Chart of the Ocean
GEOSECS	Geochemical Ocean Sections Study
GGT	Global Geoscience Transects
GIS	Global Ionospheric Studies
GLONASS	USSR Global Navigational Satellite System
GPS	US Global Positioning System
GSA	Geological Society of America
GSE	Ground Support Equipment
GSFC	Goddard Space Flight Center

HF	High Frequency
HGLPS	High-Gain Long-Period Station
HIRS	High Resolution Infrared Sounder
IAEA	International Atomic Energy Agency
IAEE	International Association of Earthquake Engineers
IAF	International Astronautical Federation
IAG	International Association of Geodesy
IAGA	International Associations of Geomagnetism and Aeronomy
IAGC	International Association of Geochemistry and Cosmochemistry
IAH	International Association of Hydrogeologists
IAHR	International Association of Hydraulic Research
IAHS	International Association of Hydrological Sciences
IAMAP	International Associations of Meteorology and Atmospheric Physics
IAPSO	International Association of Physical Sciences of the Oceans
IASPEI	International Association of Seismology and Physics of the Earth's Interior
IATA	International Air Transport Association
IAU	International Astronomical Union
IAVCEI	International Association of Volcanology and Chemistry of the Earth's Interior
IAWPR	International Association on Water Pollution Research
IAWR	International Association of Water Research
ICA	International Cartographic Association
ICACGP	International Commission on Atmospheric Chemistry and Global Pollution
ICAE	International Commission on Atmospheric Electricity
ICC	International Computation Centre
ICCL	International Commission on Climate
ICCP	International Commission on Cloud Physics
ICDM	International Commission on Dynamic Meteorology
ICET	International Centre of Earth Tides
ICG	Inter-Union Commission on Geodynamics
ICGW	International Commission on Groundwater
ICID	International Commission on Irrigation and Drainage
ICL	Inter-Union Commission on the Lithosphere
ICMUA	International Commission on Meteorology of the Upper Atmosphere
ICPAE	International Commission on Planetary Atmospheres and Their Evolution
ICPM	International Commission on Polar Meteorology
ICSEM	International Commission of the Scientific Exploration of the Mediterranean
ICSI	International Commission on Snow and Ice
ICSU	International Council of Scientific Unions
ICTP	International Centre for Theoretical Physics
ICSW	International Commission on Surface Water
ICWQ	International Commission on Water Quality
ICWRS	International Commission on Water Resources Relations and Systems
IDA	International Deployment of Accelerometers
IERS	International Earth Rotation Service
IGBP	International Geosphere-Biosphere Program
IGC	International Gravimetric Commission

IGC	Instituto Geografico y Cadastral (Portugal)
IGC	International Geological Congress
IGCP	International Geological Correlation Programme
IGN	Institut GÈographique National (France)
IGY	International Geophysical Year
IHB	International Hydrographic Bureau
IHD	International Hydrological Decade
IHFC	International Heat Flow Commission
IHO	International Hydrographic Organisation
IHP	International Hydrographic Programme
IIASA	International Institute of Applied Systems Analysis
ILP	International Lithosphere Program
ILS	International Latitude Service
IMS	International Magnetospheric Study
INQUA	International Union for Quaternary Research
IOC	International Oceanographic Commission
IOC	International Ozone Commission
IOCA	International Civil Aviation Organisation
IPMS	International Polar Motion Service
IQSY	International Quiet Sun Years
IRC	International Commission on Atmospheric Radiation
IRI	International Reference Ionosphere
ISC	International Seismological Centre
ISGI	International Service of Geomagnetic Indices
ISM	International Society of Mining
ITCZ	Inter-Tropical Convergence Zone
IUBS	International Union of Biological Sciences
IUCN	International Union for the Conservation of Nature and Natural Resources
IUCRM	Inter-Union Commission on Radio Meteorology
IUGG	International Union of Geodesy and Geophysics
IUGS	International Union of Geological Sciences
IUPAC	International Union of Pure and Applied Chemistry
IUPAP	International Union of Pure and Applied Physics
IUTAM	International Union of Theoretical and Applied Mechanics
IUWDS	International Ursigram and World Days Service
IWRA	International Water Research Association
IWSA	International Water Supply Association
IZMIRAN	Institute of Terrestrial Magnetism, Radio Research and the Ionosphere of the USSR Academy of Sciences
JASIN	Joint Air-Sea Interaction Experiment
JGOFS	Joint Global Flux Study
JPOTS	Joint Panel of Experts on Oceanographic Tables and Standards
JSC	Joint WMO/ICSU Scientific Committee
MAC	Magneto-Archimedean-Coriolis
MAGSAT	Magnetic Field Satellite
MAP	Middle Atmosphere Programme
MERIT	Monitoring of Earth-Rotation and Intercomparison of Techniques of Observation and Analysis

MIFC	Mean Ionospheric Field Corrections
MIZEX	Marginal Ice Zone Experiment
MONSEE	Monitoring of the Sun Earth Environment
MST	Mesosphere-Stratosphere-Troposphere
MSU	Microwave Sounding Unit
NAS	National Academy of Science (USA)
NASA	National Aeronautics and Space Administration (USA)
NATO	North Atlantic Treaty Organisation
NCAR	National Center for Atmospheric Research (USA)
NDSN	National Digital Seismograph Network
NEIS	National Earthquake Information Service (USA)
NIVA	Norwegian Institute for Water Research
NOAA	National Oceanic and Atmospheric Administration (USA)
NRM	Natural Remanent Magnetism
NRM	Non Remanent Magnetization
NSF	National Science Foundation (USA)
OAA	Organisation des Nations Unies pour l'Alimentation et l'Agriculture
ODP	Ocean Drilling Program
OECD	Organisation for Economic Cooperation and Development
OHP	Operational Hydrology Programme
OMM	Organisation Météorologique Mondiale
OMS	Organisation Mondiale de la Santé
ONERA	Office National d'Etudes et de Recherches Aérospatiales (France)
ORSTOM	Institut Français de Recherche Scientifique pour le Développement en Coopération (France)
PAD	Polar and Auroral Dynamics
PAIGH	Pan American Institute of Geography and History
PHI	Programme Hydrologique International
PHO	Programme d'Hydrologie Opérationnelle
PIANC	Permanent International Association of Navigation Congresses
PNUE	Programme des Nations Unies pour l'Environnement
PSFG	Permanent Service on the Fluctuation of Glaciers
PSMSL	Permanent Service on Mean Sea Level
PAN	Polska Akademii Nauk
QBSA	Quarterly Bulletin of Solar Activity
ROSTSEA	Regional Office for Science and Technology in South East Asia
RSTN	Regional Seismic Test Network
SAR	Synthetic Aperture Radar
SCAR	Scientific Committee on Antarctic Research
COPE	Scientific Committee on Problems of the Environment
SCOR	Scientific Committee on Oceanic Research
SCOSTEP	Special Committee on Solar Terrestrial Physics
SCOWAR	Scientific Commission on Water Research
SHEF	Standard Hydrological Exchange Format
SIL	International Association of Limnology
SIV	Solar and Interplanetary Variability
SMA	Solar Maximum Analysis

SMY	Solar Maximum Year
SPOT	Système Probatoire d'Observation de la Terre
SRO	Seismic Research Observatory
SSG	Special Study Group
SST	Satellite to Satellite Tracking
SST	Sea Surface Temperature
SST	Sea Surface Topography
ST	Stratosphere-Troposphere
STEP	Solar-Terrestrial Energy Program
STETS	Solar-Terrestrial Energy Transfer Studies
STACS	Subtropical Atlantic Climate Studies
STIP	Study on Travelling Interplanetary Phenomena
STP	Solar Terrestrial Physics
STP-M	Solar-Terrestrial Physics/Meteorology
SUN	Symbols, Units and Nomenclature
TAG	Technical Advisory Group
TESS	Transfer of Energy in the Solar System
TIROS	Television and Infra Red Observing Satellite
TOGA	Tropical Ocean and Interannual Variability of the Global Atmosphere
TOPEX	Typhoon Operational Experiment
TTO	Typhoon Tracers in the Ocean
UAI	Union Astronomique Internationale
UATI	Union des Associations Techniques Internationales
UGGI	(see IUGG)
UISG	Union Internationale des Sciences Géologiques
ULF	Ultra-Low Frequency
UN	United Nations
UNCLOS	UN Conference on the Law of the Sea
UNDRO	United Nations Disaster Relief Organisation
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organisation
URSI	Union Radio Scientifique Internationale
USGS	United States Geological Survey
USSS	United States Seismic System
VIRA	Venus International Reference Atmosphere
VITUKI	Vizgazd·l Kod·si Tudom·nyos Intézet (Research for Water Resources Development) (Hungary)
VLBI	Very Long Baseline Interferometry
WAMEX	West African Monsoon Experiment
WCRP	World Climate Research Programme
WDC	World Data Centre
WGMS	World Glacier Monitoring Service
WHO	World Health Organisation
WHOI	Woods Hole Oceanographic Institution
WMO	World Meteorological Organisation
WOCE	World Ocean Circulation Experiment
WWSSN	World Wide Standardized Seismograph Network

PART II

STATUTES AND BY-LAWS OF THE UNION AND OF THE ASSOCIATIONS

UNION
Statuts

1. 0bjectlfs et Composition de L'union

1. Les buts de l'Union Géodésique et Géophysique Internationale sont:

a. Favoriser l'étude de tous les problèmes concernant la figure de la Terre, la physique et la chimie de son intérieur, de sa surface, de l'eau douce, des océans et de l'atmosphère, ainsi que les problèmes similaires concernant les planètes.

b. Provoquer, aider et coordonner les recherches et études de géodésie et de géophysique, qui nécessitent une coopération internationale ou qui présentent un intérêt national.

c. Assurer, sur le plan international, la discussion et la publication des résultats des recherches mentionnées dans le paragraphe précédent.

d. Coordonner les moyens d'action scientifique dans le monde entier, dans les disciplines qui intéressent l'Union.

e. Favoriser, par son concours scientifique, l'étude de problèmes pratiques de nature géodésique ou géophysique, lorsque ces problèmes présentent un aspect international ou lorsqu'ils exigent la coopération internationale de spécialistes ou de moyens.

f. Promouvoir et coordonner les activités scientifiques d'un certain nombre de Services Permanents chargés, sur le plan international, de favoriser la normalisation des mesures ou de recueillir, d'analyser et de publier des données géodésiques ou géophysiques en tenant compte des résultats des études planétaires.

2. Pour réaliser ses objectifs scientifiques, l'Union groupe un certain nombre d'Associations Internationales, chacune d'elles s'intéressant à une discipline de la géodésie ou de la géophysique.

3. L'Union adhère au Conseil International pour la Science (CIUS).

4a. Tout pays dans lequel une activité géodésique ou géophysique indépendante s'est développée, peut adhérer à l'Union à condition de prendre une part convenable à son entretien.

Ce pays est représenté par un seul organisme, appelé Organisme Adhérent, qui peut être: soit la principale Académie scientifique, soit le Conseil National de la Recherche Scientifique, soit toute autre institution ou groupement d'institutions, non gouvernemental ou gouvernemental, représentant l'ensemble des activités géodésiques et géophysiques du pays adhérent. Lors de circonstances exceptionnelles seulement, le Conseil de l'UGGI (défini à l'article 5 de ces statuts) pourra accepter un nouvel Organisme Adhérent convenablement désigné pour un pays, sous la réserve qu'un Organisme Adhérent de ce pays ait déjà été admis comme membre national du Conseil International pour la Science. Dans ce cas, chaque Organisme Adhérent aura un délégué au Conseil et sera considéré séparément en matière d'élections ou de finances.

b. Un pays dans lequel une activité en géodésie et géophysique s'est développée mais qui ne peut pas participer financièrement à l'entretien de l'Union peut devenir Membre Associé. Ce pays sera représenté par un seul Organisme, comme précisé en 4a.

c. Dans ce qui suit, les pays adhérents sont appelés Pays Membres.

5. L'Assemblée Générale est constituée par les Délégués des Pays Membres, dûment accrédités par l'Organisme Adhérent dans chaque pays, plus des personnes invitées en accord avec le règlement intérieur.

Le Conseil de l'Union est constitué par les Délégués, appelés Délégués au Conseil, qui, à chacune des réunions du Conseil, sont désignés par les Pays Membres pour les représenter, à raison de un Délégué au Conseil par Pays Membre, sauf en cas de décision différente conformément à l'article 4 de ces statuts. Chaque Délégué au Conseil devra être officiellement accrédité par l'Organisme Adhérent avant toute réunion du Conseil. Les Membres Associés ne sont pas admis à siéger au Conseil.

2. AdmInistration

6. La responsabilité pour la direction des affaires de l'Union est dévolue au Conseil de l'Union. Les décisions prises par le Conseil sont présentées à l'Assemblée Générale.

7. Dans l'intervalle des réunions du Conseil, la direction des affaires de l'Union est dévolue au Bureau et au Comité Exécutif, dont les attributions respectives sont définies ci-après.

8. Le Bureau de l'Union est constitué par le Président, le Vice-Président, le Secrétaire Général, le Trésorier et trois membres supplémentaires, tous élus par le Conseil.

Le rôle du Bureau est d'administrer l'Union conformément aux présents statuts et règlement intérieur et en accord avec les décisions prises par le Conseil.

9. Le Comité Exécutif est constitué par le Bureau, les Présidents des Associations Internationales, et le Président sortant. Les Secrétaires des Associations sont invités à assister, à titre consultatif, à toute réunion du Comité Exécutif de l'Union.

   Le rôle du Comité Exécutif est de guider les Associations vers la réalisation de leurs aspirations scientifiques, en assurant entre elles une coordination effective et en exprimant les conditions générales nécessaires à la bonne marche des travaux scientifiques de l'Union.

   Le Comité Exécutif participe, à titre consultatif, à toutes les délibérations du Conseil.

10. Dans le cadre des statuts de l'Union, les Associations Internationales composant l'Union peuvent établir leurs propres statuts et règlement intérieur et assurer leur administration ainsi que la gestion de leurs finances.

3. Finances

11. La Commission des Finances est élue par le Conseil de l'Union auprès duquel elle a un rôle consultatif. Elle comprend cinq personnes qui ne peuvent être membres ni du Bureau de l'Union ou d'une Association, ni du Comité de direction de l'un des Services Permanents subventionnés par l'Union.

    La Commission des Finances participe, à titre consultatif, à toutes les délibérations du Conseil.

12a. Les Pays Membres de l'Union sont répartis en douze catégories, numérotées de 1 à 12, plus une catégorie spéciale, appelée Catégorie A.

b. Pour les catégories allant de 1 à 12, chaque Pays Membre paie annuellement le nombre d'unités de contribution correspondant à sa catégorie. L'Organisme Adhérent représentant le pays est responsable du paiement de la cotisation. Tout Pays Membre peut en outre verser des fonds destinés à prendre en charge les frais de voyages de scientifiques de pays en Catégorie A.

c. La Catégorie A se compose des Membres Associés. Ceux-ci n'acquittent pas de cotisation annuelle à l'Union.

13a. Un pays désireux d'adhérer à l'Union doit spécifier la catégorie dans laquelle il propose d'être classé. Sa demande d'adhésion peut être refusée si la catégorie choisie est jugée inadéquate.

b. Un Membre Associé peut devenir Membre à titre payant, ou un Pays Membre à titre payant peut à tout moment augmenter sa catégorie moyennant l'accord de la Commission des Finances. Un Pays Membre à titre payant ne peut diminuer sa catégorie ou devenir Membre Associé qu'avec l'assentiment préalable du Conseil de l'Union.

14a. L'année financière est l'année civile.

b. Si en fin d'une année, un Pays Membre à titre payant n'a pas payé sa cotisation relative à l'année antérieure, il perdra les avantages que l'Union offre à ses membres, jusqu'à réception du paiement intégral pour cette année antérieure et pour tous les arriérés éventuels de cotisation. De tels Pays Membres auront le statut d'Observateur.

c. Un Pays Membre ayant le Statut d'Observateur reste redevable des cotisations annuelles échues.

d. Si, au début d'une année, un Pays Membre à titre payant a le statut d'Observateur depuis quatre années, ce Pays Membre sera considéré comme ayant résilié sa participation à l'Union à moins que le Secrétaire Général n'ait reçu de ce Pays Membre une requête écrite formelle sollicitant son transfert à la qualité de Membre Associé (Catégorie A).

e. Le Bureau de l'Union, après consultation de la Commission des Finances et des Associations, et accord de celles-ci, pourra accorder des demandes de transfert temporaire en Catégorie A, jusqu'à la prochaine réunion du Conseil, aux Pays Membres ayant le statut d'Observateur, à condition que tous les efforts visant à payer toutes les cotisations dues paraissent avoir échoué.

f. Un Pays Membre peut faire appel de tout refus de transfert en catégorie A de la part du Bureau lors de la réunion suivante du Conseil.

g. Tout Pays Membre sous le statut d'Observateur auquel un transfert en catégorie A est refusé cessera d'être Membre après la réunion du Conseil qui fait suite à sa demande de transfert auprès du Bureau.

h. Chaque adhésion au titre d'Associé fera l'objet d'un examen à chaque Assemblée Générale. On demandera par la suite aux Pays Membres ayant le statut d'Associés depuis le début de leur adhésion, de considérer l'éventualité d'un transfert en catégorie payante.

15. En cas de dissolution d'une Association, ses avoirs seront cédés à I'Union. En cas de dissolution de l'Union, ses avoirs seront cédés au Conseil International pour la Science (CIUS).

4. Droit de Vote

16. Les Membres Associés n'ont pas le droit de vote.

17a. Pour les questions d'ordre scientifique, ou administratif, ou à la fois d'ordre administratif et scientifique, mais sans incidence financière, le vote se fait au Conseil, par Pays Membre, chaque Délégué au Conseil ayant une voix, à condition que l'Organisme Adhérent de son pays ait payé ses cotisations jusqu'à la fin de l'année civile qui précède le vote.

b. Pour toutes les questions financières, le vote se fait au Conseil par Pays Membre à titre payant à condition également que le pays considéré ait payé ses cotisations jusqu'à la fin de l'année civile qui précède le vote. Le nombre de voix attribuées à chaque Pays Membre est alors égal au numéro de la catégorie dans laquelle adhère le pays.

18. Pour l'admission de nouveaux Pays Membres et pour un appel d'un refus de transfert en Catégorie Associée, les décisions seront prises au Conseil à la majorité absolue des deux tiers de Délégués au Conseil, chaque Délégué au Conseil ayant une voix.

19. Un Délégué au Conseil ne peut être le Délégué que d'un seul Pays Membre. Aucun membre du Bureau ne peut être choisi comme Délégué au Conseil par un Pays Membre. Aucun autre membre du Comité Exécutif ne participe aux votes du Conseil, sauf si, en raison de circonstances exceptionnelles, il est également le Délégué au Conseil d'un Pays Membre.

Un Pays Membre à titre payant non représenté à une réunion du Conseil peut voter par correspondance sur toute question bien précisée à l'ordre du jour définitif distribué à l'avance aux Pays Membres, pourvu que les débats sur cette question n'en aient modifié ni l'aspect initial, ni la substance, et pourvu que le vote considéré soit parvenu au Président avant l'ouverture du scrutin.

Pour la validité des délibérations au Conseil au moins un tiers des Pays Membres ayant le droit de vote doivent être effectivement représentés par leurs Délégués au Conseil.

20. Avant un vote lors d'une réunion du Conseil, il revient au Président de décider si la question prise en considération est d'ordre scientifique, administratif ou financier, et si la procédure du vote par correspondance s'applique.

21. Les décisions du Conseil sont prises à la majorité absolue simple sauf dans les cas spécialement mentionnés dans les présents statuts.

Si, au cours d'un vote au Conseil il y a égalité de voix, la décision appartient au Président.

La majorité simple ou la majorité absolue des deux tiers sont déterminées par la proportion des votes affirmatifs par rapport au total des votes (affirmatifs, négatifs et abstentions) pourvu que le nombre total de délégués ayant voté (affirmatif, négatif, abstention) ne soit pas inférieur à un tiers des Pays Membres de l'Union et ayant droit de vote. Les votes blancs et non valides et les votes non exprimés par les délégués présents sont comptés comme des abstentions.

5. Generalites

22. Les présents statuts, de même que toute modification ultérieure, prennent effet à la clôture de la réunion du Conseil à laquelle ils ont été adoptés.

23. Les statuts de l'Union ne peuvent être modifiés qu'avec l'assentiment des deux tiers des Pays Membres réunis en Conseil.

24. Les propositions formulées par un Pays Membre en vue de la modification d'un article des statuts de l'Union doivent parvenir au Secrétaire Général au moins six mois avant la date fixée pour la réunion du Conseil au cours de laquelle elles seront examinées. Le Secrétaire Général devra faire connaître à tous les Pays Membres, au moins quatre mois avant la date fixée pour la réunion du Conseil, toutes les propositions qu'il aura reçues à ce propos.

25. Dans le cadre des statuts de l'Union, le Conseil peut adopter un règlement intérieur qui peut être modifié à la simple majorité des voix exprimées au Conseil. Ce règlement intérieur, de même que toute modification ultérieure, prend effet à la clôture de la réunion du Conseil.

26. Sauf au cas où les statuts en décideraient autrement, les réunions de travail seront soumises aux règles de Robert.

27. Le texte français servira exclusivement pour l'interprétation à donner aux présents Statuts.

Règlement Intérieur

I. Composition de L'union

1. L'Union est constituée par les Associations suivantes:

   Association Internationale de Géodésie,

   Association Internationale de Sismologie et de Physique de l'Intérieur de la Terre,

   Association Internationale de Volcanologie et de Chimie de l'Intérieur de la Terre,

   Association Internationale de Géomagnétisme et d'Aéronomie,

   Association Internationale de Météorologie et des Sciences de l'Atmosphère,

   Association Internationale des Sciences Hydrologiques,

   Association Internationale des Sciences Physiques de l'Océan.

2. L'Union peut, par décision du Comité Exécutif, constituer, soit avec d'autres Unions, soit entre les Associations, soit pour des raisons spéciales, des Commissions Scientifiques, qui peuvent elles-mêmes former toute Sous-Commission nécessaire. Dans les mêmes conditions, l'Union peut créer des Services Permanents. La liste des Commissions ou Comités Scientifiques et des Services Permanents à la constitution desquels l'Union a participé, est soumise à révision, par le Comité Exécutif, à chaque Assemblée Générale.

   Des scientifiques de tout pays peuvent assister aux réunions scientifiques de l'Union et des Associations. Il leur est également possible d'être observateur dans les Commissions de l'Union et des Associations.

3. Le Président représente normalement l'Union aux Assemblées Générales du Conseil International pour la science. En cas de force majeure, le Président peut se faire remplacer par le Vice-Président ou le Secrétaire Général.

4. Chaque Organisme Adhérent représentant un pays est invité à provoquer la formation d'un Comité National de Géodésie et de Géophysique, chargé d'assurer, sous ses directives, la participation du Pays Membre aux activités de l'Union.

   Dans l'intervalle des Assemblées Générales, le Bureau de l'Union peut consulter directement, par correspondance, le Comité National de chaque Pays Membre, sur toute question d'ordre scientifique ou administratif mais sans incidence financière. Pour les questions financières et à propos de l'admission de nouveaux Pays Membres, le Bureau de l'Union doit s'adresser aux Organismes Adhérents des Pays Membres à titre payant.

2. Administration

5. Les Assemblées Générales se réunissent normalement tous les quatre ans, sur convocation du Président de l'Union. Le terme "période" désigne l'intervalle de temps entre la clôture de deux Assemblées Générales ordinaires consécutives.

6. Le Secrétaire Général transmettra aux Pays Membres, au moins neuf mois à l'avance, notification de la date et du lieu de réunion de la prochaine Assemblée Générale.

   Toutes les propositions concernant l'ordre du jour des réunions du Conseil peuvent être formulées par les Organismes Adhérents ou les Comités Nationaux; elles devront parvenir au Secrétaire Général six mois au moins avant la réunion, les Membres Associés ne pourront émettre que des propositions de nature scientifique. Le Secrétaire Général inscrira obligatoirement toutes les propositions reçues à l'ordre du jour définitif de la réunion du Conseil. Cet ordre du jour, accompagné d'un exposé des motifs, devra être envoyé au moins quatre mois avant la réunion à tous les Pays Membres. Une question non inscrite à cet ordre du jour pourra être soumise à la discussion du Conseil après un vote favorable du Conseil obtenu à la majorité des deux tiers des Délégués au Conseil.

7. Le Secrétaire Général communiquera la date et le lieu de la prochaine Assemblée Générale aux personnes ou organisations scientifiques de pays n'adhérant pas à l'Union mais où il est notoire qu'il y a une activité en Géodésie et en Géophysique.

   Des scientifiques de ces pays seront conviés à participer au programme scientifique de l'Assemblée Générale en tant qu'invités.

   Le Président de l'Union peut de sa propre initiative ou à la demande du Président d'une Association ou d'un Pays Membre, convier des représentants d'organisations scientifiques à participer à toute Assemblée Générale en tant qu'invités sans que cela implique une obligation financière pour l'Union.

8. Une réunion de travail plénière des participants à l'Assemblée Générale sera tenue pendant chaque Assemblée Générale en vue de discuter des activités de l'Union.

9. Les Associations tiendront des réunions administratives et des réunions scientifiques pendant les Assemblées Générales de l'Union.

   Durant une Assemblée Générale, les réunions scientifiques devraient comporter des séances conjointes de deux ou plusieurs Associations, en vue de discuter de sujets interdisciplinaires. Le programme des réunions et le choix des sujets interdisciplinaires sont décidés par le Comité Exécutif de l'Union environ deux ans avant la date de l'Assemblée Générale, sur la base de recommandations faites antérieurement par les Associations.

   Pour autant que le Comité Exécutif en soit informé, une Association peut organiser elle-même des réunions entre les Assemblées Générales de l'Union, soit séparément, pour traiter de sujets ayant pour elle un intérêt particulier, soit en commun avec une autre Association ou avec plusieurs d'entre elles.

10a. Le Président de l'Union est élu pour une période et n'est pas immédiatement rééligible. Le Vice-Président et les autres Membres élus du Bureau sont élus pour une période et ne sont immédiatement rééligibles qu'une seule fois aux mêmes fonctions.

   Le Secrétaire Général est élu initialement pour deux périodes et n'est normalement pas rééligible pendant plus de deux périodes successives.

   Le Trésorier est élu initialement pour une période et n'est normalement pas rééligible pendant plus de deux périodes successives.

   Les Membres de la Commission des Finances sont élus pour une période et sont rééligibles pendant trois périodes successives. Au moins un Membre de la Commission doit être remplacé à la fin de chaque période.

   b. Au moins un an et demi avant l'Assemblée Générale, le Président désignera un Comité des Nominations après consultation et approbation du Comité Exécutif. Le Comité des Nominations se composera d'un Président et de trois autres membres, eux-mêmes n'appartenant ni au Comité Exécutif, ni au Comité des Finances.

   Le Comité des Nominations, après sollicitation de candidatures auprès des Organismes Adhérents des Pays Membres, et des officiers de l'Union et des Associations, proposera un ou deux candidats pour chaque poste à pourvoir au Bureau et au Comité des Finances, en cherchant à parvenir à un juste équilibre dans leur répartition géographique et professionnelle. On demandera aux candidats de manifester leur accord et de préparer un curriculum vitae résumant les grandes lignes de leur situation, intérêts de recherche et activités au sein de l'Union.

   Les officiers de l'Union et des Associations et les Comités Nationaux seront informés par le Comité des Nominations des candidatures retenues au moins 8 mois avant l'Assemblée Générale. Ils pourront proposer de nouvelles candidatures et/ou recommandations au Comité des Nominations au moins 3 mois avant l'Assemblée Générale. Si de nouvelles candidatures pour un poste donné sont soutenues par au moins 3 Présidents, ou officiers équivalents, de Comités Nationaux de Pays Membres, et si elles sont accompagnées du consentement écrit, et du curriculum vitae des candidats décrivant leur situation, leurs intérêts scientifiques, et leurs activités en liaison avec l'Union, ces candidatures seront ajoutées à la liste initialement établie. Le Comité des Nominations enverra la liste finale des candidatures aux officiers de l'Union et des Associations et aux Comités Nationaux au plus tard 2 mois avant l'Assemblée Générale.

   Des re-nominations, à partir de la liste des nominations initiales pour les postes au Bureau et au Comité des Finances, pourront aussi être faites durant les 48 heures suivant la clôture de la première réunion du Conseil à l'Assemblée Générale. De telles nominations devront être soumises par écrit au Secrétaire Général, soutenues par au moins 3 membres du Conseil et accompagnées des mêmes documents que ceux requis pour une nomination initiale. Les Délégués au Conseil seront informés de ces nouvelles candidatures, avec leurs curriculum vitae respectifs, au moins 24 heures avant les élections.

   Aucun candidat ne pourra postuler à plus d'un poste. Les élections se feront à bulletin secret.

   c. Nul ne peut simultanément faire partie du Bureau ou de la Commission des Finances et être Président ou Secrétaire d'une Association.

   Le Bureau peut nommer des Secrétaires Généraux adjoints et un Trésorier adjoint auxquels des tâches déterminées seront assignées par le Secrétaire Général et par le Trésorier avec l'approbation du Bureau. Ils peuvent participer aux réunions des organes administratifs de l'Union à titre consultatif.

   Des scientifiques représentés par des Organismes Adhérents qui ont le statut d'Associé, ou qui ont le statut d'Observateur depuis plus de deux ans et des scientifiques de pays qui ne sont pas représentés par un Organisme Adhérent ne sont pas éligibles à des positions électives dans l'Union ou dans les Associations qui la composent.

11. Le Conseil est convoqué par le Président de l'Union. Il se réunit normalement au début et, si nécessaire, au cours de chaque Assemblée Générale. Il peut être convoqué entre deux Assemblées Générales lorsque la demande écrite lui en est faite par le tiers au moins des Pays Membres à titre payant, ou une majorité des membres du Comité Exécutif, avec indication des questions à mettre à l'ordre du jour de la réunion; les décisions prises dans ces conditions par le Conseil sont soumises à l'article 5 des Statuts.

Le Conseil:

a. se prononce sur l'admission de nouveaux Pays Membres;

b. décide quant à l'appel d'une décision prise par le Bureau de refuser un transfert en Catégorie Associée d'un Pays Membre en statut d'Observateur.

c. élit les membres du Bureau et de la Commission des Finances;

d. reçoit les rapports du Secrétaire Général et du Trésorier de l'Union et examine, pour approbation, les décisions ou les mesures prises par le Comité Exécutif et par le Bureau depuis la dernière réunion du Conseil;

e. examine les propositions de la Commission des Finances et adopte le budget définitif;

f. détermine le montant de l'unité de contribution pour la période suivante (la modification de cette unité ne peut être discutée lors d'une Assemblée Générale que si elle a été inscrite à l'ordre du jour distribué quatre mois auparavant aux Pays Membres);

g. revoit de temps en temps les catégories des Pays Membres; examine la situation des Membres Associés à chaque Assemblée Générale.

h. étudie les questions de politique générale ou d'administration des affaires de l'Union et désigne, à cet effet, les Comités qui, le cas échéant, peuvent être jugés nécessaires;

i. examine les propositions de modification des statuts ou du règlement intérieur.

12. Le Comité Exécutif est convoqué par le Président de l'Union. Il se réunit au cours des Assemblées Générales et participe, mais à titre consultatif seulement, à toutes les délibérations du Conseil. En principe, il se réunit également au moins une fois au cours de chaque période deux ans avant l'Assemblée Générale, pour établir un projet d'ordre du jour pour les activités scientifiques interdisciplinaires et un projet d'emploi du temps de l'Union et des Associations pendant l'Assemblée Générale suivante.

Lors d'une réunion du Comité Exécutif, aucun Membre du Bureau, ni le Président sortant de l'Union, ne peuvent se faire représenter par quiconque. Les Présidents des Associations peuvent, en cas de force majeure, être représentés par un Vice-Président ou le Secrétaire de leur Association. Le Président sortant siège à titre consultatif. Pour la validité des délibérations du Comité Exécutif, la moitié au moins de ses membres doit être présente ou représentée.

Les propositions concernant l'ordre du jour des réunions du Comité Exécutif peuvent être formulées par les Membres du Comité; elles devront parvenir au Secrétaire Général au moins six mois avant la réunion.

L'ordre du jour définitif devra être envoyé aux Membres du Comité Exécutif quatre mois au moins avant la réunion. Une question non inscrite à cet ordre du jour ne pourra être soumise à la discussion du Comité Exécutif qu'après un vote favorable du Comité, obtenu à la majorité des deux tiers des Membres présents à la réunion.

Le Comité Exécutif:

a. prend les mesures nécessaires à la coordination des intérêts des Associations, par exemple en décidant des réunions entre le Secrétaire Général et les Secrétaires des Associations;

b. présente à la Commission des Finances les besoins financiers des différentes Associations pour réaliser leurs objectifs;

c. comble toute vacance qui pourrait survenir, au cours d'une période, parmi les Membres du Bureau ou de la Commission des Finances (lorsque de telles désignations sont confirmées ultérieurement par le Conseil, la période d'exercice ne sera présumée commencer qu'à partir de cette confirmation);

d. présente des recommandations au Conseil sur les questions de politique générale de l'Union.

l3. Le Bureau se réunit en principe une fois tous les ans sur convocation du Président de l'Union. Lors d'une réunion, aucun Membre du Bureau ne peut se faire représenter par quiconque. Pour la validité des délibérations, quatre Membres au moins doivent être présents.

Dans l'intervalle entre deux réunions du Conseil, le Bureau prend les mesures nécessaires pour réaliser les objectifs généraux de l'Union; il gère les finances et assure l'administration de l'Union. Il prépare les programmes des réunions du Conseil et du Comité Exécutif.

14. Les demandes d'adhésion à l'Union ou de transfert en Catégorie Associée sont présentées au Secrétaire Général. Ce dernier établit un rapport à leur sujet au Comité Exécutif qui juge du bien-fondé, sur le plan scientifique, de chaque demande. Il transmet alors la demande, par les voies les plus appropriées, aux Organismes Adhérents représentant les Pays Membres à titre payant; ces Organismes votent par correspondance et le résultat du scrutin leur est communiqué par le Bureau. Toute admission prononcée à la majorité simple reste provisoire jusqu'à approbation par le Conseil. La majorité simple et ici déterminée par la proportion des votes affirmatifs par rapport au total des votes (affirmatifs, négatifs) pourvu que le nombre total de délégués ayant voté ne soit pas inférieur au tiers des Pays Membres de l'Union ayant droite de vote. Tout refus ne peut être décidé que par le Conseil.

15. Le Président:

a. représente l'Union dans ses relations avec les institutions et les organisations internationales ou nationales;

b. convoque et préside l'Assemblée Générale ainsi que les réunions du Conseil, du Comité Exécutif et du Bureau;

c. présente à l'Assemblée Générale le rapport sur les activités scientifiques de l'Union pendant la période en cours;

En cas de force majeure, le Vice-Président fera fonction de Président. Si le Président est dans l'incapacité de terminer son mandat, le Vice-Président devient alors Président et le Comité Exécutif élit un nouveau Vice-Président parmi les Membres restants du Bureau.

16. Le Secrétaire Général:

a. remplit les fonctions de Secrétaire de l'Assemblée Générale, du Conseil, du Comité Exécutif et du Bureau; organise les réunions de ces organismes; établit et diffuse promptement les ordres du jour et les procès-verbaux de leurs réunions;

b. gère les affaires de l'Union, se charge de la correspondance et assure la conservation des archives;

c. distribue toutes les informations qui concernent l'Union;

d. établit les rapports d'activité de l'Union; diffuse notamment à tous les Pays Membres, trois mois au plus tard avant chaque Assemblée Générale, un rapport sur l'Administration de l'Union depuis l'Assemblée Générale précédente, rapport dont il présente un résumé à l'Assemblée Générale elle-même;

e. accomplit toutes autres fonctions qui lui sont confiées par le Bureau.

17. Pour aider le Secrétaire Général et le Trésorier dans l'accomplissement de leurs tâches, le Bureau peut les autoriser à engager le personnel administratif et le personnel de Secrétariat nécessaire pour assurer le bon fonctionnement de l'Union.

3. Finances

18a. Les pays adhérents à l'Union paient annuellement le nombre d'unités de contribution correspondant à leur catégorie d'après le tableau suivant:

Catégorie	Unités de contributions
1	1
2	2
3	3
4	5
5	7
6	10
7	15
8	20
9	25
10	30
11	35
12	40

b. Les Membres Associés, en Catégorie A, n'acquittent pas de cotisation.

19. La Commission des Finances élit son Président et son Secrétaire parmi ses membres.

Elle se réunit sur convocation de son Président, au moins une fois au cours de chaque période et pendant les Assemblées Générales; elle participe, mais à titre consultatif seulement, à toutes les délibérations du Conseil. Aucun de ses membres ne peut se faire représenter par quiconque à une réunion de la Commission. Son Président peut inviter le Trésorier à assister, à titre consultatif, à une réunion de la Commission.

La Commission des Finances:

a. examine les différents rapports du Trésorier et présente ses conclusions au Conseil;

b. revoit pour chaque période les sources de revenus de l'Union et présente au Conseil les recommandations appropriées;

c. propose au Conseil les lignes générales de la politique financière de l'Union;

d. en accord avec le Trésorier, prépare pour la période à suivre un budget qu'elle soumet au Conseil;

e. s'assure que la distribution des fonds au sein de l'Union correspond aux responsabilités scientifiques de l'Union;

f. a seule autorité dans l'intervalle des réunions du Conseil, pour apporter une modification au budget voté par le Conseil, sur demande justifiée du Trésorier et après consultation, s'il y a lieu, des Organismes Adhérents;

g. conseille le Bureau, en cours de période, sur toute question financière au sujet de laquelle il est consulté;

h. a autorité pour guider les organes administratifs de l'Union et les Secrétaires des Associations et pour vérifier leurs comptes et leurs rapports.

20. Le Trésorier de l'Union est chargé, sous sa responsabilité, de la gestion des finances de l'Union, conformément aux directives qui lui sont données par le Bureau.

Le Trésorier:

a. réunit les fonds de l'Union et les répartit conformément aux instructions du Conseil et du Bureau;

b. tient les comptes de toutes les transactions financières de l'Union et présente tous les ans son rapport financier à la Commission des Finances;

c. présente à la Commission des Finances et au Conseil tout autre rapport qui lui sera réclamé;

d. rassemble, à la fin de l'année civile qui précède l'Assemblée Générale, les comptes complets de l'Union (y compris ceux des Associations et de toutes les activités de l'Union) pendant la période écoulée, afin de les présenter, trois mois au moins avant l'Assemblée Générale, sous forme d'un rapport au Bureau et à la Commission des Finances, puis, lors de l'Assemblée Générale, au Conseil. Ce rapport devra être accompagné d'états relatifs à chacun des comptes gérés par l'Union, les Associations ou les autres Organismes bénéficiant de l'aide financière de l'Union. Chaque compte devra être certifié par un comptable qualifié;

e. prépare un bref rapport sur les finances de l'Union (y compris celles des Associations et de toutes les activités de l'Union) et en assure la diffusion aux Pays Membres trois mois au plus tard avant chaque Assemblée Générale.

Le Président, le Trésorier et le Trésorier adjoint sont autorisés à tirer sur tous les comptes bancaires de l'Union, mais seulement selon les instructions qui leur seront données par le Bureau.

21. Les dépenses de voyage et les frais de séjour, aux taux établis par le Bureau, ne peuvent être payés par le Trésorier que lorsque sont satisfaites simultanément les trois conditions suivantes:

a. réunions concernant spécifiquement les affaires de l'Union;

b. personnes intéressées représentant l'Union et non un Pays membre;

c. remboursement ne pouvant pas être obtenu dans le pays d'origine de l'intéressé.

FIN DES STATUTS ET DU RÈGLEMENT INTÉRIEUR

UNION
Statutes

1. Objectives and Composition of the Union

1. The objectives of the International Union of Geodesy and Geophysics are:

a. to promote the study of all problems relating to the figure of the Earth, and the physics and chemistry of the Earth's interior, surface, fresh waters, oceans and atmosphere, along with relevant studies of other planets;

b. to initiate, facilitate and co-ordinate research into, and investigation of those problems of geodesy and geophysics which require international co-operation or which are of international interest;

c. to provide, on an international basis, for discussion and publication of the results of the researches indicated in paragraph b) above;

d. to promote co-ordination worldwide of scientific activities in the disciplines of interest to the Union;

e. to assist with scientific advice the study of practical problems of a geodetic or geophysical character when such problems present an international aspect or when they require international co-operation of specialists or facilities;

f. to promote and co-ordinate the scientific activities of several Permanent Services whose objectives are, on an international basis, to facilitate the standardisation of measurements or to collect, analyse and publish geodetic or geophysical data, taking into account the results of planetary studies.

2. To achieve its scientific aims, the Union consists of a number of International Associations, each of which deals with a discipline of geodesy or geophysics.

3. The Union adheres to the International Council for Science (ICSU).

4a. Any country in which independent activity in geodesy and geophysics has been developed may adhere to the Union, provided that it takes an adequate share in the maintenance of the Union.

That country shall be represented by a single body, known as the Adhering Body, which may be either its principal scientific Academy, or its National Research Council, or any other institution or association of institutions, whether non governmental or governmental, representing the geodetic and geophysical activities of the adhering country. Only under extraordinary circumstances, the Council of IUGG (defined in Item 5 of these statutes) may admit a suitably designated additional Adhering Body for a country, provided a corresponding Adhering Body of that country has already been admitted as a National Member of the International Council for Science. In this case, each Adhering Body will have a separate Council Delegate and will be treated separately in questions of Voting and Finances.

b. A country in which activity in geodesy and geophysics has been developed but which cannot participate financially in the maintenance of the Union may become Associate. That country shall be represented by a single body, as specified in 4.a..

c. Hereafter adhering countries will be referred to as Member Countries.

5. The General Assembly shall consist of the duly accredited Delegates of the Member Countries, and Guests invited in accordance with the by-laws.

The Council of the Union shall consist of the Delegates known as Council Delegates, designated for each meeting of the Council by the Member Countries, viz. one Council Delegate for each Member Country, unless otherwise decided in accordance with item 4 of these Statutes. Each Council Delegate shall be formally accredited by the Adhering Body in advance of each meeting of the Council. Associate Members are not allowed to sit in Council.

2. Administration

6. Responsibility for the direction of the Union affairs shall be vested in the Council of the Union. Decisions of the Council shall be reported to the General Assembly.

7. Between meetings of the Council, the direction of the affairs of the Union shall be vested in the Bureau and the Executive Committee, of which the respective responsibilities are hereafter defined.

8. The Bureau of the Union shall consist of the President, Vice-President, Secretary General, Treasurer and three additional Members, all of whom shall be elected by the Council.

The duties of the Bureau shall be to administer the affairs of the Union in accordance with these statutes and by-laws and with the decisions of the Council.

9. The Executive Committee shall consist of the Bureau, the Presidents of the International Associations, and the immediate Past President of the Union. The Secretaries of the Associations will be invited to attend any meeting of the Executive Committee of the Union in an advisory capacity.

The duties of the Executive Committee shall be to further the scientific objectives of the Associations through effective co-ordination and through the formulation of general policies to guide the scientific work of the Union.

The Executive Committee shall meet with the Council at sessions of the latter with voice but without vote.

10. Within the framework of the statutes of the Union, the International Associations of the Union may make their own statutes and by-laws and control their administration and finance.

3. Finance

11. The Finance Committee shall be elected by the Council of the Union and shall be advisory to the Council. It is composed of five persons, none of whom may be a member of the Bureau of the Union or of an Association or of a Directing Board of one of the Permanent Services supported by the Union.

The Finance Committee shall meet with the Council at sessions of the latter, with voice but without vote.

12a. There shall be twelve categories of membership in the Union, numbered 1 to 12, plus a special category, called A.

b. For categories 1 to 12, each Member Country shall pay annually the number of units of contribution assigned to the category in which it adheres. In each country the Adhering Body shall be responsible for the payment of the contribution. Any member country may additionally donate contributions for travel support of scientists from countries of category A.

c. Category A is composed of the Associates. They do not pay an annual contribution to the Union.

13a. A country which seeks to adhere to the Union must specify the category in which it proposes to adhere. Its application for admission may be refused if the category proposed is considered inadequate.

b. An Associate may enter a paying category, or a paying Member Country may raise its category at any time provided the Finance Committee agrees. A paying Member Country may lower its category or become an Associate only with the consent of the Council of the Union.

14a. The fi0nancial year shall be the calendar year.

b. If at the end of any year a paying Member Country has not paid its subscription for the previous year, the benefits of membership in the Union will be denied to that Member Country, until full payment has been made of the previous year's subscription and of any further subscriptions in arrears. Such Member Countries shall be deemed to be in Observer status.

c. A Member Country in Observer status will continue to accrue annual subscription obligations.

d. If at the start of any year a paying Member Country has been in Observer status for four years, that Member Country shall be deemed to have withdrawn from membership unless the Secretary General has received a formal written request from the Member Country for being transfered to Associate membership (category A).

e. The Bureau of the Union with the advice and consent of the Finance Committee and of the Associations, is authorised to grant requests for transfer temporarily to category A, until the next meeting of the Council, to Member Countries in Observer status that provide evidence that efforts to pay all subscriptions in arrears are likely to be unsuccessful.

f. A Member Country which has been denied a transfer to category A by the Bureau may appeal at the next meeting of the Council.

g. Any Member Country in Observer status that is denied a transfer to category A shall cease to be a Member Country following the next Council meeting after its request to the Bureau for a transfer.

h. Every Associate Membership will be reviewed at each General Assembly. Member Countries which have been Associates from the beginning of their membership, will be asked subsequently to consider entering a paying category.

15. In the event of the dissolution of any Association, its assets shall be ceded to the Union. In the event of the dissolution of the Union, its assets shall be ceded to the International Council for Science (ICSU).

4. Voting

16. Associates have no voting rights.

17a. On questions of scientific nature, or of administrative nature, or of a character partly administrative and partly scientific not involving matters of finance, the voting shall be in Council by Member Countries, each Council Delegate having one vote, provided that the subscription of the Adhering Body has been paid up to the end of the calendar year preceding the voting.

b. On questions involving finance, the voting shall be in Council by Member Countries with the provision that a voting country must have paid its subscriptions up to the end of the calendar year preceding the voting in Council. The number of votes allotted to each Member Country shall then be equal to the number of its category of membership.

18. Questions on admission of new Member Countries and appeals against denial of transfer to Associate membership shall be decided by a two-thirds absolute majority vote of the Council Delegates meeting in Council, each Council Delegate having one vote.

19. A Council Delegate may represent only one Member Country. No member of the Bureau shall serve as a Council Delegate of a country. No Member of the Executive Committee shall vote with the Council unless under exceptional circumstances he is also the Council Delegate of a Member Country.

    A paying Member Country which is not represented at a Council meeting may vote by correspondence on any specific question provided that the matter has been clearly defined on the final agenda distributed in advance to the Member Countries and that the discussion thereon has not produced any new considerations or changed its substance and provided that said vote has been received in writing by the President prior to the voting.

    For the validity of the deliberations of the Council, at least one third of the Member Countries eligible to vote must be represented by their Council Delegates.

20. Before a vote in a Council meeting, the President shall decide whether the matter under consideration is scientific, administrative or financial in character and whether the procedure of voting by correspondence applies.

21. Decisions of the Council shall be taken by a simple absolute majority except as otherwise specified in the present statutes.

    If a tie should occur in a Council vote, the decision shall rest with the President.

    Simple or two-third absolute majorities are determined by the proportion of affirmative votes to the sum of votes (affirmative, negative, abstention), provided that the total number of delegates voting (affirmative, negative, abstention) is not less than one third of the total membership of the Union eligible to vote. Blank or invalid ballots and votes not cast by Delegates present are counted as abstentions.

5. General

22. These statutes or any further modification to them shall come into force at the close of the Council meeting at which they are adopted.

23. The statutes of the Union may not be modified except with the approval of two thirds of the Delegates meeting in Council.

24. Proposals by Member Countries for a change of any article of the statutes of the Union must reach the Secretary General at least six months before the announced date of the Council meeting at which it is to be considered. The Secretary General shall notify all Member Countries of any proposed change, at least four months before the announced date of the Council meeting.

25. The Council has the power to adopt by-laws within the framework of the statutes of the Union. These by-laws may be modified by a simple majority of votes cast at a Council meeting. These by-laws, or any further modification of them shall come into force at the close of the Council meeting at which they are approved.

26. Conduct of meetings, except as otherwise specified in the Statutes, shall be according to Robert's Rules of order.

27. The French text of the present Statutes shall be considered the authoritative text.

By-Laws

I. Composition

1. The following are the constituent Associations of the Union:

   The International Association of Geodesy,

   The International Association of Seismology and Physics of the Earth's Interior,

   The International Association of Volcanology and Chemistry of the Earth's Interior,

   The International Association of Geomagnetism and Aeronomy,

   The International Association of Meteorology and Atmospheric Sciences,

   The International Association of Hydrological Sciences,

   The International Association for the Physical Sciences of the Ocean.

2. The Union may, through the Executive Committee, appoint, jointly with other Unions, or jointly between the Associations, or for special purposes, Scientific Commissions which shall themselves have power to create subcommissions as may be necessary. In the same way, it may sponsor Permanent Services. The list of Scientific Commissions or Committees and Permanent Services sponsored by the Union is reviewed by the Executive Committee at each General Assembly.

   Scientists from all countries may attend scientific meetings of the Union and of the Associations. They may also act as observers in Commissions of the Union and in the Associations.

3. The President shall normally represent the Union at the General Assemblies of the International Council for Science. If necessary he may be represented by the Vice-President or Secretary General.

4. Each Adhering Body shall form a Committee for Geodesy and Geophysics hereafter known as an IUGG National Committee. The function of the National Committee is, under the direction of the Adhering Body, to provide for the participation of the Member Country in the Union activities.

   During the interval between General Assemblies, the Bureau of the Union may directly consult by correspondence the National Committee of each Member Country on any question of scientific character or on administrative matters not involving finance. On matters of finance and on admission of new Member Countries, the Bureau of the Union shall communicate with the Adhering Bodies of paying Members.

2. Administration

5. General Assemblies shall normally be held once every four years at the call of the President of the Union. The interval of time between the closure of two successive ordinary General Assemblies shall be known as a "period".

6. Notice of the date and of the place of the meeting of the next General Assembly shall be sent by the Secretary General to the Member Countries at least nine months before the Assembly.

   Proposals concerning agenda for meetings of the Council may be presented by the Adhering Bodies or National Committees; they must be received by the Secretary General at least six months before the meeting, Associates may make proposals of scientific nature only. The Secretary General must place all proposals received on the final agenda for the Council meeting. This final agenda, with explanatory comments, shall be sent to all Member Countries at least four months prior to the meeting. An item which has not been thus placed on the agenda may be discussed at a meeting of the Council if a proposal to that effect is approved by vote of two-thirds of the Council Delegates.

7. The Secretary General may send notice of the date and place of the next General Assembly to individuals or scientific organisations in countries not adhering to the Union, but where there is evidence of activity in Geodesy and Geophysics.

   Scientists from these countries will be invited to participate in the scientific program of the General Assembly, with the status of Guest.

   The President of the Union may on his own initiative or at the request of an Association or Member Country invite representatives of scientific bodies to attend any General Assembly as Guests provided that there is no financial obligation for the Union.

8. A plenary meeting of the participants in the General Assembly shall be held during each General Assembly for discussions of Union activities.

9. The Associations shall hold business meetings and scientific sessions at the General Assemblies of the Union.

The scientific meetings at a General Assembly should include joint sessions of two or more Associations for the discussion of interdisciplinary topics. The programme of the meetings and the selection of these interdisciplinary topics shall be decided by the Executive Committee of the Union, about two years before the time of the General Assembly, on the basis of recommendations made earlier by the Associations.

Provided that the Executive Committee is informed, an Association may also arrange meetings of its own in the interval between the General Assemblies, either singly to deal with topics of specific interest, or jointly with another Association or other Associations.

10a. The President of the Union shall be elected for one period and he is not immediately eligible for re-election. The Vice-President and the additional elected Members of the Bureau shall be elected for one period and may be re-elected for not more than one consecutive period in the same function.

The Secretary General shall be elected for two periods initially and should not normally be re-elected for more than two additional single periods.

The Treasurer shall be elected for one period initially and should not normally be re-elected for more than two additional single periods.

The Members of the Finance Committee shall be elected for one period and may be re-elected for three successive periods; at least one Member of the Committee shall be replaced at the end of each ‘period.

b. At least one year and a half before the General Assembly, the President shall appoint a Nominating Committee with the advice and approval of the Executive Committee. The Nominating Committee shall consist of a Chairman and three other members, not themselves members of the Executive Committee nor the Finance Committee.

The Nominating Committee, after soliciting nominations from the Adhering Bodies of the Member Countries, and from the officers of the Union and the Associations, shall propose one or two candidates for each position in the Bureau and in the Finance Committee, seeking to achieve a reasonable balance in their geographical and professional distribution. Candidates shall be asked to signify their acceptance of nomination and to prepare a resume outlining their position, research interests and activities related to the Union.

The officers of the Union and Associations and the National Committees shall be informed by the Nominating Committee of the list of nominations at least 8 months before the General Assembly. They may make further nominations and/or recommendations to the Nominating Committee at least 3 months before the General Assembly. If new nominations for a given position are supported by at least 3 Presidents or equivalent officers of National Committees of Member Countries, and if they are accompanied by the written acceptance of possible nomination and resume outlining the position, research interests and Union related activities of the candidates, they shall be added to the list initially established. The Nominating Committee shall send the final list of nominations to the officers of the Union and Associations and to the National Committees at the latest 2 months prior to the General Assembly.

Renominations, from those previously nominated for the Bureau and Finance Committee, may also be made over a period of 48 hours, following the close of the first Council meeting at the General Assembly. Such nominations shall be submitted in written form to the Secretary General, supported by at least three members of the Council and accompanied by the same documentation as required with the original nominations. The Council Delegates shall be informed of these additional nominations, together with their resumes, at least 24 hours before the elections.

No one can be a candidate for more than one position in the election. Elections shall be by secret ballot.

c. No one shall be at the same time a Member of the Bureau or of the Finance Committee and President or Secretary of an Association.

The Bureau may appoint Assistant Secretaries General and one Assistant Treasurer who may be assigned specific tasks by the Secretary General and the Treasurer with the approval of the Bureau. They may attend meetings of the administrative bodies of the Union in an advisory capacity.

Scientists represented by Adhering Bodies that have Associate membership, or have been in Observer status for more than two years and scientists from countries not represented by an Adhering Body are not eligible to hold elected positions in the Union or in its constituent Associations.

11. The Council is convened by the President of the Union. It shall meet normally at the beginning of, and if necessary, during each Assembly.

It may be convened between two General Assemblies when a written request is made by at least a third of the paying Member Countries or by a simple majority of the members of the Executive Committee, with notice of the questions to be placed on the agenda of the meeting; the discussions reached at such a meeting of the Council shall be subject to article 5 of the Statutes.

The Council shall:

a. decide upon the admission of new Member Countries;

b. decide on an appeal against a decision by the Bureau to deny a transfer to Associate membership of a Member Country in Observer Status;

c. elect the members of the Bureau and of the Finance Committee;

d. receive reports from the Secretary General and the Treasurer of the Union and ratify the decisions or actions taken by the Bureau and the Executive Committee since the last Council meeting;

e. consider recommendations submitted by the Finance Committee and adopt the final budget;

f. determine the amount of the unit of contribution for the ensuing period (the unit cannot be changed at a General Assembly unless proposed on the agenda distributed four months in advance to the Member Countries);

g. review from time to time the categories of Member Countries; review the Associates at each General Assembly;

h. examine questions of general policy or administration in the business of the Union and appoint such Committees as may from time to time be deemed necessary for this purpose;

i. consider proposals for changes in the Statutes or By-Laws.

12. The Executive Committee is convened by the President of the Union. It shall meet at General Assemblies, and also at all sessions of the Council with voice but without vote. It shall also meet normally at least once between General Assemblies, two years ahead of the next General Assembly, in order to prepare an outline of the interdisciplinary scientific agenda and of the timetables for the Union and for the Associations during the next General Assembly.

    At a meeting of the Executive Committee, no member of the Bureau, nor the Past President of the Union, can be represented by any other person. The Presidents of the Associations, in case of hindrance, may be represented by a Vice-President or the Secretary of their Association. The Past President has voice but no vote. For the validity of the deliberations of the Executive Committee, at least half of its members must be present or represented.

    Proposals concerning the agenda for meetings of the Executive Committee may be submitted by Members of the Committee; they must be received by the Secretary General at least six months before the meeting.

    The final agenda shall be sent to the Members of the Executive Committee at least four months prior to the meeting. No question which has not been placed on the agenda may be discussed at a meeting of the Committee unless a proposal to that effect has been approved by a vote of two thirds of the Members present.

The Executive Committee shall:

a. initiate actions, as required, to co-ordinate the common interest of the Associations, such as by meetings between the Secretary General and the Secretaries of the Associations;

b. submit to the Finance Committee the financial needs of the Associations in achieving their objectives;

c. fill any vacancy which may occur between General Assemblies among the Members of the Bureau and of the Finance Committee (when such appointments are later confirmed by the Council, the period of office will be considered to begin only from the date of its confirmation by the Council);

d. make recommendations to the Council on matters of general policy of the Union.

13. The Bureau shall normally meet once a year, at the call of the President of the Union. In a meeting, no Member of the Bureau can be represented by any other person. For the validity of the deliberations, four Members at least must be present.

    Between the meetings of the Council, the Bureau shall initiate procedures to attain the general objectives of the Union; it shall manage the finances, and ensure the adequate administration of the Union. It shall draw up the programmes for the meetings of the Council and of the Executive Committee.

14. Applications for membership of the Union, or for the transfer to Associate membership shall be referred to the Secretary General. The latter shall report thereon to the Executive Committee, which shall decide on the scientific merits of each application. The Secretary General shall then forward the proposals through the appropriate

channels to the Adhering Bodies representing the paying Member Countries; these bodies will vote by correspondence and the results of the ballot will be communicated to them by the Bureau. Any admission accepted by a simple majority is provisional until approved by the Council. Simple majority is here determined by the proportion of affirmative votes to the sum of votes (affirmative, negative) provided that this sum is not less than one third of the total membership of the Union eligible to vote. Any case of refusal shall be referred to the Council.

15. The President of the Union shall:
   a. be the representative of the Union in its dealing with National or International Organisations or Institutions:
   b. convene and preside over the General Assembly and over all meetings of Council, Executive Committee and Bureau;
   c. submit a report to the General Assembly on the scientific work of the Union during the current period.

   In case of his absence, the Vice-President shall act. If the President is incapable of remaining in office, the Vice-President shall become President and the Executive Committee shall elect a new Vice-President from the remaining Members of the Bureau.

16. The Secretary General shall:
   a. serve as Secretary of the General Assembly, the Council, the Executive Committee and the Bureau; arrange for meetings of these bodies; prepare and distribute promptly the agenda and the minutes of all their meetings;
   b. manage the affairs of the Union, attend to correspondence, preserve the records;
   c. circulate all information related to the Union;
   d. prepare reports on the Union's activities; at least three months before the General Assembly, forward to all the Member Countries a report on the administration of the Union since the last General Assembly, and present a summary of this to the General Assembly itself;
   e. perform such other duties as may be assigned to him by the Bureau.

17. To assist the Secretary General and the Treasurer in the performance of their duties to the Union, they may be authorised by the Bureau to employ administrative and secretariat personnel as may be required to ensure orderly administration.

3. Finance

18a. The Adhering Bodies to the Union shall pay annually the number of units of contributions assigned to the category in which they adhere, according to the following table

Category	Units of Contribution
1	1
2	2
3	3
4	5
5	7
6	10
7	15
8	20
9	25
10	30
11	35
12	40

   b. Associates, in category A, do not pay.

19. The Finance Committee shall elect its Chairman and Secretary from among its Members.

   It shall meet at the call of its Chairman at least once in each period and during the General Assemblies and at such other times as may be required. It shall meet with the Council at all sessions of the latter, with voice but without vote. The Treasurer may be invited by the Chairman to attend a meeting of the Finance Committee. No Member can be represented by any other person at a meeting of the Committee.

The Finance Committee shall:
   a. examine the Treasurer's reports and submit its conclusions to the Council;
   b. review for each period the sources of income and submit to the Council appropriate recommendations;
   c. recommend to the Council the general lines of the financial policy of the Union;
   d. after consultation with the Treasurer, prepare and submit to the Council a proposed budget for the ensuing period;
   e. ensure that the distribution of funds within the Union is consistent with the scientific responsibilities of the Union;
   f. have sole authority, in the interval between meetings of the Council, to modify the budget voted by the Council at the request of the Treasurer, if necessary, after consultation with the Adhering Bodies;

g. advise the Bureau, during the period between Council meetings, on financial matters about which it is consulted;

h. have authority to provide guidance to the administrative units of the Union and the Secretaries of the Associations and to check their accounts and financial reports.

20. The Treasurer of the Union shall be responsible for the financial administration of the Union in accordance with directions issued to him by the Bureau.

The Treasurer shall:

a. collect the funds of the Union and disburse them in accordance with the instructions of the Council and of the Bureau;

b. maintain records of all financial transactions of the Union and submit annual financial reports thereon to the Finance Committee;

c. submit such other reports to the Finance Committee and to the Council as may be requested;

d. assemble, at the end of the calendar year preceding a General Assembly, the complete accounts of the Union (including those of the Associations and of all Union activities) for the past period, for presentation of his report to the Bureau and to the Finance Committee at least three months prior to the General Assembly, and at the General Assembly to the Council. Such report shall be accompanied by statements concerning each account administrated by the Union, its Associations, and other financially assisted bodies. Each account shall be audited by a qualified accountant;

e. prepare a summary report of the Finances of the Union (including those of the Associations and of all Union activities) and arrange for the distribution of copies thereof to the Member Countries not later than three months prior to the General Assembly.

The President, the Treasurer and the Assistant Treasurer have the authority to draw from any bank accounts of the Union, but only as directed by the Bureau.

21. Travelling expenses and per diem subsistence may be paid by the Treasurer in accordance with rates established by the Bureau.

The following conditions must be satisfied:

a. the meeting must be for specific Union business;

b. those concerned must represent the Union and not Adhering Bodies;

c. those concerned must be unable to obtain adequate allowances from sources in their own country.

END OF STATUTES AND BY-LAWS

ASSOCIATION INTERNATIONALE DE GÉODÉSIE
STATUTS ET RÈGLEMENT INTÉRIEUR
Statuts

1. Définition et mission de l'Association Internationale de Géodésie

1. L'Association Internationale de Géodésie, ci-après désignée l'Association, est l'une des associations constituant l'Union Géodésique et Géophysique Internationale, ci-après désignée l'Union.

2. L'Association a pour mission:

a. de promouvoir l'étude de tous les problèmes scientifiques de la géodésie et d'encourager la recherche géodésique;

b. de prendre toute initiative pour faciliter et coordonner la coopération internationale dans ce domaine et de promouvoir les activités géodésiques dans les pays en développement;

c. d'assurer, sur le plan international, la discussion et la publication des résultats des études, recherches et travaux mentionnés aux paragraphes a) et b) ci-dessus.

3. Pour atteindre ces objectifs, l'Association comprend un petit nombre de Sections, chacune d'entre elles traitant une partie distincte de la géodésie. Des Commissions, des Commissions Spéciales, des Groupes Spéciaux d'Etudes peuvent être créés selon des formes précisées dans le Règlement Intérieur.

4. Chaque pays adhérant à l'Union (Pays Membre) est admis à se faire représenter à l'Association par des Délégués.

4a. Des scientifiques peuvent devenir Affiliés de l'Association, soit en tant que Compagnons, soit en tant qu'Associés, selon des règles précisées dans le Règlement Intérieur.

2. Administration

5. L'Assemblée Générale de l'Association est constituée par les Délégués des Pays Membres, dûment accrédités par l'Organisme Adhérent de chaque pays, tel que défini par les Statuts de l'Union.

6. Le Conseil de l'Association est constitué par les Délégués, appelés Délégués au Conseil, désignés et dûment accrédités par les Organismes Adhérents des Pays Membres pour les représenter à chacune des réunions du Conseil, à raison d'un Délégué par Pays Membre. Chaque membre du Conseil est soit un Compagnon, soit un Associé de l'Association.

   Aucun membre du Bureau de l'Association ne peut être choisi comme Délégué au Conseil d'un Pays Membre. Le Président de l'Association préside les réunions du Conseil, sans participer aux votes, sauf dans le cas d'égalité de voix comme précisé à l'Art. 16 ci-après.

7. La responsabilité de la direction des affaires de l'Association est dévolue au Conseil de l'Association. Les décisions prises par le Conseil sont présentées à l'Assemblée Générale. Si une majorité à l'Assemblée Générale est en désaccord avec les décisions du Conseil, celui-ci doit reconsidérer sa position et prendre une décision qui devient définitive.

8. Dans l'intervalle des réunions du Conseil, la gestion des affaires de l'Association est dévolue au Bureau et au Comité Exécutif dont la composition et les attributions respectives sont définies ci-après.

9. Le Bureau de l'Association est constitué par le Président, le Premier Vice-Président et le Secrétaire Général, tous trois élus par le Conseil. Le rôle du Bureau est d'administrer l'Association conformément aux présents Statuts et Règlement Intérieur et aux décisions du Conseil et du Comité Exécutif.

10. Le Comité Exécutif de l'Association est constitué par le Bureau, le Président sortant et le second Vice-Président de l'Association, ainsi que par les Présidents des Sections.

    Les Présidents Honoraires et les Secrétaires Généraux Honoraires de l'Association, les Présidents des Commissions, les Secrétaires des Sections, les Secrétaires adjoints de l'Association et le Rédacteur en Chef du Bulletin Géodésique peuvent assister, à titre consultatif, à toute réunion du Comité Exécutif de l'Association.

    Le rôle du Comité Exécutif est de guider les Sections et autres organismes scientifiques de l'Association vers la réalisation de leurs aspirations scientifiques, en assurant entre eux une coordination efficace et en formulant les règles générales nécessaires au bon déroulement des travaux scientifiques de l'Association.

    Les membres du Comité Exécutif participent, à titre consultatif, à toutes les délibérations du Conseil.

3. Droit de vote

11. Un Délégué au Conseil ne peut être le Délégué que d'un seul Pays Membre.

    Un Pays Membre non représenté à une réunion du Conseil peut voter par correspondance sur toute question bien précisée à l'ordre du jour définitif distribué à l'avance aux Pays Membres, pourvu que les débats n'aient pas introduit d'importants aspects nouveaux de cette question, ni modifié sa substance, et pourvu que le bulletin de vote considéré soit parvenu au Président avant l'ouverture du vote.

12. Pour que les délibérations du Conseil soient valables, la présence effective au Conseil de la moitié au moins des Délégués des Pays Membres représentés à l'Assemblée Générale de l'Union est nécessaire.

13. Pour toutes les questions n'ayant aucune incidence financière, le vote au Conseil se fait par Pays Membre, chaque Pays Membre ayant une voix, à condition qu'il ait payé ses cotisations à l'Union jusqu'à la fin de l'année civile qui précède le vote.

14. Pour toutes les questions financières, le vote au Conseil se fait par Pays Membre, à condition également que le pays considéré ait payé ses cotisations à l'Union jusqu'à la fin de l'année civile qui précède le vote. Le nombre de voix attribuées à chaque Pays Membre est alors égal au numéro de la catégorie dans laquelle le Pays adhère à l'Union.

15. Avant un vote en Conseil, il revient au Président de décider si la question prise en considération est d'ordre financier ou non, et si la procédure du vote par correspondance s'applique.

16. Les décisions au Conseil sont prises à la majorité simple, sauf dans les cas spécialement mentionnés dans les présents Statuts. Si, au cours d'un vote au Conseil, il y a égalité de voix, la décision appartient au Président. La majorité simple ou la majorité des deux tiers sont déterminées par la proportion des votes affirmatifs à la somme de tous les votes (affirmatifs, négatifs, abstentions). Les bulletins blancs, les bulletins non valables et les votes non exprimés par les délégués présents sont décomptés comme abstentions.

4. Généralités

17. Les propositions formulées en vue de la modification d'un article des Statuts de l'Association doivent parvenir au Secrétaire Général au moins six mois avant la date fixée pour la réunion du Conseil au cours de laquelle elles seront examinées. Le Secrétaire Général devra faire connaître à tous les Pays Membres, au moins quatre mois avant la date fixée pour la réunion du Conseil, toutes les propositions reçues à ce sujet.

18. Les Statuts de l'Association ne peuvent être modifiés que par un vote du Conseil à la majorité des deux tiers.

    Les présents Statuts, ou toute modification ultérieure, prennent effet à la clôture de la réunion du Conseil à laquelle ils ont été approuvés.

19. Dans le cadre des Statuts de l'Association, le Conseil a pouvoir d'adopter un Règlement Intérieur.

    Ce Règlement Intérieur ne peut être modifié que par un vote du Conseil à la majorité simple.

    Ce Règlement Intérieur, ou toute modification ultérieure, prend effet à la clôture de la réunion du Conseil à laquelle il (ou elle) a été approuvé(e).

20. En cas de dissolution de l'Association, ses avoirs sont cédés à l'Union.

21. Sauf au cas où les Statuts, ou le Règlement Intérieur, en décideraient autrement, les réunions de travail seront conduites selon les règles: "Robert's Rules of Order".

22. Les présents Statuts et le Règlement Intérieur sont établis en Français et en Anglais.

    Leur validité ne peut être mise en cause par toute erreur de caractère formel ou accidentel.

Règlement Intérieur

1. Structure de l'Association

1. Les travaux scientifiques de l'Association Internationale de Géodésie sont répartis dans les Sections dont les attributions respectives sont décidées par le Conseil sur recommandation du Comité Exécutif. La structure de ces Sections est revue tous les huit ans (soit deux périodes) par un Comité, appelé Comité Cassinis, qui présente ses propositions au Comité Exécutif. En raison des relations complexes entre les différentes activités de l'Association, des interactions entre les Sections sont nécessaires.

   L'Association comprend actuellement les cinq Sections ci-après:

Section I: Détermination de position

- réseaux horizontaux et verticaux de précision;
- méthodes spatiales de positionnement;
- méthodes inertielles de positionnement;
- méthodes cinématiques de positionnement;
- astronomie géodésique;
- positionnement en mer;
- réfraction.

Section II: Technologie spatiale avancée

- développement des techniques spatiales en géodésie, telles que: techniques radioélectriques de poursuite de satellite, techniques radio-interférométriques, mesures de distance laser terre-satellite et terre-lune, altimétrie par satellite, poursuite de satellite par satellite, gradiométrie par satellite, mesures géodésiques depuis l'espace;
- calculs d'orbites;
- résultats géodésiques directement issus de ces techniques;
- techniques géodésiques pour la lune et les planètes.

Section III: Détermination du champ de pesanteur

- mesures terrestres absolues et relatives de pesanteur;
- variations de pesanteur non liées aux marées;
- détermination du champ extérieur de pesanteur et du géoïde à l'aide de la gravimétrie, de la gradiométrie, de l'astronomie géodésique, des techniques spatiales et inertielles;
- réduction et estimation des paramètres du champ de pesanteur.

Section IV: Théorie Générale et Méthodologie

- modèles mathématiques généraux en géodésie;
- analyse statistique et numérique;
- traitement et gestion des données;
- méthodes d'optimisation;
- méthodes des moindres carrés;
- théories différentielle et intégrale du champ de pesanteur;
- théorie de l'estimation, l'approximation et la représentation du champ de pesanteur.

Section V: Géodynamique

- systèmes de référence;
- observation et étude des phénomènes variant avec le temps: mouvement du pôle, rotation terrestre, marées terrestres, mouvements récents de l'écorce terrestre, variations de la pesanteur, topographie de la surface marine et niveau moyen des mers;
- aspects géodésiques des projets géodynamiques internationaux;
- dynamique des planètes et de la lune;
- interprétation géophysique de la pesanteur et des données s'y rapportant.

1a. Chaque Section crée en son sein un Comité Directeur constitué par le Président et les Secrétaires de la Section, les Présidents des Commissions et des Commissions Spéciales appartenant à la Section et par toute personne qui, ayant travaillé dans la Section, est cooptée par le Président de Section.

2. Des Commissions peuvent être créées pour certaines activités qui nécessitent une coopération ou une organisation internationale importante, en particulier pour les problèmes de longue durée ou les activités intéressant de vastes territoires.

   Chaque Pays Membre de l'Union a le droit de nommer un représentant dans chaque Commission, excepté dans celles traitant de zones géographiques particulières; dans ce dernier cas, seuls les pays membres situés dans la zone géographique considérée peuvent nommer un représentant dans la Commission.

   Normalement, une Commission fait partie d'une Section. Chaque Commission peut s'organiser selon les exigences qui lui sont propres tout en respectant les Statuts et Règlement Intérieur de l'Association et en se soumettant à l'approbation du Comité Exécutif; elle peut, par exemple, créer des Sous-Commissions régionales.

2a. Des Commissions Spéciales peuvent être créées pour étudier des problèmes scientifiques à long terme requérant une coopération étroite entre spécialistes de différents pays.

Normalement, une Commission Spéciale fait partie d'une Section.

Chaque Commission Spéciale peut s'organiser selon des exigences qui lui sont propres tout en se conformant aux Statuts et Règlement Intérieur de l'Association et en se soumettant à l'approbation du Comité Exécutif, elle peut, par exemple, créer des Sous-Commissions pour étudier des problèmes spécifiques dans son domaine.

3. Des Groupes Spéciaux d'Etudes peuvent être créés pour étudier des problèmes scientifiques particuliers d'étendue limitée mais qui requièrent une coopération étroite entre les spécialistes de différents pays.

   Normalement, un Groupe Spécial d'Etudes fait partie d'une Section.

4. La création et la dissolution des Commissions, des Commissions Spéciales et des Groupes Spéciaux d'Etudes sont décidées par le Comité Exécutif qui précise également si la Commission, la Commission Spéciale ou le Groupe Spécial d'Etudes doit être placé sous l'autorité directe de l'Association ou de l'une de ses Sections.

   La liste des Commissions, des Commissions Spéciales et des Groupes Spéciaux d'Etudes est publiée dans le Manuel du Géodésien à l'issue de chaque Assemblée Générale.

5. L'Association peut aussi prendre part aux activités d'organismes scientifiques communs avec d'autres Associations de l'Union Géodésique et Géophysique Internationale ou, représentant l'Union, avec d'autres Unions. Ces Organismes sont administrés suivant des règles spécifiques découlant des relations avec les autres groupes, mais ils présentent un rapport sur leurs activités scientifiques aux Assemblées Générales de l'Association.

   Le Comité Exécutif de l'Association décide si la participation à un tel organisme commun doit être placée sous la responsabilité de l'Association ou de l'une des Sections. Cette responsabilité inclut la désignation des représentants à ces organismes ainsi que la participation à la planification de leurs activités futures.

2. Elections

6. Les élections sont faites par le Conseil au cours de chaque Assemblée Générale Ordinaire de l'Association.

   Le Président en exercice, après avoir pris l'avis des membres du Comité Exécutif, désigne un Comité de Nomination composé d'un président et de trois autres membres. Le Comité de Nomination, après avoir pris l'avis des Organismes Adhérents des Pays Membres et des Officiels de l'Association, propose un candidat pour chacun des postes soumis à élection au Conseil. Les candidats doivent signifier leur acceptation et fournir un résumé de leur carrière, en 150 mots maximum, mettant en évidence leur fonction actuelle, leurs intérêts de recherche et leurs activités en rapport avec l'Association. Les délégués sont tenus informés, très tôt au cours de l'Assemblée Générale, de ces candidatures ainsi que des résumés les accompagnant, en outre, des annonces sont faites pour permettre, pendant une période d'au moins 48 heures, à d'autres candidatures de se manifester. Celles-ci doivent êtres présentées par écrit, avoir l'appui d'au moins deux membres du Conseil, et être adressées, accompagnées des résumés tels que décrits ci-dessus, au Secrétaire Général. Les délégués ont connaissance de ces dernières candidatures, des résumés, ainsi que des noms des personnes apportant leur soutien.

   Les élections ont lieu au scrutin secret. Une même personne ne peut occuper en même temps plus d'un des postes suivants: Président de l'Association, Vice-Président, Président de Section et Président de Commission ou de Commission Spéciale.

7. L'intervalle de temps séparant les clôtures de deux Assemblées Générales Ordinaires successives de l'Association est appelé "période".

8. Le Président de l'Association est élu pour une période. Il n'est pas immédiatement rééligible à ce poste, mais le Conseil peut le nommer Président honoraire.

9. Le Premier et le Second Vice-Présidents sont élus pour une période et ne sont pas immédiatement rééligibles aux mêmes postes.

10. (Article supprimé).

11. Le Secrétaire Général est élu initialement pour une période. Il peut être réélu pour deux autres périodes, par périodes successives.

12. Ces mêmes règles (Art. 11) s'appliquent aux Secrétaires adjoints de l'Association, à l'exception du Secrétaire adjoint élu selon la procédure prévue à l'Art. 37A.

13. Les membres du Bureau et du Comité des Finances de l'Union ne peuvent occuper les postes de Président, Premier Vice-Président ou Secrétaire Général de l'Association.

14. Si le poste de Président devient vacant dans l'intervalle entre deux Assemblées Générales Ordinaires, les fonctions en sont assurées jusqu'à la

fin de l'Assemblée Générale Ordinaire suivante par le Premier Vice-Président. De la même façon, les fonctions du Premier Vice-Président reviennent alors au Second Vice-Président.

Si le poste de Secrétaire Général devient vacant, le Président charge immédiatement le Comité Exécutif d'élire par correspondance un remplaçant de façon à assurer la continuité de fonctionnement du Bureau Central. Cette élection n'a d'effet que jusqu'à la fin de l'Assemblée Générale Ordinaire suivante.

15. Les Présidents des Sections sont élus pour une période et ne sont pas immédiatement rééligibles aux mêmes postes.

16. Les Secrétaires des Sections sont élus pour une période et sont rééligibles pour une autre période.

    Le Président de chaque Commission appartenant à une Section devient Secrétaire de cette Section. Le nombre maximum de Secrétaires dans une Section est deux, sauf si le nombre de Commissions dans cette Section dépasse un, dans ce cas le nombre de Secrétaires est égal au nombre de Commissions plus un.

17. Si un poste de Président de Section devient vacant entre deux Assemblées Générales Ordinaires, le Comité Exécutif désigne un Président intérimaire qui tient le poste jusqu'à la fin de la prochaine Assemblée Générale.

    Dans le cas d'autres vacances, le Comité Exécutif peut désigner des intérimaires.

18. Les Présidents des Commissions et des Commissions Spéciales sont élus par le Conseil de l'Association pour une période et peuvent être immédiatement réélus pour une autre période.

19. Le Président d'un Groupe Spécial d'Etudes est nommé par le Comité Exécutif pour une période seulement.

20. Une même personne ne peut être à la fois président de plus d'un des organismes visés aux Art. 18 et 19.

3. Assemblées Générales

21. L'Association tient ses propres Assemblées Générales Ordinaires en liaison avec celles de l'Union, à la même date et dans le même pays.

22. Avant chaque Assemblée Générale, le Bureau de l'Association prépare un ordre du jour détaillé. Pour ce qui concerne les travaux scientifiques, l'ordre du jour est établi par le Comité Exécutif. Cet ordre du jour est envoyé aux pays membres et à tous les Officiels de l'Association de façon à leur parvenir au moins deux mois avant la date de l'Assemblée. En principe, seules les questions qui figurent à l'ordre du jour sont prises en considération pendant les sessions; il peut en être autrement par un vote acquis à la majorité des deux tiers soit en Conseil, soit au Comité Exécutif.

23. A chaque Assemblée Générale, le Président de l'Association présente un rapport détaillé sur les activités scientifiques de l'Association pendant la période de sa présidence. Le Secrétaire Général présente, pour la même période, un rapport détaillé concernant les activités administratives et les finances de l'Association. Ils soumettent chacun des propositions sur les activités à entreprendre au cours de la période à venir dans la mesure où les ressources envisagées le permettent.

    Ces rapports sont remis aux Délégués présents à l'Assemblée Générale avant l'ouverture de cette Assemblée.

24. Les réunions scientifiques ont généralement lieu par Section, mais l'étude de certaines questions peut nécessiter des réunions communes à plusieurs Sections ou des symposiums placés sous la responsabilité de présidents désignés par le Comité Exécutif.

    Des symposiums communs couvrant des sujets intéressant au moins deux Associations de l'Union peuvent être organisés.

25. A chaque Assemblée Générale, les travaux de chaque Section font l'objet d'un rapport présenté par son Président assisté de ses Secrétaires. De même, les travaux de chaque Commission, Commission Spéciale ou Groupe Spécial d'Etudes sont présentés par les présidents respectifs.

26. L'inscription de communications scientifiques à l'ordre du jour des séances de l'Assemblée Générale est décidée par un Comité constitué par un membre du Bureau et les Présidents des Sections.

27. Les communications scientifiques individuelles sont reproduites par leurs auteurs. Elles sont distribuées aux Délégués par le Bureau Central avant la séance à laquelle elles doivent être présentées. Elles peuvent être publiées dans le Bulletin Géodésique sous réserve d'en satisfaire la politique d'édition.

4. Publication

28. Le journal officiel de l'Association est le Bulletin Géodésique, ci-après désigné "le Journal". Le Journal est publié à intervalles réguliers, par une société d'édition liée par accord à l'Association, ou

par tout autre moyen approuvé par le Comité Exécutif. Les termes sont négociés par le Président et sont ratifiés par le Comité Exécutif.

Un (ou plusieurs) Rédacteur(s) en Chef, désigné(s) ci-après "le Rédacteur", est (sont) en charge du Journal.

Le Rédacteur est conseillé et assisté par un Comité des Rédacteurs, ci-après désigné "le Comité".

Le Rédacteur est responsable du contenu scientifique du Journal. Tous les articles scientifiques sont soumis à la procédure de revue et le Rédacteur prend la décision finale d'accepter ou non l'article pour le publier. Le Rédacteur informe l'Association des activités et de l'état des opérations concernant le Journal.

28a. A chaque Assemblée Générale, le Rédacteur, après consultation et accord du Président de l'Association, recommande des candidats pour devenir membres du nouveau Comité appelé à opérer pendant la période suivant l'Assemblée Générale.

Pendant cette Assemblée, le Comité en exercice élit les membres du nouveau Comité parmi les candidats recommandés. Après son entrée en fonction, le nouveau Comité élit un (ou plusieurs) Rédacteur(s) pour la période à venir. La désignation du Rédacteur doit être approuvée par le Comité Exécutif.

Le Rédacteur, ainsi que les membres du Comité, sont élus pour une période, mais sont susceptibles d'être réélus pour une période supplémentaire.

28b. Après chaque Assemblée Générale, il est publié un numéro spécial du Bulletin Géodésique appelé le "Manuel du Géodésien". Cette publication a pour but de fournir des informations détaillées sur l'Association, sa structure, ses activités scientifiques et bien d'autres informations à caractère technique ou administratif.

29. A l'issue de chaque Assemblée Générale, l'ensemble des rapports présentés par les Sections, Commissions et Groupes Spéciaux d'Etudes est publié sous le nom de "Travaux de l'Association Internationale de Géodésie". Cette publication est adressée gratuitement aux Officiels de l'Association et aux Organismes Adhérents des Pays Membres.

30. L'Association assure également des publications spéciales qui présentent les références recommandées en géodésie.

31. A chaque Assemblée Générale les Pays Membres de l'Union sont invités à fournir un certain nombre d'exemplaires de leur Rapport National sur les travaux géodésiques effectués depuis la précédente Assemblée Générale. Ces Rapports Nationaux, dans la mesure où ils sont disponibles, sont distribués comme les "Travaux de l'Association" par le Bureau Central de l'Association.

5. Administration

32. Le Conseil de l'Association:

a. examine les questions de politique scientifique générale ou d'administration dans les affaires de l'Association et désigne, à cet effet, les Comités qui, le cas échéant, peuvent être jugés nécessaires;

b. élit les membres du Bureau et du Comité Exécutif, les Secrétaires adjoints de l'Association, les Secrétaires des Sections, les Présidents des Commissions et des Commissions Spéciales;

c. reçoit les rapports du Secrétaire Général et examine, pour approbation, les décisions ou mesures prises par le Bureau et le Comité Exécutif depuis la dernière réunion du Conseil;

d. désigne les trois membres du comité ad hoc créé pour l'examen des finances de l'Association, étudie ses recommandations et adopte le budget définitif;

e. examine les propositions de modification des Statuts et du Règlement Intérieur.

Le Conseil se réunit sur convocation du Président de l'Association. Il se réunit normalement pendant les Assemblées Générales Ordinaires.

33. Le Comité Exécutif de l'Association:

a. prend les mesures et établit les règles nécessaires à l'accomplissement des missions scientifiques de l'Association;

b. comble toute vacance de poste qui pourrait survenir, entre deux Assemblées Générales, selon les règles des Statuts et du Règlement Intérieur;

c. crée et dissout les Commissions, Commissions Spéciales et Groupes Spéciaux d'Etudes;

d. nomme les Présidents des Groupes Spéciaux d'Etudes et approuve l'élection du(des) Rédacteur(s) en Chef du Bulletin Géodésique;

e. nomme les membres du Comité Cassinis;

f. présente des recommandations au Conseil sur les questions de politique générale de l'Association;

g. sur recommandation du Bureau, désigne les Compagnons et les Associés de l'Association. Les anciens Officiels de l'Association, y compris ceux des Commissions et des sous-Commissions, ont vocation à être nommés Compagnons de l'Association et sont invités à le devenir. Les

personnes élues Officiels de l'Association ou désignées comme membres des Commissions, Commissions Spéciales ou Groupes Spéciaux d'Etudes deviennent automatiquement Associés de l'Association. Les personnes de Pays Membres qui en font la demande, en mentionnant leurs activités passées au sein de l'Association, ou présentant une recommandation de leur Organisme Adhérent national ou celle d'un Officiel ou d'un Compagnon de l'Association, peuvent être admises à devenir Associés et sont recommandées par le Bureau.

Le Comité Exécutif se réunit sur convocation du Président de l'Association. Il se réunit au cours des Assemblées Générales et ses membres participent, à titre consultatif, aux réunions du Conseil. Il se réunit également au moins une fois entre deux Assemblées Générales, un an avant l'Assemblée Générale pour préparer le programme des activités scientifiques et le projet d'emploi du temps de cette Assemblée Générale.

Lors d'une réunion du Comité Exécutif, aucun membre ne peut se faire représenter par quiconque, sauf un Président de Section qui peut être représenté par un Secrétaire de sa Section. Les délibérations du Comité Exécutif sont déclarées valides si au moins la moitié des membres sont présents au représentés.

L'ordre du jour de chaque réunion du Comité Exécutif est préparé par le Bureau et adressé aux membres au moins trois mois avant la réunion.

34. Le Bureau de l'Association:
   a. établit l'ordre du jour des réunions du Conseil et du Comité Exécutif;
   b. assure l'administration de l'Association.

   Il se réunit normalement avant chaque réunion du Comité Exécutif.

35. Le Président de l'Association:
   a. représente l'Association dans ses relations avec les Organismes ou Institutions nationales ou internationales;
   b. convoque et préside les Assemblées Générales et toutes les réunions du Conseil, du Comité Exécutif et du Bureau;
   c. présente à l'Assemblée Générale le rapport sur les activités scientifiques de l'Association pendant la période de sa présidence.

   Il est membre du Comité Exécutif de l'Union. En cas d'indisponibilité du Président, le Premier Vice-Président le remplace.

36. Le Secrétaire Général de l'Association:
   a. assume les fonctions de secrétaire de l'Assemblée Générale, du Conseil, du Comité Exécutif et du Bureau; il organise leurs réunions, prépare et diffuse promptement l'ordre du jour et les procès-verbaux de toutes ces réunions;
   b. remplit les fonctions de Directeur du Bureau Central;
   c. gère les affaires de l'Association, se charge de la correspondance et assure la conservation des archives;
   d. distribue toutes les informations concernant l'Association;
   e. prépare les rapports d'activité de l'Association, en particulier il présente à l'Assemblée Générale le rapport sur l'administration et les finances de l'Association pour la période en cours;
   f. accomplit toutes autres tâches qui lui sont confiées par le Bureau.

37. Pour aider le Secrétaire Général dans l'accomplissement de ses tâches envers l'Association, celle-ci établit une structure permanente, le Bureau Central, comportant un nombre variable d'employés payés sur des fonds de l'Association.

    Le Secrétaire Général est également assisté d'un petit nombre de Secrétaires adjoints, dont l'un deux réside dans la même localité que le Secrétaire Général. Ces fonctions sont gratuites et ne peuvent donner lieu qu'au remboursement des frais occasionnées par ces charges.

37a. Un Secrétaire Adjoint supplémentaire, désigné "Le Secrétaire de l'Assemblée", peut également être nommé par le Conseil sur recommandation du pays où se tiendra la prochaine Assemblée Générale. Si cette procédure de nomination n'est pas réalisable, le Conseil délègue cette nomination au Bureau de l'Association.

    En collaboration avec le Bureau Central, ce Secrétaire Adjoint est responsable des relations avec les organisateurs s'occupant de la préparation de l'Assemblée Générale. Ce Secrétaire Adjoint n'est nommé que pour une seule période.

6. Activités des Sections, Commissions, Commissions Spéciales et Groupes Spéciaux d'Etudes

38. Le Président d'une Section a la responsabilité du développement des activités scientifiques de sa Section et il représente sa Section au Comité Exécutif de l'Association. En liaison étroite avec son Comité Directeur, il encourage, guide et coordonne les travaux des Commissions, Commissions Spéciales et Groupes Spéciaux d'Etudes de sa Section, et, en

particulier, rend compte annuellement des activités de sa Section aux officiels de la Section ainsi qu'aux membres du Bureau de l'Association.

Le Président d'une Section, ou, à défaut, l'un de ses Secrétaires, doit assister à chaque symposium concernant la Section.

Avant chaque Assemblée Générale, le Président d'une Section reçoit les rapports d'activité des Commissions, Commissions Spéciales et Groupes Spéciaux d'Etudes rattachés à sa Section et, assisté du Comité Directeur, il prépare alors le compte rendu des activités de la Section à présenter à l'Assemblée Générale. Il reçoit les suggestions pour créer de nouveaux Groupes Spéciaux d'Etudes et pour continuer l'activité de Groupes déjà existants, selon la procédure exposée à l'Art. 43. Après consultation du Comité Directeur de la Section, il coordonne ces demandes et transmet ses recommandations au Comité Exécutif.

Chaque Comité Directeur de Section se réunit au moins une fois durant chaque Assemblée Générale Ordinaire et au moins à une autre occasion au cours de la période entre deux Assemblées Générales. Lors de la réunion à l'Assemblée Générale, ou au cours de toute autre occasion appropriée, le Comité Directeur passe en revue les activités des Commissions, Commissions Spéciales et Groupes Spéciaux d'Etudes pendant la période écoulée, et examine les programmes de celles et ceux dont la poursuite de l'activité est proposée pour la période suivante.

Les Secrétaires de Section assistent le Président de Section dans ses fonctions.

39. Le Président d'une Commission a la responsabilité d'en promouvoir et d'en diriger les travaux et d'en recruter les membres, à l'exception des représentants des Pays Membres, désignés comme indiqué à l'Art. 2.

Le Président de chaque Commission établit une brève description du travail à accomplir et une liste des membres, pour publication dans le Manuel du Géodésien après chaque Assemblée Générale.

Afin d'assurer la communication et la coopération au sein de chaque Commission, les membres sont tenus informés, annuellement, des résultats obtenus et des problèmes en cours.

39a. Le Président d'une Commission Spéciale a la responsabilité d'en promouvoir et d'en diriger les travaux et d'en recruter les membres.

La répartition géographique de ces derniers doit refléter une bonne coopération internationale sur le sujet d'étude et leur nombre ne doit pas excéder 30.

Le Président de chaque Commission Spéciale établit une brève description du travail à accomplir et une liste des membres, pour publication dans le Manuel du Géodésien après chaque Assemblée Générale.

Afin d'assurer la communication et la coopération au sein de chaque Commission Spéciale, les membres sont tenus informés, annuellement, des résultats obtenus et des problèmes en cours.

40. Le Président d'un Groupe Spécial d'Etudes a la responsabilité d'en promouvoir et d'en diriger les travaux et d'en recruter les membres.

La répartition géographique de ces derniers doit refléter une bonne coopération internationale sur le sujet d'étude et leur nombre ne doit pas excéder 20.

Le Président de chaque Groupe Spécial d'Etudes établit une brève description du travail à accomplir et une liste des membres, pour publication dans le Manuel du Géodésien après chaque Assemblée Générale.

Afin d'assurer la communication et la coopération au sein de chaque Groupe Spécial d'Etudes, les membres sont tenus informés, annuellement, des résultats obtenus et des problèmes en cours.

41. Le Président de l'Association, le Bureau Central et le Président de la Section concernée reçoivent copie des correspondances officielles et des notes aux membres des Commissions, Commissions Spéciales et Groupes Spéciaux d'Etudes.

42. Les rapports d'activité de chaque Commission, Commission Spéciale et Groupe Spécial d'Etude doivent être transmis au Président de la Section concernée au moins trois mois avant chaque Assemblée Générale. Ces rapports ainsi que les rapports des Sections sont publiés dans les "Travaux de l'Association Internationale de Géodésie".

43. La période d'activité de chaque Groupe Spécial d'Etudes prend normalement fin à l'Assemblée Générale ordinaire. Dans le cas exceptionnel où une poursuite d'activité est jugée nécessaire, le Président du Groupe Spécial d'Etudes soumet à son Président de Section trois mois avant l'Assemblée Générale une proposition écrite bien argumentée, y compris une suggestion pour la désignation de son successeur. Le Président de Section présente alors une recommandation au Comité Exécutif.

44. Les Commissions, Commissions Spéciales et Groupes Spéciaux d'Etudes non rattachés à une Section particulière sont placés sous la responsabilité du Président de l'Association.

45. Les Commissions, Commissions Spéciales et Groupes Spéciaux d'Etudes sont libres d'organiser des réunions de travail de leurs membres. S'ils désirent organiser des Symposiums scientifiques, ils doivent suivre la procédure d'approbation des symposiums prévue par l'Association. Les symposiums ne peuvent être organisés que si leur sujet déborde du cadre d'activité d'une Commission, Commission Spéciale ou d'un Groupe Spécial d'Etudes.

7. Symposiums

46. L'Association peut organiser des symposiums scientifiques pour étudier des problèmes particuliers d'intérêt général.

    Le Comité Exécutif a la responsabilité de veiller au choix judicieux des symposiums, de façon à garantir une équitable représentation par sujet et une bonne répartition géographique et aussi à éviter des doubles emplois, des recouvrements et une fréquence injustifiée.

    Les symposiums parrainés par l'Association sont ouverts à tous les scientifiques, selon les règles du Conseil International des Unions Scientifiques.

47. Les propositions de symposiums pour la période entre deux Assemblées Générales Ordinaires sont normalement soumises par les Organisateurs au Secrétaire Général, avant l'Assemblée Générale précédant cette période. Au cours de cette Assemblée Générale d'autres propositions peuvent être soumises au Secrétaire Général, au plus tard deux jours avant la dernière réunion du Conseil.

    Le Conseil, sur recommandation du Comité Exécutif, décide si l'Association doit parrainer tel ou tel symposium.

    Dans des cas très exceptionnels, le Comité Exécutif peut donner son accord à des demandes faites hors des délais normaux. De telles demandes ne peuvent être faites moins de 18 mois avant la date proposée pour le symposium.

48. L'Organisateur d'un symposium doit envoyer une annonce officielle au Bulletin Géodésique au moins un an à l'avance, ou immédiatement après l'approbation par l'Association; la date annoncée ne doit plus changer ensuite.

49. Moins de trois mois après le symposium, l'Organisateur est tenu de fournir un rapport pour le Bulletin Géodésique. Ce rapport doit indiquer si les Actes du symposium seront publiés, et où, et quand ils le seront. Les Actes du symposium, ou au moins une copie de chaque communication présentée, doivent être adressées au Bureau Central de l'Association.

50. Le parrainage d'un symposium par l'Association signifie une reconnaissance officielle mais n'implique pas un soutien financier.

8. Coopération scientifique internationale

51. L'Association peut coopérer à des travaux scientifiques de caractère international ou interdisciplinaire, elle peut également les entreprendre directement ou en surveiller la réalisation. En principe, l'Association est représentée aux Congrès, réunions internationales, Assemblées Générales, etc... des organismes scientifiques internationaux dont l'activité est en rapport avec la sienne propre. Le Président de l'Association ou son délégué représente l'Association à ces réunions.

    Les frais de voyage et de séjour du représentant de l'Association peuvent être mis en totalité ou partiellement à la charge de l'Association. Un compte rendu de ces réunions incluant les discussions en rapport avec la géodésie, est préparé par ce représentant, en vue d'une publication, totale ou partielle, dans le Bulletin Géodésique.

    L'Association peut aussi représenter l'Union au sein de Commissions inter-Unions ou de Comités spéciaux communs traitant de sujets en rapport avec ses propres études.

    La désignation des représentants de l'Association ou de l'Union à ces organismes permanents est faite par le Comité Exécutif. Ces représentants sont élus pour une période et peuvent être réélus pour une période supplémentaire.

9. Finances

52. Les ressources de l'Association proviennent:

    a. des cotisations des pays membres de l'Union dont une partie, déterminée par le Conseil de l'Union sur recommandation de son Comité des Finances, est versée à l'Association par le Trésorier de l'Union;
    b. de la vente des publications;
    c. de toute autre origine (subventions, dons, intérêts, fonds disponibles après un symposium, etc...).

53. Le Secrétaire Général reçoit du Bureau et du Conseil de l'Association, la responsabilité de gérer ces ressources conformément aux Statuts et Règlement Intérieur, ainsi qu'aux décisions du Conseil et aux recommandations du Comité des Finances de l'Union.

    Le Secrétaire Général est seul responsable de la maîtrise des opérations financières de l'Association, cependant un Secrétaire Adjoint reçoit délégation de signature pour chaque compte bancaire ouvert au nom de l'Association.

54. A chaque Assemblée Générale Ordinaire de l'Association, le Secrétaire Général présente la proposition de budget pour la période à venir et la soumet au Conseil pour approbation.

    Le budget, tel qu'approuvé par le Conseil, est exécuté par le Secrétaire Général.

    A l'Assemblée Générale ordinaire suivante, le Conseil examine si les dépenses ont été engagées conformément aux propositions précédemment approuvées. Le Conseil désigne un Comité ad hoc pour effectuer cet examen dans le détail.

    De plus, cette comptabilité est vérifiée par un comptable agréé et est ensuite présentée au Trésorier de l'Union, selon les prescriptions de l'Art. 20 du Règlement Intérieur de l'Union.

INTERNATIONAL ASSOCIATION OF GEODESY

Statutes

1. Definition and objectives of the International Association of Geodesy

1. The International Association of Geodesy, hereafter called the Association, is one of the constituent associations of the International Union of Geodesy and Geophysics, hereafter called the Union.

2. The objectives of the Association are:

a. to promote the study of all scientific problems of geodesy and encourage geodetic research;

b. to promote and co-ordinate international co-operation in this field, and promote geodetic activities in developing countries;

c. to provide, on an international basis, for discussion and publication of the results of the studies, researches and works indicated in paragraphs a) and b) above.

3. To achieve these objectives, the Association shall comprise a small number of Sections, each of which deals with a distinct part of geodesy.

   Commissions, Special Commissions and Special Study Groups may be formed as provided in the By-Laws.

4. Every country adhering to the Union (Member Country) may be represented by Delegates to the Association.

4a. Scientists may become Affiliates of the Association, either as Fellows or Associates, as provided in the By-Laws.

2. Administration

5. The General Assembly of the Association shall consist of the Delegates of the Member Countries duly accredited by the corresponding Adhering Bodies, as defined in the Statutes of the Union.

6. The Council of the Association shall consist of the Delegates, known as Council Delegates, designated for meetings of the Council and formally accredited by the Adhering Body of Member Countries on the basis of one Delegate for each Member Country. Each Council member shall be an Associate or a Fellow of the Association.

   No member of the Bureau of the Association shall serve as a Council Delegate of a country. The President of the Association shall preside over the Council meetings, without vote, except in the case of a tie as provided in article 16 hereafter.

7. Responsibility for the direction of the Association affairs shall be vested in the Council of the Association. Decisions of the Council shall be reported to the General Assembly. In the case that the majority of those present at a General Assembly meeting disagrees with the decisions of the Council, the Council shall reconsider the question, and make a decision, which shall be final.

8. Between meetings of the Council, the direction of the affairs of the Association shall be vested in the Bureau and the Executive Committee, the respective composition and responsibilities of which are defined hereafter.

9. The Bureau of the Association shall consist of the President, the First Vice-President and the Secretary General, all of whom shall be elected by the Council. The duties of the Bureau shall be to administer the affairs of the Association in accordance with these Statutes and By-Laws and with the decisions of the Council and the Executive Committee.

10. The Executive Committee shall consist of the Bureau, the immediate past President and the Second Vice-President of the Association, and the Presidents of the Sections.

    The Honorary Presidents and the Honorary General Secretaries of the Association, the Presidents of Commissions, the Secretaries of the Sections, the Assistant Secretaries of the Association and the Chief Editor of the Bulletin Geodesique may attend any meeting of the Executive Committee of the Association, with voice but without vote.

    The duties of the Executive Committee shall be to further the scientific objectives of the Sections and other scientific bodies of the Association through effective co-ordination and through the formulation of general policies to guide the scientific work of the Association.

    The members of the Executive Committee shall attend meetings of the Council, with voice but without vote.

3. Voting

11a. Council Delegate may represent only one Member Country.

a. Member Country which is not represented at a Council meeting may vote by correspondence on any specific question, provided that matter has been clearly defined on the final agenda distributed in advance to the Member Countries and that the discussion thereon has not produced any significant new considerations or changed its substance, and provided that the said vote has been received by the President prior to the voting.

12. In order that the deliberations of the Council shall be valid, the number of the Council Delegates present must be at least half of the Member Countries represented at the General Assembly of the Union.

13. On questions not involving matters of finance, the voting in Council shall be by Member Countries, each Member Country having one vote, provided that its Union subscriptions shall have been paid up to the end of the calendar year preceding the voting.

14. On questions involving finance, the voting in Council shall be by Member Countries, with the same provision that a voting country shall paid its Union subscriptions up to the end of the calendar year preceding the voting in Council. The number of votes allotted to each Member Country shall then be equal to the number of its category of membership as defined by the Union.

15. Before a vote in a Council meeting, the President shall decide whether or not the matter under consideration is financial in character and whether the procedure of voting by correspondence applies.

16. Decisions of the Council shall be taken by a simple majority, except as otherwise specified in these Statutes. If a tie should occur in a Council vote, the President shall cast the decisive vote. Simple and two-thirds majorities are determined by the proportion of affirmative votes to the sum of all votes (affirmative, negative and abstention). Bank and invalid ballots and votes not cast by delegates present are counted as abstentions.

4. General

17. Proposals for a change of any article of the Statutes of the Association must reach the Secretary General at least six months before the announced date of the Council meeting at which it is to be considered. The Secretary General shall notify all Member Countries of any proposed change at least four months before the announced date of the Council meeting.

18. The Statutes of the Association may not be modified except by the approval of a two-thirds majority of votes cast at a Council meeting.

    These Statutes or any further modification of them shall come into force at the close of the Council meeting at which they are approved.

19. The Council shall have the power to adopt By-Laws within the framework of the Statutes of the Association.

    These By-Laws may not be modified except by a simple majority of votes cast at a Council meeting.

    These By-Laws or any further modification of them shall come into force at the close of the Council meeting at which they are approved.

20. In the event of the dissolution of the Association, its assets shall be ceded to the Union.

21. Conduct of meetings: Except as otherwise provided in the Statutes or By-Laws, business meetings shall be conducted according to Robert's Rules of Order.

22. These Statutes and By-Laws of the Association are set out in French and in English.

    The validity of these rules shall not be vitiated by any error of a formal or accidental nature.

By-Laws

1. Structure

1. The scientific work of the International Association of Geodesy is allocated to Sections, the respective responsibilities of which are decided by the Council on recommendation of the Executive Committee. The structure of these Sections shall be reviewed every eight years (two periods) by a committee, called the Cassinis Committee, which shall make proposals to the Executive Committee. Because of the complex interrelations among various activities of the Association, interactions between the individual sections are implied.

   There are at present five sections which are the following:

Section I: Positioning

- high precision horizontal and vertical networks;
- satellite and spatial positioning;
- inertial positioning;
- kinematic positioning;
- geodetic astronomy;
- marine positioning;
- refraction.

Section II: Advanced Space Technology

- development of space techniques for geodesy, such as: satellite radio-tracking techniques, radio-interferometric techniques, satellite and lunar laser ranging, satellite altimetry, satellite-to-satellite tracking, satellite gradiometry, geodetic measurements from space;
- orbital computations;
- direct results of such techniques;
- planetary and lunar geodetic techniques.

Section III: Determination of the gravity field

- absolute and relative terrestrial gravity measurements;
- non tidal gravity variations;
- determination of the external gravity field and the geoid from gravimetry, gradiometry, geodetic astronomy, space and inertial techniques;
- reduction and estimation of gravity field quantities.

Section IV: General Theory and Methodology

- General mathematical models for geodesy;
- statistical and numerical analysis;
- data processing and management;
- optimization methods;
- least squares methods;
- differential and integral theories of the gravity field;
- theory of estimation, approximation and representation of the gravity field.

Section V: Geodynamics

- reference systems;
- monitoring and study of time-dependent phenomena: polar motion, Earth rotation, Earth tides, recent crustal motions, variations of gravity, sea surface topography and mean sea level;
- geodetic aspects of international geodynamic projects;
- planetary and lunar dynamics;
- geophysical interpretation of gravity and related data.

1a. Each Section shall set up a Steering Committee consisting of the Section President, the Secretaries, the Presidents of Commissions and Special Commissions within the Section, and such other persons, who have participated in the work of the Section, as are coopted to the Committee, on the recommendation of the Section President.

2. Commissions may be formed for activities for which close international co-operation or organisation is necessary, in particular for long term problems or activities relating to large regions.

   Every Member Country of the Union is entitled to nominate one representative to each Commission, except those dealing with specific geographical areas; to the latter Commissions, only Member Countries of the Union in the geographical area in question are entitled to nominate one representative each.

   A Commission is normally assigned to one Section.

   Each Commission may be organised according to its own requirements in compliance with the Statutes and By-Laws of the Association and subject to approval by the Executive Committee, for instance through the formation of regional Sub-Commissions.

2a. Special Commissions may be formed to study scientific problems of a long term character which require close co-operation between specialists from different countries.

   A Special Commission is normally assigned to a particular Section. Each Special Commission may be organised to its own requirements in compliance with the Statutes and By-Laws of the Association and subject to the approval by the Executive Committee, for instance through the formation of special Sub-Commissions to study defined aspects in its fields.

3. Special Study Groups may be formed to study specific scientific problems of limited scope which require close co-operation between specialists from different countries.

   A Special Study Group is normally assigned to a particular Section.

4. The setting-up and dissolution of the Commissions, the Special Commissions and the Special Study Groups are decided by the Executive Committee which also specifies whether the Commission, the Special Commission or the Special Study Group is to be placed under the direct authority of the Association or of one of its Sections.

   The list of Commissions, Special Commissions and Special Study Groups shall be published in the Geodesist's Handbook after each General Assembly.

5. The Association may also participate in joint scientific bodies with other Associations of the International Union of Geodesy and Geophysics, or, representing this Union with other Unions. These bodies shall be administered according to specific rules proceeding from their relations with other agencies, but they shall report on their scientific work at each General Assembly of the Association.

   The Executive Committee of the Association shall decide whether the relationship with any such common body is to be placed under the responsibility of the Association or of one specific Section. This responsibility includes the appointment of representatives to these common bodies as well as participating in the planning of their future activities.

2. Elections

6. Elections shall take place in the Council during each Ordinary General Assembly of the Association.

   The President in office, after taking advice from members of the Executive Committee, shall appoint a Nominating Committee consisting of a Chairman and three other members. The Nominating Committee, after taking advice from the Adhering Bodies of the Member Countries and officers of the Association, shall propose a candidate for each position to be filled by election in the Council. Candidates shall be asked to signify their acceptance of nomination and to prepare a resume, maximum 150 words, outlining their position, research interests and activities relating to the Association. The delegates shall be informed of these nominations and the resumes, early in the General Assembly, and a notice posted allowing for submission, over a period of at least 48 hours, of further nominations. Such nominations shall be in writing, shall be supported by at least two members of the Council, and shall be submitted with resumes as described above to the Secretary General. Delegates shall be informed of these further nominations and resumes and of their supporters.

   Elections shall be by secret ballot.

   No person may hold more than one of the following offices at the same time: President of the Association, Vice-President, President of a Section and President of a Commission and a Special Commission.

7. The time interval between the closures of two successive Ordinary General Assemblies of the Association is called here a period.

8. The President of the Association is elected for one period. He may not be re-elected to this office, but the Council may appoint him as Honorary President.

9. The First and Second Vice-Presidents are elected for one period and may not be immediately re-elected to the same office.

10. deleted.

11. The Secretary General is elected for one period initially. He may be re-elected for two additional single periods.

12. The same rules as in Art. 11 apply to Assistant Secretaries, other than the Assistant Secretary appointed under Art. 37A.

13. A member of the Bureau or of the Finance Committee of the Union may not occupy the post of President, of First Vice-President or of Secretary General of the Association.

14. Should the position of President become vacant in the interval between two Ordinary General Assemblies, his duties devolve to the First Vice-President until the closure of the next Ordinary General Assembly. In the same way the duties of the First Vice-President then devolve on the Second Vice-President.

    Should the post of Secretary General become vacant, the President shall arrange without delay for the Executive Committee to elect a replacement by correspondence so as to ensure the continuity of the work of the Central Bureau. This election has effect until the closure of the next Ordinary General Assembly.

15. The Presidents of Sections are elected for one period and may not be immediately re-elected to the same office.

16. The Secretaries of Sections are elected for one period but may be re-elected for one further period.

    The President of each Commission which is in a Section shall be a Secretary of that Section. The maximum number of Secretaries in a Section shall be two, except where the number of Commissions in a Section is greater than one, the number of Secretaries shall then equal the number of Commissions plus one.

17. Should the position of President of Section become vacant between two Ordinary General Assemblies, the Executive Committee shall appoint an interim member to take office until the closure of the next General Assembly.

    Should other vacancies occur, the Executive Committee may make interim appointments.

18. The Presidents of Commissions and Special Commissions are elected by the Council of the Association for one period and may be immediately re-elected for one further period.

19. The Chairman of a Special Study Group is appointed by the Executive Committee for one period only.

20. A person may be President or Chairman at the same time of no more than one of the bodies referred to in Arts. 18 and 19.

3. General Assemblies

21. The Association shall hold its own Ordinary General Assemblies in conjunction with the Ordinary General Assemblies of the Union, at the same time and in the same country.

22. Before any General Assembly, a detailed agenda is prepared by the Bureau of the Association. As far as the scientific work is concerned, the agenda is drawn up by the Executive Committee. This agenda is sent to the member countries and to all the officers of the Association so as to reach them at least two months prior to the Assembly. In principle, only matters on the agenda may be considered during the sessions, unless a decision to do otherwise is passed by a two-thirds majority in the Council or in the Executive Committee.

23. At each General Assembly, the President of the Association shall present a detailed report on the scientific work of the Association during his tenure. The Secretary General shall present a detailed report on the administrative work and on the finances of the Association for the same period. They both should submit proposals regarding work to be undertaken during the coming period, within the limits of expected resources.

    These reports are handed to the delegates attending the General Assembly before the opening of the Assembly.

24. The scientific meetings generally take place Section by Section, but the study of some questions may require joint meetings of several Sections or Symposia under chairmen appointed by the Executive Committee.

    Joint Symposia covering topics interesting two or more Associations within the Union may be arranged.

25. At each General Assembly, the work of each Section shall be reported by its President assisted by his Secretaries. Similarly, the work of each Commission, Special Commission or Special Study Group shall be reported by its President or Chairman.

26. The inclusion on the agenda of scientific papers for presentation at sessions of the General Assembly is decided by a committee consisting of one member of the Bureau and the Presidents of Sections.

27. Individual authors are responsible for the reproduction of their scientific papers. These papers are distributed to the delegates by the Central Bureau prior to the meeting where they are presented. They may be published in the Bulletin Géodésique subject to its editorial policy.

4. Publications

28. The Association's journal is the Bulletin Géodésique, hereinafter referred to as the journal. The journal is published at regular intervals, through an agreement between the Association and a publishing company, or by other arrangement approved by the Executive Committee. The terms of any agreement for publication of the journal shall be negotiated by the President and ratified by the Executive Committee.

    There shall be one or more Editors-in-Chief for the journal, hereinafter referred to as the Editor. The Editor shall be advised and assisted by a Board of Editors, hereinafter referred to as the Board.

    The Editor shall be responsible for the scientific content of the journal. All scientific manuscripts shall be subject to a refereeing process and the Editor shall make the final decision on whether a

manuscript is accepted for publication. The Editor shall keep the Association informed of the activities and status of operations of the journal.

28a. At the time of each General Assembly, the Editor shall, in consultation and agreement with the President of the Association, recommend candidates for membership of the new Board, which is to hold office for the next period. During the Assembly, the current Board shall elect the members of the new Board from those recommended. After taking office, the new Board shall elect one, or more, Editors(s) for the next period. The nomination of the Editor(s) shall be approved by the Executive Committee.

The Editor and the members of the Board, shall each hold office for one period, but shall be eligible to be elected for one further period.

b. After each General Assembly, a special issue of the Bulletin Géodésique shall be published under the name of "Geodesist's Handbook". This issue aims at providing detailed information on the Association, its structure and scientific activities, and other relevant technical and administrative information.

29. After each General Assembly, a collection of the reports presented by the Sections, Commissions and Special Study Groups shall be published in the "Travaux de l'Association Internationale de Géodésie". This publication is supplied free of charge to the Officiers of the Association and to the Adhering Body of each Member Country.

30. The Association also issues special publications which contain information on recommended standards in geodesy.

31. At every General Assembly each Member Country of the Union is invited to supply an adequate number of copies of its National Report on geodetic work done since the previous General Assembly. These National Reports, as far as available, are distributed by the Central Bureau of the Association in the same manner as the "Travaux de l'Association Internationale de Géodésie".

5. Administration

32. The Council of the Association shall:

a. examine questions of general scientific policy or administration in the business of the Association and appoint such Committees as may, from time to time, be deemed necessary for this purpose;

b. elect the members of the Bureau and of the Executive Committee, the Assistant Secretaries of the Association, the Secretaries of Sections, the Presidents of Commissions and of Special Commissions;

c. receive reports from the Secretary General and consider for approval the decisions or actions taken by the Bureau and the Executive Committee since the last Council meeting;

d. appoint the three members of the ad hoc committee created for examining the finances of the Association, consider its recommendations and adopt the final budget;

e. consider proposals for changes in the Statutes and By-Law;

The Council is convened by the President of the Association. It shall normally meet during the Ordinary General Assemblies.

33. The Executive Committee of the Association shall:

a. initiate actions and issue guidelines, as required, to guide the Association towards the achievement of its scientific objectives;

b. fill vacancies occurring between General Assemblies, in accordance with the present Statutes and By-Laws;

c. set up and dissolve Commissions, Special Commissions and Special Study Groups;

d. appoint Chairmen of Special Study Groups, and approve the election of the Editor(s) in Chief of the Bulletin Géodésique;

e. appoint members of the Cassinis Committee;

f. make recommendations to the Council on matters of General policy of the Association and on the implementation of its objectives;

g. on the recommendation of the Bureau, appoint Fellows and Associates of the Association. Past officers of the Association, including those of the Commissions and sub-Commissions, shall be eligible for appointment as Fellows and shall be invited to become Fellows of the Association. Persons elected as officers of the Association or nominated as members of Commissions, Special Commissions of Special Study Group, shall automatically become Associates of the Association. Persons from Member Countries who apply, indicating previous participation in Association activities, or providing a recommendation from their national Adhering Body or a recommendation from an officier or a Fellow of the Association, shall be eligible to become Associates, and shall be recommended by the Bureau.

The Executive Committee is convened by the President of the Association, it shall meet at General Assemblies and its members shall attend the meetings of the Council, with voice but without vote. It shall also meet normally at least once between

General Assemblies, one year ahead of the General Assembly, in order to prepare the scientific agenda and the time-table during the next General Assembly.

At a meeting of the Executive Committee, no member may be represented by any other person, except a President of a Section who may be represented by a Secretary of his Section. In order that the deliberations of the Executive Committee shall be valid, half at least of its members must be present or represented.

The agenda for each meeting of the Executive Committee shall be prepared by the Bureau and sent to the members at least three months prior to the meeting.

34. The Bureau of the Association shall:
   a. draw up the agenda of the meetings of the Council and Executive Committee;
   b. ensure the adequate administration of the Association. It shall normally meet before each meeting of the Executive Committee.

35. The President of the Association shall:
   a. be the representative of the Association in its dealing with National or International Organisations or Institutions;
   b. convene and preside over the General Assembly and over all meetings of the Council, Executive Committee and Bureau;
   c. submit a report to the General Assembly on the scientific work of the Association during his tenure;

   He is a member of the Executive Committee of the Union. In case of his absence, the First Vice-President shall act.

36. The Secretary General shall:
   a. serve as secretary of the General Assembly, the Council, the Executive Committee and the Bureau: arrange for meetings of these bodies, prepare and distribute promptly the agenda and the minutes of all their meetings;
   b. be the Director of the Central Bureau;
   c. manage the affairs of the Association, attend to correspondence, preserve the records;
   d. circulate all appropriate information related to the Association;
   e. prepare the reports on the Association's activities, especially report to the General Assembly on the administration and the finance of the Association during the current period;
   f. perform such other duties as may be assigned to him by the Bureau.

37. To assist the Secretary General in the performance of his duties to the Association, the Association establishes a permanent agency, the Central Bureau, including a variable number of employees paid out of Association funds.

    The Secretary General is also assisted by a small number of Assistant-Secretaries, one of whom is located in the same office as the Secretary General. All these functions are unpaid and only expenses incurred in connection with them are repayable.

37a. An additional Assistant Secretary to be known as the Assembly Secretary may also be appointed by the Council on the recommendation of the Adhering Body of the country in which the next General Assembly takes place. If this procedure is not feasible then the Council may delegate the appointment to the Bureau.

    In co-operation with the Central Bureau, this Assistant Secretary has responsibilities for liaison with the organisers working on the preparation of the General Assembly. This Assistant Secretary shall be appointed for one period only.

5. Activities of Sections, Commissions, Special Commissions and Special Study Groups

38. The President of a Section is responsible for the scientific development within the area of his Section and is the representative of his Section on the Executive Committee of the Association. Working closely with the Steering Committee he shall encourage, guide and co-ordinate the work of the Commissions, Special Commissions and Special Study Groups within his Section, and in particular keep the officers of his Section as well as the Bureau of the Association informed of the Section's activities, on an annual basis.

    It is desirable the President of a Section, or else one of the Secretaries of the Section, should attend each of the Symposia related to the section.

    Before each General Assembly the President of a Section shall receive the reports of the Commissions, Special Commissions and Special Study Groups within his Section and, assisted by the Steering Committee, prepare a report on the activities of the Section to be presented at the General Assembly.

    He shall receive suggestions for new Special Study Groups, and suggestions for continuation of

existing Special Study Groups under Art. 43, and, after consulting his Section Steering Committee, shall co-ordinate them and transmit his recommendations to the Executive Committee.

Each Section Steering Committee shall meet at least once during each Ordinary General Assembly and on at least one other occasion during the period. At the General Assembly meeting, or on some other appropriate occasion, the Steering Committee shall review the activities of Commissions, Special Commissions and Special Study Groups over the past period, and for those which will be recommended for continuation, review their programmes for the forthcoming period.

The Section Secretaries assist the Section President in his duties.

39. The President of a Commission is responsible for initiating and directing its work and selecting its members, apart from those representatives of Member Countries appointed under Art. 2.

The President of each Commission shall issue a brief description of the work to be performed and a list of members, to be published in the Geodesist's Handbook after each General Assembly.

To assist communication and co-operation within each Commission, members should be informed, on an annual basis, of results achieved and of outstanding problems.

39a. The President of a Special Commission is responsible for initiating and directing its work and selecting its members. Special Commission membership should be balanced so as to reflect international co-operation in the subject and shall be limited to a member not exceeding 30.

The President of each Special Commission shall issue a brief description of the work to be performed and a list of members, to be published in the Geodesist's Handbook after each General Assembly.

To assist communication and co-operation within each Special Commission, members should be kept informed, on an annual basis, of results achieved and of outstanding problems.

40. The Chairman of a Special Study Group is responsible for initiating and directing its work and appointing its members. Special Study Group membership should be balanced so as to reflect international co-operation in its subject and shall be limited to a number exceeding 20.

The Chairman of each Special Study Group shall issue a brief description of the work to be performed and a list of members, to be published in the Geodesist's Handbook after each General Assembly.

To assist communication and co-operation within each Special Study Group, members should be kept informed, on an annual basis, of results achieved and of outstanding problems.

41. The President of the Association, the Central Bureau and the President of the relevant Section should receive copies of all official correspondence and of notices to members of Commissions, Special Commissions and Special Study Groups.

42. The reports of each Commission, Special Commission and Special Study Group should reach the President of each relevant Section at least three months before each General Assembly. These reports and the reports of the Sections are published in the "Travaux de l'Association Internationale de Géodésie".

43. The period of work of each Special Study Group normally ends at an Ordinary General Assembly. In the exceptional case that a continuation of the work is deemed necessary, the Special Study Group Chairman shall submit in writing a well-grounded proposal, including a suggestion for his successor, to his Section President, at least three months before the General Assembly. The Section President shall then make a recommendation to the Executive Committee.

44. Commissions, Special Commissions and Special Study Groups not assigned to one Section shall be under the responsibility of the President of the Association.

45. Commissions, Special Commissions and Special Study Groups are free to hold workings of their members. If they wish to arrange scientific Symposia, these are subject to the usual approval procedure for Symposia of the Association. Symposia should be arranged only if the topic transcends the frame of one Commission, one Special Commission or one Special Study Group.

7. Symposia

46. The Association may organise scientific Symposia to study particular questions of wide interest.

The Executive Committee is responsible for a balanced selection of Symposia, to ensure a representative coverage of subjects and a good geographical distribution and to avoid duplication, overlap and undue frequency.

Symposia sponsored by the Association shall be freely open to all scientists, in accordance with ICSU regulations.

47. Normally applications for Symposia to be held in the period between two Ordinary General Assemblies should be submitted by the Host Organisation to the Secretary General before the General Assembly preceding that period. During this General Assembly other applications may be submitted to the Secretary General at least two days before the last meeting of the Council.

    The Council, on recommendation of the Executive Committee, shall decide whether the Symposium in question will be sponsored by the Association.

    In exceptional cases, the Executive Committee may approve late applications. Such applications must be submitted at least 18 months before the proposed date for the Symposium.

48. The Symposium Organizer must send an official announcement of the Symposium to the Bulletin Géodésique at least one year in advance or immediately after the approval by the Association; the announced date of the Symposium must not be changed later.

49. Within three months after, the Symposium Organiser shall provide a report to be published in the Bulletin Géodésique. This report should indicate whether, where, and when the Proceedings will be published. A Copy of the Symposium Proceedings, or else one copy of each paper presented at the Symposium, shall be sent to the Central Bureau of the Association.

50. Sponsorship by the Association means only official recognition and does not imply financial support.

8. International Sientific Co-operation

51. The Association may undertake directly, supervise or cooperate in scientific work of an international or interdisciplinary character. As a matter of principle, the Association should be represented at Congresses, International Meetings, General Assemblies, etc... of scientific organisations whose activities are connected with its own. The President of the Association or its designate will be the representative of the Association at these meetings.

    Travelling and accommodation expenses of the Delegate of the Association may be charged, in whole or in part, to the Association. The Delegate shall prepare a report of the meeting, including the discussions relating to geodesy, which may be published, in whole or in part, in the Bulletin Géodésique.

    The Association may also represent the Union in inter-Union Commissions or special joint Committees dealing with topics that are related to its own studies.

    Elections of Association or Union geodetic representatives to those permanent bodies shall be made by the Executive Committee. These representatives shall be elected for one period and may be re-elected for one further period.

9. Finance

52. The funds of the Association derive from:
    a. the contributions of the member countries of the Union of which a proportion, determined by the Council of the Union on recommendation of its Finance Committee, is paid to the Association by the Treasurer of the Union;
    b. the sale of publications;
    c. any other source (including grants, donations, interest, funds remaining after a symposium, etc...).

53. The Secretary General is responsible to the Bureau of the Association and to the Council for managing the funds in accordance with the Statutes and By-Laws, with the decisions of the Council and with the recommendations of the Finance Committee of the Union.

    The Secretary General alone shall responsible for control of the financial operations of the Association; however for each bank account of the Association, there shall be one Assistant Secretary who shall also have access to the account.

54. At each Ordinary General Assembly of the Association the budget proposal for the ensuing period shall be presented by the Secretary General and submitted for approval to the Council.

    The budget as approved by the Council shall be implemented by the Secretary General.

    During the next Ordinary General Assembly, the Council shall examine all expenditures to ensure that they were in accordance with the proposals previously approved. The Council shall appoint an ad hoc committee for carrying out this examination in detail.

    In addition, these accounts shall be audited by a qualified accountant and shall then be reported to the Treasurer of the Union, as prescribed in Art. 20 of By-Laws of the Union.

ASSOCIATION INTERNATIONALE DE SISMOLOGIE ET DE PHYSIQUE DE L'INTERIEUR DE LA TERRE

Statuts

1. Objets de l'Association

1. L'Association Internationale de Sismologie et de Physique de l'Intérieur de la Terre a pour buts:

a. de promouvoir l'étude des problèmes relatifs aux tremblements de terre, à la propagation des ondes sismiques et à la structure, aux propriétés, et à l'évolution interne de la Terre;

b. de provoquer et coordonner les recherches qui dépendent de la coopération entre pays différents, et d'organiser leur discussion scientifique;

c. de faciliter les recherches spéciales sur la sismologie fondamentale et appliquée, comme la comparaison des appareils utilisés dans les différents pays, les recherches par explosions, et généralement tous les sujets dans lesquels la sismologie est impliquée.

2. Membres de l'Association

2. Tout pays ayant adhéré à l'Union Géodésique et Géophysique Internationale est Membre de l'Association et a le droit de lui envoyer des représentants, le mot "pays" ayant le même sens que dans les Statuts de l'Union.

3. Comités Nationaux

3. Chaque Comité National de l'Union doit comprendre une Section ou Sous-Comité pour la Sismologie et la Physique de l'Intérieur de la Terre. Le rôle de ce Comité et de sa Section ou Sous-Comité est de faciliter et coordonner dans son pays l'étude des questions relatives à la Sismologie et à la Physique de l'Intérieur de la Terre, conformément aux buts de l'Association. Le Comité et sa Section aura pouvoir de proposer à l'Association pour discussion les questions tombant dans son domaine de compétence.

   Le Comité National, sur la recommandation de sa Section, nomme le ou les Délégués qui le représenteront aux Assemblées Générales de l'Association. L'un de ces Délégués est désigné comme Délégué principal du pays et exerce le droit de vote de ce pays sauf pour les questions purement scientifiques (voir article 18).

   La correspondance officielle envoyée par l'Association Internationale de Sismologie et de Physique de l'Intérieur de la Terre à un Pays Adhérent est adressée à la Section de Sismologie ou à défaut au Comité National de Géodésie et Géophysique.

4. Administration de l'Association

4. L'activité de l'Association est dirigée par l'Assemblée Générale des Délégués des Pays Membres de l'Association.

5. L'Assemblée Générale élit un Président, un premier et un second Vice-Président, un Secrétaire Général, un Trésorier et 4 autres personnes. Il est désirable que ces 4 personnes soit chacune Président d'une Commission. Ces membres élus, et le Président sortant, constituent le Comité Exécutif de l'Association. La même personne peut, avec l'approbation du Comité Exécutif, cumuler les fonctions de Secrétaire Général et de Trésorier.

   Le Président, les Vice-Présidents, le Secrétaire Général et le Trésorier, constituent le Bureau de l'Association.

6. Les élections ont lieu à chaque Assemblée Générale Ordinaire tenue à l'occasion d'une Assemblée Générale de l'Union Géodésique et Géophysique Internationale. Le Président ne peut pas être reélu à la même fonction, et une fonction ne peut être occupée par la même personne pendant plus de 12 ans consécutifs.

7. La passation des pouvoirs intervient à la fin de l'Assemblée Générale au cours de laquelle ont lieu les élections. L'intervalle entre deux élections consécutives est appelé une période.

8. Dans chaque pays le Comité National, ou à défaut l'Organisation Adhérente, nomme un correspondant qui a pour tâche d'établir la liaison entre l'Association et la Section du pays considéré.

9. Le Comité Exécutif peut désigner des Membres à telles Commissions ou Groupes de Travail que besoin est, de fixer leurs attributions. Les questions urgentes survenant dans l'intervalle des Assemblées Générales sont soumises par le Bureau au Comité Exécutif. Le Comité Exécutif peut désigner un Secrétaire Adjoint qui est Membre ex-officio du Comité Exécutif avec voix consultative seulement. Si une vacance survient parmi les responsables élus, le Bureau désigne provisoirement un remplaçant et une élection aura lieu pour cette fonction à l'Assemblée Générale suivante de l'Association.

5. Secrétariat

10. Un Secrétariat placé sous la direction du Secrétaire Général assure la correspondance et la conservation des archives, organise les Assemblées Générales et les autres Assemblées, et prépare et distribue les Comptes-Rendus des Assemblées.

6. Finances

11. Les ressources de l'Association sont:

a. L'allocation de l'Union

b. la vente de publications, les souscriptions, la publicité, etc.

c. les dons.

12. Le Trésorier administre et dépense ces fonds sous la direction du Comité Exécutif. Cette gérance implique une délégation permanente de signature sur tous les comptes bancaires ouverts au nom de l'Association dans différents pays.

    Par précaution, le droit de signer en qualité d'agent autorisé pour tous les comptes ouverts au nom de l'Association est délégué à au moins un autre Membre du Bureau de l'Association, mais le Trésorier reste seul responsable à l'égard de l'Association de toutes les opérations de banque.

7. Assemblées Générales de l'Association

13. Des Assemblées Générales Ordinaires se tiennent en même temps que les Assemblées Générales de l'Union Géodésique et Géophysique Internationale, et normalement au moins une fois entre chacune de ces Assemblées. Des réunions administratives ont lieu lors de toutes les Assemblées Générales, mais des élections n'ont lieu qu'à celles coïncidant avec les Assemblées Générales de l'Union.

    Le Bureau de l'Association peut, avec l'approbation du Comité Exécutif, convoquer une Assemblée Générale Extraordinaire. Il sera tenu de le faire à la demande du tiers des Membres votants du Comité Exécutif.

14. Les Membres d'un Comité Exécutif National qui ne sont pas Délégués peuvent assister aux réunions de l'Association et prendre part aux discussions, mais n'auront pas droit de vote.

    Le Bureau de l'Association peut inviter des représentants d'organismes scientifiques et des savants non délégués officiellement par leurs Comités Nationaux respectifs, mais seulement avec l'approbation de ces Comités. Ces invités peuvent prendre part aux discussions, sans avoir droit de vote.

15. L'ordre du jour des questions à traiter lors d'une Assemblée est préparé par le Bureau et envoyé aux Organisations Adhérentes en même temps que la notification de cette Assemblée. Une questions ne figurant pas à l'ordre du jour ne pourra être discutée sans l'accord d'au moins la moitié des voix des pays représentés à l'Assemblée Générale.

16. Dans l'intervalle des Assemblées Générales et avec l'accord du Bureau de l'Union, l'Association peut, seule ou conjointement avec d'autres Associations, tenir des réunions supplémentaires. Mais, dans tous les cas, l'Association tient une Assemblée Générale en même temps que l'Union.

8. Budget

17. Le Comité Exécutif prépare pour chaque période, et soumet à l'Assemblée Générale, un projet de budget concernant les dépenses du secrétariat.

    Un Comité élu par l'Assemblée Générale, examine les comptes de la période précédente, et le projet de budget de la période suivante. Il donne décharge au Trésorier des comptes préparés par le Trésorier pour la période précédente et soumis à l'Assemblée Générale.

9. Droit de Vote

18. Dans une Assemblée Générale:

    Les résolutions concernant les questions purement scientifiques sont adoptées à la majorité des voix de tous les Délégués présents. Pour toutes les autres questions à l'ordre du jour, le vote a lieu par Pays Membres, chacun disposant d'une voix. Un pays non représenté peut envoyer son vote par écrit au Secrétariat Général. Ces votes n'entrent en ligne de compte que s'ils sont reçus avant que le résultat du scrutin soit connu.

    En cas de doute sur la nature d'une question, c'est le Président de séance qui décide.

    En cas de partage égal des voix, la voix du Président de séance est prépondérante.

    L'élection du Bureau et du Comité Exécutif est de nature administrative.

10. Modification des Statuts

19. Les Statuts peuvent être modifiés par l'une des procédures suivantes:

a. A toute réunion administrative, par l'approbation des 2/3 des Pays Membres.

b. Par l'approbation de la majorité des Pays Membres en cas de vote par correspondance autorisé par le Comité Exécutif, à condition que la révision soit adoptée par les 2/3 des suffrages exprimés.

c. Par un vote à la majorité des 2/3 des Pays Membres représentés individuellement à une réunion administrative lors d'une Assemblée Générale Ordinaire, plus ceux qui ont envoyé leur vote par écrit au Secrétaire Général, à condition que la modification proposée ait été lue à une séance plénière de l'Assemblée Générale précédente ou inscrite à l'ordre du jour adressé à l'avance à tous les Pays Membres.

20. Dans un vote sur la révision des Statuts, un Délégué ne peut représenter qu'un seul pays.

21. Le texte anglais servira exclusivement pour l'interprétation à donner aux présents Statuts.

11. Commission

22a. L'Association peut établir des Commissions pour étudier les questions scientifiques et pour stimuler et coordonner les recherches sur ces sujets, ou les recherches relatives à une région particulière.

b. L'Association peut aussi établir des Commissions en commun avec d'autres Organisations.

23. Les responsables des Commissions ne peuvent conserver leur mandat au-delà de deux périodes.

Règlement Intérieur

Le règlement ci-après est établi pour servir de guide permanent dans l'administration de l'Association. Sa révision tombe sous le coup de l'article 21 des Statuts.

1. Comité des Résolutions. A la première séance administrative, le Président nomme un Comité des Résolutions composé d'un responsable de l'Association et de deux autres personnes. Toutes les résolutions présentées à la dernière séance administrative doivent être transmises par écrit au Comité des Résolutions au moins 4 jours avant cette séance. Ce Comité aura à formuler les résolutions conformément à la terminologie en usage à l'Association et à l'Union. Il affichera toutes les résolutions, avec ses recommandations sur chacune d'elles, au moins un jour avant la séance administrative finale.

2. Comité des Nominations. Au plus tard le jour de l'ouverture de chaque Assemblée Générale Ordinaire de l'Association au cours de laquelle une élection doit avoir lieu, le Président de l'Association, avec l'approbation du Comité Exécutif, compose un Comité des Nominations pour présenter devant la Réunion Administrative de l'Association une liste provisoire de responsables pour les 4 années suivantes, y compris les 4 Membres du Comité Exécutif élus en plus du Bureau. La composition du Comité des Nominations doit être annoncée à la première séance administrative de l'Association. Ce Comité a à charge de rechercher les personnes les plus capables pour diriger le travail de l'Association, en prenant en considération leurs capacités administratives, l'ampleur de leurs activités scientifiques et leur représentativité nationale. Le Comité des Nominations prend l'avis de tous les anciens Présidents de l'Association présents à l'Assemblée. A la séance administrative, des candidats supplémentaires pour chaque fonction peuvent être proposés par l'assistance.

   Lorsqu'un seul nom est présenté pour une fonction, l'élection peut être faite par acclamation. S'il y a plusieurs candidats, elle a lieu à scrutin écrit, une voix étant attribuée au Délégué de chaque Pays Membre ou à son remplaçant officiel.

3. Réunions du Bureau et du Comité Exécutif. Le Bureau de l'Association se réunit au moins une fois par an. Le Comité Exécutif se réunit aussi souvent que nécessaire et au moins une fois à chaque Assemblée Ordinaire.

4. Conduite des Assemblées. Sauf si les Statuts le prévoient autrement, les réunions administratives sont menées conformément aux règles de Robert, dont un exemplaire sera fourni à chaque responsable de l'Association.

INTERNATIONAL ASSOCIATION OF SEISMOLOGY AND PHYSICS OF THE EARTH'S INTERIOR

Statutes

1. Objects of the Association

1. The purpose of the International Association of Seismology and Physics of the Earth's Interior is:

a. To promote the study of problems relating to earthquakes, to the propagation of seismic waves, and to the internal structure, properties and processes of the Earth;

b. To initiate and co-ordinate the conduct of researches which depend on co-operation between different countries, and to provide for their scientific discussion;

c. To facilitate particular researches on scientific and applied seismology, such as the comparison of instruments used in different countries, researches on blasting and generally all matters to which seismology is related.

2. Members of the Association

2. Each country having adhered to the Union is a member of and has the right to send representatives to the Association. The word "country" has the same sense as in the Statutes of the Union.

3. National Committees

3. Each National Committee for the IUGG should include a Section, or Sub-Committee, of Seismology and Physics of the Earth's Interior. The functions of this Committee and of its Section or Sub-Committee are to facilitate and co-ordinate in their respective countries the study of the different questions relating to Seismology and Physics of the Earth's Interior in accordance with the objects of the Association. The Committee and the Section or Sub-Committee shall be empowered to propose to the Association for discussion questions falling within the competence of the Association.

   The National Committee on the recommendation of the Section nominates the delegate or the delegates who shall represent it at the General Meeting of the Association. One of these delegates shall be designated as the principal delegate of the country and shall cast the vote of that country in all questions except the purely scientific ones (see Article 18).

   Official communications sent by the International Association of Seismology and Physics of the Earth's Interior to an Adhering Country shall be addressed to the Seismological Section or in default to the National Committee of Geodesy and Geophysics.

4. Administration of the Association

4. The work of the Association shall be directed by the General Meeting of the delegates of the Member countries of the Association.

5. The General Meeting of the Association shall elect the following: a President, a First and Second Vice-President, a Secretary General, a Treasurer and four additional persons. It is desirable that each of these four be Chairman of a Commission. These, plus the immediate Past-President shall constitute the voting members of the Executive Committee of the Association. A single person may, with the approval of the Executive Committee, be elected both Secretary General and Treasurer. The President, the Vice-Presidents, the Secretary General and the Treasurer shall constitute the Bureau of the Association.

6. Elections shall be held at each Ordinary General Meeting held in conjunction with a General Assembly of the International Union of Geodesy and Geophysics. The President may not be reelected to the same office, and no person may hold any one office for more than twelve consecutive years.

7. The transfer of duties takes place at the close of the General Meeting at which the election occurs. The interval between successive elections is called a period.

8. The National Committee, or in default the Adhering Organisation, names in each country a correspondent, whose duty is to provide liaison between the Association and the Section in each country.

9. The Executive Committee may appoint members to such Committees and Working Groups as may be needed and may approve their terms of reference. Urgent matters arising in the interval between General Assemblies shall be referred by the Bureau to the Executive Committee. The Executive Committee may appoint an Associate Secretary who will be ex-officio a member of the Executive Committee, but without vote. Should a vacancy occur among the elected officerships, the Bureau shall fill the position provisionally and an election shall be held for this office at the next General Meeting of the Association.

5. Secretariat

10. A Secretariat placed under the direction of the Secretary General shall conduct the correspondence, preserve the administrative archives, arrange the General and other meetings, and prepare and distribute the Comptes-Rendus of the Assemblies.

6. Finance

11. The resources of the Association are derived from:
    a. The allocation by the Union;
    b. The sales of publications, subscriptions, advertisements, etc.;
    c. Grants.

12. The Treasurer shall administer and disburse these resources under the direction of the Executive Committee. The administration of resources shall include the permanent delegation of authority to manage any bank accounts which have been opened in the name of the Association in different countries.

    As a precaution, the right to sign as an authorized agent for any account opened in the name of the Association, shall be extended to at least one other Member of the Bureau of the Association. But the Treasurer shall alone retain responsibility toward the Association for all banking operations.

7. General Meetings of the Association

13. Ordinary General Meetings shall be held in conjunction with General Assemblies of the International Union of Geodesy and Geophysics and normally at least once between each such meeting. Business sessions shall be held at all General Meetings, but elections shall normally be held only at General Meetings held in conjunction with General Assemblies of the Union. The Bureau of the Association may, with the approval of the Executive Committee, summon an extraordinary General Meeting. It must do so at the request of one-third of the votes of the members of the Executive Committee.

14. Members of a National Committee who are not delegates may attend the meetings of the Association and take part in the discussion, but shall have no power of voting.

    The Bureau of the Association may invite representatives of scientific organisations and also scientists not officially delegated by the National Committees of their respective countries, but only after having obtained the approval of these Committees. Such invited guests may take part in the discussion, but shall have no power of voting.

15. The agenda of business to be transacted at a meeting are prepared by the Bureau and sent to the Adhering Organisations together with the notices of the meeting. No question which has not been placed on the agenda shall be discussed without the consent of at least one-half of the votes of the countries represented at the General Meeting.

16. In the intervals between the General Meetings and by agreement with the Bureau of the Union, the Association may, either separately or jointly with other Associations, hold additional meetings. But in any case the Association shall hold a General Meeting at the same time as the Union itself.

8. Budget

17. The Executive Committee shall prepare for each period and submit to the General Meeting an estimate of the budget relative to the expenses of the Secretariat. A Committee, nominated by the General Assembly shall examine the accounts for the preceding years and the estimate for the next period. It shall give discharge to the Treasurer for the accounts prepared by the Treasurer for the preceding period and submitted to the General Meeting.

9. Voting Power

18. In a General Meeting, resolutions concerning purely scientific questions shall be decided by a majority of the votes cast by all the delegates present. In all other questions which appear on the agenda, the voting shall be by Member Countries, each Member Country having one vote; a country not represented may forward its vote to the Secretary General in writing. Such votes shall be counted only if received before the result of the ballot is ascertained. In case of doubt as to the category to which a question belongs, the President shall decide. When there is an equal division of votes, the President shall have a deciding vote. The election of the Bureau and of the Executive Committee is counted as an administrative question.

10. Validity of Statutes

19. These statutes may be revised by any of the following means:
    a. At any business meeting, by the approval of two-thirds of the member countries.
    b. By the approval of a majority of the member countries using a mail ballot authorized by the Executive Committee, provided that the revision is favoured by two-thirds of those countries which vote.
    c. By a two-thirds majority vote of the Member Countries represented in person at a business meeting of an Ordinary General Meeting, plus those

who have forwarded their vote to the Secretary General in writing, provided that the proposed modification was read at a plenary session of the preceding General Meeting or was included in the agenda mailed in advance to all Member Countries.

20. In voting on revisions of the Statutes, a delegate may represent only one country.

21. The English text shall be used exclusively in interpreting these Statutes.

11. Commissions

22a. The Association may establish commissions to study scientific topics and to stimulate and coordinate research on these topics or research related to a specific region.

b. The Association may also establish joint Commissions with other Organisations.

23. Officers of Commissions shall not hold the same office for more than two periods.

By-Laws

The following By-Laws are established in order to provide for continuing guidance in conducting the affairs of the Association. Their revision comes under the purview of Article 19 of the Statutes.

1. Resolutions Committee. At the first business meeting, the President shall appoint a Resolutions Committee consisting of one officer of the Association and two other persons. All resolutions to be presented at the last general business meeting must be transmitted in writing to the Resolutions Committee at least four days before the said meeting. It is the responsibility of the Resolutions Committee to word the resolutions consistently with the terminology of the Association and of the Union. The Committee shall post all Resolutions, and its recommendations on each of them at least one day before the final business meeting.

2. Nominating Committee. Not later than the opening day of each Ordinary General Meeting of the Association at which an election is to be held, the President of the Association, with the approval of the Executive Committee, should appoint a Nominating Committee to bring before the Business Meeting of the Association a slate of officers for the ensuing four years including the four elected members of the Executive Committee besides the officers. The names of this Committee should be announced at the first Business Session of the Association. This Committee should be charged with finding the persons best able and willing to direct the work of the Association, keeping in mind the need for persons of executive ability, comprehensive scientific interests and broad national representation. The Nominating Committee should consult with all former Presidents of the Association present at the meeting. At the business meeting, additional nominations for each office may be made from the floor. Where there is only one nominee for an office, the election may be conducted by acclamation. If there are additional nominations, the elections should be by written ballot, one ballot passed out to the delegate of each Member Country or to an official alternate.

3. Meetings of the Bureau and of the Executive Committee. The Bureau of the Association should meet at least every year. The Executive Committee should meet as often as necessary and at least once every Ordinary General Assembly. Payment of the travel expenses of members to these meetings is a high-priority Association expense.

4. Conduct of Meetings. Except if otherwise provided in the Statutes, business meetings shall be conducted according to Robert's Rules of Order. A copy thereof shall be provided to each officer of the Association.

ASSOCIATION INTERNATIONALE DE VOLCANOLOGIE ET DE CHIMIE DE L'INTERIEUR DE LA TERRE

Statuts

1. Buts

1. Les buts de l'Association Internationale de Volcanologie et de Chimie de l'Intérieur de la Terre (ci-après désignée: l'Association) sont:

a. de promouvoir l'étude des problèmes en relation avec les volcans et les processus volcaniques, anciens et actuels, ainsi qu'avec la chimie de l'intérieur de la Terre.

b. d'encourager, stimuler et coordonner les recherches et de promouvoir une collaboration internationale dans le domaine de ces études,

c. d'organiser des réunions et des conférences, et de publier les résultats des recherches scientifiques sur la volcanologie ainsi que sur la chimie de l'intérieur de la Terre,

d. d'encourager les volcanologues à éveiller l'attention des autorités compétences sur l'importance d'une surveillance adéquate à l'égard des volcans actifs, ou potentiellement nocifs, et sur l'évaluation du risque volcanique.

2. Membres de l'Association

2. L'Association est une association constituante de l'Union Géodésique et Géophysique Internationale (ci-après désignée: l'Union); elle est soumise aux Statuts et Règlement de l'Union ainsi qu'à ses propres Statuts.

3. Les Pays Membres de l'Union seront considérés comme membres de l'Association et peuvent, par l'intermédiaire de leur Organisme Adhérent désigner un Correspondant National pour les représenter au sein de l'Association.

4. Des personnes professionnellement impliquées dans ou associées à des études de volcanologie ou de la chimie de l'intérieur de la Terre, peuvent devenir Affiliés à l'Association. Les Affiliés paient une cotisation annuelle.

3. Administration

5. L'autorité de l'Association est dévolue à l'Assemblée Générale qui est constituée: (1) des Affiliés de pays membres qui ont payé leur cotisation annuelle à l'Union, et (2) des Correspondants Nationaux des pays membres de l'Union. Tous les membres de l'Assemblée Générale sont éligibles à des positions électives. Tous les Affiliés et Correspondants Nationaux reçoivent les publication et autres documents jugés appropriés par décision du Comité Exécutif. Seuls les Correspondants Nationaux des pays membres ont le droit de vote sur les questions de finances et sur les problèmes de l'Union.

6. Les Assemblées Générales se tiendront normalement à l'occasion des Assemblées Générales de l'Union. Elles peuvent aussi avoir lieu dans la période entre deux Assemblées Générales de l'Union et à la discrétion du Comité Exécutif de l'Association.

7. Entre les Assemblées Générales, l'administration de l'Association sera assurée par le Bureau (constitué de son Président, de deux Vice-Présidents, de son Secrétaire Général et de son Secrétaire Adjoint) de l'Association.

8. Le Comité Exécutif de l'Association comprendra les cinq membres du Bureau et quatre autres membres. Ces neuf membres excepté le Secrétaire Adjoint seront élus par vote par correspondance, par les Affiliés et Correspondants Nationaux en exercice. Le Président sortant et le Rédacteur-en-Chef du Bulletin de Volcanologie seront membres de droit du Comité Exécutif. Pas plus de deux personnes d'un même pays peuvent être élues. Aucun membre du Comité Exécutif ne pourra être élu pour plus de deux périodes consécutives. Le Secrétaire Adjoint sera nommé par le Secrétaire Général.

9. En cas de vacance au Comité Exécutif au cours de la période comprise entre deux votes par correspondance, le Comité Exécutif aura le droit de pourvoir au remplacement du poste vacant. Le Comité Exécutif désignera le Rédacteur-en-Chef du Bulletin de Volcanologie et des autres publications de l'Association. Le Comité Exécutif aura la prérogative de créer et de dissoudre des Commissions et des Groupes de Travail de l'Association.

4. Elections

10. Les Affiliés des pays membres ayant payés leur cotisation pour l'année en cours et les Correspondants Nationaux recevront des bulletins de vote pour les sièges à pourvoir à l'Association, ainsi que pour toute proposition de changement des Statuts et du Règlement Intérieur.

11. Les bulletins de vote devront être distribués au moins trois mois avant une Assemblée Générale de l'Union et retournés au plus tard un mois avant celle-ci.

12. Tout Affilié ou Correspondant National peut, par écrit, proposer tout autre Affilié ou Correspondant National en exercice à un poste à pourvoir à l'Association à condition que: (1) cette nomination soit appuyée par trois autres Affiliés ou Correspondants Nationaux en exercice, tous de pays autres que celui de la personne proposée; (2) la personne proposée, le proposant et les personnes appuyant la nomination soient tous de Pays Membres de l'Union. Toute nomination doit être reçue au plus tard six mois avant l'Assemblée Générale de l'Union où elle sera considérée.

13. Toutes les nominations seront examinées par un Comité des Nominations qui établira une liste comportant au moins deux, mais pas plus de trois candidats au même poste du Comité Exécutif. Pas plus de deux candidats du même pays ne pourront être proposés par le Comité des Nominations à l'ensemble des postes à pourvoir. Le Comité des Nominations sera créé par le Comité Exécutif au plus tard neuf mois avant l'Assemblée Générale de l'Union en question. Il comprendra au moins cinq Affiliés ou Correspondants Nationaux en exercice, l'un d'entre eux étant désigné par le Comité Exécutif comme étant celui qui recevra les votes par correspondance. Le Comité Exécutif sortant a la latitude de désigner lui-même des candidats à des postes pour lesquels une seule ou aucune nomination n'a été proposée par les Affiliés et Correspondants Nationaux.

14. Les votants devront classer les candidats dans l'ordre de leur choix. Lorsqu'il y a deux candidats à un poste, celui recueillant le plus grand nombre de premières places sera élu. Dans le cas de trois candidats et si aucun n'obtient la majorité du nombre de premières places, le candidat ayant le plus petit nombre de secondes places sera éliminé. Des deux candidats restants, celui ayant le plus grand nombre de secondes places sera élu. Au cas où il y aurait égalité pour ce critère, le nombre de troisièmes places sera utilisé.

5. Modifications et Interprétation des Statuts

15. Toute modification à ces Statuts ne pourra être adoptée qu'après un vote à la majorité des deux tiers au moins par correspondance et par les membres de l'Assemblée Générale. La majorité des deux tiers est déterminée par le rapport des voix affirmatives avec le total des voix (affirmatives et négatives, plus les abstentions signifiées), à condition que le nombre total des membres ayant voté (par l'affirmative, la négative ou l'abstention signifiée) ne soit pas inférieur au tiers du nombre total d'Affiliés et de Correspondants Nationaux formant l'Assemblée Générale.

16. Le texte anglais des présents Statuts fera foi.

17. Si ces Statuts se révèlent incompatibles avec ceux de l'Union, la décision de celle-ci sera prioritaire.

Règlement Intérieur

1. Membres

1. Où il convient, chaque pays devrait établir un Sous-Comité de son Comité National pour l'Union. Les objectifs de ces Sous-Comités de Volcanologie et de Chimie de l'Intérieur de la Terre sont:

a. de favoriser les buts de l'Association dans leur pays;

b. de nommer, au niveau du Comité National, un Correspondant National qui aura pouvoir de voter pour le Sous-Comité, et qui pourra être désigné comme le Délégué principal du pays aux Assemblées Générales;

c. de proposer les sujets à débattre aux Assemblées Générales de l'Association; ces sujets seront communiqués au Secrétaire Général de l'Association au moins trois mois avant l'Assemblée Générale en question;

d. d'assurer la correspondance relative aux questions qui intéressent l'Association, ainsi que la circulation de toute information appropriée.

2. Rôle des Officiels de l'Association

2. Le rôle du Comité Exécutif est d'exercer un droit de regard sur les affaires de l'Association. Il devrait se réunir au moins deux fois pendant chaque Assemblée Générale. Ce rôle comprend: l'examen des propositions de modifications des Statuts et du Règlement Intérieur; la détermination du montant de la cotisation annuelle pour les Affiliés; les nominations aux postes devenus vacants dans la période située entre deux votes par correspondance; l'aide à la préparation des programmes et la prise de dispositions requises en vue des Assemblées Générales et autres réunions; la désignation d'un Comité des Nominations pour l'établissement de la liste des candidats à élire; la désignation du Rédacteur-en-Chef et des Rédacteurs-Adjoints du Bulletin de Volcanologie et autres publications; la création des Commissions et Groupes de Travail: et d'une façon générale, la défense des intérêts de l'Association.

3. Le rôle du Bureau est d'assurer l'administration de l'Association entre les Assemblées Générales ainsi que d'assurer la responsabilité de la promotion active des objectifs et des intérêts de l'Association, et de l'efficacité des Commissions et Groupes de Travail. Le Bureau est responsable de la création de Sous-Comités pour certains aspects spécifiques des activités de l'Association.

4. Le rôle du Président de l'Association est de présider les Assemblées Générales de l'Association et d'assurer, en accord avec le Secrétaire Général, la gestion courante de l'Association. Le Président et le Secrétaire Général ont pouvoir de signer les documents officiels de l'Association. Le Président préside le Sous-comité des récompenses.

5. Le rôle des Vice-Présidents est de présider les Assemblées Générales en l'absence du Président. Au cas où le siège du Président deviendrait vacant entre les Assemblées Générales, le Comité Exécutif désignera l'un des Vice-Présidents pour remplir le rôle de Président jusqu'à l'Assemblée Générale suivante. En tant que membres du Bureau, ils doivent promouvoir activement les objectifs et intérêts de l'Association et s'assurer de l'efficacité des Commissions et Groupes de Travail.

6. Le rôle du Secrétaire Général de l'Association est: (1) d'assurer toute correspondance relative aux affaires de l'Association; (2) de rassembler et de préserver les archives de l'Association; (3) de tenir à jour la liste d'adresses des membres de l'Association et de recevoir et gérer les demandes d'affiliation; (4) de gérer les fonds de l'Association, de préparer à la fin de chaque année précédant une Assemblée Générale les comptes de l'Association et de veiller à ce qu'ils soient correctement vérifiés et adressés au Trésorier de l'Union; (5) en accord avec le Président et les membres du Comité Exécutif, de préparer le programme et de prendre toutes dispositions en vue de l'Assemblée Générale, ainsi que de collaborer avec les autres Associations de l'Union pour l'organisation des séances communes; (6) d'assurer la publication et la distribution des comptes-rendus annuels des travaux de l'Association; (7) de préparer le budget pour la période suivante de quatre années.

7. Le rôle du Secrétaire Adjoint est d'aider le Secrétaire Général à s'acquitter de sa charge. Au cas où le poste de Secrétaire Général deviendrait vacant entre deux Assemblées Générales, le Secrétaire-Adjoint serait normalement désigné comme Secrétaire Général jusqu'à l'Assemblée Générale suivante.

8. Le Rédacteur-en-Chef du Bulletin de Volcanologie gérera la réception des articles proposés et leur envoi aux Rédacteurs-Adjoints pour examen, acceptation ou autres. Le Rédacteur-en-Chef et les Rédacteurs-Adjoints seront responsables du maintien d'un niveau scientifique élevé et de la qualité de présentation du Bulletin de Volcanologie. Le mandat du Rédacteur-en-Chef ne devra pas excéder huit ans. Le Rédacteur-en-Chef a pouvoir de signer au nom de l'Association tout document qui se rapporte au Bulletin de Volcanologie ou autres publications. Le Rédacteur-en-Chef et le Comité Exécutif désigneront ensemble les Rédacteurs-Adjoints dont le mandat ne pourra excéder huit ans.

3. Commissions, Groupes de Travail et Sous-Comités

9. Le Comité Exécutif peut créer toute Commission destinée à promouvoir internationalement des recherches dans tout domaine de la Volcanologie et de la Chimie de l'Intérieur de la Terre. Il désignera un scientifique responsable pour diriger chaque Commission. Cette personnalité devra proposer des objectifs, un programme et des membres de la Commission, au Comité Exécutif. Le mandat d'un responsable de Commission n'excédera pas quatre ans.

10. Le Comité Exécutif peut créer des Groupes de Travail dédiés à l'accomplissement rapide de tâches scien-tifiques particulières. L'activité d'un tel Groupe inclura la préparation et la présentation, par tout ensemble de personnes intéressées, des objectifs, du programme de la composition d'une future Com-mission, pour être examinée par le Comité Exécutif.

11. Le Bureau peut créer des Sous-Comités dédiés à l'accomplissement des tâches administratives. Parmi eux existera un Sous-comité des Récompenses dont la responsabilité, sous la direction du Président, sera de recommander des scientifiques pour l'attribution de la Médaille Thorarinsson et de la Médaille Wager, récompenses qui sont remises au moment des Assemblées de l'Association tenues entre deux Assemblées Générales de l'UGGI.

4. Modifications et Interprétation du Règlement Intérieur

12. Ce Règlement Intérieur ne peut être modifié que par un vote par correspondance à la majorité simple, par les Affiliés et les Correspondants Nationaux. La majorité simple est déterminée par le rapport des voix affirmatives avec le total des voix (affirmatives et négatives, plus les abstentions signifiées), à condition que le nombre total de membres ayant voté (pour l'affirmative, la négative ou l'abstention signifiée) ne soit pas inférieur au quart du nombre total d'Affiliés et de Correspondants Nationaux de l'Association. Tout Affilié ou Correspondant National peut, par écrit, proposer une ou plusieurs modifications au Règlement Intérieur, à condition que cette proposition soit appuyée (par écrit) par trois autres Affiliés ou Correspondants Nationaux en exercice. Le Comité Exécutif sera maître de décider s'il doit donner suite à cette proposition par un vote par correspondance.

INTERNATIONAL ASSOCIATION OF VOLCANOLOGY AND CHEMISTRY OF THE EARTH'S INTERIOR

Statutes

1. Objectives

1. The objectives of the International Association of Volcanology and Chemistry of the Earth's Interior (hereafter referred to as the Association) are:

a. to promote the study of volcanoes and volcanic processes, past and present, and of the chemistry of the Earth's interior;

b. to encourage, initiate, and co-ordinate research and to promote international co-operation in these studies;

c. to arrange for the discussion and publication of the results of scientific research on volcanology and on the chemistry of the Earth's interior;

d. to encourage volcanologists to alert appropriate authorities to the importance of adequate surveillance of active and potentially active volcanoes and of volcanic risk assessment.

2. Membership

2. The Association is a constituent association of the International Union of Geodesy and Geophysics (hereafter referred to as the Union), and is subject to the Statutes and By-Laws of the Union as well as to these Statutes.

3. Any Member Country of the Union shall be regarded as a Member of the Association and may, through its Adhering Body, appoint a National Correspondent to represent it in the Association.

4. Individuals professionally engaged in, or associated with, volcanology and studies of the chemistry of the Earth's interior, can apply to become Affiliates of the Association. Affiliates pay an annual subscription fee.

3. Administration

5. The authority of the Association shall be vested in the General Assembly which is formed by (1) Affiliates from member countries who have paid the annual subscription fee, and (2) National Correspondents of member countries of the Union. All the members of the General Assembly are eligible to hold office. All Affiliates and National Correspondents will receive publications and other materials which by decision of the Executive Committee are considered appropriate. Only National Correspondents from member countries have the right to vote on financial and Union matters.

6. General Assemblies of the Association normally shall be held in conjunction with General Assemblies of the Union. They can be held also between successive General Assemblies of the Union at the discretion of the Association's Executive Committee.

7. The business of the Association between General Assemblies shall be carried on by the Bureau (President, two Vice-Presidents, Secretary-General, and Deputy Secretary) of the Association.

8. The Executive Committee of the Association shall consist of the five members of the Bureau and four other members. All nine members except the Deputy Secretary shall be elected by postal vote of the current Affiliates and National Correspondents. The Past President and the Executive Editor of the Bulletin of Volcanology shall be ex officio members of the Executive Committee. No more than two officers from the same country can be elected. No member of the Executive Committee may be elected for more than two successive periods. The Deputy Secretary will be appointed by the Secretary General.

9. The Executive Committee shall have the power to fill any vacancy that arises on the Executive Committee during the interval between successive periods of postal voting. The Executive Committee shall have the power to appoint the Executive Editor of the Bulletin of Volcanology and other publications of the Association. The Executive Committee shall have the power to create and disband Commissions and Task Groups of the Association.

4. Voting

10. Affiliates from member countries who have paid their dues for the current year and National Correspondents shall receive ballots for new office-bearers and for any proposed changes to the Association's Statutes and By-Laws.

11. Ballots will be distributed at least three months before, and must be returned no later than one month before, IUGG General Assemblies.

12. Any Affiliate or National Correspondent may nominate in writing any other current Affiliate or National Correspondent as an office-bearer of the Association provided (1) the nomination is seconded by three other current Affiliates or National Correspondents each from countries

other than that of the nominee and (2) the nominee, nominator, and seconders are all from a country belonging to the Union. All nominations must be received no later than six months before the General Assemblies of the Union.

13. All nominations shall be considered by a Nominating Committee which will produce a short list of at least two, but no more than three, candidates for each of the positions on the new Executive Committee. No more than two candidates from the same country can be proposed by the Nominating Committee for all of the positions. The Nominating Committee will be appointed by the Executive Committee no later than nine months before the General Assemblies of the Union. It will consist of no less than five current Affiliates or National Correspondents, one of whom will be nominated by the Executive Committee as a Receiving Officer for postal votes. The outgoing Executive Committee has the power to appoint candidates of its own where only one, or no, candidates are nominated by Affiliates and National Correspondents.

14. Voters shall be required to rank candidates in order of their preference. The candidate with the largest number of first-place votes will be elected in cases where there are only two candidates. In cases where there are three candidates and none has a majority of first-place votes, then the candidate with the fewest first-place votes will be eliminated. The one of the two remaining candidates having the higher number of second-place votes will be elected. The third-place votes will be used in cases where the second-place votes are equal.

5. Alteration and Interpretation of Statutes

15. These Statutes shall be changed only by a majority of at least two thirds of postal votes by members of the General Assembly. Two-thirds absolute majority is determined by the proportion of affirmative votes to the sum of votes (affirmative, negative, abstention) provided that the total number of members of the General Assembly voting (affirmative, negative, abstention) is not less than one third of the total number of Affiliates and National Correspondents forming the General Assembly.

16. The English text of the present Statutes shall be regarded as the authoritative version.

17. If these Statutes are found to be in conflict with those of the Union, the latter shall have priority.

By-Laws

1. Membership

1. Individual countries, where appropriate, should establish Sub-Committees of their National Committee for the Union. The functions of each of the Sub-Committees for Volcanology and Chemistry of the Earth's Interior shall be as follows:

a. to further the aims of the Association within their own country;

b. to nominate through the National Committee a National Correspondent who will have the power to vote on behalf of the Sub-Committee and who may be designated as the Chief Delegate for that country at Union General Assemblies;

c. to submit topics for discussion at the General Assemblies of the Association -subjects so submitted should be notified to the Secretary General of the Association at least three months before the General Assembly;

d. to facilitate and co-ordinate, as appropriate and necessary, the dissemination of correspondence and other information relating to the affairs of the Association.

2. Duties of Officers of the Association

2. The function of the Executive Committee is to exercise general oversight with respect to the affairs of the Association. It should meet at least twice during each General Assembly. Its duties include the following: to consider proposals for changes to the Statutes and By-Laws; to determine the annual subscription fee for Affiliates; to fill office-bearing vacancies arising between successive periods of postal voting; to assist in preparing agenda and making arrangements for General Assemblies and other meetings; to appoint a Nominating Committee for the short-listing of candidates for election as new office-bearers; to appoint the Executive Editor and Associate Editors of the Bulletin of Volcanology and other publications; to appoint Commissions and Task Groups; and generally to promote the interests of the Association.

3. The function of the Bureau is to carry on the business of the Association between General Assemblies and to take on the particular responsibility of pro-actively fostering the

objectives and interests of the Association and the effectiveness of the Commissions and Task Groups. The Bureau is responsible also for establishing Sub-Committees to deal with specific aspects of the work of the Association.

4. The duties of the President are to preside at General Assemblies of the Association and, in consultation with the Secretary General, to regulate the business of the Association. The President and Secretary General have the power to sign documents on behalf of the Association. The President will chair the Awards Sub-committee.

5. The duties of the Vice-Presidents are to preside at General Assemblies in the absence of the President. In the event of the position of President becoming vacant between General Assemblies, the Executive Committee shall appoint one of the Vice-Presidents to act as President until the next General Assembly. As members of the Bureau, they must foster pro-actively the objectives and interests of the Association, and the effectiveness of the Commissions and Task Groups.

6. The duties of the Secretary General of the Association are (1) to carry on all correspondence relating to the affairs of the Association; (2) to maintain and preserve the records of the Association; (3) to maintain a mailing list of members of the Association, and to receive and process Affiliate applications; (4) to administer the funds of the Association, to prepare at the end of the calendar year preceding a General Assembly the accounts of the Association, and to arrange that they shall be properly audited and sent to the Treasurer of the Union; (5) in consultation with the President and members of the Executive Committee, to prepare the agenda and make arrangements for the next General Assembly, and to cooperate with the other Associations of the Union in arranging joint sessions; (6) to ensure that the annual reports of the Association are published and distributed; (7) to prepare a budget for the ensuing four-year term.

7. The duties of the Deputy Secretary are to assist the Secretary General in carrying out the duties of the Secretary General. The Deputy Secretary normally would be appointed Secretary General in the event of that position becoming vacant between General Assemblies.

8. The Executive Editor of the Bulletin of Volcanology shall administer the process of receipt of manuscripts and their distribution to the Associate Editors for review and acceptance (or otherwise). The Executive Editor and Associate Editors shall be responsible for maintaining high standards of content and presentation of the Bulletin of Volcanology. The tenure of the Executive Editor normally would not exceed eight years. The Executive Editor is empowered to sign documents on behalf of the Association that are pertinent to the Bulletin of Volcanology and any other Association-sponsored publications. The Executive Editor and the Executive Committee jointly will appoint Associate Editors who will serve for periods not exceeding eight years.

3. Commissions, Task Groups, and Sub-Committees

9. The Executive Committee may establish any Commission devoted to the international promotion of research in any speciality of Volcanology and Chemistry of the Earth's Interior. It will appoint a scientist to lead each Commission. This leader will present proposals for the objectives, program, and membership of the Commission for approval by the Executive Committee. Leaders normally will serve for periods not exceeding four years.

10. The Executive Committee may establish Task Groups devoted to the short-term completion of specific scientific tasks. This will include the preparation, by any interested group, of the objectives, program, and proposed membership of a future Commission, for consideration by the Executive Committee.

11. The Bureau may establish Sub-Committees devoted to the completion of specific administrative tasks. These will include the Awards Sub-committee whose responsibility, under the chairmanship of the President, is to prepare recommendations for the award of the Thorarinsson Medal and Wager Medal at the time of the Association's General Assemblies held between the IUGG General Assemblies.

4. Alteration and Interpretation of By-Laws

12. These By-Laws shall be changed only by a simple majority of postal votes by current Affiliates and National Correspondents. Simple majority is determined by the proportion of affirmative votes to the sum of votes (affirmative, negative, abstention), provided that the total number of members voting (affirmative, negative, abstention) is not less than one-quarter of the total number of current Affiliates and National Correspondents of the Association. Any Affiliate or National Correspondent may propose in writing alteration, or alterations, to these By-Laws, provided the proposal is seconded (in writing) by three other current Affiliates or National Delegates. The Executive Committee shall have the power to decide whether the proposal will be distributed to members as a postal vote.

ASSOCIATION INTERNATIONALE DE GEOMAGNETISME ET D'AERONOMIE

Statuts

1. Objectifs, structure et composition de l'Association

Statut 1. Objectifs de l'AIGA

L'Association Internationale de Géomagnétisme et d'Aéronomie (ci-après AIGA) a pour objectifs:

a. de promouvoir l'étude du magnétisme et de l'aéronomie de la Terre et des autres corps du système solaire, ainsi que celle du milieu interplanétaire et de ses interactions avec ces corps, lorsque ces études ont un intérêt international;

b. d'encourager, dans les domaines mentionnés dans l'alinéa précédent, la recherche par des pays, institutions ou personnes individuelles et de faciliter la coordination internationale de ces recherches;

c. de fournir au niveau international un cadre pour la discussion et la publication des résultats des recherches décrites dans les alinéas précédents;

d. de promouvoir les standardisations appropriées en matière de programme d'observation, de systèmes d'acquisition et d'analyse de données, et de publication.

Statut 2. Création de Groupements Constitutifs

Afin d'atteindre ses objectifs, l'Association peut créer des Groupements Constitutifs, soit à l'intérieur de l'Association, soit en commun avec d'autres Associations de l'Union Internationale de Géodésie et Géophysique (UGGI) ou avec des composantes d'autres membres du Conseil International pour la Science (CIUS).

Statut 3. Pays Membre de l'AIGA

Un pays qui adhère à l'UGGI, ainsi qu'il est défini dans les statuts de l'UGGI, est un Pays Membre de l'AIGA et peut participer aux activités de l'AIGA. Les Pays Membres à titre payant de l'UGGI, ainsi qu'il est défini dans les statuts de l'UGGI, sont Pays Membres à titre payant de l'AIGA. Les pays ayant un statut d'Observateur, ou de Membre Associé de l'UGGI, ainsi qu'il est défini dans les statuts de l'UGGI, sont Pays Membres à titre gracieux de l'AIGA.

Statut 4. Correspondants Nationaux de l'AIGA

Chaque Pays Membre est représenté par un seul organisme, appelé dans la suite Correspondant National de l'AIGA. Cet organisme est nommé dans ce pays par l'Organisme Adhérent de l'UGGI.

2. Administration

Statut 5. Assemblées de l'AIGA

5.1 Une Assemblée Générale ordinaire de l'AIGA se tient normalement en même temps que chaque Assemblée Générale ordinaire de l'UGGI.

5.2 L'intervalle entre la fin d'une Assemblée Générale ordinaire et la fin de la suivante est appelée Période pour les besoins des présents Statuts.

5.3 Une Assemblée scientifique de l'AIGA peut se tenir entre deux Assemblées Générales ordinaires, conformément au Règlement Intérieur de l'UGGI.

5.4 Une Assemblée Générale extraordinaire de l'AIGA peut être convoquée par le Président* conformément au Règlement Intérieur.

Statut 6. Délégués et Conférences des Délégués

6.1 L'activité de l'Association est dirigée par les Conférences des Délégués tenues durant les Assemblées de l'AIGA.

6.2 Un Délégué est un scientifique d'un Pays Membre qui est inscrit pour une Assemblée en tant que participant scientifique bona fide, ou toute personne que le Secrétaire Général a autorisé, en consultation avec le Conseil Exécutif de l'AIGA, à participer et à voter comme Délégué à une Conférence des Délégués.

6.3 Parmi les Délégués de chaque Pays Membre, l'un d'entre eux est accrédité en tant que Délégué National par le Correspondant National de l'AIGA pour ce pays, afin de voter au nom de son pays lors de votes de nature administrative et financière, ainsi qu'il est stipulé aux articles St-12, St-13 et St-14. Un Délégué National peut être représenté lors d'un vote par un autre Délégué désigné conformément au Règlement Intérieur.

6.4 Un Délégué ne peut représenter qu'un seul Pays Membre. Un membre du Conseil Exécutif (voir St-7) ne peut être Délégué National, sauf si ce membre est la seule personne du pays en question qui soit présente.

6.5 Une Conférence des Délégués est convoquée au moins une fois durant chaque Assemblée de l'AIGA.

Statut 7. Le Conseil Exécutif

7.1 Entre les Conférences de Délégués, la responsabilité pour la direction des affaires de l'AIGA est détenue par le Conseil Exécutif de l'Association, élu durant une Conférence des Délégués.

7.2 Un compte-rendu des décisions du Conseil Exécutif doit être présenté lors d'une Conférence des Délégués. Toute décision ou recommandation qui n'obtient pas un soutien à la majorité simple lors d'une Conférence des Délégués est renvoyée au Conseil Exécutif pour examen complémentaire.

7.3 La responsabilité du Conseil Exécutif est d'administrer les affaires de l'Association conformément aux présents Statuts et Règlement Intérieur et aux décisions des Conférences des Délégués.

7.4 Le Conseil Exécutif peut créer, avec d'autres Associations de l'UGGI ou avec d'autres membres du CIUS, des Groupements Constitutifs communs afin de prendre en charge des thèmes d'intérêt commun, et il peut accréditer les responsables et représentants de l'AIGA compétents.

7.5 Dans ses rapports avec des Groupements qui ne font pas partie de l'UGGI, le Conseil Exécutif ne peut engager le nom de l'UGGI, ni agir au nom de l'UGGI, sans s'être assuré au préalable de l'accord du Comité Exécutif de l'UGGI.

7.6 Le Conseil Exécutif se réunit au moins deux fois durant chaque Assemblée, et il doit tenir au moins une réunion supplémentaire entre deux Assemblées Générales ordinaires.

Statut 8. Composition du Conseil Exécutif

8.1 Le Conseil Exécutif se compose du Président, de deux Vice-Présidents, du Secrétaire Général, de cinq Membres supplémentaires, et du Président sortant (ex officio). A l'exception du Président sortant, tous les membres du Conseil Exécutif sont élus par une Conférence des Délégués; l'élection est considérée comme un vote sur une question administrative, conduit conformément aux articles St-13 et St-14.

8.2 Le Président est élu pour une Période, et ne il peut pas être réélu à la même fonction. Les Vice-Présidents sont élus pour une Période, et ils peuvent être réélus une fois. Un Vice-Président sortant peut être élu Président. Chacun des cinq Membres supplémentaires est élu pour une Période, et il peut être réélu pour des Périodes simples successives, mais il ne peut avoir un mandat de Membre supplémentaire pour plus de trois Périodes consécutives. Le Président sortant est membre ex officio pour une Période. À l'exception de l'élection du Secrétaire Général, toute personne ayant été membre du Conseil durant quatre Périodes ne peut être candidate à une élection pour un des postes du Conseil Exécutif de l'AIGA.

8.3 Le Secrétaire Général est élu pour huit ans, et peut être réélu pour des mandats successifs de quatre ans.

8.4 L'élection du Conseil Exécutif est normalement organisée au cours d'une Conférence des Délégués tenue durant une Assemblée Générale ordinaire, sauf en ce qui concerne le Secrétaire Général qui est normalement élu au cours d'une Conférence des Délégués tenue durant une Assemblée Scientifique.

8.5 En cas de vacance de l'un des postes du Conseil Exécutif durant une Période, le Conseil Exécutif mandate une personne pour pourvoir le poste vacant jusqu'à la prochaine élection. L'éligibilité de la personne ainsi mandatée n'est pas modifiée par cette nomination. Si c'est la Présidence qui est vacante, le Conseil Exécutif mandate un des deux Vice-présidents pour agir en tant que Président.

Statut 9. Responsabilités des Groupements Constitutifs

9.1 Les responsabilités à l'intérieur de l'AIGA des Groupements Constitutifs (cf St-2) sont de servir les objectifs scientifiques de l'AIGA en:

a. coordonnant une recherche scientifique appropriée;

b. organisant des réunions scientifiques;

c. promouvant l'échange d'informations et de données;

d. conseillant le Conseil Exécutif pour la formulation des principes devant guider le travail scientifique de l'Association.

9.2 Les responsabilités des Groupements Constitutifs créés en commun avec d'autres Associations de l'UGGI ou d'autres composantes du CIUS (cf. St-2) est de prendre en charge et de coordonner les programmes scientifiques et/ou réunions qui couvrent des thèmes d'intérêt commun.

3. Finance

Statut 10. Adoption du budget

Le Secrétaire Général prépare un budget prévisionnel des dépenses et des recettes pour chaque demi-Période, et présente ce budget devant le Conseil Exécutif et une Conférence des Délégués durant une Assemblée. Après avoir reçu l'approbation du Conseil Exécutif et de la Conférence des Délégués, le Secrétaire Général engage les dépenses conformément au budget approuvé.

Statut 11. Commission des Finances

11.1 Une Commission des Finances est nommée par le Conseil Exécutif dans les six mois qui suivent l'ouverture de chaque Assemblée Générale ordinaire et elle reste normalement en fonction pour une Période.

11.2 Aucun Membre du Conseil Exécutif ne peut être membre de la Commission des Finances.

11.3 La Commission des Finances examine les comptes et présente pour approbation les résultats de cet examen devant le Conseil Exécutif et devant une Conférence des Délégués.

4. Vote

Statut 12. Nature des questions soumises au vote

12.1 Avant un vote par une Conférence des Délégués, le Président décide si la nature de la question considérée est scientifique, administrative ou financière.

12.2 Des questions qui sont partiellement scientifiques et partiellement administratives et qui n'impliquent aucune question financière sont considérées comme des questions administratives.

12.3 La décision du Président ne peut être contestée que par le Délégué National d'un Pays Membre. En cas de contestation, la décision du Président peut être modifiée conformément à un vote de la Conférence des Délégués acquis à la majorité des deux tiers des Délégués Nationaux de Pays Membres à titre payant qui sont présents.

Statut 13. Procédures de Vote

13.1 Dans le cas d'un vote sur une question scientifique, chaque Délégué présent à la Conférence des Délégués a une voix.

13.2 Dans le cas d'un vote sur une question administrative, les votants sont les Pays Membres à titre payant, chaque Pays Membre à titre payant disposant d'une voix exprimée par son Délégué National, ou par son représentant désigné conformément au Règlement Intérieur.

13.3 Dans le cas d'un vote sur une question financière, les votants sont les Pays Membres à titre payant, chaque Pays Membre à titre payant disposant d'un nombre de voix correspondant à celui de sa catégorie en tant que membre de l'UGGI. Ces votes seront exprimés par le Délégué National de chaque Pays Membre à titre payant, ou par son représentant désigné conformément au Règlement Intérieur.

13.4 Les votes sur des questions administratives ou financières peuvent être effectués par correspondance (conformément au Règlement Intérieur), à la place d'un vote organisé durant une Conférence des Délégués.

Statut 14. Votes durant les Conférences des Délégués

14.1 Les décisions prises à la suite d'un vote durant une Conférence des Délégués ne sont valides que si au moins la moitié des Délégués Nationaux de Pays Membres à titre payant participant à l'Assemblée sont présents ou représentés conformément aux Règlement Intérieur.

14.2 Les décisions d'une Conférence des Délégués sont acquises à la majorité simple des votes exprimés, sauf indication contraire dans les Statuts. La majorité simple ou des deux tiers est déterminée comme le rapport des votes positifs sur la somme des votes positifs et négatifs, y compris les votes par correspondance de Pays Membres à titre payant pour des questions administratives ou financières conformément au Règlement Intérieur, et sans prendre en compte les abstentions. En cas d'égalité, la décision appartient au Président.

5. Généralités

Statut 15. Modification des Statuts

15.1 Les modifications des présents Statuts prennent effet à la clôture de l'Assemblée Générale durant laquelle ces modifications sont adoptées, ou ainsi qu'il en est décidé autrement par la Conférence des Délégués.

15.2 Les présents Statuts ne peuvent être modifiés qu'avec l'approbation d'une majorité d'au moins les deux tiers des Délégués Nationaux de Pays Membres à titre payant présents à une Conférence des Délégués tenue durant une Assemblée Générale, conformément aux articles St-6, St-13 et St-14.

15.3 Seul le Correspondant National d'un Pays Membre de l'AIGA peut proposer une modification des présents statuts. Toute proposition doit être soumise au Secrétaire Général au moins quatre mois avant la date annoncée pour l'Assemblée Générale durant laquelle cette proposition doit être examinée. Le Secrétaire Général notifie à tous les Correspondants Nationaux de l'AIGA les modifications proposées au moins deux mois avant la date annoncée pour cette Assemblée Générale.

Statut 16. Modification du Règlement Intérieur

Une Conférence des Délégués a le pouvoir d'adopter un Règlement Intérieur dans le cadre des Statuts de l'Association. Ce Règlement Intérieur peut être adopté ou modifié par un vote à la majorité simple des Délégués Nationaux de Pays Membres à titre payant présents à une Assemblée Générale, conformément aux articles St-5, St-13 et St-14. Toutes modifications du Règlement Intérieur prend effet à la clôture de l'Assemblée Générale durant laquelle ces modifications sont adoptées sauf s'il en est décidé autrement par la Conférence des Délégués.

Satut 17. Langues

Les présents Statuts ont été rédigés dans les langues officielles de l'UGGI. Le texte Anglais servira de référence en cas de problèmes d'interprétation.

Règlement Intérieur

I. Composition

Règl. Int. 1. Groupements Constitutifs de l'AIGA

Les Groupements Constitutifs de l'AIGA sont appelés Divisions et Groupements interdivisions, comme suit:

- Division I: Champs magnétiques internes
- Division II: Phénomènes aéronomiques
- Division III: Phénomènes magnétosphèriques
- Division IV: Vent solaire et champ magnétique interplanétaire
- Division V: Observatoires, instrumentation, levés et analyse
- Commission interdivision: Histoire
- Commission interdivision: Pays en développement

Règl. Int. 2. Rôle et Structure d'un Groupement Constitutif

2.1 Chaque Division ou Commission interdivision propose au Conseil Exécutif ses propres rôles, structure et mode de fonctionnement, qui doivent être approuvés par le Conseil Exécutif.

2.2 Le rôle et l'efficacité de chaque Division et Commission interdivision sont examinés par le Conseil Exécutif durant chaque Assemblée Générale ordinaire.

Règl. Int. 3. Désignation des responsables de Groupements Constitutifs

3.1 Les responsables de chaque Division et Groupement interdivision sont nommés par le Conseil Exécutif pour une Période, sous réserve de ratification par une Conférence des Délégués. D'éventuelles vacances survenant dans l'interim sont pourvues par une personne mandatée par le Conseil Exécutif.

3.2 Pour que leur nomination devienne effective, les responsables de Division et de Groupements interdivision doivent exprimer par écrit au Président leur accord.

3.3 Les responsables de Division et de Groupements interdivisions peuvent nommer, pour chaque Période, des Rapporteurs, responsables de Groupes de travail, ainsi que les responsables d'autres éventuelles sous-divisions.

3.4 Bien qu'il soit reconnu que les principaux critères pour la nomination de responsables doivent être les compétences scientifiques et administratives des candidats, le Conseil Exécutif et les responsables de Divisions et de Groupements interdivisions doivent s'assurer que, là où c'est possible, ces nominations conduisent à une représentation géographique diversifiée.

Règl. Int. 4. Membres Honoraires de l'AIGA

4.1 Une personne ayant rendu un service remarquable à l'AIGA peut être élue " Membre Honoraire de l'AIGA "par une Conférence des Délégués. Le Conseil Exécutif sélectionne les candidats et présente leurs noms à une Conférence des Délégués.

4.2 La liste des noms des Membres Honoraires de l'AIGA est publiée dans les publications où figure la structure de l'AIGA et les Membres Honoraires de l'AIGA reçoivent à ce titre gratuitement du Secrétaire Général les 'IAGA News', les Transactions et les brochures publiant programmes et résumés AIGA.

2. Administration

Règl. Int. 5. Assemblées Générales extraordinaires

5.1 Le Président peut à tout moment, avec l'approbation du Conseil Exécutif, convoquer une Assemblée Générale extraordinaire.

5.2 Le Président doit convoquer une Assemblée Générale extraordinaire si il en reçoit la demande d'au moins vingt cinq Pays Membres

5.3 Une telle Assemblée Générale extraordinaire doit se tenir dans les neuf mois suivant la demande.

5.4 Une Assemblée Générale extraordinaire a les mêmes pouvoirs et est soumise aux mêmes règles qu'une Assemblée Générale ordinaire.

Règl. Int. 6. Annonce d'une Assemblée Générale

Le Secrétaire Général transmettra aux Pays Membres, au moins neuf mois à l'avance, notification de la date et du lieu d'une Assemblée Générale ordinaire ou d'une Assemblée scientifique. Le délai est de quatre mois dans le cas d'une Assemblée Générale extraordinaire.

Règl. Int. 7. L'ordre du jour d'une Conférence des Délégués

7.1 Un ordre du jour provisoire d'une Conférence des Délégués est préparé par le Secrétaire Général et envoyé aux Correspondants nationaux de l'AIGA au moins deux mois avant l'ouverture de l'Assemblée.

7.2 L'ordre du jour provisoire comporte tous les points soumis par les Correspondants Nationaux de l'AIGA pour discussion durant la Conférence des Délégués, ainsi que les questions inscrites par le Conseil Exécutif à l'ordre du jour provisoire. Des points supplémentaires, qui n'ont pas été ainsi notifiés, peuvent uniquement être discutés après approbation par la Conférence des Délégués.

Règl. Int. 8. Participation à une Conférence des Délégués

8.1 Les Conférences des Délégués sont ouvertes au public. Tout participant qui n'est pas Délégué peut participer à une discussion si le Président l'y autorise.

8.2 Le Président peut, à sa propre initiative ou sur demande d'un Correspondant National de l'AIGA, inviter des représentants d'organisations scientifiques ou des personnes individuelles à participer à titre consultatif à une Conférence des Délégués.

Règl. Int. 9. Vote durant une Conférence des Délégués

9.1 Un Pays Membre qui n'est pas représenté à une Conférence des Délégués peut voter par correspondance sur toute question déclarée être de nature administrative ou financière, à l'exception de l'élection du Conseil Exécutif, pourvu que (i) la question ait été clairement définie sur l'ordre du jour définitif distribué par avance aux Pays Membres, (ii) le contenu de la question n'ait pas été changé et (iii) le vote en question ait été reçu par le Secrétaire Général avant la réunion.

9.2 Avant un vote, le Président décide si le vote par correspondance est possible. La décision du Président peut être contestée selon les procédures décrites dans l'article St-12.

Règl. Int. 10. Représentation d'un Délégué National

Un Délégué National d'un Pays Membre peut déléguer un autre Délégué de son pays pour être son représentant pour tout ou partie d'une Conférence des Délégués. Si le Délégué National est dans l'incapacité de le faire, les Délégués accrédités de ce Pays Membre peuvent désigner un de leurs membres pour représenter le Délégué National. En tout cas, le Secrétaire Général est informé par écrit de cette désignation avant la Conférence des Délégués pour laquelle le représentant du Délégué National est mandaté.

Règl. Int. 11. Propositions de candidature et élection du Conseil Exécutif

11.1 Au moins six mois avant le début d'une Assemblée Générale ordinaire, le Président, en consultation avec le Conseil Exécutif, nomme un Comité de Nomination composé d'un Président et de quatre membres. Les Membres du Conseil Exécutif ne peuvent être nommés au Comité de Nomination.

11.2 Le Comité de Nomination propose au moins un candidat pour chaque poste du Conseil Exécutif et avise le Secrétaire Général de telle sorte que ces propositions soient diffusées auprès des Correspondants Nationaux de l'AIGA au moins deux mois avant l'élection.

11.3 Le Correspondant National de chaque Pays Membre de l'AIGA peut proposer d'autres candidats en écrivant au Président du Comité de Nomination au moins un mois avant l'élection. Pour être recevable en tant que candidature, chaque proposition individuelle doit être soutenue par au moins trois Pays Membres et doit être accompagnée de l'accord écrit du candidat proposé. La liste combinée des candidats doit être rendue publique au moins un jour avant l'élection.

11.4 La composition du Conseil Exécutif doit refléter une représentation diversifiée du point de vue géographique et des disciplines scientifiques.

11.5 Les Membres du Conseil Exécutif sont élus à bulletins secrets. Parmi les Délégués présents, le Président désigne deux scrutateurs pour l'élection. Les scrutateurs ne sont pas membres du Conseil Exécutif, ni du Comité de nomination, ni candidats à l'élection.

11.6 Les scientifiques de pays qui ne sont pas Pays Membres de l'AIGA ou qui sont représentés par des Organismes Adhérents qui ont le statut d'Observateur ou qui sont Membres Associés depuis plus de deux ans (ainsi qu'il est défini dans les statuts de l'UGGI) n'ont pas le droit d'avoir de mandats électifs au sein de l'AIGA.

Règl. Int. 12. Réunions du Conseil Exécutif

12.1 Les réunions du Conseil Exécutif sont convoquées par le Président, ou conjointement par les deux Vice-présidents en l'absence du Président. Durant une réunion du Conseil Exécutif, aucun membre ne peut se faire représenter. Les décisions du Conseil Exécutif sont valides si au moins la moitié de ses membres sont présents. Toutes les décisions du Conseil Exécutif sont prises à la majorité simple du nombre total des membres présents ayant pris part au vote. En cas d'égalité, la décision appartient au Président.

12.2 Lorsque l'importance et l'urgence d'une décision le justifient, un vote par correspondance peut être organisé par le Secrétaire Général sur demande du Président. Les règles de vote définies stipulées dans les présents Statuts et Règlement Intérieur s'appliquent alors.

12.3 Le Président peut, à sa propre initiative ou sur demande d'un autre membre du Conseil Exécutif ou d'un Correspondant National de l'AIGA, inviter des représentants d'organisations scientifiques ou des personnes individuelles à participer à titre consultatif à une réunion du Conseil Exécutif.

12.4 Des propositions concernant l'ordre du jour de réunions du Conseil Exécutif peuvent être soumises par des membres de ce Conseil, par des responsables de Division ou de Groupements interdivision, ou par des Correspondants Nationaux de l'AIGA; elles

doivent être entre les mains du Secrétaire Général au mois un mois avant la réunion. L'ordre du jour définitif, après approbation par le Président, est distribué aux membres du Conseil Exécutif au moins une semaine avant la réunion.

Règl. Int. 13. Responsabilités du Conseil Exécutif

Outre les responsabilités précisées dans les articles St-7 et St-8 et RI-2, RI-3, RI-4, RI-5, RI-7, RI-11 et RI-12, et sous réserve de directives d'une Conférence des Délégués, le Conseil Exécutif a le pouvoir de:

a. agir en tant que comité d'organisation pour tout assemblée, symposium et réunion de l'AIGA, ou déléguer cette responsabilité à d'autres personnes en procédant aux nominations nécessaires;

b. confier à des commissions spéciales ou à des personnalités la préparation de rapports sur des sujets dans le domaine de compétence de l'Association;

c. inviter à être, ou nommer Correspondant local de l'Association des personnes ou institutions appartenant à des pays qui ne sont pas membres de l'Association.

Règl. Int. 14. Responsabilités du Président

Les responsabilités du Président de l'AIGA sont:

a. de représenter l'AIGA au sein du Comité Exécutif de l'UGGI;

b. de représenter l'AIGA dans ses relations avec les Correspondants Nationaux de l'AIGA, d'autres Associations de l'UGGI, et d'autres membres du CIUS;

c. représenter, ou nommer un représentant de l'AIGA pour des réunions, des conférences ou des fonctions où une représentation formelle est nécessaire ou souhaitable;

d. convoquer les Conférences des Délégués et les réunions du Conseil Exécutif, et présider ces réunions;

e. présenter à une Conférence des Délégués, durant chaque Assemblée, un rapport sur l'activité scientifique de l'Association.

Règl. Int. 15. Représentation du Président

Si le Président n'est pas disponible, le Conseil Exécutif désigne un des Vice-présidents pour présider une Conférence des Délégués ou une réunion du Conseil Exécutif, et un des Vice-présidents ou le Secrétaire Général pour représenter le Président à une réunion du Comité Exécutif de l'UGGI conformément au Règlement Intérieur de l'UGGI. Le Président peut désigner un des Vice-présidents pour agir en son nom pour toute autre fonction, réunion ou conférence où une représentation formelle de l'AIGA est nécessaire ou souhaitable.

Règl. Int. 16. Responsabilité du Secrétaire Général

Les responsabilités du Secrétaire Général sont:

a. de servir comme secrétaire de l'AIGA, d'organiser les Assemblées conformément aux instructions du Conseil Exécutif, de préparer les réunions du Conseil Exécutif, et de préparer et diffuser rapidement les ordres du jour et les minutes des Conférences des Délégués et des réunions du Conseil Exécutif;

b. de gérer les affaires scientifiques et administratives de l'Association, de se charger de la correspondance, et de mettre à jour et assurer la conservation des archives de l'Association;

c. d'informer les membres du Conseil Exécutif durant l'intervalle entre ses réunions de tout sujet important concernant l'Association;

d. de conseiller le Président durant les réunions du Comité Exécutif de l'UGGI;

e. d'encaisser et d'être responsable des fonds qui peuvent être alloués à l'Association par l'UGGI, ou reçus de toute autre source; de répartir ces fonds conformément aux décisions des Conférences des Délégués ou aux instructions du Conseil Exécutif; de tenir les comptes de toutes les recettes et dépenses et de soumettre ces comptes, vérifiés par un comptable compétent, pour examen par la Commission des Finances nommée conformément aux dispositions de l'article St-11;

f. de préparer le Programme de chaque Assemblée ainsi qu'un rapport sur les résultats, et d'en organiser la publication;

g. de publier un journal interne de l'Association (tel que IAGA News) contenant les informations d'intérêt général pour l'Association;

h. de préparer pour chaque Assemblée la liste des Délégués Nationaux;

i. d'accomplir toutes autres fonctions qui peuvent lui être confiées par le Président ou le Conseil Exécutif.

3. Finance

Règl. Int. 17. Affectation Budgétaire

Dans le budget prévisionnel préparé par le Secrétaire Général et approuvé par le Conseil Exécutif, ainsi qu'il est mentionné dans l'article St-10, il est possible d'affecter les fonds attendus à:

– la gestion du secrétariat de l'Association;
– des dispositions administratives en vue d'Assemblées et de réunions du Conseil Exécutif;
– la publication sur support papier ou par voie électronique des IAGA News, des IAGA Transactions, de bulletins d'indices géomagnétiques pour lesquels l'AIGA a la responsabilité principale, ou de publications spécifiques;

– le soutien au Président pour participer aux réunions du Comité Exécutif de l'UGGI, et aux responsables de l'AIGA pour exercer des charges comme représentants de l'AIGA lorsque ces responsables ne peuvent obtenir par ailleurs le soutien nécessaire;
– le soutien aux responsables de l'AIGA, organisateurs de réunions, et scientifiques pour participer à des réunions officielles de l'AIGA ou des réunions scientifiques soutenues par l'AIGA lorsque le Conseil Exécutif juge que la participation de ces personnes est essentielle au succès de la réunion et que ces personnes ont attesté par écrit qu'elles ne peuvent obtenir par ailleurs le soutien nécessaire;
– des dépenses administratives mineures demandées par des responsables de Division, et de Groupements Constitutifs associés ou Inter-division qui ont attesté par écrit qu'ils ne peuvent obtenir par ailleurs le soutien nécessaire;
– toute activité non mentionnée ci-dessus dont le soutien concourt à la réalisation des objectifs de l'Association.

Adoptés le 28 juillet 1999
durant la XXIIème Assemblée Générale de l'UGGI,
Birmingham, Royaume Uni.

INTERNATIONAL ASSOCIATION OF GEOMAGNETISM AND AERONOMY

Statutes

1. Objectives, structure, and membership of the Association

Statute 1. Objectives of IAGA

The objectives of the International Association of Geomagnetism and Aeronomy (henceforth IAGA) are:

a. to promote studies of the magnetism and aeronomy of the Earth and other bodies of the solar system and of the interplanetary medium and its interaction with these bodies where such studies have international interest;

b. to encourage research in the above subjects by individual countries, institutions, or persons and to facilitate international co-ordination of such research;

c. to provide an opportunity on an international basis for discussion and publication of the results of the research indicated above;

d. to promote appropriate standardisations of observational programmes, data acquisition systems, data analysis, and publications.

Statute 2. Establishment of Component Bodies

To achieve its objectives, the Association may establish Component Bodies both within the Association and jointly with other Associations of the International Union of Geodesy and Geophysics (IUGG) or components of other Bodies of the International Council for Science (ICSU).

Statute 3. A Member Country of IAGA

A country that adheres to IUGG, as defined in the IUGG Statutes, is a Member Country of IAGA and may participate in IAGA activities. Paying Member Countries of IUGG, as defined in the IUGG statutes, are paying Member Countries of IAGA. Countries in Observer status or having Associate Membership of IUGG, as defined in the IUGG statutes, are non-paying Member Countries of IAGA.

Statute 4. An IAGA National Body

Each Member Country shall be represented by a single body, henceforth referred to as the IAGA National Body, established in that country by the body that adheres to IUGG.

2. Administration

Statute 5. Assemblies of IAGA

5.1 An ordinary General Assembly of IAGA shall normally be held in conjunction with each ordinary General Assembly of IUGG.

5.2 The interval between the end of one ordinary General Assembly and the end of the next one is, for the purposes of the Statutes, termed one Period.

5.3 A Scientific Assembly of IAGA may be held between ordinary General Assemblies of IAGA, in accordance with IUGG By-Laws.

5.4 An extraordinary General Assembly of IAGA may be convened by the President in accordance with the By-Laws.

Statute 6. Delegates and Conferences of Delegates

6.1 The work of the Association shall be directed by Conferences of Delegates held at Assemblies of IAGA.

6.2 A Delegate is a scientist from a Member Country who is registered for an Assembly as a bona-fide scientific participant, or someone who has the agreement of the Secretary-General in consultation with the IAGA Executive Committee to attend and vote as a Delegate at a Conference of Delegates.

6.3 Among the Delegates from each Member Country, one shall be identified by the respective IAGA National Body as Chief Delegate for the purpose of casting that country's votes on administrative and financial matters as stipulated in Statutes 12, 13 and 14. A Chief Delegate may be represented in voting matters by another Delegate appointed in accordance with the By-Laws.

6.4 A Delegate may represent only one Member Country. A member of the Executive Committee (see Statute 7) may not be a Chief Delegate, except when that member is the only person in attendance from the country in question.

6.5 A Conference of Delegates shall be convened at least once during each Assembly of IAGA.

Statute 7. The Executive Committee

7.1 Responsibility for the direction of IAGA affairs between Conferences of Delegates shall rest with an Executive Committee of the Association, elected at a Conference of Delegates.

7.2 Decisions of the Executive Committee must be reported to a Conference of Delegates. Any decision or recommendation failing to receive simple majority support from a Conference of Delegates shall be referred to the Executive Committee for further study.

7.3 The duties of the Executive Committee shall be to administer the affairs of the Association in accordance with these Statutes and By-Laws and the decisions of a Conference of Delegates.

7.4 The Executive Committee may create Joint Bodies with other IUGG Associations and components of other ICSU Bodies to deal with topics of mutual interest, and may appoint appropriate leaders and IAGA representatives.

7.5 In its dealings with non-IUGG Bodies, the Executive Committee shall not commit the name of IUGG, or act on behalf of IUGG, unless prior approval has been secured from the IUGG Executive Committee.

7.6 The Executive Committee shall meet at least twice at each Assembly, and must meet at least once more between ordinary General Assemblies.

Statute 8. Membership of the Executive Committee

8.1 The Executive Committee shall consist of the President, two Vice-Presidents, the Secretary-General, five additional Members, and the retiring President (ex-officio). Except for the retiring President, all members of the Executive Committee shall be elected by a Conference of Delegates as an administrative matter with voting as stipulated in Statutes 13 and 14.

8.2 The President shall be elected for one Period, and may not be re-elected to the same office. The Vice-Presidents shall be elected for one Period and may be re-elected once. A retiring Vice-President may be elected President. Each of the five additional Members shall be elected for one Period and may be re-elected for successive single Periods, but may not hold office as an additional Member for more than three consecutive Periods. The retiring President is a member ex-officio for one Period. With the exception of the election of the Secretary-General, no person who has served on the Committee for four Periods shall be eligible for further election to any position on the IAGA Executive Committee.

8.3 The Secretary-General shall be elected for eight years and may be re-elected for successive four-year terms.

8.4 The election of the Executive Committee shall normally take place at a Conference of Delegates held at an ordinary General Assembly, with the exception of the Secretary-General who shall normally be elected at a Conference of Delegates held at a Scientific Assembly.

8.5 In the event of any vacancy occurring in the membership of the Executive Committee during a Period, the Executive Committee shall appoint a person to fill the vacancy until the next election. The eligibility for election of a person so appointed shall not be affected by such an appointment. If the vacancy is that of the Presidency, the Executive Committee shall appoint one of the two Vice-Presidents to act as President.

Statute 9. Duties of Component Bodies

9.1 The duties of the Component Bodies within IAGA (see Statute 2) shall be to further the scientific objectives of IAGA through:

a. co-ordination of appropriate scientific research;

b. organisation of scientific meetings;

c. promotion of the exchange of information and data; and

d. provision of advice to the Executive Committee on the formulation of policies to guide the scientific work of the Association.

9.2 The duties of the Component Bodies established jointly with other Associations of IUGG or other ICSU Bodies (see Statute 2) shall be to deal with and co-ordinate those scientific programmes and/or meetings that cover topics of mutual interest.

3. Finance

Statute 10. Adoption of the budget

The Secretary-General shall prepare a budget estimate of receipts and expenditures for each half-Period and present this budget before the Executive Committee and a Conference of Delegates at the time of an Assembly. On receiving the approval of both the Executive Committee and a Conference of Delegates, the Secretary-General shall proceed with the disbursement of funds in accordance with that approved budget.

Statute 11. Finance Committee

11.1 A Finance Committee shall be appointed by the Executive Committee within six months after the opening of each ordinary General Assembly and shall normally serve for one Period.

11.2 No serving Executive Committee Member may be a member of the Finance Committee.

11.3 The Finance Committee shall examine the accounts and report the results of their examination for approval to the Executive Committee and to a Conference of Delegates.

4. Voting

Statute 12. Categories of Voting Matters

12.1 Prior to a vote by a conference of Delegates, the President shall decide whether the matter under consideration is scientific, administrative, or financial.

12.2 Matters that are partly scientific and partly administrative and do not involve matters of finance shall be classified as administrative matters.

12.3 The President's ruling may be challenged only by the Chief Delegate of a Member Country. In the event of a challenge, the President's ruling can be changed in accordance with a vote passed at the Conference of Delegates by a two-thirds majority of the Chief Delegates of paying Member Countries present.

Statute 13. Voting Rules

13.1 When a vote is taken on a scientific matter, each Delegate present at a conference of Delegates shall have one vote.

13.2 When a vote is taken on an administrative matter, voting shall be by paying Member Countries, each paying Member Country having one vote cast by its Chief Delegate, or that person's representative in accordance with the By-Laws.

13.3 When a vote is taken on a financial matter, voting shall be by paying Member Countries, each paying Member Country having a number of votes equal to the number of its category of membership in IUGG. Such votes shall be cast by the Chief Delegate of each paying Member Country, or that person's representative in accordance with the By-Laws.

13.4 Voting on administrative or financial matters may be conducted by correspondence (in accordance with the By-Laws) as an alternative to a vote taken at a Conference of Delegates.

Statute 14. Voting at Conferences of Delegates

14.1 Decisions taken by a vote at a Conference of Delegates shall be valid only if at least half of the Chief Delegates of paying Member Countries attending the Assembly are present or represented in accordance with the By-Laws.

14.2 Decisions of a Conference of Delegates shall be taken by a simple majority of the votes cast, except as otherwise specified in the Statutes. Simple or two–thirds majority shall be determined by the proportion of affirmative votes to the sum of the affirmative and negative votes, including correspondence votes by paying Member Countries on administrative and financial matters as specified in the By-Laws, and excluding abstentions. If a tie should occur, the decision shall rest with the President.

5. General

Statute 15. Modification of the Statutes

15.1 Modifications to these Statutes shall come into force at the close of the General Assembly at which the modifications are adopted, or as otherwise decided by a Conference of Delegates.

15.2 These Statutes may only be modified with the approval of at least a two–thirds majority of Chief Delegates of paying Member Countries present at a Conference of Delegates held during a General Assembly, in accordance with Statutes 6, 13, and 14.

15.3 Only the IAGA National Body of a Member Country may propose a change to these Statutes. Any such proposal must reach the Secretary-General at least four months prior to the announced date of the General Assembly at which it is to be considered. The Secretary-General shall notify all IAGA National Bodies of any proposed change at least two months prior to the announced date of the General Assembly.

Statute 16. Modification of the By-Laws

A Conference of Delegates shall have the power to adopt By-Laws within the framework of the Statutes of the Association. These By-Laws may be adopted or modified by a simple majority vote of Chief Delegates of paying Member Countries present at a General Assembly, in accordance with Statutes 5, 13, and 14. Any modification of the By-Laws shall come into force at the close of the General Assembly at which they are approved unless otherwise decided by the Conference of Delegates.

Statute 17. Languages

The present Statutes have been prepared in the official languages of the IUGG. The English text shall take precedence if there is a question of interpretation.

By-Laws

1. Composition

By-Law 1. Component Bodies of IAGA

The Component Bodies of IAGA shall be called Divisions and Interdivisional Bodies as follows:

- Division I: Internal Magnetic Fields
- Division II: Aeronomic Phenomena
- Division III: Magnetospheric Phenomena
- Division IV: Solar Wind and Interplanetary Magnetic Field
- Division V: Observatories, Instruments, Surveys, and Analyses
- Interdivisional Commission: History
- Interdivisional Commission: Developing Countries

By-Law 2. Role and Structure of a Component Body

2.1 Each Division or Interdivisional Body shall propose to the Executive Committee its own role, structure, and mode of operation, which must be approved by the Executive Committee.

2.2 The role and the effectiveness of each Division and Interdivisional Body shall be reviewed by the Executive Committee at each ordinary General Assembly.

By-Law 3. Appointment of Leaders of Component Bodies

3.1 The leaders of each Division and Interdivisional Body shall be appointed by the Executive Committee for one Period, subject to ratification by a Conference of Delegates. Vacancies occurring in the interim shall be filled by a person appointed by the Executive Committee.

3.2 In order that their appointments shall become effective, Division and Interdivisional Body leaders must express in writing to the President their willingness to serve.

3.3 The leaders of Divisions and Interdivisional Bodies may appoint, for each Period, Reporters, Working Group leaders, and the leaders of other possible subdivisions.

3.4 While it is recognized that the prime criteria for the appointment of leaders should be the scientific and administrative competence of the candidates, the Executive Committee and Division and Interdivisional Body leaders shall ensure that, wherever possible, these appointments achieve a diversified geographical representation.

By-Law 4. Honorary Membership of IAGA

4.1 A person who has given outstanding service to IAGA may be elected by a Conference of Delegates as an “Honorary Member of IAGA”. The Executive Committee shall select persons for this category and shall present their names to a Conference of Delegates for approval.

4.2 The names of Honorary Members of IAGA shall be listed in publications where the structure of IAGA is shown and they shall be entitled to receive free from the Secretary-General, IAGA News, Transactions, and IAGA Programme-Abstract booklets.

2. Administration

By-Law 5. Extraordinary General Assemblies

5.1 The President may at any time, with the approval of the Executive Committee, call an extraordinary General Assembly.

5.2 The President must call an extraordinary General Assembly at the request of not less than twenty-five Member Countries.

5.3 Such an extraordinary General Assembly must be held no later than nine months after the request.

5.4 An extraordinary General Assembly shall have the same powers and be subject to the same rules as an ordinary General Assembly.

By-Law 6. Notice of an Assembly

Notice of the date and place of an ordinary General Assembly or a Scientific Assembly shall be sent by the Secretary-General to the Member Countries at least nine months prior to that Assembly. The notice period for an extraordinary General Assembly shall be four months.

By-Law 7. The Agenda for a Conference of Delegates

7.1 A provisional agenda for a Conference of Delegates shall be prepared by the Secretary-General and circulated to IAGA National Bodies at least two months prior to the opening of an Assembly.

7.2 The provisional agenda shall include all items submitted by IAGA National Bodies for discussion at the Conference of Delegates, together with questions placed on the provisional agenda by the Executive Committee. Additional agenda items, for which notice has not thus been given, may only be discussed with the consent of the Conference of Delegates.

By-Law 8. Attendance at a Conference of Delegates

8.1 Conferences of Delegates shall be open to the public. Any non-delegate shall be heard in a discussion provided that person has the consent of the President.

8.2 The President may, on his or her own initiative or at the request of a National Body, invite representatives of scientific bodies or individuals to attend a Conference of Delegates in an advisory capacity.

By-Law 9. Voting at a Conference of Delegates

9.1 A Member Country not represented at a Conference of Delegates may vote by correspondence on any matter declared to be administrative or financial, with the exception of the election of the Executive Committee, provided that (i) the matter has been clearly defined in the final agenda distributed in advance to the Member Countries, (ii) the substance of the matter has not been changed, and (iii) the said vote has been received by the Secretary-General prior to the meeting.

9.2 Prior to a vote, the President shall decide whether the procedure of voting by correspondence applies. The President´s ruling may be challenged as prescribed in Statute 12.

By-Law 10. Representation on behalf of a Chief Delegate

A Chief Delegate of a Member Country may designate another Delegate from that country to be his or her representative at all or part of a Conference of Delegates. If the Chief Delegate is unable to do this, the accredited Delegates from that Member Country may designate one of their members to represent the Chief Delegate. In either case, the Secretary-General shall be informed of the designation in writing prior to the Conference of Delegates at which the representative of the Chief Delegate is to act.

By-Law 11. Nominations and Election of the Executive Committee

11.1 At least six months prior to the opening of an ordinary General Assembly, the President, in consultation with the Executive Committee, shall appoint a Nominating Committee consisting of a Chairman and four members. Members of the Executive Committee may not be appointed to the Nominating Committee.

11.2 The Nominating Committee shall nominate at least one candidate for each position on the Executive Committee and notify the Secretary-General so that these nominations are circulated to all IAGA National Bodies at least two months prior to the election.

11.3 The IAGA National Body of any Member Country may make other nominations in writing to the Chairman of the Nominating Committee at least one month prior to the election. To qualify for candidacy, each individual nomination must be supported by at least three Member Countries and must be accompanied by the written agreement of the nominee to stand. The combined list of candidates must be made public at least one day prior to the election.

11.4 The composition of the Executive Committee should reflect diversified geographical and scientific disciplinary representation.

11.5 Members of the Executive Committee shall be elected by secret ballot. The President shall select two scrutineers for the election from among the Delegates present. The scrutineers shall not be members of the Executive Committee nor of the Nominating Committee nor candidates for the election.

11.6 Scientists from countries that are not Member Countries of IAGA or are represented by Adhering Bodies that have been in Observer status for more than two years or have Associate Membership (as defined in the IUGG Statutes) are not eligible to hold elected positions in IAGA.

By-Law 12. Meetings of the Executive Committee

12.1 Executive Committee meetings shall be convened by the President, or jointly by the Vice-Presidents when the President is not available. At a meeting of the Executive Committee, no member can be represented by another person. Decisions of the Executive Committee shall be valid only if at least half of its members are present. All decisions of the Executive Committee shall be taken by simple majority of the total number of voting members present. In the case of a tie, the decision shall rest with the President.

12.2 When the importance and urgency of a decision warrant it, a vote by correspondence may be organized by the Secretary-General at the request of the President. Voting rules stipulated in these Statutes and By-Laws shall apply.

12.3 The President may, on his or her own initiative or at the request of another member of the Executive Committee or of an IAGA National Body, invite representatives of scientific bodies or individuals to attend an Executive Committee meeting in an advisory capacity.

12.4 Proposals concerning the agenda for meetings of the Executive Committee may be submitted by members of that Committee, by Division or Interdivisional Body leaders, or by IAGA National

Bodies; they must be in the hands of the Secretary-General at least one month prior to the meeting. The final agenda, after its approval by the President, shall be distributed to the members of the Executive Committee at least one week prior to the meeting.

By-Law 13. Duties of the Executive Committee

In addition to the duties specified in Statutes 7 and 8 and By-Laws 2, 3, 4, 5, 7, 11, and 12, and subject to directives of a Conference of Delegates, the Executive Committee shall have the power to:

a. act as the organizing committee for all IAGA Assemblies, Symposia, and Meetings, or delegate such responsibility to other persons by making the necessary appointments;

b. entrust to special commissions or to particular individuals the preparation of reports on subjects within the province of the Association;

c. invite or appoint persons or institutions belonging to countries that are not members of the Association to be local correspondents to the Association.

By-Law 14. Duties of the President

The duties of the President of IAGA are:

a. to represent IAGA in the IUGG Executive Committee;

b. to represent IAGA in its dealings with IAGA National Bodies, other IUGG Associations, and other ICSU Bodies;

c. to represent or to appoint a person to represent IAGA at meetings, conferences, or functions where formal representation is requested or desirable;

d. to convene Conferences of Delegates and meetings of the Executive Committee and to preside over these m'eetings;

e. to submit a report on the scientific work of the Association to a Conference of Delegates at each Assembly.

By-Law 15. Representation on behalf of the President

If the President is not available, the Executive Committee shall appoint one of the Vice-Presidents to preside at a Conferences of Delegates or an Executive Committee meeting, and one of the Vice-Presidents or the Secretary-General to represent the President at an IUGG Executive Committee Meeting in accordance with IUGG By-Laws. The President may designate one of the Vice-Presidents to act on his or her behalf in any other function, meeting, or conference in which formal representation of IAGA is requested or desirable.

By-Law 16. Duties of the Secretary-General

The duties of the Secretary-General are:

a. to serve as secretary of IAGA, to organize Assemblies according to the instructions of the Executive Committee, to arrange meetings of the Executive Committee, and to prepare and distribute promptly the agenda and minutes of Conferences of Delegates and meetings of the Executive Committee;

b. to manage the administrative and scientific affairs of the Association, to attend to correspondence, and to maintain and preserve the records of the Association;

c. to inform members of the Executive Committee during the interval between its meetings about any important matter concerning the Association;

d. to advise the President during the meetings of the IUGG Executive Committee;

e. to receive and take charge of such funds as may be allocated by IUGG to the Association, or as may be received from any other source; to disburse such funds in accordance with the decisions of Conferences of Delegates or with the instructions of the Executive Committee; to keep account of all receipts and disbursements and to submit such account, audited by a qualified accountant, for examination by the Finance Committee appointed according to Statute 11;

f. to prepare and arrange publication of the Programme of each Assembly, and a report on the outcomes;

g. to publish an internal Association bulletin (such as IAGA News) containing information of general interest to the Association;

h. to prepare for each Assembly the list of Chief Delegates;

i. to perform such other duties as may be assigned by the President or by the Executive Committee.

3. Finance

By-Law 17. Allocation of Funds

In the estimation of expenditures by the Secretary-General and approval thereof by the Executive Committee, as mentioned in Statute 10, provision may be made to allocate the expected funds to:

– operation of the Secretariat of the Association;

– administrative arrangements in preparation for Assemblies and Executive Committee meetings;

– publication on paper or electronically of IAGA News, IAGA Transactions, series of Geomagnetic Indices for which IAGA has primary responsibility, or special publications;

– assistance for the President to attend IUGG Committee meetings and for IAGA officers to attend functions as the representative of IAGA when such officers are unable to obtain the necessary support from other sources;
– assistance for officers of IAGA, meeting organisers, and scientists to attend official administrative meetings or IAGA-sponsored scientific meetings when participation by such persons is judged by the Executive Committee to be essential for the success of the meeting and those persons have expressed in writing that they are unable to obtain the necessary support from other sources;
– minor administrative expenses requested by leaders of Divisions, Joint Bodies, and Interdivisional Bodies who have expressed in writing that they are unable to obtain the necessary support from other sources,
– any item not mentioned above for which support will contribute to achieving the objectives of the Association.

Adopted at IUGG'99, Birmingham, UK
28 July 1999

INTERNATIONAL ASSOCIATION OF METEOROLOGY AND ATMOSPHERIC SCIENCES

Statutes

1. Objectives of the Association

1. The objectives of the International Association of Meteorology and Atmospheric Sciences are:

1.1 to promote the study of the science of the atmosphere.

1.2 to initiate, facilitate, and coordinate international cooperation.

1.3 to stimulate discussion, presentation and publication of scientific results.

1.4 to promote education and public awareness.

2. Membership of the Association

2. The International Association of Meteorology and Atmospheric Sciences (IAMAS) is one of the constituent Associations of the International Union of Geodesy and Geophysics. All countries which adhere to the Union, including Associate Countries (Members), are Adhering (Member) Countries of the Association and are qualified to appoint delegates to the Association's General Assemblies.

2.1 Adhering Countries may participate in the Association through a number of mechanisms, e.g., directly through their National Committee for the Union, or they may appoint a National Correspondent for the Association or they may appoint a National Committee for the Association.

2.2 Associate Countries have restricted rights, which are defined in Article XI, paragraph 33 and Regulation I, paragraph 2.

3. Organs of the Association

3. The International Association of Meteorology and Atmospheric Sciences comprises:

1. the Bureau
2. the Secretariat
3. the Executive Committee
4. the General Assembly of Delegates
5. the Special Scientific Commissions (hereafter referred to as Commissions)
6. the Joint Scientific Committees

3.1 The members of the Bureau and of the Executive Committee will be chosen, as far as possible, from those who are from Adhering Countries on the basis of competence, experience, and geographical coverage.

4. Time Schedule of the Association

4. The Association will meet in Ordinary General Assembly at the time and place of the Ordinary General Assembly of the Union.

4.1 The Association arranges General Assemblies, composed of National Delegates of the Adhering Countries, to conduct the business of the Association. The Association also arranges Scientific Assemblies for the exchange of scientific information.

4.2 The Bureau will have the responsibility for deciding on the schedule of business during the General Assembly. In general, however, an opening Plenary Session should be scheduled during which the President may announce business matters, appoint appropriate committees to function during the General Assembly, and may call for such reports as may be appropriate at this first Plenary. A second Plenary should in general be arranged towards the close of the General Assembly, during which the financial reports will be made, reports of the Commissions heard, resolutions or recommendations adopted, nominations for Officers and members of the Executive Committee presented, elections held, and other appropriate business conducted.

4.3 Extraordinary and Scientific Assemblies may also be called, as outlined in appropriate Articles below.

4.4 For the purposes of discussions in these Statutes, a period is defined as the interval elapsing between the final Plenary Session of one Ordinary General Assembly and the termination of the final Association Plenary Session of the succeeding Ordinary General Assembly (i.e., generally four years).

5. The Bureau

5. The Bureau of the Association will direct and coordinate all scientific and related activities of the Association, and it will function on a continuing basis, as required, in the interval between Ordinary General Assemblies. It will consist of a President, two Vice-Presidents, and a Secretary General (who is also a the Treasurer), elected by the General Assembly.

6. The President will be elected at the final Plenary Session of the Ordinary General Assembly; his/her term of office will be for one period following his/her election, and he/she will not be eligible for immediate re-election.

7. The Vice-Presidents will be elected at the final Plenary Session of the Ordinary General Assembly. Their terms of office will be for one period. They will be eligible for immediate re-election but only for one additional period.

8. The Secretary General will be elected at the final Plenary Session of the Ordinary General Assembly. His/Her term of office will be for two periods. A retiring Secretary General will be eligible for immediate re-election, but only for one additional period.

9. If the office of the President becomes vacant between two Ordinary General Assemblies, the senior Vice-President will become President. In the event that the two Vice-Presidents are equal in seniority (i.e., each having been elected for the first time at the same General Assembly), the Executive Committee will decide which Vice-President will become President.

10. If the office of the Secretary General becomes vacant under the same circumstances, a Secretary General will be nominated by the President to occupy the office until the next Ordinary or Extra-ordinary General Assembly. In the event of election at an Extraordinary General Assembly, the initial term of the office will consequently be somewhat shorter than two full periods.

6. Secretariat

11. The Secretary General will expedite the current business of the Association in agreement with the President. He/She will be responsible for:
    1. the administrative and scientific correspondence;
    2. the management of the resources at the disposal of the Association;
    3. the preparation, printing, and distribution of the publications;
    4. the arrangements for the Ordinary General Assemblies, Extraordinary General Assemblies, and Scientific Assemblies;
    5. the execution of the decisions of the Association at General Assemblies.

    The management of resources will be understood to include the right to open a banking account in the name of the Association, to authorize the borrowing or the purchase of moveable properties and to dispose of them, in whole or in part, to the benefit of the Association.

12. The Executive Committee may, at its discretion, appoint an Assistant Secretary General, normally resident in the same general area as that of the Secretary General, who will:
    1. become familiar with the routine operations of the Secretariat;
    2. have signing authority (together with the President and Secretary General) for cheques on the Association bank account, to be used on instruction from the President or Secretary General;
    3. assist the Secretary General as appropriate.

7. Executive Committee

13. The Executive Committee will be composed, in addition to the members of the Bureau, of five elected members from five different countries. They will be elected at the final Plenary Session of the Ordinary General Assembly, and their term of office will be for two periods. They will not be eligible for immediate re-election.

14. The Executive Committee will also include, ex-officio, the Presidents of the Commissions and the retiring President of the Association. The President of a Commission may delegate to the Vice President or the Secretary of that Commission the right to participate in a meeting of the Executive Committee if the President cannot do so.

15. If a vacancy occurs among the elected members of the Executive Committee, a replacement will be chosen by the General Assembly in the course of the next appropriate Plenary Session, for a period which will expire at the time when the member so replaced would have terminated his/her office.

16. The Executive Committee will appoint a Nominating Committee. The governing procedures for the Nominating Committee are presented in Regulation 1.

17. The Executive Committee will be consulted by the Bureau, by correspondence, on every new question of importance, administrative or scientific, which arises between two General Assemblies.

18. Meetings of the Executive Committee may be convened by the Bureau in the interval between two General Assemblies.

19. All decisions of the Executive Committee will be taken following a simple majority vote of those voting. If the votes are equally divided, that of the President will decide.

8. General Assemblies

20. The General Assembly of the Association will be composed of Delegates appointed by the National Committees of the Adhering Countries. These appointments will be brought to the notice of the Bureau officially before the opening of the first

Plenary Session of the General Assembly. The National Committees will designate the Delegate who, in case of voting by countries, will hold the right to vote for his/her country.

21. As given in Article 4.1, the Association will meet in Ordinary General Assembly at the time of the Ordinary General Assembly of the Union.

22. If the need should arise, the Association may also meet in Extraordinary General Assembly during the interval between two Ordinary General Assemblies of the Union.

22.1 The President of the Association, with the concurrence of the Executive Committee, may convene an Extraordinary General Assembly of the Association, which will have the same powers and be subject to the same rules as the Ordinar General Assemblies.

22.2 An Extraordinary General Assembly must also be convened by the President upon the request of at least half of the Adhering Countries.

22.3 If the date and place of such an Extraordinary General Assembly have not been agreed upon during the preceding Extraordinary or Ordinary General Assembly, that will be determined by the Executive Committee of the Association and communicated to the Adhering Countries at least six months in advance. The date and time will likewise be communicated in good time to the Bureau of the Union and to those of the other Associations of the Union.

23. The Ordinary and Extraordinary General Assemblies will be open to the public. All interested scientists may participate in the discussions, and may take the floor if recognized by the President or Presiding Officer, whether those scientists be formally accredited Delegates or not, or whether they are from Adhering Countries or not. However, voting will be conducted according to the procedures outlined in Article 24 below.

24. At the General Assemblies, the Delegates present will have individually the right to vote on questions of scientific interest.

24.1In the elections mentioned in Articles 6, 7, 8 and 13, the vote will be by country and each country will have one vote.

24.2 On administrative matters, without financial implications, voting within the Association will be by country and each country will have one vote, always subject to the condition that the country will have paid its subscription up to the end of the year preceding the voting.

24.3 On financial questions, voting within the Association will likewise be by country, provided that the above-mentioned condition is satisfied. The number of votes assigned to each country will be one greater than the number of its category of membership in the Union.

24.4 In case of doubt as to which class a question belongs, and in all cases of equality of votes on a question, the decision will rest with the President or Presiding Officer.

24.5 In the event that a Chief Delegate from a country cannot be present for voting, he may designate in writing a Delegate from another country to cast the votes on behalf of the country of the aforementioned Chief Delegate.

24.6 No Delegate will represent more than two countries.

24.7 An Adhering Country not represented by a Delegate may forward by post its vote on any specific agenda question that has been distributed in advance. The postal ballot must be received by the Bureau in advance of the Plenary Session in which the voting takes place.

24.8 The decision on all voting matters will be by simple majority of those Delegates or those countries present, including postal ballots, counting for the purpose of determining a majority only those votes cast for or against a particular matter. In case of a tie vote, that of the President or Presiding Officer will decide.

25. The agenda of a Plenary Session of a General Assembly of the Association will be determined by the Bureau, which will have previously invited the National Committees of the Adhering Countries to submit proposals. This agenda will be agreed upon and communicated to the Committees at least four months before the opening of the General Assembly.

25.1 Questions not contained in the agenda may be considered during the sessions only with the previous agreement of at least half of the countries represented, or of the Delegates present at the General Assembly, accordingly, as the question is administrative (including financial) or scientific.

26. At Ordinary Sessions of the General Assembly the Secretary General will present a report comprising in particular:

1. a statement of receipts and expenditure of the Association for the period from 1st. January, prior to the preceding Ordinary General Assembly, to 31st. December, prior to the current General Assembly (the financial year being from 1st. January to 31st. December).
2. an approximate estimate of expenses for the financial years up to that of the next Ordinary General Assembly.

9. Scientific Assemblies

27. The Association may, upon decision taken at an Ordinary or Extraordinary General Assembly, conduct Scientific Assemblies at times other than the General Assemblies. These Scientific Assemblies may be arranged by the Association alone, or they may be held jointly with other Associations of the Union, or with other bodies of the International Council of Scientific Unions. Plans for such Scientific Assemblies will be communicated to the Bureau of the Union and to those of the other Associations in good time.

10. Financial Arrangements

28. A Finance Committee, nominated by the President and approved by the General Assembly at its first Plenary Session, will verify the accounts for the preceding years and examine the provisional estimates, both of which having been prepared by the Secretary General. The Committee will approve the financial statements which the Secretary General prepares prior to the submission of these reports, by the Secretary General, to the General Assembly at the Final Plenary Session. The Finance Committee can request that the accounts be audited by a qualified accountant.

29. The Association will draw its resources from that part of the subscriptions of the Adhering Countries which is allotted to it by the Union. To this main income may be added other receipts from the sale of publications, interest on bank accounts, contributions made by other interested organisations to support symposia or other meetings, registration fees at Assemblies, etc.

30. The income will be assigned in the first place for the payment of the expenses of the Secretariat, namely:

1. all costs of publications;
2. office equipment, expenses of correspondence, shipping;
3. if necessary, the rents of the Secretariat, costs of purchase and maintenance of equipment, and incidental expenses.

30.1 Traveling expenses may also be paid by the Secretary General, but only:

1. in connection with meetings on specific Association business, and
2. when those concerned represent the Association and not Adhering Countries or other organisations, and
3. in cases where those concerned cannot draw proper allocations from their own national sources.

Such payments may cover traveling costs and a reasonable contribution to other expenses while attending such meetings.

30.2 The balance of receipts will be devoted to grants for scientific activity, e.g., to Commissions and to Joint Committees (In this case subject to the provisions of Statute 44 for conduct of symposia or special scientific meetings, and to participants as far as possible, to Association General or Scientific Assemblies, who cannot obtain adequate travel allocations from other sources. In general, it will be expected that such participants will obtain partial support from the Association's funds, the balance coming from national or other sources).

11. Commissions

31. Commissions for the study of particular questions may be constituted by the General Assembly.

31.1 The objectives of the Commissions will be reviewed every four years by the Executive Committee. This will make appropriate recommendations at a Plenary Session of each Ordinary General Assembly, which decides on the continuation of the research and works of the Commission or on its termination.

32. The members of these Commissions will be recognized and interested scientists.

32.1 The Commissions may elect new members by a simple majority vote of the members voting in the election. These members must be from Adhering Countries. Members may also be appointed from non-Adhering Countries by the President of a Commission, after consultation with members of the Commission. Due regard should be paid to geographical representation in the composition of the Commissions. The terms of Commission members will normally be for two full periods. The results of membership elections and appointments will be reported to the General Assembly.

33. Each Commission will elect a President and a Secretary from among their membership; and a Vice President may also be elected if the Commission desires; their terms of office will normally be for one four year term. They will be eligible for re-election for one additional term. Officers will be from Adhering Countries, except Associate Countries.

34. When a new Commission is constituted, the first President will be appointed by the Executive Committee. The Commission President will invite appropriate scientists to be members. These appointments will be voted upon by the Commission at its first meeting.

35. The Commission should, in general, conduct their elections of officers and members at the times of the Ordinary General Assemblies of the

Association. In this case these elections should be held prior to the final Plenary Session of the General Assembly so that the results, along with other business conducted by the Commissions, may be reported to the General Assembly. Alternatively, Commissions may decide to elect their officers at a Commission meeting/ symposium that is independent of the Ordinary General Assembly, or by correspondence. The General Assembly will have the right to comment on the work of the Commission, which the Commissions may wish to consider at subsequent business sessions.

36. The Commissions may meet and have symposia when convened by their President outside the meetings of the General Assemblies. Such symposia may be arranged jointly between interested Commissions, or jointly with other appropriate bodies of the International Council of Scientific Unions, or with other relevant organisations (e.g., the World Meteorological Organisation).

37. A Commission may, at the discretion of its President, appoint Sub-Commissions, Committees, or Working Groups, to undertake special studies or to devote specialist attention to a part of the general area of concern. The members of such sub-bodies need not be members of theCommission. They should be appointed by the President of the Commission, after due consultation with members of the Commission. Findings or recommendations of such sub-bodies must be approved by the parent Commission before promulgation.

38. All decisions of Commissions will be taken by a simple majority of votes of the members voting (individual votes). In case of equal votes for and against, that of the President will decide.

12. Joint Committees

39. Joint Committees between the Association and other Associations on scientific questions of mutual interest may be constituted by the Associations concerned. In the case of IAMAS, formal approval will be given by a General Assembly, although approval in principle may be granted at an earlier date by the Executive Committee.

40. The members of the Joint Committee will be appropriate scientists nominated by the respective Associations, each of which will normally nominate the same number of members.

41. The Joint Committees may propose new members whose nomination must be ratified by the respective Association at the occasion of their General Assembly. The term of office of members will be for one period. They will be eligible for re-appointment.

42. Each Joint Committee will elect a President and Secretary who will not both have been appointed by the same Association, and whose term of office will be for one period. They will be eligible for re-election once.

43. The Joint Committees will formulate their program of work and will organize their meetings, insofar as possible, during the course of the sessions of the General Assembly of the Union. The proceedings of the Joint Committees will be appended to the minutes of the Associations concerned.

43.1 The Joint Committees may meet when convened by their President outside the meetings of the General Assemblies, on condition that the Bureaus of the respective Associations are advised beforehand. They may meet at the same time as related Commissions or Joint Committees constituted by other Associations of the Union or by other Unions, in order to study and resolve together problems which interest more than one Association of the Union or more than one Union.

44. Requests from a Joint Committee for subsidies must be presented and supported by the Associations concerned.

45. Every Joint Committee may refer in a consultative capacity to experts who are not members of the Joint Committee.

46. All decisions of Joint Committees will be taken by a simple majority of votes of the members present (individual votes). In case of equal votes for and against, that of the President will decide.

47. The IAMAS Executive Committee will review the continued participation of IAMAS in each Joint Committee every four years.

13. Dissolution of the Association

48. If the Association should be dissolved, its financial assets will revert to the Union to be used for the continuation of scientific and educational activities, such as the organisation of scientific meetings and symposia, the dissemination of scientific information, and the coordination of international research activities.

14. Changes in the Statutes of the Association

49. Only Adhering Countries or members of the Executive Committee may propose changes to any article in these Statutes and Regulations. These changes must reach the Secretary General at least six months before the announced date of the General Assembly at which it is to be considered. The Secretary General will notify all Adhering

Countries and Executive Committee members of any proposed change at least four months before the General Assembly meeting.

50. The Statutes and Regulations can be modified by a simple majority vote of the Adhering Countries present at a General Assembly Plenary Session. Such changes will come into effect at the close of the General Assembly at which they are approved.

15. Official Languages of the Association

51. The Association will observe the official languages recognized by the Union, namely French and English. Abstracts or reports may be submitted in either of these languages for publication.

52. For the interpretation of the Statutes, the English text and the French text will both be considered authoritative.

Regulations

Governing Procedures of the Nominating Committee

1. The Executive Committee will appoint a Nominating Committee at the Scientific Assembly two years before a General Assembly. This committee will be responsible for nominating candidates for President, two Vice Presidents, elected members of the Executive Committee, and a Secretary General, when required. The Nominating Committee will consist of a chairperson and two other members plus the President as an ex-officio member.

2. The Nominating Committee will contact the Adhering Countries of the Association and the Executive Committee at least six months before the General Assembly and request nominations for the positions indicated above to reach them at least four months before the General Assembly. The Nominating Committee will consider nominees from Adhering Countries, from Commissions and from other sources; it may select a single slate of candidates. The nominees will be from Adhering Countries, except Associate Countries. This slate will be communicated to Adhering Countries and the Executive Committee at least two months before the General Assembly.

3. Any nominations for President or Secretary General should be accompanied by an indication of available resources for the operation of the respective offices.

4. At the first Plenary Session of the General Assembly the Nominating Committee will formally table its slate of candidates. Nominations from the floor for all positions except Secretary General can be made at that time. All nominations require the agreement of the individual to serve if elected. The election will take place during the final Plenary Session of the General Assembly.

ASSOCIATION INTERNATIONALE DES SCIENCES HYDROLOGIQUES

Statuts

1. Les Buts de L'Association

1.1 Promouvoir l'étude de l'hydrologie en tant que partie intégrante des sciences de la terre et des ressources en eau:

– étudier le cycle hydrologique sur la Terre et les eaux des continents; les eaux superficielles et souterraines, les neiges et les glaces, de même que les processus physiques, chimiques et biologiques les concernant, leurs rapports avec le climat et avec d'autres facteurs physiques et géographiques de même que les interrelations existant entre elles;

– étudier l'érosion et la sédimentation et leurs relations avec le cycle de l'eau;

– examiner les aspects hydrologiques de l'utilisation et de la gestion des eaux ainsi que les modifications affectant les ressources en eau sous l'influence des activités de l'homme;

– fournir une base scientifique solide à l'utilisation optimale des systèmes de ressources en eau, comprenant le transfert de connaissances concernant la planification, l'ingénierie, la gestion et les aspects économiques de l'hydrologie appliquée.

1.2 Offrir toutes facilités pour la discussion, la comparaison et la publication des résultats de la recherche.

1.3 Provoquer, faciliter et coordonner les recherches et études concernant des problèmes hydrologiques nécessitant une coopération internationale.

2. L'Association est un des corps constituants de l'Union Géodésique et Géophysique Internationale (UGGI). Elle est régie par les articles des statuts et du règlement intérieur de l'Union applicable aux diverses associations, ainsi que par les présents statuts.

3. Tout pays adhérent à l'Union est aussi adhérent à l'Association et est appelé à envoyer des délégués et à participer par tout autre moyen à ses travaux. Toutes les réunions scientifiques de l'Association et de ses composantes sont ouvertes à ses délégués.

4. L'Association exerce ses activités dans le cadre du Conseil International pour la Science (CIUS/ICSU) et de l'UGGI, en coopération avec les Nations Unies et ses agences spécialisées et par contacts directs avec les autres organisations internationales.

5. L'Association comporte: la session plénière, le Bureau de l'Association, les commissions scientifiques, les groupes d'experts et les groupes de travail et "The International Association of Hydrological Sciences Limited". L'Association maintient le contact avec les divers pays adhérents par l'intermédiaire de leurs représentants nationaux ou de leurs Comités Nationaux (souvent sous-comités ou sections des Comités Nationaux de l'UGGI) et des comités régionaux.

Commissions Scientifiques: Unités constitutives de l'Association ayant des responsabilités scientifiques bien définies correspondant à des objets ou domaines hydrologiques spécifiques. Les divisions sont à leur tour des unités constitutives pour les commissions.

Groupes d'Experts ou Groupes de Travail: Unités constitutives de l'Association créées à titre transitoire (ad hoc), en vue de soumettre un rapport sur des problèmes spécifiques, qu'ils soient scientifiques ou administratifs.

Comités Nationaux: Les Comités Nationaux de l'AISH sont les organes administratifs permettant de maintenir le contact avec l'Association. Ils peuvent inclure des membres des commissions scientifiques de l'AISH.

Représentants Nationaux: Chaque pays membre de l'UGGI nomme un représentant national auprès de l'AISH. Ce représentant national a pour rôle de maintenir le contact avec l'Association et de prendre part au travail du comité national de l'AISH quand il existe.

Comités Régionaux: Les comités régionaux sont des organes administratifs qui examinent des sujets particuliers concernant des régions spécifiques.

"The International Association of Hydrological Sciences Limited": Son statut juridique est celui d'une "Charity" déclarée au Royaume-Uni dont l'objet, exposé dans le sommaire et les articles de ses statuts, est identique à celui de la présente Association et qui se situe dans le cadre du CIUS et de l'UGGI.

Membres individuels: Bien que l'adhésion à l'AISH se fasse par pays, des individus peuvent demander à être enregistrés comme membre individuel. Pour être candidat un individu doit travailler dans un ou plusieurs domaines de l'hydrologie et s'efforcer de participer aux activités de l'AISH. Les membres individuels n'ont pas de droit de vote en matière administrative.

Session Plénière

6. Une session plénière de l'Association doit être convoquée selon les règles de l'Union. Au moins une session plénière doit être tenue lors d'une assemblée générale de l'UGGI ou d'une assemblée scientifique de l'Association. Chaque pays adhérent peut être représenté par un ou plusieurs délégués lors d'une session plénière.

6.1 La session plénière détient l'autorité suprême en matière de questions à caractère scientifique.

6.2 La session plénière doit considérer la situation des sciences hydrologiques au moment de la réunion, les tendances de leur développement et les questions relatives à l'organisation de symposiums sur les problèmes hydrologiques importants en tenant compte des programmes des autres organisations internationales.

6.3 Chaque participant présent lors d'une session plénière dispose d'une voix en ce qui concerne les questions scientifiques.

7. L'autorité suprême de l'Association pour toutes les questions administratives ou financières est conférée à la session administrative plénière de l'association.

7.1 La session administrative plénière se compose du Président, du Président-élu ou du Président sortant, des Vice-Présidents, du Secrétaire Général, du Trésorier, de l'Éditeur, du Président ou d'un autre représentant mandaté de chaque commission scientifique en activité au moment de la session, du Président de "The IASH Limited" et d'un délégué de chaque pays adhérent mandaté par ce pays pour voter en son nom lors de la session administrative plénière. Pour qu'il y ait quorum, il est nécessaire que le Président (ou le Vice-Président faisant fonction de Président), le Secrétaire Général ou son suppléant et les délégués dotés du droit de vote d'au moins dix pays soient présents.

7.2 Le vote en session administrative plénière a lieu par pays, chaque pays disposant d'une voix à la condition qu'il ait ses droits de vote à l'UGGI au moment du vote. Le vote peut aussi se faire par correspondance mais si le vote a été fait par correspondance le pays ne peut pas alors voter à nouveau lors de la session plénière. Seuls les titulaires de postes de responsabilité de l'Association et de ses commissions scientifiques ayant été autorisés à voter par leur pays peuvent participer au vote.

7.3 La session administrative plénière, réunie durant l'assemblée générale de l'UGGI, élit pour l'Association, selon le règlement intérieur, le Président-élu, trois Vice-Présidents, le Secrétaire Général, le Trésorier et tout autre titulaire de poste électif qui pourrait paraître nécessaire.

L'élection doit avoir lieu pendant l'assemblée générale de l'UGGI, selon les articles 7.1, 7.2 et 7.6.

La période de fonction de tout titulaire de poste de responsabilité de l'Association, à l'exception du Président, couvre l'intervalle séparant les élections de deux assemblées générales successives de l'UGGI.

Le Président-élu devient Président et le Président devient Président sortant deux ans après les élections organisées lors de l'assemblée générale de l'UGGI.

Si une assemblée scientifique a lieu durant la seconde année suivant les élections, le Président-élu devient Président au début de l'assemblée scientifique.

La durée de la fonction de Président sortant va du moment où le nouveau Président occupe son poste jusqu'à la nouvelle élection d'un Président-élu. A n'importe quel moment le Bureau doit comporter soit un Président et un Président-élu soit un Président et un Président sortant.

Le Président et les Vice-Présidents ne peuvent pas être élus pour deux mandats successifs au même poste.

Le Secrétaire Général et le Trésorier sont rééligibles, le nombre de mandats supplémentaires étant limité à deux.

L'éditeur doit être désigné par le Bureau et son mandat peut être prolongé sans aucune limitation de durée.

Le Président-élu assume la charge de Président si cette charge devient vacante. S'il n'y a pas de Président-élu, le Bureau doit désigner l'un des Vice-Présidents comme Président.

Si les charges de Secrétaire Général, de Trésorier ou d'Éditeur deviennent vacantes entre deux assemblées générales de l'UGGI, des responsables de remplacement doivent être désignés par le Président pour remplir leurs fonctions jusqu'à la fin du mandat.

7.4 La session administrative plénière a le pouvoir de créer et de dissoudre les commissions scientifiques. Leurs attributions doivent être incluses dans le règlement intérieur de l'Association.

La session administrative plénière réunie lors de l'assemblée de l'UGGI doit être informée de l'élection du Président-élu, des trois Vice-Présidents et du Secrétaire par la session administrative plénière de chaque commission scientifique.

La charge de Président-élu de chaque commission scientifique doit être attribuée selon la même procédure que celle décrite à l'article 7.3 pour l'Association.

Les Présidents des commissions scientifiques ne peuvent pas être réélus pour deux mandats consécutifs à la même charge. Les Vice-Présidents et le Secrétaire sont rééligibles mais seulement pour un mandat supplémentaire.

Les commissions scientifiques ont le pouvoir de combler les vacances qui peuvent survenir entre les élections.

Cet article autorise également la création de comités régionaux qui peuvent être créés à l'initiative de plusieurs comités ou représentants nationaux. Les membres de leur Bureau doivent être élus par ces comités ou représentants nationaux.

7.5 La session administrative plénière peut élire un Président honoraire qui exerce ses fonctions à vie ou jusqu'à ce qu'il ou elle démissionne de son poste. Le Président honoraire peut participer en tant que membre sans droit de vote à n'importe quelle réunion de l'Association incluant celle du Bureau et peut être sollicitée par le Bureau pour entreprendre des taches spécifiques destinées à appuyer les buts de l'Association.

7.6 Pour toutes les questions impliquant des problèmes financiers, le vote en session administrative plénière doit avoir lieu comme il est indiqué à l'article 7.2 sauf que sur la demande de deux délégués ayant capacité de vote, le nombre de voix pour chaque pays doit être égal à la valeur du numéro de sa catégorie de membre, tel que cela est défini dans les statuts de l'Union, augmenté d'une unité.

7.7 Un pays adhérent, non représenté à une session administrative plénière, peut voter par correspondance sur tout point de l'ordre du jour, incluant l'élection des membres du Bureau de l'Association.

7.8 Le Bureau peut autoriser le vote par correspondance sur des questions administratives entre les sessions plénières de l'Association.

Le Bureau

8. Le Bureau de l'Association se compose du Président, du Président-élu ou du Président sortant, des trois Vice-Présidents, du Secrétaire Général, du Trésorier, de l'Éditeur et des Présidents des commissions scientifiques en activité et du Président de "The International Association of Hydrological Sciences Limited". Le Président sortant reste membre du Bureau durant la période allant de la fin de sa fonction à l'élection du nouveau Président-élu. Le Président doit convoquer le Bureau au moins une fois par an pour conduire les affaires de l'Association.

Président, Secrétaire Général, Trésorier et Editeur

9. Le Président est l'agent exécutif de l'Association et il dirige les affaires selon les décisions de la session plénière de l'Association. Le Président doit être assisté des Vice-Présidents.

10. Le Secrétaire Général, en accord avec le Président, gère les affaires de l'Association, s'occupe de la correspondance, conserve les documents officiels et les archives administratives. Le Bureau peut autoriser le Secrétaire Général à employer du personnel administratif et du personnel de secrétariat pour l'assister dans l'exécution de ses obligations vis-à-vis de l'Association. Le Secrétaire Général doit aussi prendre toute disposition nécessaire à assurer que les objectifs de l'Association sont réalisés en conformité avec les lois régissant l'administration, la fiscalité, les contrats et actes juridiques ou leur équivalent dans tout pays où l'Association est en activité, ceci incluant la désignation d'un individu ou d'une personne morale, si nécessaire, pour protéger et représenter l'Association dans ces domaines et son indemnisation par l'Association eu égard au coût d'une telle action.

11. Le Trésorier, ou le responsable de l'Association faisant fonction de Trésorier, doit rassembler les fonds de l'Association et les répartir en accord avec les décisions de la session plénière de l'Association et du Bureau. Il doit conserver les relevés de toutes les transactions financières de l'Association et soumettre des rapports annuels s'y référant au Bureau, ainsi que cela est exigé par les statuts et le règlement intérieur de l'UGGI. En accord avec le Secrétaire Général, il doit prendre toutes dispositions utiles pour assurer les souscriptions, la vente et la mise en réserve des publications de l'Association.

11.1 Les fonds de l'Association doivent être placés sur les comptes de l'Association. Ils doivent être à la disposition du Trésorier et du Secrétaire Général si cela est jugé nécessaire et ainsi qu'il est spécifié à l'article 11, mais des dispositions doivent être prises pour permettre au Président de transférer les fonds ou une partie de ceux-ci à un Trésorier suppléant désigné selon l'article 7.3.

12. L'Editeur mettra au point, en vue de leur publication par l'Association, les textes des documents originaux, des revues sur un sujet scientifique et d'autres matériaux, sous une forme qui soit en accord avec les décisions de la session plénière et du Bureau.

Commissions

13. Les dispositions suivantes s'appliquent aux commissions scientifiques créées en vertu de l'article 7.4.

13.1 Les commissions scientifiques doivent se tenir au courant des derniers progrès de la recherche dans les domaines de l'hydrologie qui les concernent et dégager les tendances de la recherche sur les problèmes les plus urgents en hydrologie dont l'intérêt est commun à plusieurs pays. Les commissions scientifiques doivent étudier les questions votées par leur session plénière.

13.2 Les commissions scientifiques doivent participer activement à la préparation de symposiums sur des problèmes scientifiques appropriés.

13.3 Les commissions scientifiques seront désignées sous le nom de "Commission internationale de..."

13.4 Le comité national (ou le représentant national) pour l'AISH de chaque pays adhérent peut désigner un représentant pour chaque commission scientifique et comité régional auquel il désire s'affilier. De tels représentants peuvent voter sur toutes questions administratives et scientifiques étudiées par la commission scientifique ou le comité régional, et peuvent correspondre directement avec les titulaires de postes de responsabilité de cette commission ou de ce comité à propos de toute question intéressant cette commission ou ce comité. Tous les participants présents à une réunion d'une commission peuvent voter sur des matières scientifiques.

13.5 Chaque commission scientifique peut proposer à l'approbation de la session administrative plénière de l'association une série de réglementations pour sa propre organisation et son administration.

13.6 Chaque commission scientifique peut avoir des sous-commissions et des groupes de travail sur des sujets spécifiques.

Groupes d'Experts, Groupes de Travail et Rapporteurs

14. La session plénière ou le Bureau peut créer des groupes d'experts et des groupes de travail pour entreprendre:

a. la réalisation d'un programme scientifique ad hoc; ou,

b. une tâche temporaire de coopération de nature régionale; ou,

c. des tâches organisationnelles ou administratives spécifiques.

Le Président et les membres de tels groupes doivent être nommés par le Président auquel ils rendent compte de leurs activités. De tels groupes ne doivent exister que dans l'intervalle de temps entre deux assemblées générales successives de l'UGGI.

"The IAHS Limited"

15. "The International Association of Hydrological Sciences Limited".

15.1. "The International Association of Hydrological Sciences Limited" doit s'occuper des questions exposées dans le sommaire et les articles de ses statuts de société (dont une copie doit être conservée par le Secrétaire Général). Son statut juridique est celui d'une "Charity" déclarée au Royaume-Uni.

15.2. La participation à la société est réservée à des membres individuels de l'Association. La société s'occupera du programme de publication de l'AISH incluant les arrangements concernant le "Journal des sciences hydrologiques".

15.3. "The International Association of Hydrological Sciences Limited" doit comprendre parmi ses membres le Secrétaire Général ainsi que les personnes que nommera le Président. Le Président de la société doit rendre compte de ses activités au Président de l'Association. En raison des exigences de la loi anglaise, au moins la moitié des membres de la société, qui doivent en être administrateurs, doivent résider au Royaume-Uni.

15.4. Pour assurer la continuité de gestion de la société, le Président aura totale latitude en ce qui concerne la nomination du Président de la société et des membres.

Règlement Intérieur - Amendements

16. Dans le cadre des présents statuts, la session administrative plénière de l'Association a le pouvoir d'adopter ou d'amender le règlement intérieur à la majorité simple.

17. Les propositions formulées par les pays adhérents en vue de la modification d'un article quelconque des statuts doivent parvenir au Secrétaire Général au moins six mois avant la date de la réunion au cours de laquelle elles seront considérées par la session administrative plénière de l'Association. Le Secrétaire Général doit, au moins quatre mois avant la date fixée, notifier à tous les pays adhérents toutes les propositions de modifications qu'il aura alors reçues.

18. Les articles de ces statuts ne peuvent être modifiés qu'à la majorité des deux tiers des voix exprimées lors d'une réunion de la session administrative plénière de l'Association par les délégués ayant droit de vote, présents à cette réunion ou votant par correspondance, à la condition que le nombre total de voix favorables ne soit pas inférieur à la moitié du nombre de membres de la session administrative plénière de l'Association ayant la capacité de vote.

19. Les statuts sont rédigés en anglais et en français, et le texte anglais fera autorité. Les problèmes d'interprétation qui peuvent intervenir entre les deux textes devront être réglés par le Président.

Règlement Intérieur

1. Les commissions scientifiques suivantes ont été créées, conformément à l'article 7.4 des statuts:

   Commission internationale des eaux de surface,
   Commission internationale des eaux souterraines,

   Commission internationale d'érosion continentale,

   Commission internationale des neiges et glaces,

   Commission internationale de la qualité des eaux,

   Commission internationale des systèmes de ressources en eau

   Commission internationale de télédétection et télétransmission,

   Commission internationale des relations sol-plante-atmosphère,

   Commission internationale des traceurs.

   Chaque commission devra suivre ses attributions. Les modifications des attributions de chaque commission doivent être approuvées par la session administrative plénière de l'Association et doivent être jointes au règlement intérieur.

   Toutes les commissions s'intéresseront aux processus naturels et aux modifications apportées à ces processus par l'action de l'homme et par l'application de technologies. Les relations avec l'environnement seront examinées dans chaque cas où il conviendra de le faire.

1.1 Chaque fois qu'il sera fait mention de commissions scientifiques dans le règlement intérieur il faudra comprendre "Commissions internationales".

2. Les diverses commissions scientifiques ont pour tâche de préparer des rapports scientifiques faisant le point sur l'état de la recherche dans les domaines de l'hydrologie qui leur sont propres; ils noteront les résultats obtenus et les tendances actuelles en insistant sur les points significatifs concernant l'approche des problèmes. Les rapports seront fournis en anglais ou en français et comporteront un sommaire dans l'autre langue officielle. Le rapport doit parvenir au Secrétaire Général au moins quatre mois avant la session plénière de l'Association, pour distribution aux responsables de l'Association, y compris ceux des différentes commissions scientifiques, ainsi qu'aux Comités Nationaux, et pour publication dans les rapports de la session plénière de l'Association. Le Président de l'Association inclut ces rapports scientifiques dans sa communication à la session plénière de l'Association, de même que ses recommandations concernant le développement de la recherche.

3. Les commissions scientifiques se réunissent lors des assemblées générales de l'UGGI et lors des assemblées scientifiques de l'Association, à moins que le Bureau ne les ait autorisés à se réunir dans d'autres circonstances. Une commission scientifique peut aussi prévoir d'autres réunions suivant le règlement qu'ils peuvent adopter, conformément à l'article 13.6 des statuts.

4. Les commissions scientifiques peuvent inviter des conseillers provenant de pays non adhérents à participer à leurs travaux. Ces conseillers ne peuvent pas voter.

5. Chaque commission scientifique doit faire figurer dans l'en-tête de ses imprimés et autres formes de documents son appartenance à l'Association internationale des sciences hydrologiques.

Sélection des Candidatures et Elections aux Postes de Direction de l'Association

6. Le Bureau doit établir au moins dix mois avant l'assemblée générale de l'UGGI un comité de sélection des candidatures d'au moins trois membres, chargé de recevoir et d'étudier les suggestions et de sélectionner des candidatures

pour le poste de Président-élu, pour les trois postes de Vice-Président ainsi que pour les postes de Secrétaire Général et de Trésorier.
Au moins neuf mois avant l'assemblée générale de l'UGGI le Secrétaire Général doit informer les Comités Nationaux de la composition du comité de sélection des candidatures et leur demander d'adresser leurs propositions à son Président au plus tard six mois avant l'assemblée générale de telle sorte qu'elles soient recevables. Sur la base des propositions des Comités Nationaux, du Bureau de l'AISH et des commissions scientifiques, le comité de sélection préparera une liste de candidats où il s'efforcera de réaliser un équilibre géographique et professionnel satisfaisant.

Chaque candidature à un poste de direction doit être accompagnée d'une notice illustrant la compétence du candidat pour le poste de direction auquel il est présenté. Une déclaration signée prouvant la volonté du candidat d'assumer cette fonction doit également être fournie. Une candidature ne sera recevable qu'accompagnée de la notice et de la déclaration.

Un individu peut être candidat à plus d'un poste de direction, à l'exception d'un candidat au poste de Président-élu qui ne peut prétendre à aucun autre poste au sein de l'Association.

La liste soumise au vote comprendra les noms des candidats sélectionnés par le comité de sélection des candidatures et mentionnera les noms de tous les autres candidats proposés.

Le vote aura lieu en session administrative plénière de l'association ou par correspondance selon l'article 7.2 des statuts.

6.1. Chaque commission scientifique doit établir un groupe de sélection des candidatures d'au moins trois membres au moins dix mois avant une assemblée générale de l'UGGI pour sélectionner les candidatures aux postes de responsabilité des commissions. Neuf mois au moins avant une assemblée générale de l'UGGI le Secrétaire Général doit informer tous les Comités Nationaux de la composition de ces groupes et leur demander d'adresser des propositions de candidatures au Président du comité de sélection des candidatures six mois au moins avant l'assemblée générale. Le Président du comité de sélection des candidatures fournira à chaque groupe de sélection des candidatures la liste des propositions concernant chaque commission scientifique. Sur la base des propositions fournies par les Comités Nationaux et les diverses commissions scientifiques, chaque groupe de sélection des candidatures devra alors préparer une liste de candidats pour les postes de responsabilités des commissions scientifiques. La constitution de ces listes sera faite en concertation avec le Président du comité de sélection des candidatures.

Les propositions pour les postes de responsabilité des commissions se feront selon la même procédure que celle concernant les postes de responsabilité du Bureau (article 6) à l'exception du fait que les candidats au poste de Président-élu peuvent être candidats à plus d'un poste de responsabilité.

Le vote sur ces listes sera réalisé dans le cadre des sessions administratives plénières des commissions scientifiques ou par correspondance selon l'article 7.2 des statuts. Les résultats seront communiqués au Président du comité de sélection des candidatures qui dressera la liste d'attribution des postes de responsabilité des commissions scientifiques qui sera proclamée en session administrative plénière de l'Association.

6.2. La liste des candidats aux postes de responsabilité de l'Association et des commissions devrait en principe comprendre plus d'un candidat par poste à pourvoir. Le Président du comité de sélection des candidatures devra diffuser la liste des candidatures au moins trois mois avant l'assemblée générale de l'UGGI.

La liste soumise au vote comprendra les noms des candidats sélectionnés par le comité de sélection des candidatures et mentionnera les noms de tous les autres candidats proposés.

6.3. Les votes sur les listes concernant tant l'Association que les commissions scientifiques auront lieu au scrutin secret. Pour être élu un candidat doit obtenir la majorité simple. Pour les postes non pourvus au premier tour de scrutin, un second tour de scrutin sera organisé pour départager les deux candidats ayant obtenu le plus de suffrages au premier tour. En cas d'égalité au second tour le Président tranchera.

Comités Nationaux

7. Les Comités Nationaux et représentants nationaux doivent diffuser les informations concernant l'Association dans leur pays et solliciter des articles pour les symposiums et pour le "Journal des sciences hydrologiques".

8. Les Comités Nationaux sont invités à présenter au Bureau et aux sessions plénières leur point de vue sur la recherche hydrologique et sur les ressources en eau comme sur les affaires relatives à la gestion de l'Association, en tant que contribution aux discussions concernant les futures activités de l'Association.

9. Lorsqu'un comité national de l'AISH n'a pas nommé ou désigné une ou plusieurs personnes pour voter en son nom, dans les conditions spécifiées dans les statuts, soit lors d'une session plénière, soit lors d'une réunion d'une commission scientifique ou d'un comité, les délégués présents sont invités à choisir l'un des leurs pour remplir cette fonction.

10. L'Association devrait encourager la création de Comités Nationaux dans tous les pays qui adhèrent à l'Union. Lorsque de tels comités n'existent pas, de facto ou de jure, les délégués qui ont assisté aux assemblées générales et aux symposiums de l'AISH sont invités à présenter une demande au comité national de l'UGGI pour former un groupe national en vue de discuter tout problème devant l'AISH ou ses commissions scientifiques et de désigner une délégation à l'assemblée générale.

11. Les comités nationaux doivent désigner un délégué aux sessions plénières de l'Association et pour chaque commission scientifique. Les noms de ces délégués doivent être communiqués au Secrétaire du groupe intéressé au moins un jour avant toute session administrative.

Ordre du jour, Symposiums et Publications

12. Le Bureau de l'Association doit préparer l'ordre du jour des sessions plénières de l'Association.

13. Les propositions concernant l'ordre du jour de la session plénière de l'Association doivent parvenir au Secrétaire Général au moins trois mois avant la date de la réunion. Cependant, une question qui n'a pas été spécifiée à l'ordre du jour peut être débattue si une proposition à cet effet a été approuvée par les deux tiers des votes des délégués à la session plénière.

14. Une assemblée scientifique peut-être tenue une fois durant la période de quatre ans séparant deux assemblées générales de l'UGGI.

Directives pour l'organisation des symposiums

15. Un symposium pour lequel l'Association a la responsabilité principale (il est désigné sous le nom de symposium AISH dans ce règlement intérieur), devrait être accepté par le Bureau et satisfaire les conditions suivantes:

(i) Son sujet joue un rôle important dans le développement de l'hydrologie.

(ii) Il est proposé par un comité national ou par un responsable de l'Association ou de ses commissions scientifiques.

(iii) Un pays membre se déclare prêt à le recevoir et présente des possibilités évidentes d'assister l'Association pour accueillir la réunion dans de bonnes conditions.

15.1 Les symposiums de l'AISH doivent être annoncés (avec un résumé du sujet) par le Secrétaire Général, dix huit mois au moins avant la date fixée pour le symposium. Un avis doit être envoyé par la poste à chaque comité national et publié dans le bulletin de l'Association.

15.2 Les symposiums de l'AISH sont organisés conjointement avec un organisme approprié du pays hôte et peuvent bénéficier de l'appui d'autres organisations internationales, ou être organisés en collaboration avec ces organisations internationales. La préférence doit être donnée aux symposiums pour lesquels il existe des possibilités évidentes d'un appui national approprié.

15.3 L'Association peut apporter son appui ou prendre des responsabilités partielles pour des symposiums d'autres organisations internationales, suivant des dispositions fixées par échange de correspondance et approuvées par le Bureau.

16. L'éditeur est autorisé à prendre toutes dispositions utiles pour la publication d'un bulletin périodique en vue d'assurer la liaison avec les Comités Nationaux et avec la communauté mondiale des hydrologues.

Généralités

17. Les commissions scientifiques, les groupes d'experts, les groupes de travail et "The International Association of Hydrological Sciences Limited" doivent rendre compte au Trésorier tous les ans, en janvier, de l'usage de tous les fonds reçus de l'Association ou d'ailleurs pour le financement de leurs activités et dépensés par eux pendant l'année précédente.

18. Membres souscripteurs: Le Bureau de l'Association est autorisé à accepter les institutions intéressées par l'hydrologie en tant que membres souscripteurs. Moyennant un versement annuel, dont le montant est fixé par le Bureau, de tels membres reçoivent de droit un exemplaire du " Journal ", bénéficient d'une réduction de 20% sur toutes les publications de l'AISH autres que le "Journal", reçoivent des exemplaires de toute note ou circulaire d'information et sont abonnés au bulletin.

19. Le Président peut inviter des représentants des agences spécialisées des Nations Unies ou d'autres observateurs, conseillers et consultants, à assister aux réunions des sessions plénières ou du Bureau avec possibilité de prendre la parole, mais sans droit de vote.

20. Le siège légal de l'Association doit être fixé par le Bureau.

21. Le Secrétaire Général publie les statuts et le règlement intérieur au moins une fois durant la période séparant deux assemblées générales de l'UGGI.

22. Le Secrétaire Général tient à jour une liste d'hydrologues qualifiés désireux de participer activement aux travaux de l'Association. Ces hydrologues seront désignés comme individus membres de l'AISH. Le Secrétaire Général signalera aux Secrétaires des commissions scientifiques les individus membres s'intéressant à leur commission.

INTERNATIONAL ASSOCIATION OF HYDROLOGICAL SCIENCES

Statutes

1. The Objectives of the Association

1.1 To promote the study of Hydrology as an aspect of the earth sciences and of water resources;

– to study the hydrological cycle on the Earth and the waters of the continents; the surface and groundwaters, snow and ice, including their physical, chemical and biological processes, their relation to climate and to other physical and geographical factors as well as the interrelations between them;

– to study erosion and sedimentation and their relation to the hydrological cycle;

– to examine the hydrological aspects of the use and management of water resources and their change under the influence of man's activities;

– to provide a firm scientific basis for the optimal utilization of water resources systems, including the transfer of knowledge on planning, engineering, management and economic aspects of applied hydrology.

1.2 To provide for discussion, comparison, and publication of research results.

1.3 To initiate, facilitate, and coordinate research into, and investigation of, those hydrological problems which require international cooperation.

2. The Association is a constituent body of the International Union of Geodesy and Geophysics (IUGG). The Association is subject to those Articles of the Statutes and Bye-laws of the Union that apply to associations and also to these Statutes.

3. Any country adhering to the Union also adheres to the Association, and is entitled to send delegates and otherwise to participate in its work. All scientific meetings of the Association or of its components are open to such delegates.

4. The Association performs its activities in the framework of the International Council for Science (ICSU) and IUGG, in cooperation with the United Nations and its specialized agencies and through direct contacts with other international organisations.

5. The Association shall comprise: the Plenary Session, the Bureau of the Association, the Scientific Commissions, the Panels and Working Groups and the International Association of Hydrological Sciences Limited. The Association shall maintain contact with the several adhering countries through their National Representatives or National Committees (often subcommittees or sections of the IUGG National Committees) and Regional Committees.

Scientific Commissions: Units of the Association having defined scientific responsibilities in specific hydrological fields or subjects. Divisions are corresponding units of the Scientific Commissions.

Panels or Working Groups: Ad hoc units to report on specific problems, either scientific or administrative.

National Committees: National Committees of IAHS are administrative bodies for maintaining contacts with the Association. They may include representatives to the Scientific Commissions of IAHS.

National Representatives: Each member country of IUGG shall appoint a National IAHS Representative who is responsible for maintaining contact with the Association, taking part in the work of the National Committee of IAHS, if one such is established.

Regional Committees: Regional Committees are administrative bodies which examine subjects of particular concern within specific regions.

The International Association of Hydrological Sciences Limited: This is a UK Registered Charity having as part of its Memorandum and Articles of Association objects which are identical to those of this Association and coming within the framework of ICSU and IUGG.

Individual Members: Even though membership of IAHS is by country, individuals may request to be registered for so-called individual membership. To qualify for such membership an individual must work in one or more fields of hydrology and endeavour to participate in IAHS activities. The individual members are not permitted to vote on administrative matters.

Plenary Session

6. A Plenary Session of the Association shall be convened in accordance with the Bye-laws of the Union. At least one Plenary Session of the Association shall be held during a General Assembly of the IUGG and during a Scientific Assembly of the Association. Each adhering country may be represented by one or more delegates to the

6.1 The Plenary Session has final authority on questions of a scientific character.

6.2 The Plenary Session shall consider the state of hydrological sciences, the trends in their development, and questions relating to the organisation of symposia on important programmes, taking into consideration the appropriate programmes of other international organisations.

6.3 Each participant present at the Plenary Session shall have one vote on scientific matters.

7. The final authority of the Association in all matters of administration and finance shall be vested in the Plenary Administrative Session of the Association.

7.1 The Plenary Administrative Session shall consist of the President, the President-Elect or immediate Past-President, the Vice-Presidents, the Secretary General, the Treasurer, the Editor, the President or other designee of each Scientific Commission in existence at the time, the Chairman of IAHS Limited and one voting delegate from each adhering country, appointed by that country to vote in the Plenary Administrative Session.

A quorum shall consist of the President (or Vice-President acting as President), the Secretary General, or his deputy, and voting delegates from at least 10 countries.

7.2 Voting in the Plenary Administrative Session shall be by countries, each country having one vote, with the provision that it has voting rights in IUGG at that time. This voting may also be by mail but if the vote has been by mail then the country cannot vote at the Plenary Session again. Only those officers of the Association and its Scientific Commissions who are also voting delegates of their countries may vote.

7.3 The Plenary Administrative Session, during the General Assembly of the IUGG, shall elect for the Association, in accordance with the Bye-laws, the President-Elect, three Vice-Presidents, the Secretary General, the Treasurer, and such other elective officers as may be deemed necessary.

The election shall be held during the IUGG General Assembly, in accordance with Articles 7.1, 7.2 and 7.6.

The period of office for all Association officers except the President, shall be the interval between elections at two successive IUGG General Assemblies.

The President-Elect shall become President, and the President shall become immediate Past-President, two years after the elections at the IUGG General Assembly.

If a Scientific Assembly is held during the second year after the elections, the President-Elect shall become President at the beginning of the Scientific Assembly.

The term of immediate Past-President shall be from the time the new President takes office to the next election of a President-Elect. At any time there shall be in the Bureau either a President and President-Elect or a President and a Past-President.

The President and Vice-Presidents may not be elected to two successive terms of the same office.

The Secretary General and the Treasurer shall be eligible for re-election, but not for more than two additional terms.

The Editor shall be appointed by the Bureau, and shall be eligible for re-appointment without limit.

The President-Elect shall assume the office of President if this office becomes vacant. If there is no President-Elect the Bureau shall appoint one of the Vice-Presidents to be President.

If the office of the Secretary General or that of the Treasurer or that of the Editor shall become vacant between IUGG General Assemblies, acting officers shall be appointed by the President to serve the remainder part of the term.

7.4 The Plenary Administrative Session has the power to form and discontinue Scientific Commissions. Their terms of reference shall be included in the Bye-laws of the Association.

The Plenary Administrative Session during the IUGG Assembly shall be informed of the President-Elect, three Vice-Presidents and Secretary elected during the Plenary Administrative Session of each of the Scientific Commissions.

The office of President-Elect of each Scientific Commission shall be established under the same terms as outlined in Article 7.3 for the Association.

The Presidents of the Scientific Commissions may not be re-elected to two successive terms of the same office. The Vice-Presidents and the Secretary shall be eligible for re-election but for not more than one additional term.

The Scientific Commissions have the power to fill vacancies that may occur between elections.

7.5. The Plenary Administrative Session has the power to form and discontinue Regional Committees, which may be formed on the initiative of several

National Committees or National Representatives. Their Officers shall be elected by those National Committees, or National Representatives. Regional Committees shall examine hydrological subjects of particular concern to a specific region, and may conduct regional meetings on such subjects. Regional meetings shall be open to all adhering countries, and the Scientific Commissions may designate a representative to appear on their behalf at these meetings. Each Regional Committee may propose a set of regulations for its organisation and governance for approval by the Plenary Administrative Session of the Association.

7.6. The Plenary Administrative Session may elect an Honorary President, who shall serve life or until such time as he/she resigns from this office. The Honorary President may participate as a non-voting member in any Association meeting, including those of the Bureau, and may be requested by the Bureau to undertake specific tasks in support of the Objectives of the Association.

7.7. In questions involving finance, voting in the Plenary Administrative Session shall be as in Article 7.2, except that upon the request of two voting delegates, the number of votes for each country shall be one greater than the number of its category of membership in the Union as defined in the Statutes of the Union.

7.8. An adhering country not represented at a Plenary Administrative Session may forward its vote on any pertinent item on the agenda, including elections of Association officers, by mail.

7.9. Voting by post on administrative matters between Plenary Sessions of the Association can be authorized by the Bureau.

The Bureau

8. The Bureau of the Association shall consist of the President, the President-Elect or immediate Past-President, three Vice-Presidents, the Secretary General, the Treasurer, the Editor and Presidents of the Scientific Commissions in existence at the time and the Chairman of the International Association of Hydrological Sciences Limited. The immediate Past-President shall remain a Bureau member during the period between the end of his/her office and the election of a new President-Elect. The President shall convene the Bureau at least every other year to guide the affairs of the Association.

President, Secretary General, Treasurer and Editor

9. The President shall be the executive officer of the Association and shall direct its affairs in accordance with the decisions of the Plenary Session of the Association. The President shall be assisted by the Vice-Presidents.

10. The Secretary General, in consultation with the President, shall manage the business of the Association, conduct the correspondence, preserve the official documents and administrative records. The Bureau may authorize the Secretary General to employ administrative and secretarial personnel to assist him/her in the performance of his/her duties to the Association. The Secretary General shall also take any action necessary to ensure that the Objectives of the Association are fulfilled in a manner which complies with the relevant Law governing administration, taxation, Contract and Tort or their equivalent in any country where the Association is operational including the appointment of a person or corporation if required to protect and represent the Association in any such matters and he/she shall be indemnified by the Association in respect of the costs of any such action.

11. The Treasurer, or acting Treasurer, shall collect the funds of the Association and disburse them in accordance with the decisions of the Plenary Session of the Association and the Bureau. He shall maintain records of all financial transactions of the Association and submit annual reports thereon to the Bureau as required by the Statutes and Bye-laws of IUGG. In agreement with the Secretary General he shall arrange for the subscriptions, sales, and storage of the publications of the Association.

11.1 The funds of the Association shall be invested in accounts of the Association. They shall be at the disposal of the Treasurer and the Secretary General as may be deemed necessary and as specified in Article 11, but provisions shall be made to enable the President to transfer the funds or part of them to an acting Treasurer appointed according to Article 7.3.

12. The Editor shall prepare for publication by the Association original papers, reviews and other material in a form in accordance with the decisions of the Plenary Session and the Bureau.

Commissions

13. The following provisions shall govern Scientific Commissions that are created under Article-7.4.

13.1 The Scientific Commissions shall keep abreast of their fields of hydrology and determine the trends in research on the most urgent problems of hydrology that are of common interest to many countries. The Scientific Commissions shall study the questions voted by their Plenary Session.

13.2 The Scientific Commissions shall participate actively in the preparation of symposia on appropriate scientific problems.

13.3 The Scientific Commissions shall be styled “International Commission on...".

13.4 The National Committee (or National Representative) for IAHS of each adhering country may designate one representative on each Scientific Commission and on each Regional Committee with which it desires to affiliate. Such representatives may vote on all administrative and scientific matters before the Scientific Commission or Regional Committee and may correspond directly with the Officers of a Commission or such Committee on all matters of concern to that Commission or such Committee. All participants present at a meeting of a Commission or such Committee may vote on scientific matters.

13.5 While the regulations for all scientific commissions should be as similar as possible, each Scientific Commission may propose a set of regulations for its organisation and governance for approval by the Plenary Administrative Session of the Association.

13.6 The Scientific Commissions may establish Divisions and ad hoc working groups to report on specific problems.

Panels, Working Groups and Rapporteurs

14. The Plenary Session or the Bureau may create panels or working groups and appoint rapporteurs to undertake either:

a. ad hoc scientific programmes; or

b. activities of a pro tempore regional nature; or

c. specific administrative or organisational tasks.

The Chairman and members of all such groups shall be appointed by the President, to whom they shall report. Such groups shall exist only during the term between two successive IUGG General Assemblies.

IAHS Limited

15. The International Association of Hydrological Sciences Limited.

15.1 The International Association of Hydrological Sciences Limited shall deal with those matters set out in its Memorandum and Articles of Association (a copy of which shall be held by the Secretary General) and is a registered Charity in the United Kingdom.

15.2 Membership of the Limited Company is restricted to Individual Members of the Association. The Limited Company will deal inter alia with the IAHS publishing programme including the arrangements for the Hydrological Sciences Journal.

15.3 The International Association of Hydrological Sciences Limited shall have as its Board the Secretary General and those persons appointed by the President. The Chairman of the Limited Company will report to the President. Because of requirements under English Law, at least half the Board of the Limited Company, who shall also be Directors, must be ordinarily resident in the United Kingdom.

15.4 For the purpose of continuity of administration of the Limited Company, the President shall have absolute discretion regarding the appointment of the Chairman and the Board.

By-Laws: Amendments

16. Within the framework of these Statutes, the Plenary Administrative Session of the Association shall have the power to adopt or amend Bye-laws by a simple majority.

17. Proposals by adhering countries for a change of any Article of the Statutes must reach the Secretary General at least six months before the date of the meeting at which they are considered by the Plenary Administrative Session of the Association. The Secretary General shall notify all adhering countries of any proposed changes at least four months before the named date.

18. The Articles of these Statutes may be changed only by a majority of two-thirds of the votes cast at a meeting of the Plenary Administrative Session of the Association by voting members who are present or who vote by post, provided that the total number of favourable votes is not less than one-half the number of the members of the Plenary Administrative Session of the Association eligible to vote.

19. The Statutes are prepared in English and French, and the English text shall be considered the authoritative text. Questions of interpretation as between the texts shall be decided by the President.

By-Laws

1. The following Scientific Commissions have been established in accord with Article 7.4 of the Statutes:

   International Commission on Surface Water;

   International Commission on Groundwater;

   International Commission on Continental Erosion;

   International Commission on Snow and Ice;

   International Commission on Water Quality;

   International Commission on Water Resources Systems;

   International Commission on Remote Sensing;

   International Commission on Atmosphere-Soil-Vegetation Relations;

   International Commission on Tracers.

   The Commissions shall follow the Regulations of the Scientific Commissions. Commission-specific modifications of these regulations are subject to approval by the Plenary Administrative Session of the Association and shall become part of the Bye-laws.

   All Commissions will be concerned with natural processes and these processes as modified by human activities or with processes, technologies and applications. Relations to the environment will be considered as appropriate.

   Whenever Scientific Commissions are referred to in the Bye-laws, it implies "International Commissions".

2. The several Scientific Commissions shall prepare scientific reviews of the state of research in their respective fields of hydrology, noting achievements and trends, with particular emphasis on significant problems for attack. The reports should be submitted in English or in French and include a summary in the other language. The report shall reach the Secretary General at least four months before the Plenary Session of the Association, for distribution among the officers of the Association including those of the several Scientific Commissions and among the National Committees, and for publication in the reports of the Plenary Session of the Association. The President of the Association shall introduce these reviews in his address to the Plenary Session of the Association, together with his recommendations as to the course of research.

3. The Scientific Commissions shall meet at the IUGG General Assemblies and Scientific Assemblies of the Association unless authorized otherwise by the Bureau. A Scientific Commission may also schedule other meetings under the regulations it adopts according to Statutes Article 13.6.

4. The Scientific Commissions may invite advisors from non-adhering countries to participate in the work of the Scientific Commissions. These advisors may not vote.

5. Each Scientific Commission shall show on its stationery or other formal documents its identification with the International Association of Hydrological Sciences.

Nominations and voting for Office

6. The Bureau shall establish a Nomination Panel of not less than three members at least 10 months before an IUGG General Assembly to receive and consider suggestions and prepare nominations for the President-Elect, the three Vice-Presidents, the Secretary General and the Treasurer.

   At least nine months before an IUGG General Assembly the Secretary General shall inform all National Committees of the membership of the Nomination Panel, asking them to send their nominations to its Chairman not later than six months before the General Assembly in order to be considered by the Panel. On the basis of available nominations from the National Committees, the IAHS Bureau and from the Scientific Commissions, the Panel shall prepare a list of candidates, seeking to achieve a reasonable balance in their geographical and professional distribution.

   Each nomination for office must include a résumé of the candidate's qualifications relevant to the office for which the candidate is nominated. A signed statement of the candidate's willingness to stand for office must also be provided. The nomination shall not be considered without submission of the résumé and consent form.

   A person may be a candidate for more than one office except the candidate for President-Elect who may not be a candidate for any other office of the Association. No one may hold more than one office at the same time.

   The list submitted for voting shall contain the candidates proposed by the Nomination Panel and mention the names of all other nominees submitted.

   The voting on the list shall be by the Plenary Administrative Session of the Association or by mail according to Article 7.2 of the Statutes.

6.1 Each of the Scientific Commissions shall establish a Nomination Group of not less than three members at least 10 months before an IUGG General Assembly to prepare nominations of Commission officers. At least nine months before an IUGG General Assembly the Secretary General shall inform all National Committees of the membership of these groups, asking them to send nominations to the Chairman of the Nomination Panel not later than six months before the General Assembly. The Chairman of the Panel shall furnish each Nomination Group with the names of candidates appropriate to each Scientific Commission. On the basis of available nominations from the National Committees and respective Scientific Commissions each Nomination Group shall then prepare a list of candidates for Scientific Commission officers. The preparation of the list shall be done in consultation with the Panel Chairman.

The nominations for Commission officers shall follow the same procedure as that for the Bureau officers (Article 6) except that the nominee for President-Elect may be a candidate for more than one office.

The voting on this list shall be by the Plenary Administrative Session of the Scientific Commissions or by mail according to Article 7.2 of the Statutes. The results shall be given to the Chairman of the Nomination Panel who shall draw up a list of Scientific Commission Officers to be announced at a Plenary Session of the Association in Administrative Session.

6.2. The list of candidates for Association and Commission Officers shall normally contain more than one name for each office. The Chairman of the Nomination Panel shall distribute the list to the National Committees at least three months before an IUGG General Assembly.

The list submitted for voting shall include both the candidates proposed and the names of all the other nominees submitted.

6.3. Voting on the list of candidates for both Association and Scientific Commission officers shall be done by secret ballot. To be elected, each candidate must obtain a simple majority of votes. For those offices not filled in the first round of voting, a second round shall be held on the two highest ranking candidates of the first round. In the case of a draw in the second round, the President shall decide.

National Committees

7. The National Committees or the National Representatives shall disseminate information on the Association within their countries and shall solicit papers for symposia or for publication in the Hydrological Sciences Journal.

8. National Committees shall be invited to present their views on hydrological and water resources research and on matters relating to the management of the Association to the Bureau and the Plenary Sessions, as a contribution to the discussion on future activities of the Association.

9. Where the National Committee for IAHS has not appointed or designated a person or persons to cast its vote as specified by the Statutes in the Plenary Session or at a meeting of a Scientific Commission or other committee, the delegates present are invited to select one of their number for this purpose.

10. The Association should encourage the formation of National Committees for hydrology in all countries that adhere to the Union. Where such National Committees do not exist, de facto or de jure delegates who have attended General Assemblies and symposia of IAHS are invited to petition the National Committee for IUGG to form a national group for discussion of questions before IAHS or its Scientific Commissions or to designate delegations to a General Assembly.

11. National Committees shall designate a delegate to the Plenary Sessions of the Association and each of the Scientific Commissions. The names of such delegates should be given to the Secretary of the pertinent body at least one day in advance of any Administrative Session.

Agenda, Symposia and Publications

12. The Bureau of the Association shall organize the agenda for the Plenary Sessions of the Association.

13. Suggestions for the agenda of the Plenary Session of the Association must reach the Secretary General at least three months before the date of the meeting. However, a question which has not been placed on the agenda may be discussed if a proposal to that effect be approved by two-thirds of the votes of the delegates to the Plenary Session.

14. A Scientific Assembly may be held once during the four-year period between the General Assemblies of IUGG.

Guidelines for organizing symposia

15. Symposia for which the Association has primary responsibility (referred to as IAHS symposia in this By-law) should meet the following conditions and be accepted by the Bureau:

(i) a subject having an important role in the development of hydrology;

(ii) proposed by a National Committee or by officers of the Association or of its Scientific Commissions;

(iii) a member country expressing readiness to serve as host and presenting evidence of adequate support.

15.1 IAHS symposia (with subject outline) should be announced by the Secretary General not later than 18 months before the date of the symposium, by post to each National Committee and published in the Journal of the Association.

15.2 IAHS symposia are organized jointly with a relevant organisation of the host country and may be supported by or organized in collaboration with other international organisations. Preference shall be given to those symposia where there is evidence of adequate national support.

15.3 The Association may support or take partial responsibility in symposia of other international organisations according to arrangements formulated through exchange of correspondence and approved by the Bureau.

16. The Editor is authorized to arrange for the publication of a periodic Journal to provide a line of communication with the National Committees and with the world hydrological community.

General

17. Scientific Commissions, Panels, Working Groups and the International Association of Hydrological Sciences Limited shall account to the Treasurer in January of each year on all funds received from the Association and from other sources for their activities and disbursed by them during the preceding year.

18. Corporate Subscribers: The Bureau of the Association is authorized to accept institutions with an interest in hydrology as Corporate Subscribers who, for an annual fee established by the Bureau, shall be entitled to receive a copy of each Journal published by the Association, a 20% discount on any IAHS publication other than the Journal, copies of all notices and information circulars, and to a listing in the Journal.

19. The President may invite representatives of the UN specialized agencies or other observers, advisors or consultants to attend Plenary Sessions or meetings of the Bureau, with voice but without vote.

20. The legal domicile of the Association shall be established by the Bureau.

21. The Secretary General shall publish the Statutes and By-laws at least once in each period between General Assemblies of the IUGG.

22. The Secretary General keeps a list of hydrologists who are willing and qualified to participate actively in the work of the Association. These hydrologists are designated as Individual Members of IAHS. The Secretary General will notify the Secretaries of the Scientific Commissions of the Individual Members interested in their respective Commission.

ASSOCIATION INTERNATIONALE DES SCIENCES PHYSIQUES DE L'OCEAN

Statuts

1. Buts, Composition et Membres de l'Association

1. L'Association Internationale des Sciences Physiques de l'Océan (AISPO) est une des Associations constitutives de l'Union Géodésique et Géophysique Internationale. L'Association est assujettie aux Articles des Statuts et du Règlement Intérieur de l'Union qui s'appliquent aux Associations et, également, aux présents Statuts.

2. L'Association a pour buts:

a. d'encourager l'étude des problèmes scientifiques concernant l'océan et les interactions prenant place à ses limites, dans la mesure, principalement, où une telle étude peut être effectuée à l'aide des mathématiques, de la physique et de la chimie.

b. de promouvoir, faciliter et coordonner la recherche et les investigations sur les problèmes océaniques qui exigent une coopération internationale.

c. de provoquer des discussions et des comparaisons et d'assurer la publication des résultats de ses travaux.

3. Les pays qui adhèrent à l'Union sont les Membres de l'Association.

   En vertu des résolutions prises en Assemblée Générale de l'Association, d'autres organisations internationales qui ont à connaître des résultats de l'étude des Sciences Physiques de l'Océan peuvent être admises comme Membres, avec le statut d'invités.

2. Administration

4. L'autorité de l'Association est dévolue aux pays adhérant à l'Union: elle s'exerce collectivement par les Délégués réunis en Assemblée Générale de l'Association.

5. L'Association tient des sessions administratives aux Assemblées Générales de l'Union; celles-ci ont lieu normalement tous les quatre ans.

   L'Association peut recommander au Comité Exécutif de l'Union, au cours d'une Assemblée Générale de l'Union, l'organisation de sessions conjointes de deux Associations, ou plus, ou de réunions conjointes de deux ou plusieurs Comités ou Commissions en vue de la discussion de questions de caractère interdisciplinaire.

   Avec l'approbation du Comité Exécutif de l'Union, l'Association peut organiser des Assemblées Générales et d'autres réunions pour son propre compte dans l'intervalle entre les Assemblées Générales de l'Union, soit à elle seule pour traiter de questions qui l'intéressent spécifiquement, soit conjointement avec une autre ou d'autres Associations.

6. L'Assemblée Générale de l'Association élit son Président, ses deux Vice-Présidents, le Secrétaire Général et le Secrétaire Général Adjoint de l'Association.

7. Le Bureau de l'Association est formé du Président et du Secrétaire Général. Il dirige les affaires de l'Association en accord avec les décisions des Assemblées Générales antérieures de l'Association. Il prépare l'Ordre du Jour des Assemblées Générales.

8. L'Assemblée Générale de l'Association élit, parmi les ressortissants des pays adhérant à l'Union, six personnes qui, avec le Président, le Président sortant, les Vice-Présidents, le Secrétaire Général et le Secrétaire Général Adjoint, forment le Comité Exécutif de l'Association.

9. Un Comité des Nominations composé de quatre personnes issues de pays adhérant à l'Union est nommé par le Comité Exécutif. Le Comité des Nominations est normalement présidé par le Président sortant. Il lui appartient d'examiner les candidatures reçues pour les postes à pourvoir au Comité Exécutif, de rechercher de nouvelles candidatures si nécessaire, pour assurer une bonne répartition thématique et géographique, et de préparer une liste définitive des candidats en vue de leur élection par l'Assemblée Générale.

3. Votes

10. En matière scientifique, chaque Délégué a une voix.

11. En matière d'administration ou en matières ayant un caractère mixte, administratif et scientifique mais n'ayant pas d'incidence financière, le vote a lieu par pays: chaque pays dispose d'une voix, sous réserve qu'il soit à jour de sa cotisation à la fin de l'année précédant le vote.

12. Pour les questions ayant une incidence financière, le vote a lieu par pays, avec la même réserve que pour les questions administratives. Le nombre de voix dont dispose chaque pays surpasse d'une unité le numéro de sa catégorie comme Membre de l'Union.

13. En cas de doute sur le caractère d'une question et dans tous les cas de partage égal des voix, la voix du Président est prépondérante.

14. Un Délégué ne peut représenter qu'un seul Pays Membre. Un Pays Membre qui n'est pas représenté par un Délégué peut voter par correspondance sur toute question définie d'un Ordre du Jour.

15. Les invités ne prennent pas part au vote.

4. Généralités

16. Ces Statuts ne peuvent être modifiés que par une majorité des deux-tiers des votes exprimés à une Assemblée Générale par les Délégués présents ou exprimés par correspondance.

17. L'Association peut établir un Règlement Intérieur qui peut être modifié à la majorité simple des votes exprimés à une Assemblée Générale par les Délégués présents ou exprimés par correspondance.

18. Le texte anglais des Statuts de l'Association fait foi.

Règlement Intérieur

1. Composition de l'Association

1. Il est recommandé que chaque pays adhérant forme un Comité National des Sciences Physiques de l'Océan, auquel la correspondance peut être adressée.

2. Tout pays adhérant et tout membre international peuvent faire des propositions pour l'Ordre du Jour des Assemblées Générales de l'Association.

2. Administration

3a. Le Président et les Vice-Présidents sont élus pour une période de quatre ans. Leurs mandats courent pendant la période comprise entre les fins de deux Assemblées Générales consécutives de l'Association.

b. Le mandat du Président sortant commence dès la fin de l'Assemblée Générale au cours de laquelle le nouveau Président est élu et se termine à la fin de l'Assemblée Générale suivante.

c. Le Secrétaire Général et le Secrétaire Général Adjoint sont élus pour deux périodes et peuvent être par la suite réélus une ou plusieurs fois mais chaque fois, pour une seule période.

4. Le Secrétaire Général traite les affaires courantes, assure la correspondance, conserve les archives et prend les dispositions préparatoires aux Assemblées Générales. Le Secrétaire Général sortant publie les Comptes Rendus de l'Assemblée Générale à laquelle son successeur a été élu.

5. Des six personnes mentionnées à l'Article 8 des Statuts, pas plus de trois peuvent être réélues pour un mandat supplémentaire.

6. Le Comité Exécutif:

a. Prépare, pour le Comité Exécutif de l'Union, des recommandations concernant l'organisation, à une Assemblée Générale de l'Union, des réunions scientifiques réservées aux sessions conjointes avec deux Associations, ou plus, ou des sessions conjointes de deux (ou plus) Comités ou Commissions en vue de la discussion de questions de caractère interdisciplinaire;

b. Sollicite l'approbation du Comité Exécutif de l'Union pour l'organisation des Assemblées Générales ou d'autres réunions de l'Association dans l'intervalle entre les Assemblées Générales de l'Union, soit pour elle seule pour traiter de questions spécifiquement de son ressort, soit conjointement avec une ou d'autres Associations;

c. Comble toute vacance qui pourrait se produire parmi les Officiels de l'Association entre les Assemblées Générales. De telles nominations sont soumises à l'agrément de l'Assemblée Générale suivante. L'occupation d'un poste pendant une partie seulement de la période ne sera pas comptée comme une période, au titre du présent Règlement Intérieur;

d. Etudie les questions d'administration générale et de finances et en fait rapport à l'Assemblée Générale;

e. Fait des recommandations sur des problèmes de politique générale du ressort de l'Association;

f. Prépare le budget pour la période suivante et en fait rapport à l'Assemblée Générale de l'Association et au Secrétaire Général de l'Union. La période budgétaire de l'Association coïncide avec la période budgétaire de l'Union.

g. Donne son avis sur la distribution des fonds.

h. Examine des propositions de modification des Statuts ou du Règlement Intérieur et en fait rapport à l'Assemblée Générale.

Les Officiels désignés par le présent Règlement Intérieur et chargés de questions spéciales ou appelés à siéger dans des Comités Spéciaux peuvent désigner des remplaçants, ils doivent aviser par écrit le Président ou le Secrétaire Général de leur intention de se faire remplacer. Aucun remplaçant ne peut représenter plus d'un Officiel.

7. Les officiers qui ont été affectés à des tâches spéciales d'après le Règlement Intérieur ou qui ont été nommés à des comités spéciaux, peuvent désigner des suppléants. Notification de leur intention de le faire doit être envoyée par écrit au Président ou au Secrétaire Général. Aucun suppléant ne peut représenter plus d'un officier.
8. Les décisions et les actions des Officiels et des Comités de l'Association, prises ou entreprises pendant ou entre les Assemblées Générales, sont soumises à l'approbation de l'Assemblée Générale.

9. Les propositions concernant l'Ordre du Jour d'une Assemblée Générale doivent être notifiées au Secrétaire Général six mois avant l'Assemblée Générale. Le Secrétaire Général adressera l'Ordre du Jour aux Pays Membres, par l'intermédiaire de leurs Comités Nationaux, quand ils existent, au moins quatre mois avant l'Assemblée Générale. Aucune question non portée à l'Ordre du Jour ne sera discutée, à moins qu'une proposition dans ce sens ne soit approuvée par les deux-tiers des votes des pays représentés à l'Assemblée.

10. Comité des Nominations

a. Les mandats des membres du Comité des Nominations mentionnés à l'article 9 des Statuts expirent à la fin de l'Assemblée Générale suivant leur nomination.

b. Le Secrétaire Général de l'Association lance, au moins six mois avant l'Assemblée Générale à laquelle une élection doit avoir lieu, un appel à candidatures aux postes du Comité Exécutif.

c. Les candidatures doivent être accompagnées d'un court curriculum vitae, et doivent être reçues au plus tard trois mois avant l'Assemblée Générale pour être acceptées, sauf pour les candidats supplémentaires proposés par le Comité des Nominations selon l'Article 9 des Statuts.

d. Le Comité des Nominations prépare une liste provisoire des candidats un mois avant l'Assemblée Générale, et confirme que les membres de cette liste provisoire accepteront leur mandat s'ils sont élus.

e. Si un poste devient vacant au Comité Exécutif pendant la durée d'un mandat suite à la démission ou au décès d'un membre, le Comité des Nominations aidera le Comité Exécutif à trouver un remplaçant approprié.

3. Finances

11. Le Président et le Secrétaire Général sont individuellement habilités à signer des documents au nom de l'Association.

12. Le Secrétaire Général reçoit des fonds de l'Union et administre les fonds de l'Association. A la fin de l'année précédant une Assemblée Générale de l'Union, il prépare et envoie au Secrétaire de l'Union la comptabilité de l'Association.

13. La comptabilité doit être certifiée exacte par un comptable qualifié.

14. Des frais de voyage peuvent être payés par le Secrétaire Général mais seulement (a) pour des réunions relevant spécifiquement de l'Association, et (b) quand les personnes concernées représentent l'Association et non pas les Pays Membres ou d'autres Organisations, et (c) dans les cas où les personnes concernées ne peuvent obtenir les crédits nécessaires sur des fonds nationaux. De tels paiements peuvent couvrir les frais de voyage et une contribution raisonnable aux autres dépenses résultant de l'assistance aux réunions prévues.

INTERNATIONAL ASSOCIATION OF PHYSICAL SCIENCES OF THE OCEAN

Statutes

1. Objects, Composition and Membership of the Association

1. The International Association for the Physical Sciences of the Oceans (IAPSO) is a constituent of the International Union of Geodesy and Geophysics. The Association is subject to those articles of the Statutes and By-Laws of the Union which apply to Associations, and also to these Statutes.

2. The objects of the Association are:

a. To promote the study of scientific problems relating to the ocean and interactions taking place at its boundaries, chiefly insofar as such study may be carried out by the aid of mathematics, physics and chemistry.

b. To initiate, facilitate and coordinate research into and investigations of those problems of the ocean which require international cooperation.

c. To provide for discussion, comparison and publications.

3. Those countries which adhere to the Union are Members of the Association.

   By resolution of a General Assembly of the Association, other international organisations which are concerned with the study of physical sciences of the oceans may be admitted to membership, with the status of guests.

2. Administration

4. The Authority of the Association shall be vested in the countries adhering to the Union, and exercised collectively by their delegates meeting in General Assembly of the Association.

5. The Association shall hold business meetings at the General Assemblies of the Union, to be held normally once every four years.

   The Association may recommend to the Executive Committee of the Union, at a General Assembly of the Union, arrangement of joint sessions of two or more Associations or of joint meetings of two or more Committees or Commissions for the discussion of topics of an interdisciplinary character.

   With the concurrence of the Executive Committee of the Union, the Association may arrange General Assemblies and other meetings of its own in the interval between the General Assemblies of the Union, either singly to deal with topics of specific interest, or jointly with another Association or other Associations.

6. The General Assembly of the Association shall elect the President, the two Vice-Presidents, the Secretary General and the Deputy-Secretary General of the Association.

7. The Bureau of the Association shall consist of the President and the Secretary General. Its duties shall be to conduct the affairs of the Association in accordance with the decisions of the foregoing General Assemblies of the Association. It shall prepare the Agenda for General Assemblies.

8. The General Assembly of the Association shall elect, from countries which adhere to the Union, six persons who, together with the President, immediate Past President, Vice Presidents, Secretary General, and Deputy Secretary General, shall constitute the Executive Committee of the Association.

9. A Nominations Committee of four persons from countries which adhere to the Union will be appointed by the Executive Committee. The Nominations Committee will normally include the immediate Past President as its Chairperson. Its function will be to scrutinize nominations received for positions on the Executive Committee which become vacant, to seek additional nominations where appropriate, to ensure disciplinary and geographical distribution, and to prepare a final slate of candidates for election by the General Assembly.

3. Voting

10. On scientific matters, each delegate present shall have one vote.

11. In questions of administration or of mixed, administrative and scientific character not involving questions of finance, voting shall be by countries, each country having one vote with the provision that its subscription shall have been paid up to the end of the year preceding the voting.

12. In questions involving finance, voting shall be by countries, with the same provision as for administrative questions. The number of votes for each country shall be one greater than the number of its category of membership to the Union.

13. In case of doubt as to which class a question belongs, and in all cases of equality of votes, the chairman shall decide.

14. A delegate shall represent only one Member Country. An adhering country not represented by a delegate may forward by post its vote on any specific question of an agenda.

15. Guests will not vote.

4. General

16. These Statutes shall be changed only by a majority of two thirds of the votes cast as a General Assembly by delegates or by post.

17. The Association may make By-Laws which may be changed by a simple majority of the votes cast at a General Assembly by the delegates or by post.

18. This English text shall be the authoritative text of the Statutes of the Association.

By-Laws

1. Membership of the Association

1. It is recommended that each adhering country shall form a National Sub-Committee for the Physical Sciences of the Ocean, to which correspondence may be addressed.

2. Each adhering country and each international member may contribute to the Agenda of General Assemblies of the Association.

2. Administration

3a. The President and the Vice-Presidents shall be elected for one four-year term. Their terms shall be the interval between the ends of two successive General Assemblies of the Association.

b. The term of the immediate Past President shall run from the end of the General Assembly at which the new President is elected until the end of the next General Assembly.

c. The Secretary General and Deputy-Secretary General shall be elected for two periods, and may be re- elected for subsequent single periods.

4. The Secretary General shall manage the routine business, conduct the correspondence, preserve the records, and arrange the preliminaries of General Assemblies. The retiring Secretary General is to publish the proceedings of the General Assembly at which his successor was elected.

5. Of the six persons referred to in Article 8 of the Statutes, not more than three may be elected to an additional term.

6. The Executive Committee shall:

a. Prepare for the Executive Committee of the Union recommendations concerning the arrangement, at a General Assembly of the Union, of scientific meetings to be confined to joint sessions of two or more Associations or of Joint meetings of two or more Committees or Commissions, for the discussion of topics of an interdisciplinary character.

b. Seek for the concurrence of the Executive Committee of the Union for the arrangement of General Assemblies and other meetings of the Association in the intervals between the General Assemblies of the Union, either singly to deal with topics of specific interest, or jointly with another Association or other Associations.

c. Fill any vacancy wihich may occur among the officers of the Association between General Assemblies. Such appointments shall be subject to the subsequent approval of the next General Assembly. Tenure of office for part of a period shall not be counted as a period for the purpose of these By-Laws.

d. Consider matters of general administration and finance, and report thereon to the General Assembly.

e. Make recommendations on matters of policy.

f. Frame the budget for the ensuing period and report to the General Assembly of the Association and to the Secretary General of the Union. The budget period of the Association coincides with the budget period of the Union.

g. Advise upon the distribution of funds.

h. Consider proposals for changes in the Statutes and By-Laws, and report thereon to the General Assembly.

7. Officers designated by these By-Laws for special duties or for special committees may appoint substitutes in their stead. Notice of the intention to do so must be sent in writing to the President or Secretary General. No substitute shall represent more than one officer.

8. Decisions and actions of the Officers and Committees of the Association, taken during and between General Assemblies, shall be subject to the sanction of the General Assembly.

9. Proposals for the Agenda of a General Assembly shall reach the Secretary General six months before the General Assembly. The Secretary General shall send the Agenda to adhering countries, through the National Sub-Committees where such exist, at least four months before the General Assembly. No question which has not been placed on the Agenda shall be discussed unless a proposal to that effect be approved by two-thirds of the votes of the countries represented at the Assembly.

10. Nominations Committee.

a. The terms of members of the Nominations Committee referred to in Article 9 of the Statutes will expire at the end of the General Assembly following their appointment.

b. A call for nominations for candidates for positions on the Executive Committee will be issued by the Secretary General of the Association at least six months prior to a General Assembly where an election is to take place.

c. Nominations must be accompanied by a brief Curriculum Vitae, and will not be accepted later than three months prior to the General Assembly, except for additional candidates identified by the Nominations Committee in accordance with Article 9 of the Statutes.

d. The Nominations Committee will prepare a slate of candidates one month prior to the General Assembly, and will confirm that the members of this slate are prepared to serve if elected.

e. In the event of a vacancy occurring on the Executive Committee during its term of office as a result of the resignation or demise of a member, the Nominations Committee will assist the Executive Committee in finding a suitable replacement.

3. Finance

11. The President and Secretary General shall individually have power to sign documents on behalf of the Association.

12. The Secretary General shall receive the allocations of funds from the Union, and administer the funds of the Association. At the end of the calendar year preceding a General Assembly of the Union he shall prepare and send to the Secretary General of the Union the Accounts of the Association.

13. Each Account shall be audited by a qualified accountant.

14. Travelling expenses may be paid by the Secretary General, but only (a) in connection with meetings on specific Association business, and (b) when those concerned represent the Association and not adhering countries or other organisations, and (c) in cases where those concerned cannot draw proper allocations from their own national sources. Such payments may cover travelling costs and a reasonable contribution to other expenses while attending such meetings.