

IUGG

XXIII General Assembly

30 June- 11 July

Sapporo, Japan

Council Meeting Agenda Book

Session I: Tuesday 1 July 4-7 PM / 1ière Session : Lundi 1er juillet 16-19 h
Venue: Royton Hotel; Highness Hall A&B

Session II: Friday 4 July 1:30 - 5 PM / 2ième Session : Vendredi 4 juillet 13 h 30 -17 h
Venue: Royton Hotel; Highness Hall C

Session III: Wednesday 9 July 4-7 PM / 3ième Session : Mercredi 9 juillet 16-19 h
Venue: Royton Hotel; Empress A&B

IUGG XXIII GENERAL ASSEMBLY
Sapporo, Japan, 30 June – 11 July 2003

Greetings; Presentation of the credentials
Salutations: Présentation des lettres d'accréditation

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as of 31 MARCH 2003

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**UNION GEODESIQUE ET GEOPHYSIQUE INTERNATIONALE
INTERNATIONAL UNION OF GEODESY AND GEOPHYSICS**

Boulder, CO March 30, 2003

**Council Agendas / Ordres du jour du Conseil
XXIII IUGG General Assembly, Sapporo, Japan
XXIIIème Assemblée générale de l'UGGI, Sapporo, Japon**

**Session I: Tuesday 1 July 4-7 PM / 1ière Session : Lundi 1er juillet 16-19 h
Venue: Royton Hotel; Highness Hall A&B**

1. Greetings; Presentation of the credentials
Salutations: Présentation des lettres d'accréditation
2. Approval of the Agenda
Approbation de l'ordre du jour
3. Approval of the minutes of the Council Meeting in Birmingham (1999)
Approbation du procès-verbal de la réunion du Conseil à Birmingham (1999)
4. Brief Reports of the Officers / Brefs rapports des responsables
 - Président Masaru Kono
 - Vice-président Uri Shamir
 - Secrétaire Général Jo Ann Joselyn
 - Treasurer / Trésorier Aksel Hansen
5. Report of the Nominations Committee / Rapport du comité des candidatures (K.-P. Schwarz)
 - IUGG Bureau / Bureau de l'UGGI
 - IUGG Finance Committee/ Comité des finances de l'UGGI
6. Matters of Membership/ Affaires d'adhésion
 - Ratifications
 - Admission: Colombia as a Member in Category 1
Adhésion: Colombie de catégorie 1
 - Reduction: Category of Indonesia from 3 to 1
Réduction de catégorie : Indonésie de 3 à 1
 - Admission: Armenia as an Associate Member
Adhésion: Arménie en tant que membre associé
 - Re-admission: Peru as an Associate Member
Réadmission : Pérou en tant que membre associé
 - Transfer: Morocco to Associate Member
Transfert: Maroc à membre associé
 - Transfer of Nigeria to Associate Member
Transfert: Nigeria à membre associé
 - Transfer: Serbia and Montenegro to Associate Member
Transfert: Serbie et Montenegro à membre associé

- Applications for matters of membership
Demandes concernant l'adhésion
 - Reduction: Category of France from 8 to 7
Réduction de catégorie : France de 8 à 7
 - Transfer: Pakistan to Associate Member
Transfert: Pakistan à membre associé
 - Admission: Bosnia and Hercegovina as an Associate Member
Admission: Bosnie-Herzégovine en tant que membre associé
 - Membership applications received between 28 February and 30 June
Demandes d'adhésion reçues entre le 28 février et le 30 juin

- 7. Proposed Changes of Statutes and By-Laws (U. Shamir)
Propositions de changements des statuts et du règlement intérieur
 - Proposal from the USA National Committee
Proposition du Comité national des Etats-Unis d'Amérique
 - Proposal from the Danish National Committee
Proposition du Comité national du Danemark
 - Proposals from the Statutes and By-Laws Committee
Propositions du Comité des statuts et du règlement Intérieur

- 8. Presentation of the Proposals for the XXIV General Assembly in 2007
Présentation des propositions pour la XXIV Assemblée Générale en 2007
 - CNRS and the University of Perugia, Perugia, Italy
CNRS et Université de Pérouse, Pérouse, Italie
 - Australian Academy of Sciences, Melbourne, Australia
Académie des sciences australienne, Melbourne, Australie

Reception / Réception



UNION GEODESIQUE ET GEOPHYSIQUE INTERNATIONALE INTERNATIONAL UNION OF GEODESY AND GEOPHYSICS

Council Agendas / Ordres du jour du Conseil **XXIII IUGG General Assembly, Sapporo, Japan** **XXIIIème Assemblée générale de l'UGGI, Sapporo, Japon**

Session II: Friday 4 July 1:30 - 5 PM / 2ième Session : Vendredi 4 juillet 13 h 30 -17 h
Venue: Royton Hotel; Highness Hall C

Greetings; Presentation of the credentials.
Salutations: Présentation des lettres d'accréditation

9. Reports by Association Presidents / Rapports des présidents des associations
 - IAG / AIG
 - Changes in IAG Statutes and By-Laws
Modification des statuts et du règlement intérieur de l'AIG
 - IAGA / AIGA
 - IAHS / AISH
 - IAMAS / AIMS
 - IAPSO / AISPO
 - IASPEI / AISPIT
 - IAVCEI / IAVCEI
- 10a. Review of IUGG Inter-Association bodies
Examen des Comités inter-Association de l'UGGI
 - Commission on Geophysical Risk and Sustainability (GeoRisk)
Commission sur les risques géophysiques et le développement durable
 - Committee on Geophysics: The Future (GTF)
Comité sur l'avenir de la géophysique
 - Committee on Mathematical Geophysics (CMG)
Comité de géophysique mathématique
 - Committee on Studies of Earth's Deep Interior (SEDI)
Comité d'étude des profondeurs terrestres
 - Committee on IGY+50
Comité de l'Année Géophysique Internationale + 50
- 10b. Relations with special ICSU Committees
Relations avec les Comités Inter-Union particuliers du CIUS
 - Federation of Astronomical and Geophysical Data Analysis Services (FAGS) / Fédération des services d'analyse des données astronomiques et géophysiques
 - Initiative on Science for Health and Well-Being
Initiative concernant la Science pour la santé et le bien-être
- 10c. Relations with ICSU Commissions and Committees (renewal of liaison officers) /
Relations avec les Commissions et Comités scientifiques du CIUS
(renouvellement des responsables de liaison)
 - on Antarctic Research (SCAR)
de la Recherche Antarctique
 - on the International Geosphere-Biosphere Programme (IGBP)
du Programme International sur la Géosphère et la Biosphère
 - on the Lithosphere (SCL/ILP)
du Programme de la Lithosphère

- on Oceanic Research (SCOR)
de Recherches Océanographiques
 - on the Problems of the Environment (SCOPE)
sur les Problèmes de l'Environnement
 - on Science and Technology in Developing Countries (COSTED) / de la
Science et de la Technologie dans les pays en développement
 - on Solar-Terrestrial Research (SCOSTEP)
de la Physique Terre-Soleil
 - on Space Research (COSPAR)
de Recherche Spatiale
 - on Water Research (SCOWAR)
de Recherches sur l'Eau
- 10.d Relations with inter-governmental and other organizations (renewal of liaison officers) / Relations avec les organisations inter-gouvernementales et autres organismes (renouvellement des responsables de liaison)
- Cartographic Office of the United Nations
Bureau Cartographique des Nations Unies
 - International Civil Aviation Organization (ICAO)
Organisation Internationale de l'Aviation Civile (OIA)
 - Panamerican Institute of Geography and History (PAIGH)
Institut Panaméricain de Géographie et d'Histoire (IPGH)
 - UNESCO
 - Solid Earth and Geodesy
Terre solide et Géodésie
 - International Oceanographic Commission (IOC)
Commission Océanographique Internationale (COI)
 - World Meteorological Organization (WMO)
Organisation Météorologique Mondiale (OMM)
11. Report of the IUGG Finance Committee
Rapport du Comité des finances de l'UGGI
- Review of the 1999-2003 Quadrennium
Examen du quadriennium 1999-2003
 - Review of Categories of Member Adhering Bodies (By-Law 11.g)
Examen des Catégories des organismes adhérents (selon RI 11g)
12. Presentation and Adoption of the 2004-2007 Budget
Présentation et adoption du budget 2004-2007
13. IUGG Goals and Vision / Objectifs et perspectives de l'UGGI
- Report of the Questionnaire on IUGG Structure, Goals and Objectives for the Quadrennium and Long-Term / Rapport du questionnaire sur la structure et objectifs de l'UGGI pour le quadriennium et à long terme
 - Proposal from the USA National Committee
Proposition du Comité des Etats-Unis d'Amérique



**UNION GEODESIQUE ET GEOPHYSIQUE INTERNATIONALE
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**Council Agendas / Ordres du jour du Conseil
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14. Elections of IUGG Officers (Ref. AGENDA ITEM 5)
Election des responsables de l'UGGI (Cf point 5 de l'ordre du jour)
 - President / Président
 - Vice- President / Vice-Président
 - Treasurer / Trésorier
 - Bureau members / Membres du Bureau
 - Finance Committee / Comité des finances

15. Selection of the venue of the XXIV IUGG General Assembly (2007) (Ref: AGENDA ITEM 8) / Choix du lieu de la XXIVième Assemblée Générale (Cf point 8 de l'ordre du jour)

16. Presentation and Adoption of the Resolutions (H. Gupta)
Présentation et adoption des résolutions

Closing remarks
Remarques finales

End of Council Agenda Fin de l'ordre du jour

IUGG XXIII GENERAL ASSEMBLY
Sapporo, Japan, 30 June – 11 July 2003

Agenda #3

Approval of the minutes of the Council Meeting in
Birmingham (1999)
Approbation du procès-verbal de la réunion du Conseil à
Birmingham (1999)

The Minutes of the 1999 Birmingham meeting were published in the Comptes Rendus of the 1999 General Assembly, beginning on page 88. If you do not have this volume, it can be accessed on the IUGG web page under General Assemblies (<http://www.IUGG.org>). The Secretariat will also send a copy of these minutes, upon request.

IUGG XXIII GENERAL ASSEMBLY
Sapporo, Japan, 30 June – 11 July 2003

Agenda #4

Brief Reports of the Officers
Brefs rapports des responsables

Président Masaru Kono

IUGG 23rd General Assembly 2003 – Sapporo, Japan

Quadrennial Report of the President

Overview

Since the present Bureau members were elected and took up the offices in Birmingham in August 1999, the primary concern of the Bureau has been how we can make the IUGG better to fit in the present day world. There are of course the day to day business the IUGG face all the time, which we certainly carried out with all the care needed. At the same time, however, we examined the status of the IUGG in the international science scene and tried to strengthen the IUGG in its structure, ties with the international geophysics community as well as with the intergovernmental and nongovernmental organizations, and enhance the outreach to scientists in the developing countries.

This report summarizes various activities in the IUGG which took place in the last four years. A special effort was made to place these activities in the context of our continuing effort to make IUGG better to meet the needs of the 21st century.

Need for the Change

The IUGG was established in 1919 and has been the only international scientific body covering the discipline of geodesy and geophysics. Through its long history, the IUGG organized international cooperations, encouraged the participation of geophysicists from developing countries in the international scientific scenes, and held the General Assemblies and other meetings to promote the exchange of the new and innovative findings and ideas in the Earth and planetary sciences.

One of the most successful enterprise for which the IUGG played the central role was the International Geophysical Year (IGY) in 1957 and following years, which was the first major scientific cooperation in a truly international scale. The first satellite was launched into the orbit which marks the starting point of the explosive development in space science and planetary exploration. Antarctic expeditions were sent from many countries under international coordination. The continuing researches and observations there brought about decisive evidences in the global climate change; in the long term as deciphered from the ice cores, and in the short run from the discovery of the ozone hole. It can also be said that the plate tectonics revolution was prepared in the IGY efforts, because the ocean explorations in the IGY period provided the most important date to this new theory.

In the following Cold War years, the importance of the IUGG was quite well recognized because the IUGG could provide the venue for the eastern and western scientists to meet together and exchange informations related to scientific achievements. This state continued until the time the Soviet-bloc broke down.

Since that time, the situation changed completely. The IUGG faces the danger that the internationally recognized authority it had in its discipline is somewhat eroding. There are various reasons for this trend, but we thought that the most important ones are as follows.

- Regional societies are gaining more eminence and influential power in geodesy and geophysics. This is most significant in the cases of North America and Europe with the American Geophysical Union (AGU) and European Geophysical Union (EGU, formerly EGS-EUG).
- The societal and economic changes have resulted in the reprioritization of science budgets in many countries, with a shift toward activities of more interdisciplinary character. Understanding of the mechanism of global change or natural hazards is important, but the funded programs tend to combine the science with technological and societal elements to serve the immediate needs of needs of the society.

- There are now so many intergovernmental and nongovernmental organizations which carry out international programs that the importance of the IUGG as the organizer of science program is challenged. Even the International Council for Science (ICSU) is facing a similar situation, and, as a result, likes to carry out international programs as its own endeavor (like International Geosphere-Biosphere Program, IGBP), without good consultation with the related Unions.
- The revolution in information technology (IT) completely changed the mode of communication in the scientific society. In particular, it is the current trend that individual scientists get more and more direct contact with the societies through emails, home pages, and electronic publication.

These considerations lead the present Bureau to seek the opinions of the National Committees and Associations to consider and enact what changes and reformations are needed for the IUGG.

Discussion in the Bureau and Executive Committee

The discussion about the need for the change of the IUGG structure and *modus operandi* began in the Bureau meeting held in Boulder in August 2000. Prior to the meeting Vere Shannon and Peter Wyllie was asked to form an *ad-hoc* working group and to prepare a document to serve as the basis for discussion. The working group submitted a quite detailed suggestions in the form of a 13-page document for the meeting. During the Bureau meeting and the meeting of Bureau and Executive Committee members (i.e., Presidents and Secretaries-General of seven Associations) that followed, substantial amount of time was devoted to intensive discussion of the working document as well as other related proposals and suggestions; (i) IUGG Advisory Board Report, IUGG Chronicle No. 226, p. 89, (ii) comments from Helmut Moritz (1994), Chris Moors (1999), and Christian Tscherning (1999). After this discussion, the impending need for some change in the IUGG was recognized by Bureau and Executive Committee members. It was decided at this meeting that opinions should be sought from various parts of the IUGG community on this problem.

After Boulder meeting, another working group was formed with Vere Shannon (Chair), JoAnn Joselyn, Harsh Gupta, and myself as members to carry out more searches for the change in the IUGG community. Vere Shannon again took the initiative and the working group prepared the questionnaire which was sent to National Committees and Associations. As Vere Shannon resigned from the Bureau shortly after this, Uri Shamir joined the working group and, together with Harsh Gupta, prepared the summary of the results of questionnaire.

In Sapporo in July and August 2001, the summary of responses to the questionnaire was presented to the Bureau and then to the Executive Committee meetings. Again considerable amount of time was spent to discuss various matters in the questionnaire and responses. The Bureau and the Executive Committee unanimously agreed that there are several problems in the IUGG which need immediate attention or action so that the IUGG can respond to the needs of the science community and the general public in today's environment. In view of the limited time available, it was decided not to aim at drastic and too far reaching reforms but to pursue changes which can actually be instituted in a few years time. The areas to which we should concentrate our energy were identified as follows.

- General Assemblies should be made more attractive to the geodesists and geophysicists. A more coherent meeting is preferable to the collection of seven Associations meetings held at the same place and time.
- National Committees should be encouraged to take more active part in the IUGG activities. For that purpose, more information should be constantly sent to the National Committees.
- The problems within the scope of the IUGG science increases importance in the human society. A closer collaboration between the Associations and also between the IUGG and other Unions are required to attack them because of their interdisciplinary nature.

- The profile of the IUGG should be made more prominent in the international bodies such as ICSU, UNESCO, and WMO.
- To meet the needs of the present world, the IUGG should form a program for mitigation of natural hazards (this lead to the formation of the GeoRisk Commission). This problem could be one of the programs that the IUGG can propose to the ICSU for larger international program.
- The reform we try to implement now is just a start of a continuing process for the future years of the IUGG. For the continuing effort to be successful, it is necessary to involve the younger generation in this process.

Preparations for General Assembly

Following the suggestion made by Steve Sparks (IAVCEI President), the 23rd General Assembly in Sapporo was assigned the overarching theme **The State of the Planet: Frontiers and Challenges**. Under this title, a series of six Union Symposia were planned. Other Union activities, including the Union Lectures, were also considered to make the Assembly attractive as well as a coherent activity.

To involve the young generation in the consideration of the future of the IUGG, a special task group **Geophysics: The Future** was set up under the guidance of Uri Shamir, IUGG Vice-President. The members are seven young scientists (under 35) recommended from the Associations. There will be a Union session in the General Assembly, and Uri anticipates this to be the start of the continuing effort by young generation scientists.

Union Lecturers

The Union Lecturers were selected at the Sapporo EC meeting. A particular emphasis was placed to make the Union Lectures a kind of “keynote speech” for the following Union Symposium. Four distinguished scientists agreed to deliver their lectures to meet this purpose.

Union lecturer	Affiliation	Lecture title	Union symposium
Taro Matsuno	JAMSTEC (Japan)	Atmospheric phenomena and Earth systems modeling	U1
Mario Molina	MIT (USA)	The impact of human activities on the chemistry of the atmosphere	U3
Gary Glatzmaier	UCSC (USA)	Modeling of the Earth’s dynamo	U5
Christoph Reigber	GFZ (Germany)	Earth’s gravity field determined by new satellites	U6

Nominating Committee

Candidates for the Nominating Committee members were solicited from the Executive Committee members. The following four members were selected as a result, and Klaus-Peter Schwarz was asked to chair the committee. After the names of candidates were submitted from National Committees and Associations, the Nominating Committee selected the slate for the officers of the Union for 2003–2007.

Member	Country	Formerly	Association	Period
Klaus-Peter Schwarz (Chair)	Canada	President	IAG	95 – 99
Michael Kuhn	Austria	SG	IAMAS	87 – 95
Devendra Lal	India	President	IUGG	83 – 87
James O’Brien	USA	President	IAPSO	87 – 91

Resolutions Committee

To treat the resolutions submitted by National Committees or Associations, the Resolution Committee was set up. In the Sapporo Assembly, it is planned to streamline the resolution making process. This means that the Associations need to start to discuss about resolutions before the actual meeting takes place. Resolutions Committee has the responsibility to oversee this process.

Member	Country	Position	Association	Period
Harsh Gupta (Chair)	India	Member	Bureau	99 – 03
Georges Balmino	France	SG	IUGG	95 – 99
Robert Vincent	Australia	VP	IAMAS	99 – 03
Kathy Whaler	UK	SPC Chair for 22nd Assembly		96 – 99

Statutes and By-Laws Committee

At the Executive Committee meeting, we decided not to seek big changes in the Statutes and By-Laws ourselves. However, it was pointed out later that there is some confusion about the Associate status in the current wording. Also, it was anticipated that some National Committees may wish to submit proposals to change some part of Statutes or By-Laws. As the wording in these needs special care (not to leave ambiguities for the future), the Statutes and By-Laws Committee was set up to take care of these matters.

Member	Country	Position	Association	Period
Uri Shamir (Chair)	Israel	VP	IUGG	99 – 03
Bob Engdahl	USA	SG	IASPEI	95 – 03
Roland Schlich	France	Treas.	French NC	99 – 03
Vere Shannon	South Africa	President	IAPSO	95 – 99
Peter Wyllie	USA	President	IUGG	95 – 99

IGY+50 Committee

2007 will be the 50-year anniversary of the International Geophysical Year, a highly successful as well as influential international scientific program aimed at observation of various aspects of the Earth. The ICSU asked the IUGG to make a plan for the commemoration on this occasion. A committee was set up to consider various possibilities for the commemoration. The committee was asked to present a proposal to the Executive Committee at the Sapporo Assembly.

Member	Country	Association
Michael Kuhn (Chair)	Austria	IAMAS
Dan Baker	USA	IAGA
Domenico Giardini	Italy	IASPEI
Ivan Mueller	USA	IAG
Yun-Tai Chen	China	IASPEI
Rajender Chadha	India	IASPEI

Strengthening the Ties with Other International Bodies

Relation with ICSU

The former IUGG President, Peter Wyllie, reported again and again that the importance of the Earth sciences was not quite well appreciated in ICSU. Peter and Robin Brett (former IUGS President)

made a strong effort to change this situation. Thanks to their effort and to some extent by our own too, the situation now seems to be much better.

There were four meetings of the ICSU in this period which we attended; 26th General Assembly in Cairo in September 1999 (Peter Wyllie, Masaru Kono), Unions meeting in Paris in February 2001 (JoAnn Joselyn), 27th General Assembly in Rio de Janeiro in September 2002 (Masaru Kono, JoAnn Joselyn), and an Inter-Union meeting to promote ICSU funded program in February 2003 (JoAnn Joselyn). Each of these provided a good opportunity to discuss matters of common concern among the Unions, and to raise the voice about the ICSU procedure which falls in the domain of the IUGG. The Earth science now has good representative in its administration too. We succeeded to elect Robin Brett to the Board of ICSU for two consecutive periods. Uri Shamir is also involved in the ICSU activity as a member of an important panel.

Relations with IUGS

The International Union of Geological Sciences (IUGS) is one of the closest ally of the IUGG, especially matters related to ICSU and other international organizations. There were several occasions that I met with Ed de Mulder, the current President of IUGS, and discussed matters of common interest to the two Unions. We met in Misasa in January 2001, in Maastricht in July 2001, and in Rio de Janeiro in September 2002. The IUGG also sent David Kerridge (IAGA President) to attend the IUGS Executive Committee meeting held in Namibia in February 2003. The matters discussed between the two Unions include SCL, IGY+50 and INPE, GeoRisk and hazards, and geoinicators.

Scientific Committee on the Lithosphere (SCL) used to be an inter-Union body between the IUGG and IUGS. Because of the ICSU decision, they now have permanent status in the ICSU structure. There are some overlaps in the activities of three bodies which needs some coordination (such as hazards).

As the IGY+50 for which the IUGG is now making preparations, the IUGS is going to propose the United Nations to have 2005 (to 2012) declared as the International Year of Planet Earth. The IUGG agreed to support their initiative, and we discussed the possible ways to connect some part of the IGY+50 activity with them (still under discussion). Geoinicators is another of recent IUGS proposal, but we have to see more details of this initiative before we decide the degree of cooperation.

Other International Bodies

Uri Shamir spent some time as a consultant to UNESCO headquarters in Paris. During these occasions, Uri discussed the possibility of enhanced cooperation between UNESCO and IUGG. In the IUGG family, IAHS has strong connection with the UNESCO because of the International Hydrological Program (IHP), and IASPEI too for involvement in International Decade of Natural Disaster Reduction (IDNDR). Strong personal ties have also been established over the years with people like Andras Szollosi-Nagy and Wolfgang Eder in UNESCO. GeoRisk can be one of the possibilities for future science plan that UNESCO may take up. We should strengthen these ties and look for the opportunity in the future.

Brian Kennett (IASPEI President) attended a meeting of Comprehensive Test Ban Treaty (CTBT), which is deploying an array of sensitive seismometers for monitoring explosions. Although non-scientific in primary purpose, the disclosure of the data may provide the IUGG (especially IASPEI) community with a new source of information. Brian explained the necessity of fast disclosure of the measurement data at the meeting.

Approaching the National Committees

One of the strongest wish of the present Bureau is to renovate the method of information transfer. Information Technology made it possible to make a very quick and personalized contacts from organizations to individuals (you can appreciate this by looking the AGU web page www.agu.org, for example). If we do not renovate ourselves to the today's technology, we become obscure and cannot serve the needs of the National members or Earth scientists at large. Through a very dedicated effort of the Secretariat in Boulder, a few of the new approaches are already implemented and are very effective. I am grateful to JoAnn Joselyn for these huge achievements.

Electronic Journal

The Secretariat publishes a monthly E-journal and distribute it to National Committees and Associations. This has been one of the greatest success in our period. The concise news and reminder to National Committees in a timely manner encourages them to take active part in the IUGG business, such as election, vote for new members, etc. We anticipate that the subscription list may be expanded substantially in the near future; e.g., national geophysics related societies may be candidates for such distribution.

IUGG Home Page

The IUGG home page (www.iugg.org) has now been quite extended. In addition to static items such as the list of officers, links to Associations, statutes and by-laws, it has a list of coming meetings in the IUGG family, and most importantly, the minutes of the Bureau and Executive Committee meetings. By accumulating these archival materials, it will become easy for anybody to retrieve information about activities in the IUGG community. I am pleased by the effort of the Secretariat and hope strongly that more resources be spent in expanding the home page in the future (hiring a company to keep the page updated may be one possible option).

Because of these efforts, the printed version of the IUGG Yearbook is losing the importance once it had. The publication is of course still necessary, but they are available also on the web page.

Membership Issues

During about one and half years since the beginning of my tenure, I spent a considerable time in writing to countries which are currently not IUGG members. I have written to about 40 Presidents of the Academy or similar organization in the non-member countries. JoAnn did similar exercise from the Secretariat. The results were very discouraging. Only one country (Ukraine) showed interest in becoming a full member. A few more countries rejoined the Union but as Associate (Armenia, Peru). I regret to say that this is the one area in which we are not at all successful in the quadrennial period.

Meetings in the IUGG Community and Other Travels

There is no doubt that the strength of the IUGG lies in the strength of its disciplinary Associations. Each of the seven Associations are international champions in its field. However, there is also a danger in this system; if the Associations become too independent, the merit of the Union as promoting the interdisciplinary science will be lost. This fact is rather important as there are strong national and regional bodies such as AGU or EGU.

Of course, the Association leaders gather at the Executive Committee meetings, and there is General Assembly once in four years time. These are not enough in keeping good relation between the Union and Associations, however. During the last period, the President Peter Wyllie visited most of

the Association Scientific Assemblies to meet and exchange opinions with the leaders of each Association. I followed this tradition and visited all the Associations when they held Scientific Assemblies, all in 2001 except IAVCEI which had theirs one year earlier.

The visits were made to represent the IUGG at their ceremonial occasions, or to have a chance to meet and exchange opinions with some of the leaders of each Association. It was really good to know that all the Associations are quite active in science, and are eager to serve the needs of the international community. It also struck me that many of the Associations are trying to reformulate themselves to the changing world of today, just as the IUGG itself is trying now.

The following table lists the **foreign** travels I made during this period for attending the meetings of the IUGG or to represent IUGG at international meetings. I would like to point out that all of these travels were supported by Japanese sources. Travels in Japan included the Kick-off Meeting of the Third World Water Forum in Kyoto, the Bureau and Executive Committee meeting in Sapporo (July 2002), the Science Program Committee in Tokyo (March 2003), and a few other meetings with LOC people elsewhere.

Year	Period	Meeting	City	Country	Expenses
1999	09/26 – 10/01	ICSU General Assembly	Cairo	Egypt	410,000
2000	07/17 – 07/20	IAVCEI Scientific Assembly	Dempasar	Indonesia	228,000
	08/06 – 08/11	IUGG Bureau and EC Meeting	Boulder	USA	260,000
2001	07/15 – 07/17	IAMAS Scientific Assembly	Innsbruck	Austria	
	07/18 – 07/21	IAHS Scientific Assembly	Maastricht	Netherlands	498,000
	08/19 – 09/01	IAGA/IASPEI Joint Assembly	Hanoi	Vietnam	431,000
	09/05 – 09/08	IAG Scientific Assembly	Budapest	Hungary	329,000
	10/20 – 10/28	IAPSO Scientific Assembly	Mar del Plata	Argentina	421,000
2002	07/21 – 07/27	8th SEDI Meeting	Lake Tahoe	USA	244,000
	08/29 – 09/03	IUGG Bureau + FC Meeting	Cape Town	South Africa	450,000
	09/21 – 10/02	ICSU General Assembly	Rio de Janeiro	Brazil	450,000

Concluding Remarks

At the time I was elected to the post of the President, I was not quite sure how I can survive the four years period. Luckily I was helped by many people and I am very satisfied to report that the current Bureau and Executive Committee worked very well together to make the IUGG better.

Of course, our effort to reform the IUGG to meet the environment and needs of the today's world made only a small progress. But I believe that this is a very important first step in modernizing the IUGG to serve the geophysics community and the public better. The process we began should be continued at least a few more years until we feel that the IUGG is quite up to date for the 21st century.

There are important problems which we did not even touch, but which need to be addressed in the near future.

1. General Assembly.

Currently the GA is two weeks long and held once in every four years. The majority opinion of response to the questionnaire was that the current system is appropriate. However, we hear lots of arguments in many places that two weeks are too long, and four years are too far apart. To change the current system of GA is a formidable task, even if most of people agree. However, we should consider the fact that the Fall meeting of the AGU is by far the largest (with 9000 people compared with 4500 for IUGG GA) and yet only five days long.

2. Membership.

As noted above, we were not successful in recruiting new National members to the IUGG. There is tendency that some countries ask to demote in category, or to move to Associate membership because of the difficulty in paying dues. I don't know what we can do in this situation. Another problem is that two of the seven Associations now have individual membership, which may give reasons to the countries to pay less to the IUGG. These are serious problems which may undermine the financial health of the IUGG.

3. Scientific quality vs. outreach.

The IUGG will lose attendance of the best scientists if we cannot offer the highest scientific quality in our meetings. On the other hand, we have to admit (sometimes) papers of lesser quality to encourage the participation of scientists from developing countries. In this respect, we cannot compete with societies such as AGU or EGU. They have members who can pay the dues to start with, and they also can impose any restriction based on the quality as they wish. But the outreach as well as the truly international nature are the well respected merit of the IUGG. We cannot dispose of this property without losing the identity! Then what can we do?

I hope that the Bureau and Executive Committee in the next period are brave enough to tackle these formidable problems squarely. There are certainly a very great need for a body like the IUGG. Without such a dedicated international body with scientific expertise, it will be difficult for the governments and the general public to look for the proper method to tackle with the difficult problems of today; the global warming, the water supply, the mitigation of natural hazards, and the like. It is therefore quite necessary, in my opinion, that the IUGG reformulate itself and have strong and healthy foundation to meet difficult challenges.

It was my privilege to be the President of the IUGG in the last four years. I learned a lot in working for the IUGG, and I must say that I really enjoyed this difficult but rewarding task. I was guided, helped and encouraged by many people in the IUGG community, for which I am very grateful.

JoAnn Joselyn has been tirelessly working for the IUGG. Without her efforts, we could not achieve anything I reported above. It is nice to know that she continues to work for the IUGG as SG at least for the next four years. Uri Shamir was behind many international scenes to promote the profile of the IUGG. His deep thought and profound experience was indispensable for us. Other members of the Bureau were also quite helpful; Aksel Hansen looked after the financial health of the IUGG, Harsh Gupta was always very enthusiastic in any problem, Jonyung Chen and Tom Beer provided thoughtful opinions to discussion. I was very lucky to have very enthusiastic and cooperative Bureau.

The discussion in the Executive Committee was sometimes quite heated, but all the time it was motivated by the good will of the participants. I am grateful for the Presidents and Secretaries-General of the Associations for expressing their opinions quite frankly, and finally accepting the majority solutions for the sake of the Union.

I am especially grateful to Vere Shannon and Peter Wyllie, who formed the ad-hoc working group to investigate the problems the IUGG face, and prepared the document which served the basis for all the effort aiming at the reform of the IUGG. Without their dedication and thoughts, it was doubtful if we could summarize the situation to come up with a realizable plan to work on.

Finally, I would like to thank the effort of the Local Organizing Committee and Scientific Program Committee for the 23rd IUGG General Assembly. Professors Seiya Uyeda (Chair, LOC), Atsuhiko Nishida (Chair, SPC), Kiyoshi Suyehiro, Yosuke Kamide and all others did a very fine work in organizing the meeting. It is quite impressive that the LOC provided the largest amount of money in the GA history for supporting the scientists attending the GA.

All the foreign travels I made as the IUGG President were subsidized by Japanese sources, Ministry of Education, Japan Society for Promotion of Science, or Okayama University. The travel expenses quoted in the above table amounts to Yen 3,721,000 (approximately USD 31,000 using the exchange rate of 120 Yen/USD). On behalf of the IUGG, I am most grateful to these agencies for supporting me to travel around in the cause of the IUGG.

Masaru Kono, President

(prepared on 2003/03/25)

IUGG XXIII GENERAL ASSEMBLY
Sapporo, Japan, 30 June – 11 July 2003

Agenda #4

Brief Reports of the Officers
Brefs rapports des responsables

Vice-président Uri Shamir

IUGG 23rd GENERAL ASSEMBLY

Report of the IUGG Vice President For the Period 1999-2003

This is my second quadrennial period as Vice President of IUGG, in which capacity I have been serving since the Boulder General Assembly in 1995, under two Presidents: Peter Wyllie (1995-1999) and Masaru Kono (1999-2003).

The main activities I have undertaken during the last quadrennium are:

IUGG Structure, Goals and Objectives

An elaborate process has been undertaken during this past quadrennium, to review IUGG's structure, goals and objectives. A Working Group led the deliberations by the Bureau and Executive Committee on these matters. Its members are:

Harsh Gupta
JoAnn Joselyn
Masaru Kono
Uri Shamir (Chair)
Peter Wyllie

Vere Shannon was instrumental in initiating and advancing the process during its early stages. The outcome of the process has been summarized and a report is presented to the Council

Statutes and By-Laws Committee

The Statutes and By-Laws Committee members are:

Bob Engdahl
Roland Schlich
Uri Shamir (Chair)
Vere Shannon
Peter Wyllie

The Committee assembled the proposals for modifications of the Statutes and By-Laws and prepared them for consideration by the Council (see separate report).

Geosciences: The Future

At the meeting of the Executive Committee and Program Committee for Sapporo 2003, in 2001, I proposed setting up a Working Group titled "Geosciences: The Future" (WG-GTF) comprised of young geo-scientists (~30 years old), one from each Association, with the mission of charting a "road map" for the geosciences into the future and examining the role that IUGG should play in advancing the geosciences.

A Union Symposium U8 was introduced into the program for Sapporo 2003, under the same title "Geosciences: The Future", to be organized and presented by the WG.

After the Sapporo meeting in 2001, the Associations were asked to designate the members of the WG-GTF. They are

IAG –	Laura Marlene Sanchez Rodriguez Instituto Geografico Agustin Codazzi, Colombia Currently in Dresden, Germany
IAGA -	Aaron J. Ridley Space Research The University of Michigan
IAHS –	Taikan Oki Univeristy of Tokyo, Japan
IAMAS –	Sam Adlen

Oxford University, UK
IAPSO – Alan Aldrin Meyer (resigned; a replacement is being sought)
University of Cape Town, South Africa
IASPEI – Kazunori Yoshizawa
University of Hokkaido, Japan
IAVCEI – Emily Brodsky (Chair)
Department of Earth & Space Sciences
UCLA, USA
IUGG - Uri Shamir, IUGG Vice President (Coordinator)
Technion – Israel Institute of Technology

The WG held two lengthy conference calls, at which the objectives and modus operandi of the WG were discussed and agreed. Emily Brodsky accepted to be Chair, and Sam Adlen the Editor. The WG prepared a proposal to the Bureau, and a budget of \$ 12,000 was allocated for the WG's operation leading to Sapporo.

Each member of the WG prepared a draft paper for her/his science, and these were then discussed, addressing in addition: (a) common topics and interactions among the disciplines, and (b) involvement of young scientists from all countries, especially developing countries. Integrating papers on these two aspects are being prepared, and the whole set will constitute the basis for the presentation in Symposium U8. Consideration will be given after Sapporo to publishing the papers as a set in a suitable journal.

The WG is meeting in Nice, at the joint AGU/EGS Conference in early April, to continue its preparation for Union Symposium U8 in Sapporo.

I have suggested to the WG-GTF to consider after they present Symposium U8 in Sapporo to extend the existence of the WG, possibly with some additional (young) members, to continue as a forum for brainstorming about the future of geosciences and the role of IUGG.

ICSU Priority Area Assessment Panel on the Environment and its Relation to Sustainable Development

I have been appointed by ICSU, upon a proposal made by IUGG, as member of the Panel, which is composed of 11 scientists from around the world, each a leader in her/his field.

The major goal of the Panel on the Environment and its Relation to Sustainable Development is to review the environmental activities in the ICSU family and to address whether further collaborations could be stimulated. In particular, strengthened linkages of ICSU environment programs with other ICSU bodies, and the international scientific unions. The links to other partners, such as UNESCO, should also be considered. The Panel is soliciting inputs from all ICSU associated bodies, and will be preparing its report to ICSU's Committee on Scientific Planning and Review (CSPR), to be submitted by the end of 2003.

Connections with UNESCO

I have continuous working relations with UNESCO, especially with the Division of Water Sciences and its IHP and WWAP programs, and also with the Division of Earth Sciences and its IGCP program and the Ocean Sciences Section and its IOC program. I have used the opportunity of my several sojourns at UNESCO to strengthen the relations of IUGG with these UNESCO sections and their programs.

Uri Shamir
March 2003

IUGG XXIII GENERAL ASSEMBLY
Sapporo, Japan, 30 June – 11 July 2003

Agenda #4

Brief Reports of the Officers
Brefs rapports des responsables

Secrétaire Général Jo Ann Joselyn

IUGG 23rd GENERAL ASSEMBLY

REPORT OF THE IUGG SECRETARY GENERAL FOR THE PERIOD FROM THE 22nd GENERAL ASSEMBLY TO MARCH 24, 2003

Overview

IUGG is a not-for-profit scientific organization dedicated to promoting and co-ordinating world-wide studies of the Earth and its environment in space. It is a union of seven geophysical Associations, each dedicated to their scientific discipline, but with overlapping interests and complementary strengths. The Union is financially supported by Member Adhering Bodies that benefit from the knowledge, data, services, and scientific talent that are concentrated within each Association and inter-Association body.

The Activities of the Union during the past quadrennium are summarized below, but there are several activities worthy of special note.

As a priority, the Bureau and Executive Committee initiated a critical evaluation of Union structure and activities and devoted a significant portion of each Bureau and Executive Committee meeting to this end. A questionnaire was designed and sent to each of the Adhering Bodies and Associations. The results were analyzed and recommendations were made. This work is summarized in a special report in the Council Agenda book authored by U. Shamir and H. Gupta that is included under Agenda item 13. Encouragingly, no serious strategic deficiencies were identified, but there were a number of suggestions for significant improvement that future Executive Committees will wish to address.

Communications and outreach among the Adhering Bodies and the IUGG Associations were modernized. The IUGG Web page was renamed (<http://www.IUGG.org>) and an increasing amount of IUGG information, such as the Statutes and By-laws, scientific and administrative reports, a calendar of meetings, and the IUGG Yearbook, is now available on this site. A new color brochure explaining and promoting IUGG was produced and distributed, and a monthly e-mail newsletter, the IUGG E-Journal, was initiated. The E-Journal, which is intentionally short and simple, has proved to be a particularly effective tool to exchange information on a timely basis. The IUGG Yearbook itself is undergoing modernization with the goal of increasing its effectiveness while reducing costs and administrative overhead.

Arrangements were made to archive the original records of the Union in the Niels Bohr Library of the Center for the History of Physics of the American Institute of Physics. The Library is located in College Park, Maryland (U.S.A.). The inventory/finding aid for the IUGG records are online at: http://www.aip.org/history/ead/aip_iugg/20010000_content.html

A new inter-Associations Commission on Geophysical Risk and Sustainability was established. This Commission has been extraordinarily active; a summary of their work is included within the Agenda book (Item 10). A new Union Working Group (WG) on Geophysics: the Future was established. The membership of this WG is made up of young scientists nominated by their disciplinary Associations. A report by this group will be presented at a special Union symposium (U8) at the Sapporo General Assembly. In addition to these Union bodies, several Associations initiated new inter-disciplinary working groups. Among these are Electric and Magnetic Studies of Earthquakes and Volcanoes (EMSEV) and the Joint Commission on Groundwater-Seawater Interactions.

A steering Committee to plan and coordinate activities celebrating the 50th Anniversary of the International Geophysical Year (IGY) was established. This Committee is chaired by M. Kuhn (Austria).

A total of \$50,000 in grants to support meetings was allocated to the organizers of 22 symposia, workshops, schools in 17 different countries. In addition special awards were made to support inter-Association workshops in the Philippines and Malaysia.

New in this quadrennium, grants were allocated to support inter-Association initiatives that benefit developing countries. The total funds distributed to date is \$121,905 supporting 10 separate activities. These activities were two South American workshops on geodesy, the initiation of a Joint Commission on Groundwater-Seawater Interactions, the GeoRisk Webcyclopedia project, support for exploring the possibility of a joint Assembly in India, initiation of a Joint Working Group on Subduction Zone studies, support for an historical database on tsunamis and studies of submarine slumping as a tsunami mechanism, GIS positioning of tide gauges, support for the joint IAG/IAPSO/IPGH SIRGAS (Systema de referencia geocentrico para las Americas) committee, a detailed study of active tectonics of the Afro-Arabian rift region using palaeomagnetic and potential field data, and support for the Union initiative Geophysics: The Future.

The annual reports to ICSU for 2000, 2001, 2002 and 2002 were completed as required, and have been posted on the IUGG web site. IUGG has responded every year to the opportunity to propose initiatives for ICSU grants. IUGG received an ICSU grant in every year of this quadrennium; the total funds received were \$73,000 including a block grant of \$5000 awarded by ICSU to all Unions in 2000. The successful initiatives were for two separate proposals for INTERMAGNET (IAGA), support for the Third Meeting of the Asian Seismological Commission (IASPEI), support for the Joint IAPSO/IABO (International Association for Biological Oceanography) Scientific Assembly “An Ocean Odyssey,” Rescue of Old Analogue Magnetograms by converting to Digital Images (IAGA), and support for Scientific Libraries in Developing Countries (IAHS).

Preparations for the 23rd IUGG General Assembly have been extraordinarily successful. In addition to managing the necessary details to produce the Assembly Circulars and web site, the Japanese Local Organizing Committee raised 50 million yen, an extraordinary amount, to support attendance. Ultimately, with contributions from IUGG (\$70,000) and the Associations themselves, well over \$500,000 will be allocated to assist attendance at the General Assembly.

The sections below summarize matters of Union membership, actions of the Bureau and Executive Committees, and the Secretariat itself. The work of the Associations, the inter-Associations Commissions, and other matters of scientific interest are included in Agenda items 9 and 10.

MEMBERSHIP IN THE UNION

IUGG has 63 Member Countries with distribution throughout the world as follows :

Europe	31	North and Central America	4	Asia	16
Africa	5	South America	5	Oceania	2

This is 12 less than at the closing of the 22nd General Assembly (Birmingham, U.K.; 1999). Several countries have withdrawn from membership due to non-payment of dues according to IUGG Statutes. These include Albania, Bolivia, Ethiopia, Greece, Guatemala, Democratic Republic of Korea, Ex-Yugoslavian Republic of Macedonia, Malaysia, Mongolia, Saudi Arabia, Sudan, Tanzania, Tunisia, Uruguay, and Zimbabwe. The number would be larger if not for the 1999 change in IUGG Statutes and By-laws to permit members in Associate Status. The Secretariat

believes that this provision has preserved the adherence of three countries (Morocco, Nigeria, and F.R. Yugoslavia – now known as Serbia and Montenegro), and has permitted several other countries the opportunity to initiate or re-initiate their ties with IUGG (Armenia and Peru).

Three new members have been provisionally added: Armenia, Colombia (re-admittance), and Peru (re-admittance). Applications are in progress at this time in at least 3 countries for admittance or re-admittance to IUGG. Unfortunately, several countries are in observer status according to Statute 14 owing to serious arrears of payment. These matters are also discussed in the Report of the Treasurer, and will be reviewed by the Council under Agenda item 6.

The current membership history is summarized in the table below.

MEMBER COUNTRIES	EPOCHS OF ADMISSION & TERMINATION	CATEGORIES	UNITS
<i>ALBANIA</i>	<i>1997-2002</i>		
ALGERIA	1971	1	1
ARGENTINA	1927	4	5
ARMENIA	2000	A	0
AUSTRALIA	1919	5	7
AUSTRIA	1948	3	3
BELGIUM	1919	4	5
<i>BOLIVIA</i>	<i>1960-2000</i>		
BRAZIL	1922	3	3
BULGARIA	1930	1	1
<i>BURUNDI</i>	<i>1987-1995</i>		
CANADA	1919	6	10
CHILE	1924	2	2
CHINA	1977	6	10
CHINA – Acad. Sciences in Taipei	1995	4	5
COLOMBIA	1938 –1971, 2000	1	1
CROATIA	1992	1	1
<i>CUBA</i>	<i>1960-1996</i>		
CZECH REPUBLIC	1993	1	1
<i>CZECHOSLOVAKIA</i>	<i>1924-1993</i>		
DENMARK	1923	4	5
<i>DOMINICAN REP.</i>	<i>1957 -1971</i>		
EGYPT	1924	2	2
ESTONIA	1991	1	1
<i>ETHIOPIA</i>	<i>1952 - 2000</i>		
FINLAND	1927	3	3
FRANCE	1919	8	20
<i>GERMANY /DEM.REP./</i>	<i>1964 - 1990</i>		
GERMANY F.R.	1951	8	20
<i>GHANA</i>	<i>1957 -1987</i>		
<i>GREECE</i>	<i>1922-2002</i>		
<i>GUATEMALA</i>	<i>1957-2000</i>		
<i>GUINEA</i>	<i>1987-1995</i>		
<i>HAITI</i>	<i>1956 -1971</i>		
HUNGARY	1930	2	2
ICELAND	1967	1	1
INDIA	1947	5	7
INDONESIA	1951	1	1

IRAN	1957	1	1
<i>IRAQ</i>	<i>1983-1996</i>		
IRELAND	1946	2	2
ISRAEL	1951	1	1
ITALY	1919	6	10
<i>IVORY COAST</i>	<i>1975-1996</i>		
JAPAN	1919	8	20
JORDAN	1979	1	1
<i>KENYA</i>	<i>1975-1997</i>		
KOREA	1960	2	2
<i>KOREA /DEM.REP./</i>	<i>1967 - 2000</i>		
LEBANON	1967	1	1
<i>LIBYA</i>	<i>1979-1996</i>		
LUXEMBOURG	1971	1	1
<i>EX-YUGOSLAVIAN REP.</i>			
<i>OF MACEDONIA</i>	<i>1995 - 1995</i>		
<i>MADAGASCAR</i>	<i>1967 -1995</i>		
<i>MALAYSIA</i>	<i>1967 - 2002</i>		
MEXICO	1922	2	2
MONACO	1967	1	1
<i>MONGOLIA</i>	<i>1995 - 2001</i>		
MOROCCO	1924	A	0
MOZAMBIQUE	1983	1	1
MYANMAR (BURMA)	1957	1	1
<i>NEPAL</i>	<i>1975 - 1987</i>		
NETHERLANDS	1925	4	5
NEW ZEALAND	1927	1	1
NIGERIA	1971	A	0
NORWAY	1923	4	5
PAKISTAN	1952	2	2
PERU	1925 –1979, 2000	A	0
PHILIPPINES	1951	3	3
POLAND	1924	2	2
PORTUGAL	1919	2	2
ROMANIA	1930	1	1
RUSSIA	1992	6	10
<i>SAUDI ARABIA</i>	<i>1971 - 2001</i>		
<i>SENEGAL</i>	<i>1960 -1995</i>		
SERBIA and	1996	A	0
MONTENEGRO (**)			
<i>SIERRA LEONE</i>	<i>1967 -1983</i>		
SLOVAK REPUBLIC	1993	1	1
SLOVENIA	1994	1	1
SOUTH AFRICA	1924	3	3
SPAIN	1922	5	7
<i>SUDAN</i>	<i>1955 - 2000</i>		
SWEDEN	1923	4	5
SWITZERLAND	1923	3	3
<i>SYRIA</i>	<i>1948 - 1995</i>		
<i>TANZANIA</i>	<i>1975 – 2000</i>		
THAILAND	1923	2	2
<i>TUNISIA</i>	<i>1927 - 2001</i>		

TURKEY	1949	2	2
U.K.	1919	8	20
URUGUAY	1924 - 2000		
USA	1919	11	35
USSR	1954 -1992		
VIETNAM	1931	1	1
VENEZUELA	1975	1	1
YUGOSLAVIA (*)	1924 -1991		
ZAIRE	1991 - 1997		
ZIMBABWE	1967 - 2000		

(*) 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.

(**) Adhesion in 1996 under the name of the Federal Republic of Yugoslavia, which was changed in 2003 to Serbia and Montenegro.

ADMINISTRATION

Bureau

The Bureau of the Union consists of the President M.Kono (Japan), Vice-president U. Shamir (Israel), Secretary-General J.A. Joselyn (U.S.A.), Treasurer A. Hansen (Denmark), and 3 other Members. At the 1999 Birmingham General Assembly, J-Y. Chen (China), H. Gupta (India) and V. Shannon (South Africa) were elected as Bureau Members. However, V. Shannon resigned in March 2001 and the Executive Committee appointed T. Beer (Australia) to fill his term.

The Bureau met three times :

- in Boulder, Colorado U.S.A. (August 7-8, 2000)
- in Sapporo, Japan (July 30, 2001)
- in Cape Town, South Africa (August 31 – September 1, 2002).

It was decided by the Bureau that a summary of the Minutes of these meetings should be posted on the IUGG web site and this has been done for the 2001 and 2002 meetings. The Boulder meeting was followed on August 9 by a meeting with the Association Presidents and Secretaries General and the Sapporo meeting was followed by a formal Executive Committee meeting (August 1-2, 2001). The Cape Town meeting in 2002 was followed on 2 September by an informal meeting with two members of the IUGG Finance Committee.

Discussions at the Bureau meetings included the following :

IUGG Membership. The decline in the number of Adhering Bodies and the extent of the arrears in dues has been a topic of concern at each meeting. Possible new members and efforts to encourage dues payments were discussed and actions were taken with varying degrees of success.

IUGG Financial Health. The state of the budget was considered at each meeting, and was found satisfactory. At the recommendation of the Treasurer, it was decided that the IUGG Yearbook will no longer be sold beginning in 2004. The Yearbook is now posted on the IUGG web site and costs to produce the Yearbook have been significantly reduced. It is no longer cost-effective to invoice and collect payment from the few subscribers that remain.

IUGG Goals and Vision. A full report on this major effort is included as item 13 of the Council Agenda. Outreach to countries that need assistance to develop their capacity for scientific research remains a high priority.

Association individual memberships. Two Associations are raising money for their purposes by promoting individual paid memberships. The pros and cons of this practice and possible conflicts with IUGG Statutes and By-laws were discussed.

IUGG relationship with ICSU. The ICSU General Assembly was held in Rio de Janeiro, Brazil, from September 21-25, 2002. M. Kono and J.A. Joselyn attended for IUGG, although H. Gupta also attended as a presenter and as a representative for India. Specific topics of discussion included the ICSU Grants programme, actions of the ICSU Executive Committee without consultation with the Unions, appointments to various ICSU Committees, and the successful admission of a new Union – the International Society for Photogrammetry and Remote Sensing. In February 2001, a meeting of the ICSU Unions was held in Paris; J.A. Joselyn attended that meeting, and also attended an informal meeting of some of the Unions on February 7-8, 2003, also in Paris. The latter meeting was focused on a proposed inter-Union initiative on Science for Health and Well-being.

IUGG relationship with IUGS. IUGG's relationship with the International Union of Geological Sciences (IUGS) has significantly strengthened over the past several years to the benefit of all.

The 2003 General Assembly. The Chair of the Scientific Programme Committee was appointed and administrative matters concerning the 23rd General Assembly were decided. The Chair and members of the Nominations Committee (Agenda item 5), Statutes and By-Laws Committee (Agenda item 7), and Resolutions Committee (Agenda item 16) were appointed. It was decided to reduce the time spent in Council meetings in Sapporo. Council business meetings will be streamlined by distributing reports and other information in advance of the General Assembly so that to the great extent possible, business can be confined to matters requiring decisions. The standing agreement with the American Geophysical Union was renewed regarding publication of monographs arising from Union symposia at IUGG General Assemblies.

The 2007 General Assembly. Inquiries were answered from several countries, and two formal bids were received. These were from the Australian Academy of Sciences who propose Melbourne, Australia, and the University of Perugia in cooperation with the National Research Council of Italy through the Research Institute for Hydrogeological Protection, who propose Perugia, Italy. Presentations will be made to the Sapporo Council meeting for a final determination (Agenda items 8 and 15) by the Council.

Executive Committee

The Executive Committee (EC) formally consists of the Bureau, the immediate past President of IUGG (P. Wyllie, U.S.A.), and the Presidents of the Associations. Association Secretaries-General are always invited to attend as well, with voice but without vote. The Executive Committee met formally one time, in Sapporo, Japan, August 2001. Following a useful tradition begun in 1996, the Association Presidents and Secretaries General were also invited to participate in discussions following the first Bureau meeting in Boulder in 2000. It is expected that this tradition will be continued. At the 2000 and 2001 meetings, the Associations reported in detail on their scientific activities, projects and meetings, allowing for fruitful discussions across all disciplines covered by IUGG. (Annual reports from the Associations are summarized under Agenda item 9). In practice, through the medium of e-mail, the members of the EC are consulted constantly with regard to matters arising at the Secretariat.

The main outcomes of the Executive Committee meeting were the following :

General preparations for the 23rd G.A. The 2001 Executive Committee met in Sapporo so that site tours could be taken and full interaction with the chairpersons of the Local Organising Committee (S. Uyeda and K. Suyehiro) and of the Program Committee (A. Nishida) would be possible.

The selection of the Theme of the scientific programme - The State of the Planet: Frontiers and Challenges. Prof. Steve Sparks, IAVCEI President, accepted the task of coordinating 6 Union Symposia addressing this theme. The four Union Lecturers, selected by the IUGG President, will be coordinated with the Union Symposia. The Scientific Programme Committee (SPC) met prior to the Executive Committee meeting, allowing for the construction of the core scientific program of the General Assembly. They decided to limit the number of abstracts for first authors to a maximum of three. They further decided to meet again in San Francisco, California (U.S.A.) on December 8-9, 2001 to finalize the Scientific Programme for the Second Circular (including the Call for Abstracts). The final meeting of the SPC was March 6-7, 2003, in Tokyo, Japan.

Grants to assist attendance at the General Assembly. The Associations agreed on the rules to be used to allocate funds raised to support attendance at the General Assembly.

Discussion regarding the overall length of the General Assembly. While many arguments were presented in favour of shortening the GA, it was ultimately agreed that the scientific and administrative business of the GA requires two weeks, including the intervening weekend.

Resolutions for the Sapporo General Assembly. Because the Bureau has decided to limit the time planned for Council meetings, Associations were asked to prepare Resolutions proposed for Union adoption as early as possible so that open discussion could begin before the General Assembly.

Review of the issues regarding erosion of IUGG Adhering Bodies. Associations were asked for their help to initiate communications with the scientists who are active in each discipline, especially in countries that do not now adhere to IUGG.

Discussion of Inter-Associations initiatives. The procedures being used to invite proposals and to make awards for the new initiative money were reviewed and approved.

Scientific Committee on the Lithosphere (SCL/ILP). Dr. Taira, the new SCL/ILP President, made a presentation and requested an increase in the IUGG contribution to the SCL/ILP. After discussion, it was decided not to increase the contribution in the next quadrennium without additional justification for an increase.

The World Summit on Sustainable Development (WSSD; also known as Rio+10) in Johannesburg, South Africa, in September 2002. Possible IUGG contributions to ICSU preparation for this important international event were considered.

IGY+50. The 50th anniversary of the International Geophysical year will occur in 2007, the year of the 24th IUGG General Assembly. Planning for the next quadrennium should include celebrations of this special anniversary.

Guidelines for IUGG co-sponsorship of scientific meetings. It was agreed that liberal use of the IUGG name was approved if the meeting was recommended by an IUGG or ICSU body. However, financial assistance should be limited for meetings not directly linked to Associations or Inter-Associations bodies.

IUGG Goals and Vision. The results of the survey questionnaire distributed by the Bureau task force were discussed at length and recommendations were voiced.

Secretariat

The Statutes and By-laws provide that the daily affairs of the Union are managed by an elected Secretary General who attends to correspondence, circulates information, preserves the records, prepares reports of the Union's activities, and arranges meetings of the General Assembly, the Council, the Executive Committee and the Bureau, including preparing and distributing the agendas and the minutes of all their meetings. But there is much more!

During the past 4 years the IUGG Web page became an important tool for information and outreach. The address was changed to <http://www.IUGG.org>, and links to all of the Associations and related organizations were established. Information is posted in English and French to the

greatest extent possible thanks to the assistance of Pierre Hubert, the IAHS Secretary-General. Information posted includes sections on the IUGG General Assemblies including the recent addition of the 1999 Birmingham Assembly Abstracts, Registrants and Comptes Rendus, and IUGG publications including the 2003 Yearbook, back issues of the monthly E-Journal, official reports including annual reports, and the IUGG Brochure. The IUGG Officers, inter-Association Committees and Commissions, Statutes and By-laws are posted, as well as Union Resolutions from past General Assemblies. Summaries of the IUGG Bureau and Executive Committee meeting Minutes are also available as is a calendar of upcoming conferences, workshops, and meetings as they are known. A major upgrade to the IUGG web site is planned in the next quadrennium that will begin to incorporate aspects of the IUGG Yearbook.

In preparation for the Bureau meeting held each year, a detailed report is prepared on the activities of the Secretariat since the last meeting. Those reports are a permanent record of each Bureau meeting. The following activities, not already mentioned above, are selected from those reports to illustrate the variety of duties performed.

For IUGG: produced the monthly E-Journals and the annual Yearbook; dealt with all matters of membership; hosted the 2000 Bureau meeting and the informal meeting with Association Presidents and Secretaries-General; assisted with the search for a Bureau member to replace V. Shannon; assisted with distributing and receiving the Goals and Vision (Strategic Planning) questionnaire; appointed IUGG representatives to a number of committees and meetings; served as a point of contact for the 2003 General Assembly Local Organizing Committee; served as Secretary of the Nominating Committee in preparing and mailing circulars, and in encouraging nominations by the Member Countries; met with Association officers on several occasions; filed a protest with the ICSU Special Committee on the Freedom of Conduct of Science regarding the denial of visas for two Chinese scientists expecting to participate in a meeting in the U.S.A.; wrote a letter of support for the IAHS nomination for the King Hassan II World Water Prize; reviewed the proposed changes to the IAG Statutes and By-laws; facilitated the work of the IUGG Statutes and By-laws committee; solicited reports and composed the agendas and agenda books for the Bureau, Executive Committee, and Council meetings to be held at the 2003 General Assembly in Sapporo.

For ICSU: wrote a report on the varied educational activities within IUGG, and another one on capacity building activities; endorsed ICSU membership for the International Society for Photogrammetry and Remote Sensing; provided nominees for the United National University Council, evaluators for UNESCO programmes, ICSU officers, the Priority Assessment Panel on Ethics, and the Assessment Panel on Asteroid Impacts and Human Society; provided nominations for the Bureau of the Scientific Committee on the Lithosphere; provided input for agendas for the 2001 Unions meeting and the 2002 ICSU General Assembly; provided input for papers prepared for the World Summit on Sustainable Development; facilitated the preparation of an ICSU statement on Water Systems including Quality (written by J Rodda, IAHS, and R Naiman, SCOWAR); provided input to a web survey on the Environment and Sustainable Development; provided input on Emerging Issues; wrote letters of endorsement for a number of ICSU grant proposals by other ICSU bodies; prepared a summary of Association suggestions for an inter-Unions initiative on Science for Health and Well-being.

Travel included Toulouse, France to facilitate transfer of the duties of Secretary-General from Georges Balmino; Pasadena, California (U.S.A.) to attend a strategic planning meeting regarding the proposed restructuring of the International Association of Geodesy; Warsaw, Poland to attend a COSPAR Council Meeting and Scientific Assembly; Sapporo, Japan to attend a SCOSTEP meeting and a meeting of the 2003 GA Local Organizing Committee; Paris, France to attend the ICSU Unions meeting; Sapporo, Japan to participate in the IUGG Bureau and Executive Committee meeting; New Delhi and Hyderabad, India, to consult with Bureau Member H. Gupta;

Singapore to investigate the possibility of IUGG membership; Hanoi, Vietnam to attend the beginning of the IAGA Scientific Assembly; San Francisco, California (U.S.A.) to attend a meeting of the General Assembly Scientific Programme Committee; Paris, France to attend the IUPAP International Conference on Women in Physics and visit ICSU headquarters; Cape Town, South Africa to participate in the 2002 IUGG Bureau meeting; Rio de Janeiro, Brazil, to participate in the 2002 ICSU General Assembly; Paris, France to participate in an inter-Union meeting at ICSU and meet with D. Pugh, President of the Federation of Astronomical and Geophysical Data Analysis Services; Perugia, Italy, to visit a proposed venue for the 2007 General Assembly; and Tokyo, Japan, to attend the final meeting of the General Assembly Scientific Programme Committee.

It has been my privilege to serve IUGG in this office for the first four years of an eight-year term. Every day has been a “learning experience” full of challenge and surprise. I have benefited enormously from the guidance and assistance of the members of the IUGG Executive Committee, especially President Masaru Kono and Treasurer Aksel Hansen, and the immediate past-Secretary General Georges Balmino. Pierre Hubert, the Secretary General of IAHS, has been generous with his time to assist with translations into French.

The office of the Secretary General is hosted by the University of Colorado within CIRES – the Cooperative Institute for Research in Environmental Sciences, and is financially supported by a grant from the US National Research Foundation in cooperation with the Board on International Scientific Organizations within the National Research Council of the National Academies. The grant permits the hire of part-time assistants who help manage the database, correspond with the Member Adhering Bodies and IUGG officers, and prepare reports and mailings. During the past 4 years, it has been my pleasure to have worked with Amy Shoffner and Tamara Palmer, and now with Ryan Aucone who has been immensely helpful as we prepare for the Sapporo General Assembly. I appreciate his talent, dedication, and good humor.

Jo Ann Joselyn

March 24, 2003

IUGG XXIII GENERAL ASSEMBLY
Sapporo, Japan, 30 June – 11 July 2003

Agenda #4

Brief Reports of the Officers
Brefs rapports des responsables

Treasurer / Trésorier Aksel Hansen

To the National Committees for IUGG

IUGG Financial Reports

1996 - 1999

and

2000 - 2002

Copenhagen, March 13, 2003

Financial Report by the treasurer

This report is to be used in the next coming IUGG general assembly in Sapporo. It contains a financial report and some statistical information about the union.

The financial report includes accounting of IUGG finances for two periods

- 1) 1996 – 1999 (each year plus accumulated) compared to the total budget for the same period (enclosure 1)
- 2) 2000 – 2002 (each year and accumulated) (enclosure 2)

This new procedure for reporting on the financial status of the union is done in agreement with a recent decision taken by the Finance Committee.

In Boulder the IUGG Council adopted a budget for the 4 yr period 1996 to 1999. With a general assembly in Birmingham in the middle of 1999 the treasurer couldn't give a full report of the complete 4 year period. This is now possible and a one page accounting for the actual budget period is enclosed. The accounting is an extension of the report available in the Comptes Renduz from Birmingham 1999.

In Birmingham the treasurer reported on the period 1995 to 1998 (see Comptes Renduz). Here it suffices to say that all comments in his report can be carried over to the period 1996 to 1999. For instance it can be noted that a substantial saving was done in the administration expenditures (personnel and travelling). A surplus of \$200.000 was achieved in the period.

Likewise a complete accounting for the present period (2000-2003) cannot be done for the whole period for which the Council adopted a budget at the general assembly held in Birmingham in 1999. Therefore, I have enclosed here an accounting for the years 2000 to 2002 only. At the general assembly in Sapporo in July 2003 an estimate for the year 2003 will be presented.

The budget for the period 2000 to 2003 is presented in attachment no 3. A closer analysis of the accounting for the years 2000 to 2002 follows here.

Incomes:

The first 3 years of the budget period 2000 – 2003 is characterized by two tendencies: less income than anticipated in the budget and less expenses. However, these two tendencies do not cancel each other; the result is a substantial saving by the end of 2002. A comparison of the accounting with the budget year by year reveals that IUGG has not been able to reach the target set up for income from dues. It is noticed that many adhering bodies, especially those of category 1 members, experience severe problems in raising the money to pay their dues.

In the years 2000 to 2003 15 countries have withdrawn from IUGG, Malaysia and Greece being the most recent ones. Out of the 15 withdrawn members only Greece was above category 1. At the

same time one new category 1 member plus two A-members have joined IUGG. And 3 members have move from paying category to non-paying status. One member has lowered its category from 3 to 1. The smaller income from dues should be contrasted with the increasing cost of 1 unit of dues to IUGG. Over the 4 years, from 1999 to 2003, the price of 1 unit has gone up by 12% to \$1455 in 2003.

As we are using a cash-flow system in the accounting, postponement of payments from one year to another can some times make a direct comparison between budget and accounting difficult, if not impossible. This is the case for the income lines 3 and 4 for year 2000. The net surcharge from Birmingham 1999 (without the surcharge paid directly to the associations) and the ICSU payment for 1999 were both delayed almost a year. The net surcharge from Birmingham was \$18.500 (605 participants) and IUGG's share of the surplus was app. \$34.000 (line 6.c in the 2001 column!).

Another important point is the much lower interest of a more or less constant balance of the order of one years turn over. The decreasing interest rate obtainable in banks is a result of a generally declining interest rate world wide. The treasurer is investigating possibilities for higher interest rates than the current 1-2 percent obtainable in Danish banks.

Expenditures:

Generally speaking the cost of personnel is much lower than budgeted. In the budget about \$61.000 was allocated for this purpose for the years 2000-2002, but only \$19.000 was spent. Equivalently, the cost of travelling is also significantly lower, app. \$100.000 versus \$150.000 in the budget. Also the cost of printing of the Yearbook has been significantly reduced.

The allocations to the Associations cannot be compared directly because certain problems at association level have lead to significant deviations in this specific 3 year period. The problems are now resolved and the allocations for the full period 2000 to 2003 will be in accordance with the budget.

Expenses under lines 15.1b to line 17 follow the budget closely. In Birmingham a new line 17 was established to fund inter-association initiatives including countries in need. The total allocated amount for the whole period was \$125.000; by the beginning of 2003 almost the entire allocation was awarded as grants.

Balances:

Because the savings in administration and printing more than cancel the lower income from dues, the balance as of December 31, 2002, is about \$100.000 higher than anticipated in the budget. For the year 2003, however, the expenses for travelling will be much higher than during the years 2000-2002 (due to administrative travelling to Sapporo and \$70.000 allocated to grants for the assembly). Therefore, it is expected that over the full 4 year period the balance will increase less.

In general, one can say that the economical situation of IUGG is sound and there is a balance that allows IUGG some space for new initiatives. The problem of keeping the members in the union is serious and needs the full attention of the union and the member countries. But new visionary initiatives concerning the union as a whole are expected to give new momentum to the process of recruiting members.

I want to thank all people I have been in contact with concerning IUGG matters for good cooperation. In particular, I will send many thanks to Secretary General JoAnn Joselyn and her assistants (Tamara Palmer and Ryan Aucone), and to the Bureau and the Presidents and Secretary Generals of the Associations. I have had a close cooperation and many stimulating discussions with the IUGG Finance Committee. Anders Svensson has been a very good assistant treasurer and he has made important contributions to the smooth running of the treasurer's office. Likewise Lise Gregersen – and Signe Bohn-Jespersen during the first half of 2001 - has been a very reliable assistant in running the general administration of my office. Finally I also want to thank my predecessor, Søren Gregersen, for all the help he has given me over the years and for many good and stimulating discussions.

Best regards

Aksel Walløe Hansen
Treasurer, IUGG

Appendix with statistical data on IUGG

In the following a summary of the relevant information about IUGG is given.

First of all as of January 1st, 2003, IUGG has 63 member countries (12 down compared to 1999) representing 274 units. Early 2003 we have received payment from 243 units for 2002. The remaining 31 units are represented by 12 members in observer status.

1) Membership tables as of March 6, 2003

Category	Units in category	Number countries	Number of units	Paid 2002		Observers	
				numbers	units	Units	Numbers
A	0	5	0	5	0	0	0
1	1	21	21	16	16	5	5
2	2	12	24	8	16	8	4
3	3	6	18	5	15	3	1
4	5	7	35	6	30	5	1
5	7	3	21	3	21		
6	10	4	40	3	30	10	1
7	15						
8	20	4	80	4	80		
9	25						
10	30						
11	35	1	35	1	35		
12	40						
Total		63	274	51	243	31	12
USD (2002 values)			391.820		347.490	44.330	

2) Countries in Observer Status (countries in arrears for 2002 and/or earlier)

Cat.	Units	Countries
1	5	Bulgaria, Lebanon, Myanmar, <u>Mozambique</u> , <u>Algeria</u>
2	8	Pakistan, <u>Portugal</u> , South Korea, <u>Turkey</u>
3	3	<u>Philippines</u>
4	5	<u>Argentina</u>
5		
6	10	Russia
7		
8		
9		
10		
11		
12		
Total	31	12 countries

In the next table we can see that the members in observer status together owe \$71.808 to IUGG. For the whole period the amount “lost” by members converting to Associate status and members withdrawing from the union is a substantial amount of money that cannot be expected to be recovered.

3) Dues in arrears

	1999	2000	2001	2002	Total
Myanmar	1300	1340	1400	1430	5.470
Lebanon	1320	1340	1400	1430	5.490
Pakistan		1110	2800	2860	6.770
Bulgaria			1400	1430	2.830
Russia			14000	14300	28.300
Argentina				4218	4.218
Philippines				4290	4.290
South Korea				2860	2.860
Portugal				2860	2.860
Algeria				1430	1.430
Mozambique				1430	1.430
Turkey				2860	2.860
Total	2620	3790	21000	41398	<u>71.808</u>

4) Members of IUGG in Categories 2003

Member Country	Category
5 countries in	A
Armenia	
Morocco	
Nigeria	moved to A in 2003
Peru	
Serbia and Montenegro	moved to A in 2003
1 country in	11
USA	
4 countries in	8
France	
Germany	
Great Britain	
Japan	
4 countries in	6
Canada	
China	
Italy	
Russia	
3 countries in	5
Australia	
India	
Spain	
7 countries in	4
Academy Sinica, Taipei	
Argentina	
Belgium	
Denmark	
Netherlands	
Norway	
Sweden	
6 countries in	3
Austria	
Brazil	
Finland	
Philippines	
South Africa	
Switzerland	
12 countries in	2
Chile	
Czech Republic	
Egypt	
Hungary	
Ireland	
Korea, South	
Mexico	
Pakistan	
Poland	
Portugal	
Thailand	
Turkey	

Member Country Category

Member Country	Category
21 countries in	1
Algeria	
Bulgaria	
Colombia	
Croatia	
Estonia	
Iceland	
Indonesia	
Iran	
Israel	
Jordan	
Lebanon	
Luxembourg	
Monaco	
Mozambique	
Myanmar	
New Zealand	
Romania	
Slovak Republic	
Slovenia	
Venezuela	
Vietnam	

5) Countries withdrawn from IUGG in the period 2000-2003

In	Category
In 2000	
Bolivia	1
Ethiopia	1
Guatemala	1
Korea, Dem. Rep.	1
Sudan	1
Tanzania	1
Uruguay	1
Zimbabwe	1
In 2001	
Ex Yugoslavian Rep. of Macedonia	1
Tunisia	1
Saudi Arabia	1
Mongolia	1
In 2002	
Albania	1
In 2003	
Malaysia	1
Greece	3

IUGG income and expense statement for 1996 through 1999

US dollars	1996	1997	1998	1999	4 yr period	Budget
RECEIPTS						
1. Membership Subscription	353,500.00	352,200.00	327,200.00	452,400.00	1,485,300.00	1,486,000.00
2. ICSU Grants				0.00	0.00	
3. Assembly Surcharge		10,400.00		0.00	10,400.00	80,000.00
4. Contracts with ICSU	23,900.00	21,500.00	11,000.00	0.00	56,400.00	124,000.00
5. Sales of Publications	1,600.00	1,800.00	2,100.00	2,200.00	7,700.00	15,000.00
6. Miscellaneous				0.00	0.00	
a. Interest	6,100.00	7,900.00	12,500.00	16,600.00	43,100.00	28,000.00
b. Gain on exchange	100.00		100.00	0.00	200.00	
c. Other				400.00	400.00	
7. Total Receipts	385,200.00	393,800.00	352,900.00	471,600.00	1,603,500.00	1,733,000.00
8. Balance on 1/1	244,300.00	288,400.00	370,200.00	415,300.00		175,000.00
EXPENDITURES						
11. Administration						
11.1 Personnel	18,300.00	16,600.00	16,300.00	16,900.00	68,100.00	105,000.00
11.2 Quarters				0.00	0.00	
11.3 Supplies and Equipment	1,500.00	1,100.00	300.00	4,800.00	7,700.00	16,000.00
11.4 Communications	3,900.00	1,200.00	1,100.00	1,500.00	7,700.00	8,000.00
11.5 Travel, Administration only	20,100.00	38,800.00	19,100.00	48,600.00	126,600.00	234,000.00
11.6 Miscellaneous				100.00	100.00	
11.7 Travel, representation	900.00	2,900.00	6,600.00	5,200.00	15,600.00	
12. Publications, Printing	12,800.00	11,200.00	10,700.00	15,800.00	50,500.00	54,000.00
13. General Assemblies				0.00	0.00	
13.1 Organization	-1,900.00			2,000.00	100.00	5,000.00
13.2 Travel				103,400.00	103,400.00	30,000.00
14. Symposia	11,000.00	15,500.00	18,000.00	0.00	44,500.00	50,000.00
15. Annual allocations				0.00	0.00	
15.1a Associations	191,900.00	166,400.00	163,300.00	161,600.00	683,200.00	709,000.00
15.1b Inter-Association Science	8,000.00		18,700.00	2,700.00	29,400.00	
15.2 Assembly Surcharges				0.00	0.00	80,000.00
15.3 Contracts with ICSU	30,000.00	15,400.00	11,000.00	41,000.00	97,400.00	124,000.00
16. Dues and Grants				0.00	0.00	
16.1 ICSU and APS	11,200.00	11,700.00	12,200.00	12,700.00	47,800.00	50,000.00
16.2 Inter-Union Science	30,000.00	29,000.00	29,000.00	29,000.00	117,000.00	113,000.00
17. Countries in Need (Inter-Ass Act.)	1,800.00			0.00	1,800.00	28,000.00
18. Miscellaneous				0.00	0.00	
a. Fees	1,500.00	1,400.00	1,400.00	1,300.00	5,600.00	12,000.00
b. Loss on exchange	100.00	800.00	100.00	1,200.00	2,200.00	
19. Total Expenditures	341,100.00	312,000.00	307,800.00	447,800.00	1,408,700.00	1,618,000.00
20. Balance on 31/12	288,400.00	370,200.00	415,300.00	439,100.00		290,000.00

IUGG income and expense statement for 2000 through 2002

US dollars	2000	2001	2002	Total, 3 yr. period
RECEIPTS				
1. Membership Subscription	339,072.12	366,244.04	353,207.30	1,058,523.46
2. ICSU Grants	0.00	0.00	0.00	0.00
3. Assembly Surcharge	18,150.00	0.00	0.00	18,150.00
4. Contracts with ICSU	52,000.00	15,000.00	0.00	67,000.00
5. Sales of Publications	1,521.80	1,884.10	1,571.23	4,977.13
6. Miscellaneous				0.00
a. Interest	24,831.27	20,006.18	7,808.51	52,645.96
b. Gain on exchange	17.66	0.00	3,080.93	3,098.59
c. Other	27,020.57	34,525.50	0.00	61,546.07
7. Total Receipts	462,613.42	437,659.81	365,667.97	1,265,941.20
8. Balance on 1/1	438,900.11	574,556.40	697,381.99	1,710,838.50
EXPENDITURES				
11. Administration				
11.1 Personnel	7,024.10	6,060.10	6,088.00	19,172.20
11.2 Quarters	0.00	0.00	0.00	0.00
11.3 Supplies and Equipment	1,767.35	2,564.78	1,196.94	5,529.07
11.4 Communications	5,663.69	7,648.56	2,918.92	16,231.17
11.5 Travel, Administration only	17,672.72	52,975.46	20,606.79	91,254.97
11.6 Miscellaneous	3,444.31	1,649.73	504.04	5,598.07
11.7 Travel, representation	1,709.16	3,181.75	4,290.79	9,181.70
12. Publications, Printing	7,470.21	6,591.60	3,523.98	17,585.79
13. General Assemblies				0.00
13.1 Organization	8,580.75	0.00	0.00	8,580.75
13.2 Travel	0.00	0.00	0.00	0.00
14. Symposia	17,500.00	12,500.00	14,000.00	44,000.00
15. Annual allocations				0.00
15.1a Associations	167,063.00	121,236.00	260,424.00	548,723.00
15.1b Inter-Association Science	23,700.00	11,700.00	19,700.00	55,100.00
15.2 Assembly Surcharges	0.00	0.00	0.00	0.00
15.3 Contracts with ICSU	11,000.00	10,000.00	5,000.00	26,000.00
16. Dues and Grants				0.00
16.1 ICSU and APS	13,207.00	13,339.00	13,472.00	40,018.00
16.2 Inter-Union Science	34,000.00	34,000.00	34,000.00	102,000.00
17. Countries in Need (Inter-Ass Act.)	6,000.00	29,000.00	40,000.00	75,000.00
18. Miscellaneous				0.00
a. Fees	1,273.48	1,742.72	1,243.15	4,259.35
b. Loss on exchange	0.00	644.53	0.00	644.53
19. Total Expenditures	327,075.78	314,834.22	426,968.61	1,068,878.61
20. Balance on 31/12	574,437.75	697,381.99	636,081.35	

IUGG Budget 2000 - 2003

US dollars	2000	2001	2002	2003
<hr/>				
RECEIPTS				
1. Membership Subscription	363,528	370,798	378,213	385,777
2. ICSU Grants	0			
3. Assembly Surcharge	0			
4. Contracts with ICSU	0			
5. Sales of Publications	1,500	1,500	1,500	1,500
6. Miscellaneous				
a. Interest	16,859	18,495	18,400	19,575
b. Gain on exchange	0			
c. Other	0			
<hr/>				
7. Total Receipts	381,887	390,793	398,113	406,852
8. Balance on 1/1	421,476	462,363	459,988	489,371
<hr/>				
EXPENDITURES				
11. Administration				
11.1 Personnel	20,000	20,600	21,218	21,855
11.2 Quarters				
11.3 Supplies and Equipment	2,000	1,500	1,500	1,500
11.4 Communications	2,500	2,500	2,500	2,500
11.5 Travel, Administration only	38,000	76,000	41,000	71,000
11.6 Miscellaneous				
11.7 Travel, representation				
12. Publications, Printing	12,000	12,300	12,608	12,923
13. General Assemblies				
13.1 Organization				5,000
13.2 Travel				30,000
14. Symposia	15,000	15,000	15,000	5,000
15. Annual allocations				
15.1a Associations	161,800	173,243	169,546	181,052
15.1b Inter-Association Science	19,700	11,700	19,700	11,700
15.2 Assembly Surcharges				
15.3 Contracts with ICSU				
16. Dues and Grants				
16.1 ICSU and APS	13,000	13,325	13,658	14,000
16.2 Inter-Union Science	34,000	34,000	34,000	34,000
17. Countries in Need (Inter-Ass Act.)	20,000	30,000	35,000	40,000
GA-participation				40,000
18. Miscellaneous	3,000	3,000	3,000	3,000
a. Fees				
b. Loss on exchange				
<hr/>				
19. Total Expenditures	341,000	393,168	368,730	473,530
20. Balance on 31/12	462,363	459,988	489,371	422,693
<hr/>				

IUGG XXIII GENERAL ASSEMBLY
Sapporo, Japan, 30 June – 11 July 2003

Agenda #5

Report of the Nominations Committee
Rapport du comité des candidatures (K.-P. Schwarz)

IUGG Bureau / Bureau de l'UGGI
IUGG Finance Committee / Comité des finances de
l'UGGI

Preliminary Report of the IUGG Nominating Committee

This report covers the activities of the IUGG Nominating Committee during the period January 2002 to February 2003. It therefore comprises only part of the nomination process, namely the publication of the initial list by the Nominating Committee and the call for further nominations. It is thus preliminary in nature. The deadline for nominating further candidates is March 31, 2003. They will be added to the list if they meet the requirements laid out in the By-laws of the Union. The final (augmented) list will be distributed in April 2003, including the updated committee report.

Composition of the Committee: The Nominating Committee was appointed by the IUGG President one and a half years before the Sapporo General Assembly 2003. It consists of

Chairperson: Klaus-Peter SCHWARZ (Canada, IAG)

Members: Michael KUHN (Austria, IAMAS)

Devendra LAL (India, IUGG)

James O'BRIEN (USA, IAPSO).

Call for Nominations: The Call for Nominations was published in January 2002 in the IUGG e-journal and on the IUGG website. The announcement was repeated in every other issue of the-journal until October 2002. A brief statistical overview of the nominations received was mailed to all Union and Association officers about one month before the nomination deadline of September 30, 2002.

Nominations received: Nominations were received from 12 National Committees and 5 Associations of the IUGG. In addition, individual letters of support were received for a number of the candidates nominated. All nominations were complete, i.e. they met the requirements stated in the By-laws. For all positions, except that of the Treasurer, more than the minimum number of nominations was received.

Evaluation: The nominations were compiled in a table, showing the position, the candidate(s) nominated for it, the nominator(s), and the material received (letter, resume, CV). This table, together with the material received was sent by courier to the members of the Nominating Committee early in October 2002. They were asked to independently evaluate and rank the candidates for each position, according to the criteria given in the By-laws ("The Nominating Committee ... 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"). Thus, each of the multiple positions in the Finance Committee and in the Bureau was listed separately.

Initial list of candidates proposed by the Nominating Committee: Each member of the Committee submitted his proposal and ranking to the chairperson who then compiled a joint list of candidates. This list was sent back to the members who confirmed in writing that they agreed with the proposal. This list is given on the next page:

President: U. Shamir (Israel) and W.R. Peltier (Canada)
Vice-President: P. Malanotte-Rizzoli (Italy) and T. Beer (Australia)
Treasurer: A.W. Hansen (Denmark)
Finance Committee
Position #1 D.D. Jackson (USA)
Position #2 M.J. Hamlin (UK)
Position #3 B.L.N Kennett (Australia)
Position #4 V.K. Gaur (India)
Position #5 M.E. Perillo (Argentina) and J. Vilas (Argentina)
Additional Bureau Members
Position #1 A. Tealeb (Egypt)
Position #2 A.V. Nikolaev (Russia) and H.K. Gupta (India)
Position #3 Y.T. Chen (China) and C.S. Sava (Romania)

The list was sent to the IUGG secretary, Jo Ann Joselyn, on October 31 for distribution to the National Committees and the Union and Association officers.

New nominations, which are received by March 31, 2003, will be added to this list if they meet the requirements outlined in the By-laws. This augmented list will then constitute the final list of the Nominating Committee. It will be distributed at least two months prior to the General Assembly.

Acknowledgements: Appreciation is expressed to the members of the Nominating Committee for their active participation and to the IUGG Secretary General for her generous support and good advice.

Calgary, February 28, 2003

Klaus-Peter Schwarz

IUGG XXIII GENERAL ASSEMBLY
Sapporo, Japan, 30 June – 11 July 2003

Agenda #6

Matters of Membership / Affaires d'adhésion

- Ratifications
 - Admission: Colombia as a Member in Category 1
Adhésion: Colombie de catégorie 1
 - Reduction: Category of Indonesia from 3 to 1
Réduction de catégorie : Indonésie de 3 à 1
 - Admission: Armenia as an Associate Member
Adhésion: Arménie en tant que membre associé
 - Re-admission: Peru as an Associate Member
Réadmission : Pérou en tant que membre associé
 - Transfer: Morocco to Associate Member
Transfert: Maroc à membre associé
 - Transfer of Nigeria to Associate Member
Transfert: Nigeria à membre associé
 - Transfer: Serbia and Montenegro to Associate Member
Transfert: Serbie et Montenegro à membre associé

- Applications for matters of membership
Demandes concernant l'adhésion
 - Reduction: Category of France from 8 to 7
Réduction de catégorie : France de 8 à 7
 - Transfer: Pakistan to Associate Member
Transfert: Pakistan à membre associé
 - Admission: Bosnia and Hercegovina as an Associate Member
Admission: Bosnie-Herzégovine en tant que membre associé

 - Membership applications received between 28 February and 30 June
Demandes d'adhésion reçues entre le 28 février et le 30 juin

Matters of Membership

Regarding the items of business to come before the Council, the following paragraphs from the IUGG Statutes and By-Laws are appropriate:

STATUTES Section III. FINANCE

- 13• 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.

- 14• e) The Bureau of the Union with the advice and consent of the Finance Committee and of the Associations, is authorized 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.

- 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.

STATUTES Section IV. VOTING

- 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.

BY-LAWS

- 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.

(end of quotes)

The following Membership actions were taken by correspondence after the 1999 IUGG General Assembly and before 24 March, 2003. [Three additional actions by correspondence will be conducted between 24 March and 1 July 2003, the first Council meeting of the 23rd IUGG General Assembly. These actions will be discussed below.]

As required by Statute, each of these votes by correspondence is considered provisional until final approval by Council. A vote is therefore required on the following actions:

COLOMBIA. Colombia had adhered to IUGG in 1938 but membership had dropped in 1971. The letter from Santiago Borrero Mutis requesting renewed IUGG membership in Category 1 was received on 17 February 2000. The application was forwarded to the Executive and Finance Committee members on 22 February 2000 and Colombia's application was received warmly. A ballot was mailed to the Adhering Bodies on 4 April 2000 and the vote was declared favorable on 2 June 2000. Colombia is currently a full member of IUGG with dues paid.

INDONESIA. The letter from Dr. J. Kahar requesting a reduction in Category from 3 to 1 was sent to Georges Balmino on 20 July, 1999, but was lost in the transition and not discovered until July 2000. Approval of the Finance Committee to lower the Category was communicated to Dr. Kahar in March 2001, and the Secretariat mailed ballots to the Adhering Bodies for a vote by correspondence on 29 October 2001. The result of the ballot was declared favorable on 6 December 2001, and the Category of Indonesia was lowered to 1 effective as of 1999. Indonesia is currently a full member of IUGG with dues paid.

ARMENIA. The application from Prof. S. Yu. Balassanian requesting IUGG membership in Category 1 was received on 27 May 2000. The application was forwarded to the Executive Committee and Finance Committee members on 31 May and they responded affirmatively. A ballot was mailed to the Adhering Bodies on 10 July 2000, and the vote was declared favorable on 4 September 2000. However, the invoices for dues were not paid for either 2000 or 2001. On 16 October 2001, the Secretariat contacted Dr. Balassanian and requested either that the dues be paid or that Armenia re-apply for membership in Associate Status. In a message received on 19 October they decided to re-apply in Associate status. Their message was forwarded to the Executive and Finance Committee members, who agreed to the change in status. The ballot was mailed on 29 October 2001 and the vote was declared favorable on 6 December 2001.

PERU. Peru had adhered to IUGG in 1925 but membership had dropped in 1979. A letter from IUGG President Masaru Kono urging that Peru again adhere to IUGG was successful and an application for re-admittance as an Associate Member was received from Dr. Hernan A. Montes on 17 May 2000. IUGG Executive and Finance committee members were consulted, and agreement was received although the Finance committee thought that Peru's financial condition warranted full (paying) membership and urged that they be requested to find the financial support to pay dues. The ballot was mailed to Adhering bodies on 10 July 2000 and the vote for Associate Status was declared favorable on 5 September 2000.

MOROCCO. Morocco had adhered to IUGG in 1924 but it seemed possible that they would be lost owing to lack of payment of dues. A letter from the Secretary General on 3 May 2000 invited Morocco to apply for Associate status. A letter received from Said Belcadi on 20 June 2000 agreed to this action. Dr. Belcadi said that Morocco hoped to regain its status as regular member when financial circumstances permitted it. IUGG Executive and Finance committee members were consulted, and agreement was received. The ballot was mailed to Adhering bodies on 10 July 2000 and the vote for Associate Status was declared favorable on 4 September 2000. However, Morocco did not respond to our inquiries for updates to the 2003 Yearbook and there is some concern about their interest and activity in IUGG.

NIGERIA. Nigeria had adhered to IUGG in 1971 in Category 2 but was in danger of being expelled owing to lack of payment of dues at the end of 2002. In response to messages from the Secretary General, they agreed on 25 November 2002 to request Associate membership. The Executive committee members were in favor, but the Finance Committee would have preferred other options. The comments by the Finance Committee Chair, Dr. Fred Spilhaus, were reported in the cover letter to the ballot. The Bureau took these comments into consideration but determined that the only action that could preserve Nigerian membership before the end of 2002 was to invoke Statute 14 e) temporarily transferring Nigeria to Associate status. A ballot asking the Adhering Bodies to accept Associate status for Nigeria was mailed on 13 January 2003 and the vote was declared favorable on 20 February 2003. Nigeria has been urged to regain their status as a regular member of IUGG as soon as possible.

SERBIA & MONTENEGRO. Formerly known as the Federal Republic of Yugoslavia, Serbia & Montenegro was actually admitted as a member of IUGG in October 1996 but dues had never been received. They had been carried in IUGG records as a member in Observer status, but that status was expiring. After extensive correspondence, on 30 October 2002 the Executive and Finance Committees were consulted regarding the best course of action. It was decided that again, the Bureau should temporarily transfer Serbia and Montenegro into Associate status although this was not a unanimous opinion. Approval of this action by the Adhering Bodies was requested on 13 January 2003, and the vote was declared favorable on 20 February 2003. As with Nigeria, it is believed that Serbia & Montenegro prefers to be a regular member of IUGG, and that the Adhering Organization will pursue the financial means to become a regular member.

The following membership actions are currently in progress; ballots to the Adhering Bodies were mailed on 31 March. It was decided to proceed with the ballot by correspondence just a few months before the Council meeting for two reasons: this action permits a more studied response by the Adhering Bodies, and, this business at the Sapporo Council meeting will be expedited by reason of previous decision.

Any further requests for membership will be reserved for action at the General Assembly.

The following three issues are before the Adhering Bodies:

FRANCE. A request was sent on 14 February 2003 from the Comité National Français de Géodésie et Géophysique (R. Schlich, Treasurer), to lower the Category of France from 8 (20 units) to 7 (15 units). A ballot for approval of this request by the Adhering bodies was mailed on 31 March 2003, and the results of the vote will be declared on May 30, presuming that votes are received from not less than one-third of the total membership of the Union eligible to vote (Statute 21). At this time, 47 Adhering Bodies are eligible to vote.

PAKISTAN. Pakistan had adhered to IUGG in 1924 in Category 2 but it seemed that they would be lost owing to lack of payment of dues. A letter from the Secretary General on 9 July 2002 informed Pakistan that without payment, their membership would end on 31 December 2003. The possibility of Associate status was explained. A letter sent on 19 February 2003 from Eng. I. Hassan, Deputy Director for the Surveyor General of Pakistan, formally requested Associate status. IUGG Executive and Finance committee members were consulted, and agreement was received. A ballot for approval by the Adhering Bodies was mailed on 31 March 2003, and the results of the vote will be declared on May 30.

BOSNIA & HERCEGOVINA. An application requesting Associate membership in IUGG from Academician Bozidar Matić, President of the Academy of Sciences and Arts of Bosnia & Hercegovina, was received on 3 February 2003. The application was forwarded to the Executive Committee and Finance Committee members on 3 February and they responded affirmatively. A ballot for approval by the Adhering Bodies was mailed on 31 March 2003, and the results of the vote will be declared on May 30.

IUGG XXIII GENERAL ASSEMBLY
Sapporo, Japan, 30 June – 11 July 2003

Agenda #7

Proposed Changes of Statutes and By-Laws (U. Shamir)
Propositions de changements des statuts et du règlement
intérieur

Report of the Committee on
Statutes & By Laws

Report of the Committee on Statutes and By-Laws February 2003

Composition of the Committee, appointed by IUGG President Masaru Kono:
Bob Engdahl, Roland Schlich, Uri Shamir (Chair), Vere Shannon, Peter Wyllie

1. The role of the Committee is to receive proposals from the National Committees, as well from other IUGG entities eligible to submit proposals, clarify them as required, and prepare the proposals for submission to the IUGG Council for consideration and subsequent vote.
2. The procedure for dealing with the proposed modifications is as follows:
 - 2.1. The proposals are circulated to the National Committees by the end of February 2003.
 - 2.2. They are prepared for the Council by the Bureau and Executive at their first meetings in Sapporo on 29 June 2003.
 - 2.3. They are considered and voted on by the Council at its first meeting in Sapporo, on 1 July 2003.
3. The following proposals have been submitted for modifications to the Statutes and By-Laws:
 - 3.1. By the US National Committee, a change to Article 5 of the Statutes and to Article 11 of the By-Laws (see Attachment #1), with the objective of opening up the Council meetings to attendance by others than Council Delegates. The proposed changes include
 - 3.1.1. Clarification of Article 5 of the Statutes and making it compatible with the change proposed in Article 11 of the By-Laws.
 - 3.1.2. Modification of Article 11 of the By-Laws to allow “auditors” to attend the Council meeting, without privilege to vote or speak. Auditors may include representatives of Associate Members of IUGG and others invited by the IUGG President. Auditors are excluded from any part of the meeting if a simple majority of the Council Delegates present declares that part to be closed to auditors.
 - 3.2. By the Danish National Committee, to change the role and responsibility of the Finance Committee. The proposed changes affect several parts of the Statutes and By-Laws, and are therefore included here as a separate document (Attachment #2), with the modifications as inserted by the Danish National Committee. The essence of the proposal is to have the Finance Committee exist only during the General Assembly, as follows:

Proposed Statute 11: “At the first meeting of a General Assembly the Council elects among its members a Finance Committee. The Finance Committee shall audit the accounting of the Treasurer and report to the

Council at one of the Council meetings. The Committee is composed of three 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 is in function only during the period of a General Assembly.”

It is suggested that the above change to Statute 11 be addressed first by the Council. If adopted, the rest of the proposed changes will be brought in line with this major change. If this main proposed change is rejected, the rest of the proposed changes will be screened to identify those that are independent of it, which will then be considered.

4. In recent months, a matter has arisen about the interpretation of Statute 14(b) and By-Law 10(c) regarding Adhering Bodies in Observer status and the resulting eligibility of persons from these countries to hold positions in IUGG. Since the Bureau and Executive Committee made a decision not to initiate any changes in the Statutes and By-Laws, considering it best to maintain their stability and make changes only when necessary, it is proposed to agree on *interpretations* of these rules. These are presented in Attachment #3.

Included:

- | | |
|----------------|---|
| Attachment #1: | Proposal by the US National Committee to open attendance at the Council meetings to “auditors”. |
| Attachment #2: | Proposal by the Danish National Committee to change the role and responsibility of the Finance Committee. |
| Attachment #3: | Suggested interpretations of Statute 14(b) and By-Law 10(c). |

U.S. National Committee for the International Union of Geodesy and Geophysics

26 December 2002

Dr. Jo Ann C. Joselyn
Secretary General, IUGG
390 Hollyberry Lane
Boulder, CO 80303-5231

Dear Jo Ann,

The U.S. National Committee for IUGG proposes the changes listed below to Article 5 of the Statutes and Article 11 of the By-Laws of IUGG. The effects of the changes are:

- (1) to open the Council meetings to “auditors” without privilege to vote or speak, who would attend at the pleasure of a majority of the Council; and
- (2) to make explicit the right of the IUGG president to invite specific guests to address the Council.

We feel the changes would be beneficial for the following reasons:

- (1) More open meetings would allow more Association Officers, potential leaders of IUGG, and future Council Delegates to better understand how the Council operates;
- (2) The proposed changes would strengthen the bond between the Union and its member countries;
- (3) More open meetings would make clear that the Union employs open democratic processes;
- (4) The proposed changes would allow Associate Member countries to be involved to a very limited extent, in Council meetings, giving them some encouragement to upgrade their status to regular membership.

We request their consideration be on the agenda for the next Council Meeting.

The proposed changes are as follows:

Proposed Statute change

5. The General Assembly shall consist of the duly accredited Delegates of the Member Countries, and Guests invited in accordance with the by-laws.

Chairman:

David D. Jackson
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Secretary:

A. F. Spilhaus, Jr.
American Geophysical Union
2000 Florida Avenue, N.W.
Washington, DC 20009
Phone: 202-777-7510
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The Council of the Union shall consist of the Delegates known as Council Delegates, designated for each meeting of the Council by the adhering bodies of 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.~~
Associates are not entitled to appoint a Council Delegate.

Proposed Bylaw change

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.

Council Meetings shall be open to Council Delegates, the Executive Committee and the Finance Committee. The IUGG President may invite guests to make presentations at Council meetings. Other individuals may attend Council meetings as auditors only, except that a simple majority of Council Delegates present may declare part of any meeting closed to these auditors.

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.

Yours truly,

A. F. Spilhaus, Jr., Secretary
U.S. National Committee for IUGG

Attachment # 2
Modifications of the IUGG Statutes and By-laws proposed by the Danish National Committee that would change the role and responsibility of the Finance Committee

UNION
STATUTES

I. 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 standardization of measurements or to collect, analyze 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).
- 4• a) 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.

II. 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 [\(including the finances\)](#) 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.

III. FINANCE

- 11• At the first meeting of a General Assembly the Council elects among its members a Finance Committee, shall be elected by the Council of the Union and shall be advisory to the Council. The Finance Committee shall audit the accounting of the Treasurer and report to the Council at one of the Council meetings. The CommitteeIt is composed of ~~five~~ three 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 is in function only during the period of a General Assembly

~~The Finance Committee shall meet with the Council at sessions of the latter, with voice but without vote.~~

- 12• a) 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.
- 13• a) 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.
- 14• a) The financial year shall be the calendar year.
- b) If at the end of any year a paying Member Country has not paid its subscription for ~~that 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 transferred 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 authorized 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).

IV. VOTING

- 16• Associates have no voting rights.
- 17• a) 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.

V. 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 but may be represented, if necessary, 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.

II. 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 organizations 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.

- 10• a) The President of the Union shall be elected for one period and 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 a~~ General Assembly and may be re-elected for three successive Assemblies~~periods; at least one Member of the Committee shall be replaced at the end of each period. Two members may be re~~ -elected at consecutive General Assemblies.

- 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.

Re-nominations, 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 at its first meeting of a General Assembly elect aef the Finance Committee for the duration of a General Assembly;
- 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;~~ adopt the budget submitted by the Treasurer.
- 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~~ advise the Treasurer about 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 by the Bureau.

17• To assist the Secretary General and the Treasurer in the performance of their duties to the Union, they may be authorized by the Bureau to employ administrative and secretariat personnel as may be required to ensure orderly administration.

III. FINANCE

- 18• a) 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	1	2	3	4	5	6	7	8	9	10
		11	12							
Units of Contribution	1	2	3	5	7	10	15	20	25	30
		35	40							

- b) Associates, in category A, do not pay.

- 19• The Finance Committee shall elect ~~its a~~ 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 Assembly ~~for which it is elected,ies 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~~ advise 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 [Bureau 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 administered 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.
- f) In consultation with the Executive Committee prepare and submit to the Council a proposed budget for the ensuing period.

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

Attachment #3:

Clarifications and Interpretations of Statute 14(b) and By-Law 10(c)

Statute 14(b) reads:

“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 year's subscription and of any further subscriptions in arrears. Such Member Countries shall be deemed to be in Observer status.”

By-Law 10(c) reads:

“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.”

Issues:

1. Interpretation of “*for the previous year*” and of “*in Observer status for more than two years*” in Statute 14(b) to determine the time at which a country enters Observer status.
2. Interpretation of “*in Observer status for more than two years*” and of “*to hold elected position*” in By-Law 10(c).

Suggested interpretations:

The following chart shows the time-line of continuous non-payment by a country, the resulting entry into Observer status and the termination of eligibility of its scientists to hold (suggested interpretation: “to be elected to”) IUGG office.

Year N-1	Year N	Year N+1	Year N+2	Year N+3
Invoice for year N sent at the end of year N-1	Country does not pay its dues for this year by year's end	Country is in Observer status for 1 st year	Country in Observer status for 2 nd year	Country in Observer Status for 3 ^d year
				Scientists from this country not eligible to <u>be elected</u> to IUGG office as of January 1 of this year

Explanations:

1. A country which has not paid its dues for year N by that year's end enters Observer status on January 1 of the following year. Year N+1 is its first year in this status.
2. As long as the country does not pay its full dues for the entire period of non-payment, including back payments, it remains in Observer status. After having

been in Observer status for two years, starting on January 1 of year N+3, its scientists are not eligible to be elected to IUGG office.

3. The interpretation of “not eligible to hold office” in By-Law 10(c) as “not eligible to be elected to office” is a somewhat liberal and more practical interpretation of the By-Law. If used as “to hold office” it would mean that at the beginning of each year it is necessary to review all office holders, identify those whose countries are now into year N+3, and remove them from office. By stating that the meaning is "to be elected" it means that persons remain in office until the next elections even if their country has year N+3 in the chart above.

IUGG XXIII GENERAL ASSEMBLY
Sapporo, Japan, 30 June – 11 July 2003

Agenda #7

Proposed Changes of Statutes and By-Laws (U. Shamir)
Propositions de changements des statuts et du règlement
intérieur

Proposal from the USA National Committee
Proposition du Comité national des Etats-Unis d'Amérique

U.S. National Committee for the International Union of Geodesy and Geophysics

26 December 2002

Dr. Jo Ann C. Joselyn
Secretary General, IUGG
390 Hollyberry Lane
Boulder, CO 80303-5231

Dear Jo Ann,

The U.S. National Committee for IUGG proposes the changes listed below to Article 5 of the Statutes and Article 11 of the By-Laws of IUGG. The effects of the changes are:

- (1) to open the Council meetings to “auditors” without privilege to vote or speak, who would attend at the pleasure of a majority of the Council; and
- (2) to make explicit the right of the IUGG president to invite specific guests to address the Council.

We feel the changes would be beneficial for the following reasons:

- (1) More open meetings would allow more Association Officers, potential leaders of IUGG, and future Council Delegates to better understand how the Council operates;
- (2) The proposed changes would strengthen the bond between the Union and its member countries;
- (3) More open meetings would make clear that the Union employs open democratic processes;
- (4) The proposed changes would allow Associate Member countries to be involved to a very limited extent, in Council meetings, giving them some encouragement to upgrade their status to regular membership.

We request their consideration be on the agenda for the next Council Meeting.

The proposed changes are as follows:

Proposed Statute change

5. The General Assembly shall consist of the duly accredited Delegates of the Member Countries, and Guests invited in accordance with the by-laws.

Chairman:

David D. Jackson
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Secretary:

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The Council of the Union shall consist of the Delegates known as Council Delegates, designated for each meeting of the Council by the adhering bodies of 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.~~
Associates are not entitled to appoint a Council Delegate.

Proposed Bylaw change

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.

Council Meetings shall be open to Council Delegates, the Executive Committee and the Finance Committee. The IUGG President may invite guests to make presentations at Council meetings. Other individuals may attend Council meetings as auditors only, except that a simple majority of Council Delegates present may declare part of any meeting closed to these auditors.

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.

Yours truly,

A. F. Spilhaus, Jr., Secretary
U.S. National Committee for IUGG

IUGG XXIII GENERAL ASSEMBLY
Sapporo, Japan, 30 June – 11 July 2003

Agenda #7

Proposed Changes of Statutes and By-Laws (U. Shamir)
Propositions de changements des statuts et du règlement
intérieur

Proposal from the Danish National Committee
Proposition du Comité national du Danemark

Explanatory note Before Attachment 2

From the Danish National Committee

To IUGG

The Danish National Committee is suggesting changes in the statutes and by-laws that will streamline the governing of IUGG considerably by separating the duties of the Finance Committee and the Executive Committee where overlap exists. The inherent possibility of a conflict between the IUGG Executive Committee and Finance Committee has indeed recently led to unproductive discussions and to decisions that are difficult to implement.

We notice that at present the Executive Committee and the Finance Committee have overlapping responsibilities in two areas, namely

- (1) monitoring and overseeing the economy of IUGG between Council meetings and
- (2) preparation of a budget for the 4-year period between General Assemblies/Council meetings. The Finance Committee has the responsibility to propose a budget, while the Executive Committee alone is responsible for the scientific plans of IUGG that must be taken into account in the budget.

It has been argued that full Council meetings are too expensive for IUGG to hold more often than every 4 years. Therefore a 5-member Finance Committee has been built into the structure of IUGG. The Finance Committee was given the authority to act on behalf of the Council in financial matters.

The Executive Committee consists of 15 people and the committee meetings have always been expensive to organize. But nowadays organizational and financial decisions can easily be handled with modern communication. We propose that the overlapping responsibilities are placed in the Executive Committee.

Our proposal is to redefine the role of the Finance Committee considering what an international organization like IUGG needs now. We do see a very important role for a Finance Committee, namely the auditing of the IUGG accounts. This should be done on behalf of the Council and therefore it is proposed that the Finance Committee is elected at the beginning of a General Assembly among members of the Council.

The proposed new structure will make the governing of the IUGG more cost-effective.

Søren Gregersen, Chairman Danish National Committee

Attachment # 2
Modifications of the IUGG Statutes and By-laws proposed by the Danish National Committee that would change the role and responsibility of the Finance Committee

UNION
STATUTES

I. 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 standardization of measurements or to collect, analyze 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).
- 4• a) 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.

II. 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 [\(including the finances\)](#) | 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.

III. FINANCE

- 11• At the first meeting of a General Assembly the Council elects among its members a Finance Committee, shall be elected by the Council of the Union and shall be advisory to the Council. The Finance Committee shall audit the accounting of the Treasurer and report to the Council at one of the Council meetings. The CommitteeIt is composed of ~~five~~ three 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 is in function only during the period of a General Assembly

~~The Finance Committee shall meet with the Council at sessions of the latter, with voice but without vote.~~

- 12• a) 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.
- 13• a) 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.
- 14• a) The financial year shall be the calendar year.
- b) If at the end of any year a paying Member Country has not paid its subscription for ~~that 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 transferred 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 authorized 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).

IV. VOTING

- 16• Associates have no voting rights.
- 17• a) 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.

V. 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 but may be represented, if necessary, 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.

II. 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 organizations 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.

- 10• a) The President of the Union shall be elected for one period and 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 a~~ General Assembly and may be re-elected for three successive Assemblies~~periods; at least one Member of the Committee shall be replaced at the end of each period. Two members may be re~~ -elected at consecutive General Assemblies.

- 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.

Re-nominations, 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 at its first meeting of a General Assembly elect aef the Finance Committee for the duration of a General Assembly;
- 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;~~ adopt the budget submitted by the Treasurer.
- 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~~ advise the Treasurer about 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 by the Bureau.

17• To assist the Secretary General and the Treasurer in the performance of their duties to the Union, they may be authorized by the Bureau to employ administrative and secretariat personnel as may be required to ensure orderly administration.

III. FINANCE

- 18• a) 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	1	2	3	4	5	6	7	8	9	10
		11	12							
Units of Contribution	1	2	3	5	7	10	15	20	25	30
		35	40							

- b) Associates, in category A, do not pay.

- 19• The Finance Committee shall elect ~~its a~~ 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 Assembly ~~for which it is elected,ies 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~~ advise 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 [Bureau 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 administered 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.
- f) In consultation with the Executive Committee prepare and submit to the Council a proposed budget for the ensuing period.

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

IUGG XXIII GENERAL ASSEMBLY
Sapporo, Japan, 30 June – 11 July 2003

Agenda #7

Proposed Changes of Statutes and By-Laws (U. Shamir)
Propositions de changements des statuts et du règlement
intérieur

Proposals from the Statutes and By-Laws Committee
Propositions du Comité des statuts et du règlement Intérieur

Attachment #3:

Clarifications and Interpretations of Statute 14(b) and By-Law 10(c)

Statute 14(b) reads:

“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 year's subscription and of any further subscriptions in arrears. Such Member Countries shall be deemed to be in Observer status.”

By-Law 10(c) reads:

“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.”

Issues:

1. Interpretation of “*for the previous year*” and of “*in Observer status for more than two years*” in Statute 14(b) to determine the time at which a country enters Observer status.
2. Interpretation of “*in Observer status for more than two years*” and of “*to hold elected position*” in By-Law 10(c).

Suggested interpretations:

The following chart shows the time-line of continuous non-payment by a country, the resulting entry into Observer status and the termination of eligibility of its scientists to hold (suggested interpretation: “to be elected to”) IUGG office.

Year N-1	Year N	Year N+1	Year N+2	Year N+3
Invoice for year N sent at the end of year N-1	Country does not pay its dues for this year by year's end	Country is in Observer status for 1 st year	Country in Observer status for 2 nd year	Country in Observer Status for 3 ^d year
				Scientists from this country not eligible to <u>be elected</u> to IUGG office as of January 1 of this year

Explanations:

1. A country which has not paid its dues for year N by that year's end enters Observer status on January 1 of the following year. Year N+1 is its first year in this status.
2. As long as the country does not pay its full dues for the entire period of non-payment, including back payments, it remains in Observer status. After having

been in Observer status for two years, starting on January 1 of year N+3, its scientists are not eligible to be elected to IUGG office.

3. The interpretation of “not eligible to hold office” in By-Law 10(c) as “not eligible to be elected to office” is a somewhat liberal and more practical interpretation of the By-Law. If used as “to hold office” it would mean that at the beginning of each year it is necessary to review all office holders, identify those whose countries are now into year N+3, and remove them from office. By stating that the meaning is "to be elected" it means that persons remain in office until the next elections even if their country has year N+3 in the chart above.

IUGG XXIII GENERAL ASSEMBLY
Sapporo, Japan, 30 June – 11 July 2003

Agenda #8

Presentation of the Proposals for the
XXIV General Assembly in 2007
Présentation des propositions pour la
XXIV Assemblée Générale en 2007

CNRS and the University of Perugia, Perugia, Italy
CNRS et Université de Pérouse, Pérouse, Italie

Wel come to Umbria, the green heart of Italy ...



**Proposal for the XXIV General Assembly of the
IUGG
Perugia, Italy, August 2007**

1. Introduction

The IUGG scientific community of Italy with the patronage of relevant government ministries and institutions hereby presents this document as a bid to host the XXIV General Assembly of the International Union of Geodesy and Geophysics in the city of Perugia, scheduled for the year 2007.

2. Local organizing committee

2.1 Responsible Institutions: CNR – IRPI

The National Research Council

The National Research Council (CNR) is a public organization which plays a central role in the field of scientific and technological research in Italy whose original institution goes back to the year 1923. It coordinates the research activities of 104 research institutes, 4 experimental Institutes.

The mission and activities of the National Research Council can be summarised as follows:

- ? to promote and carry out research activities, in pursuit of excellence and strategic relevance within the national and international ambit;
- ? to define, manage and coordinate national and international research programmes, in collaboration with universities and other private and public organizations, in addition to support scientific and research activities of major relevance for the national system;
- ? to promote the valorisation, the competitive development and technological transfer of research results carried out by its own scientific network and by third parties with which it has cooperation relationships;
- ? to promote collaboration with organizations and institutions of other countries, and also with supranational organizations in the scientific and technological field, and in the field of technical regulations;
- ? to carry out educational and training activities in Ph.D. courses, in advanced post-university specialization courses, and in programmes of continuing education through its own program of scholarships and research fellowships,
- ? to provide supervision over those organizations designated to issue rules and regulations activity of dissemination of technical specifications within the framework of its institutional tasks and to supervise activities of certification, test and accreditation for Public Administrations, on demand;
- ? to provide technical and scientific support to Public Administrations, upon request; within the framework of fulfilling its institutional activities and to also provide private law services to third parties.

The National Research Council of Italy, true to its multi facet research interests, administers research institutions which cover, amongst others, the following relevant research institutes for:

- ✍ Atmospheric Sciences and Climate
- ✍ Applied Mathematics and Informatics Technologies,
- ✍ Applied Physics,
- ✍ Atmospheric Pollution,
- ✍ Biophysics,
- ✍ Electronics, Engineering Informatics and Telecommunications,
- ✍ Acoustics,
- ✍ Dynamics of Environmental Processes,
- ✍ Hydrogeological Protection,
- ✍ Marine Coastal Environment,
- ✍ Radioastronomy,
- ✍ Space Astrophysics and Cosmic Physics,
- ✍ Systems Analysis and Informatics,
- ✍ Water Resources,
- ✍ Geological Science,

The Research Institute for Hydrogeological Protection, CNR-IRPI

Established in 1970 to promote and develop research in the field of hydro-geological risks in central Italy, this institute has also been deeply involved in some important sectors such as hydrology, geomorphology, and geotechnical research. The main research activities deal with predicting floods in real time in large and medium-sized hydrographical basins, with defining degree of danger and risk of landslide to various extents and in different physio-graphical environments, and studying instability phenomena on slopes with particular regards to the critical hydraulic conditions and landslide movements.

Since 1985, with the foundation of the National Group for Protection against Hydro-geological Catastrophes (GNDCI), one of the technical-scientific unit of the Department of Civil Protection, the Institute's activities have been focused on issues concerning civil protection, and in particular on the research of methodologies to define hydraulic and geological danger and risk.

Headquarters: Research Institute for Hydro-geological Protection

Director: Lucio Ubertini

Via della Madonna Alta 126, Perugia 06128

Tel: 0039 75 5014411 – fax: 0039 75 5014420

Website: <http://www.irpi.cnr.it/> E-mail: segreteria @irpi.cnr.it

The University of Perugia

The official venue will be on the premises of the University of Perugia.

Historical Background: The University of Perugia is rich in history and one of the oldest universities in Italy. The records date back to 1285 when a Studium was established by the Perugia Town Council. The privilege of being a Studium Generale, given by Pope Clement V in 1308, marked the foundation of the University. In 1318 the courses in Canon and Civil Law were established, followed by courses in Medicine and Liberal Arts. In 1371 the Faculty of Divinity was instituted. The prestige of the Studium in the 14th century was associated with the presence of famous scholars including Cino da Pistoia, Bartolo da Sassoferrato and Baldo degli Ubaldi for law and Bartolomeo da Varignana, Tommaso del Garbo, and Gentile da Foligno for medicine. Other outstanding scholars were Luca Pacioli in the 15th century and Giuseppe Neri in the 17th century for mathematics. The chairs of Greek and Hebrew had already been established by this time. During the second half of the 18th century, major social and political upheavals caused changes in European thought and culture. Between 1799 and 1814, the University of Perugia underwent many reforms. The French system of studies was introduced. The "Consulta" organized the University into five Faculties with a lay Rector as head in the place of a Bishop, and established the guidelines that have been followed to the present. In 1824 Pope Leo XII gave the University the status of a free University. With the unification of Italy in 1860, the University of Perugia was established under the jurisdiction of the Rector and the Town Council, who issued statutes subject to approval by the Government. From 1944 to the present, the University of Perugia has achieved an outstanding reputation as one of the leading Universities in Italy.

General information: At present about 33,000 students from Umbria, other parts of Italy, and from foreign countries are enrolled in the University. There are many School: Law, Political Science, Economics, Humanities, Education, Mathematics, Physics, and Natural Sciences, Pharmacy, Medicine, Agriculture, Veterinary, Biology, Geology, Chemistry, Medicine, Civil Engineering, Environmental Engineering, Electronics Engineering, Mechanical Engineering. Since the academic year 2001-2002 the organization of studies has changed from a basic four-year course to a three-year course system with M.A. and Ph.D courses. The University of Perugia has a long established European scheme of ERASMUS-SOCRATES exchanges and has developed a strong network of contacts with the United States and other countries.

2.2 Support and patronage

In order to help with publicity and technical support for the Conference, sponsorship and endorsements have been sought, among others, from the following national and international organization sought:

- ? Accademia dei Lincei
- ? Associazione Idrotecnica Italiana
- ? Autorità di Bacino del Fiume Tevere
- ? Autorità di Bacino del Fiume Arno
- ? Autorità di Bacino del Fiume Po
- ? Autorità di Bacino del Fiume Adige
- ? Autorità di Bacino dell'Alto Adriatico
- ? Government of Italy through its relevant ministries such as Ministry of Public Works, Ministry of the Environment, Ministry of Higher Education and the Directorate General for Cooperation and Development of the Ministry of Foreign Affairs
- ? Regional Government of Umbria
- ? Provincial Government of Perugia
- ? Perugia Municipal Council

2.3 Local committee

The local organizing committee will be composed of all the representatives of the IUGG organizations, by the Chancellor, and by the Deans of the Departments of Engineering, Agricultural Sciences, Mathematical - Physical and Natural Sciences of the University of Perugia, by professors and experts in the main topics characterizing the convention.

3. The Rationale

The 2007 IUGG General Assembly will provide an extraordinary opportunity for earth and space scientists from around the world to gather and exchange expertise, research data, and results.

In terms of the scientific and technical activities of the IUGG, the dynamic interaction of the Italian national territory with its atmospheric fluxes offers a unique laboratory to the IUGG and its constituent associations, encompassing research activities on the Mediterranean type turbulent atmospheric fluxes, extreme hydrological events, frequent seismic occurrences and volcanic eruptions.

IUGG XXIII GENERAL ASSEMBLY
Sapporo, Japan, 30 June – 11 July 2003

Agenda #8

Presentation of the Proposals for the
XXIV General Assembly in 2007
Présentation des propositions pour la
XXIV Assemblée Générale en 2007

Australian Academy of Sciences, Melbourne, Australia
Académie des sciences australienne, Melbourne, Australie



Australian Academy of Science

Ian Potter House, Gordon Street, Canberra 2601

*President: Dr Jim Peacock
AC, PresAA, FRS, FTSE*

16 December, 2002

Dr Jo Ann Joselyn
IUGG Secretary General
CIRES Campus Box 216
University Of Colorado
US-Boulder, Colorado 80309-0216
USA

Dear Dr Joselyn

**Re: General Assembly of the International Union of Geodesy and Geophysics
International Congress (IUGG) 2007, Melbourne, Australia**

On behalf of the Australian Academy of Science I have great pleasure in inviting you to stage the General Assembly of the International Union of Geodesy and Geophysics International Congress in Melbourne Victoria Australia in 2007.

We are acutely aware of the uniqueness of the 2007 IUGG Congress as it is also the celebration of IGY +50, that is, it will occur 50 years after the hallmark International Geophysical Year of 1957. We intend to make IGY+50 a major theme of IUGG 2007 by including celebratory functions and key symposia focussing on this. With its close proximity to Antarctica, Australia is an ideal location to celebrate such a major international scientific milestone.

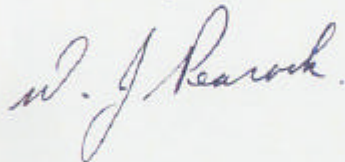
Australia is an outstanding destination for the IUGG conference. The Australian geoscience community is extremely supportive of holding the Assembly in Melbourne and has formed an experienced steering committee to manage and take responsibility for the bid. Despite its relatively small size, the Australian geoscience community is very active, undertakes high-quality research across all of the disciplines of the associations in the IUGG, and plays a prominent role in international geo-science. The Australian community relies on strong international links to maintain its contribution and so the opportunity to host major events such as the IUGG conference is important to the ongoing vitality of Australian geosciences, and the geosciences in the southwest Pacific region in general. The Australian geoscience community has considerable experience in organising major international geoscience conferences, including one prior IUGG Assembly in Canberra in 1979, and member association assemblies, such as IAVCEI in 1993, and IAMAS-IAPSO in 1997, as well as the major International Geological Congress (IGC) in 1976. We are therefore well and truly capable of successfully organising and running IUGG 2007.

Melbourne has outstanding conference facilities and infrastructure all within the city on the banks of the picturesque Yarra River at the Melbourne Convention Centre, and all within close proximity and within walking distance.

Australia is a safe country and its people have a reputation for their friendliness and the way in which they welcome visitors. Australia also has many unique tourist attractions that appeal to International convention delegates.

We are very excited at the prospect of hosting the IUGG Congress in Melbourne, Australia and I extend a warm invitation to the members of IUGG to bring their conference to Melbourne. The Australian geoscience community looks forward to the opportunity of welcoming delegates and providing them with an intellectually stimulating and socially memorable IUGG Congress in 2007.

Yours sincerely

A handwritten signature in cursive script, appearing to read "W. J. Peacock".

W J Peacock

IUGG XXIII GENERAL ASSEMBLY
Sapporo, Japan, 30 June – 11 July 2003

Agenda #9

Reports by Association Presidents
Rapports des présidents des associations

9. Reports by Association Presidents / Rapports des présidents des associations

The reports contained in this section of the Agenda book are summaries of the four annual reports prepared by each Association during the last quadrennium. Each year, their complete reports are included in IUGG annual report that is submitted to ICSU and posted on the IUGG internet site. Printed copies of the IUGG annual report are also mailed to all Adhering Bodies and National Committees.

The Associations each maintain an internet site; links to these sites are shown on the IUGG index page. The Association web sites are a valuable source of information not only about the Association itself, but also about their scientific disciplines.

During the quadrennium, the activities of the Associations were reported and discussed at the 2000 meeting of the Association Presidents and Secretaries General with the Bureau, and the 2001 Executive Committee meeting. These opportunities for the Association officers to compare challenges and solutions have proved to be most valuable.

Each Association holds a Scientific Assembly approximately 2 years following the IUGG General Assembly. These Assemblies are of a size that permits them to be hosted in developing countries; this has always proved to be beneficial to the scientific endeavours in those countries. The Scientific Assemblies convened during the past quadrennium, are listed below. The IUGG President, M. Kono, attended at least the Executive Committee meetings at all of these meetings, further promoting communication with IUGG and co-ordination among the Associations.

Association	Meeting dates	Location	Participants
• IAG	September 3-9, 2001	Budapest HUNGARY	~ 460
• IAGA and IASPEI (joint)	August 18-30, 2001	Hanoi VIETNAM	~ 1 080
• IAHS	July 18-27, 2001	Maastricht NETHERLANDS	~ 400
• IAMAS	July 10-18, 2001	Innsbruck AUSTRIA	~ 850
• IAPSO (joint with IABO)	October 21-28, 2001	Mar del Plata ARGENTINA	~ 430
• IAVCEI	July 18-22, 2000	Bali INDONESIA	~ 490

In addition, the Associations organized the scientific programme for the 23rd General Assembly and managed the distribution of more than \$500,00 in travel assistance grants, most of which was raised by the Japanese Local Organizing Committee. The Scientific Programme Committee met in Sapporo Japan in August 2001, in San Francisco, California (USA) in December 2001, and in Tokyo, Japan in March, 2003, but carried out much of the work via the Internet.

IUGG XXIII GENERAL ASSEMBLY
Sapporo, Japan, 30 June – 11 July 2003

Agenda #9

Reports by Association Presidents
Rapports des présidents des associations

IAG / AIG

Changes in IAG Statutes and By-Laws
Modification des statuts et du règlement intérieur de l'AIG

International Association of Geodesy (IAG)

The International Association of Geodesy (website <http://www.gfy.ku.dk/~iag>) works to promote the study of all problems of geodesy through geodetic research especially involving international co-operation and activities in developing countries. Until recently it supported seven services: International GPS Service, International Gravimetric Bureau, International Geoid Service, International Center for Earth Tides, International Earth Rotation Service, Permanent Service for Mean Sea Level, and Bureau International des Poids et Mesures. By the end of 2001, however, a charter had been adopted for the new joint International Gravity Field Services, which combines the International Gravimetric Bureau, the International Geoid Service, and the International Center for Earth Tides. A planning group consisting of the section presidents and chaired by the First Vice-President has the task of implementing the new structure. In addition, a new structure for the International Earth Rotation Service started functioning at the beginning of 2001. Its central bureau moved from Paris to Frankfurt am Main in Germany.

The IAG Scientific Assembly was held in Budapest, Hungary, in September 2001. During a council meeting at the Scientific Assembly, new statutes and by-laws were adopted to re-organize IAG from a three-level structure (Executive Committee, sections, and commissions/special commissions/special study groups/services) to two levels (EC and commissions with working groups and services). At its meeting in France in 2002, the Executive Committee discussed and approved a report from the planning group that is preparing the implementation of the new structure. At the Scientific Assembly IAG also organised a meeting of the so-called Spatial Societies (FIG, ISPRS, ICA, IHO, etc.).

During the 1999 General Assembly in Birmingham, the Executive Committee (EC) established new Special Study Groups (SSG) and elected their presidents. It also appointed representatives of IAG to external bodies. At an EC meeting in Como, Italy, working programs of the SSG, Commissions, and Special Commissions were approved. Newly established groups are the Educational Working Group to improve the co-ordination of educational activities (1999) and a Special Study Group on Fractal

Geometry in Geodesy (2001). In addition, a new Committee for the Developing Countries has been established. The 4th Geoid School was intentionally placed in Malaysia to attract scientists from developing countries. An account of the 1999 EC administrative meetings was published in the *Geodesists Handbook* in spring 2000. An interim bi-annual report *Travaux de IAG, 1999-2001*, was published in 2001 and distributed free of charge.

The EC met in Nice, France, in April 2002 to make preparations for the 2003 IUGG/IAG General Assembly and to discuss the establishment of an Inter-commission Committee on Theory. The committee's approval by the Council is expected in 2003. The EC approved formation of a planning group for IGGOS, a new IAG project with G. Beutler (Switzerland) as president. The EC also established a planning group for an inter-commission committee on geodetic standards..

The International Union of Surveying and Mapping, of which IAG had been a member, dissolved in 1999. New ways of facilitating cooperation are being considered.

Considerable effort has been made in the past two years to improve the quality, the fundamental station networks, and the gravity densification in South America, with special emphasis on Argentina, Brazil, Chile, Ecuador, and Paraguay. Important work has been done in the framework of SIRGAS (Sistema de Referencia Geocentrico para Las Americas), which has received financial support from IUGG.

The possibilities for establishing a geodetic reference system for Africa are being investigated on the initiative of IAG Commission X. A preparatory meeting was held in Nice in 2000. An application for the support of a pilot project was submitted to ICSU but was not funded.

Using the so-called IAG Fund, IAG sponsored the participation of several scientists from developing countries at IAG-sponsored meetings, especially at the Scientific Assembly.

IAG's Central Bureau publishes a bi-monthly newsletter, which is printed in the *Journal of Geodesy* and distributed to all national representatives and the members of the IAG Executive Committee. The newsletter provides book reviews and meeting reports and includes a listing of all geodetic publications provided by the IAG Bibliographic Service. It also includes updates to the *Geodesists Handbook*. The Central Bureau updates a database of addresses and maintains the IAG website, which contains detailed information about all meetings and educational activities conducted in the past four years.

IAG BYLAWS
Adopted by the IAG Council, Sept. 8, 2001

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1. The scientific work of the Association is performed within a component-**STRUCTURE** consisting of Commissions, Services, the Communication and Outreach Branch, and IAG Projects, hereafter called the Association-components or **components**. The Council decides the respective responsibilities of these components on recommendation of the Executive Committee. Because of the complex inter-relations among various activities of the Association, interaction between the individual components is implied.

The list of all components and sub-components shall be published in the Geodesist's Handbook after each General Assembly.

The Association may also participate in joint bodies of the IUGG and other scientific organizations, especially those belonging to the International Council for Science (ICSU). These bodies shall be administered according to their specific rules. Their relationship with the Association will be placed under the responsibility of either the IAG Executive Committee or a specific Association component, and handled by the IAG representatives.

1.1 The components are led by Component Steering Committees under the leadership of presidents/chairs. Their **RESPONSIBILITIES** shall be as follows:

The **Component Presidents** are responsible for the scientific development within the interest of the component. They shall coordinate the work of the bodies assigned to the component (**sub-components**), and keep the officers of the component as well as the Bureau informed of the component's activities, on an annual basis. Sub-components are treated later in the Bylaws.

The reports of the sub-components (if any) should reach the President of the relevant component two months before each General Assembly, if not otherwise stated. These reports and the reports of the components are published in the "Travaux de l'Association Internationale de Géodésie".

The President shall receive suggestions for new sub-components, and suggestions for continuation of existing ones, shall coordinate them and transmit recommendations to the IAG Executive Committee.

The **Component Steering Committee** shall meet at least once per year and at least once during each General Assembly. At the General Assembly, at the IAG Scientific meeting or on some other appropriate occasion, the Committee shall review the activities of the bodies assigned to the component over the past period, and for those which will be recommended for continuation, review their programs for the forthcoming period. The constitution of the Component Steering Committees is described later in the Bylaws.

The Central Bureau should receive copies of all relevant correspondence of components and sub-components of the Association.

Components as well as the sub-components are free to hold scientific meetings. Scientific symposia are subject to the approval procedure of the IAG Executive Committee. A scientific symposium has to be sponsored by one or more component or sub-component.

1.2 **COMMISSIONS** shall promote the advancement of science, technology and international cooperation in their field. They establish the necessary links with sister disciplines and with the relevant Services. Commissions shall represent the Association in all scientific domains related to their field of geodesy.

The Commissions are one of the main components of the IAG structure. In addition to their main tasks they are also responsible for their sub-components: the Sub-commissions, Commission-Projects, Study-Groups, and Joint Sub-components.

1.2.1 There are at present four **COMMISSIONS** which are listed below with their main topics/tasks indicated:

Commission 1. Reference Frames

- a) Establishment, maintenance, improvement of the geodetic reference frames.
- b) Advanced terrestrial and space observation technique development for the above purposes.
- c) International collaboration for the definition and deployment of networks of terrestrially-based space geodetic observatories.
- d) Theory and coordination of astrometric observation for reference frame purposes.
- e) Collaboration with space geodesy/reference frame related international services, agencies and organizations.

Commission 2. Gravity Field

- a) Terrestrial, marine, and airborne gravimetry.
- b) Satellite gravity field observations.
- c) Gravity field modeling.
- d) Time-variable gravity field.
- e) Geoid determination.
- f) Satellite orbit modeling and determination.

Commission 3. Earth Rotation and Geodynamics

- a) Earth Orientation (Earth rotation, polar motion, nutation and precession).
- b) Earth tides.
- c) Tectonics and Crustal Deformation.
- d) Sea surface topography and sea level changes.
- e) Planetary and lunar dynamics.
- f) Effects of the Earth's fluid layers (e.g., post glacial rebound, loading).

Commission 4. Positioning and Applications.

- a) Terrestrial and satellite-based positioning systems development, including sensor and information fusion.
- b) Navigation and guidance of platforms.
- c) Interferometric laser and radar applications (e.g., Synthetic Aperture Radar).
- d) Applications of geodetic positioning using three dimensional geodetic networks (passive and active networks), including monitoring of deformations.
- e) Applications of geodesy to engineering.
- f) Atmospheric investigations using space geodetic techniques.

Each Commission shall have a Steering Committee, with a maximum of twelve voting members, which shall define the appropriate sub-structure of the Commission, which may consist of the following components:

- a) Sub-commissions.
- b) Study Groups.
- c) Commission Projects.

Sub-commissions and Commission Projects are long-term components, Study Groups are of a short-term nature (maximum of four years). The IAG Executive Committee shall approve the structure and changes to the structure of the Commission.

The **Commission Steering Committee** shall be set up at each General Assembly, following the election of the Association officers. It shall be composed of the following membership:

- a) President elected by the Council.
- b) Vice-president appointed by the IAG Executive Committee.
- c) Chairs of the long-term components.
- d) Up to three representatives of the Services relevant to the work of the Commission.
- e) Up to two Members-at-Large to balance geographical and member country representation

Commission Presidents and Vice-presidents shall serve in general for one four-year period. Re-elections are possible in exceptional cases. The representatives of the services are appointed by the services.

The Commission President and Vice-president appoint the **Members-at-Large** and the chairs of the long-term components within two months following the General Assembly. The IAG Executive Committee shall approve the appointments. Members-at-Large are appointed for a four-year period without reappointment.

The Commission Steering Committee is responsible for maintaining IAG activities in its domain, between and at the General Assemblies. This includes the following:

- a) Review the Commission's field of interests and objectives.
- b) Liaison with the other IAG commissions, the Inter-commission Committees, and with similar organizations outside the IAG, as appropriate.
- c) Foster active participation of young geodesists and geodesists from under-represented countries.
- d) Coordinate and review the work of its components and report at the time of the Scientific Assembly to the Executive Committee on the progress and performance of the components.
- e) Organize Commission and interdisciplinary symposia and/or sessions at major geodesy related international meetings.
- f) Maintain a commission web page and e-mail service
- g) Nominate up to three editors for the Journal of Geodesy.

The Commission Steering Committee shall meet at least once per year.

1.2.2 SUB-COMMISSIONS deal with long-term issues/topics in the field of the Commission. They are established for long time periods (typically several four-year cycles).

The Commission Steering Committee before each General Assembly shall regularly review their work and the need for their continuation.

A Sub-commission shall be set up for topics where the Commission claims to play a leading or coordinating role. Each Commission shall contain a reasonably small number of Sub-commissions.

Guidelines for the establishment of Sub-commissions are established by the Executive Committee and published in the Geodesist's Handbook.

1.2.3 COMMISSION PROJECTS may be established when a new scientific method or a new technique is being developed, or when it seems appropriate to apply an existing technique to a specific geographic area where international collaboration is required.

Commissions shall establish only a reasonably small number of Commission Projects. They should be viewed as flagships for the Commission.

The Commission Project is initially established for four years, and it may be extended for another four-year period, subject to a successful review.

Commission Projects are established and terminated by the IAG Executive Committee upon recommendation from the Commission.

Guidelines for the establishment of Commission Projects are established by the Executive Committee and published in the Geodesist's Handbook.

1.2.4 STUDY-GROUPS address clearly defined well-focused scientific topics of limited scope within the field of the Commission over a limited time period of maximum four years.

Study Groups may be set up at any time by the Commission Steering Committee upon recommendation of one or more members or by individual scientists at one of the committee's regular meetings. Approval by the IAG Executive Committee is required for the establishment or termination of a Study Group. Guidelines for the establishment of Study -Groups are established by the Executive Committee and published in the Geodesist's Handbook.

The **Chair of a Study Group** is responsible for initiating and directing its work and appointing its members. Study Group membership should be balanced so as to reflect international cooperation in its subject and shall be limited to a number not exceeding 20. Corresponding members maybe selected.

The Chair of each 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 cooperation within each Study Group, its members and the commission steering committee should be kept informed, on an annual basis, of results achieved and of outstanding problems.

1.2.5 Commissions are encouraged to establish interdisciplinary **JOINT SUB-COMMISSIONS, STUDY GROUPS, AND PROJECTS** in topics involving more than one Commission. They are also encouraged to set up joint Commission Projects and/or Study Groups with the appropriate services. A lead-Commission shall be specified for such undertakings. Coordination amongst Commissions is the responsibility of the IAG Executive Committee.

1.3 **SERVICES** are part of the Association's work and generate products, using their own observations and/or observations of other services, relevant for geodesy and for other sciences and applications. Accuracy and robustness of products, quality control, timeliness, and state of the art quality are the essential aspects of the Services.

Such a Service shall set up its Terms of Reference as appropriate to accomplish its mission. Each Service works autonomously. However, at least one official IAG representative shall be a voting member of the Service's directing/governing board, and the IAG Executive Committee shall approve its Terms of Reference.

Services shall collaborate on a scientific basis with the Commissions, establish joint Service / Commission Projects, and help compile the Commissions' list of themes for Study Groups.

Services are linked to at least one of the Commissions and may be also linked to other scientific organizations, such as the International Astronomical Union (IAU) or the Federation of Astronomical and Geophysical data analysis Services (FAGS).

Services represent the Association in all domains related to the services' products.

At the present time the Association related Services are the following:

- a) International GPS Service
- b) International VLBI Service
- c) International Laser Ranging Service
- d) International Gravimetric Bureau
- e) International Geoid Service
- f) International Center for Earth Tides
- g) International Earth Rotation Service
- h) Permanent Service for Mean Sea Level
- i) Time Section of the International Bureau of Weights and Measures

The Services shall have a total of three representatives in the IAG Executive Committee. They represent the interests of all services. Their election procedure is defined in Art.2.8 c).

1.4 **IAG PROJECTS** are of a broad scope and of highest interest and importance for the entire field of geodesy. These Projects serve as the flagships of the Association for a long time period (decade or longer).

The IAG Executive Committee shall appoint planning groups for the creation of each IAG Project. Each IAG Project shall have a Project Steering Committee consisting of the following membership:

- a) The project chair appointed by the IAG Executive Committee
- b) One member from each Commission appointed by the Commissions' Steering Committees
- c) Two Members-at-Large proposed by the members of the Project Steering Committee and approved by the IAG Executive Committee
- d) Chairs of the IAG Project sub-groups (if any)

Guidelines for the establishment of IAG Projects are established by the Executive Committee and published in the Geodesist's Handbook.

1.5 The **COMMUNICATION AND OUTREACH BRANCH** provides the Association with communication, educational/public information and outreach links to the membership, to other scientific Associations and to the world as a whole.

1.5.1 The **RESPONSIBILITIES** of the Communication and Outreach Branch shall include the following tasks:

- a) Promote the recognition and usefulness of geodesy in general and IAG in particular.
- b) Publications (newsletters)
- c) Membership development.
- d) General information service and outreach

The Communication and Outreach Branch may also assist the IAG Central Bureau, see 2.7, in the following tasks:

- a) Maintenance of the IAG Web page.
- b) Setting up Association schools.
- c) Setting up meetings and conferences
- d) Maintaining the Bibliographic Service

The Communication and Outreach Branch has a steering committee, the president of which is elected by the Council.

The IAG Executive Committee establishes the Branch on a long-term basis. Based on a Call for Participation, the responding organization(s) and the IAG Executive Committee shall negotiate the Terms of Reference and other conditions.

The General Secretary and the Editor-in-Chief of the Journal of Geodesy shall be ex-officio members of the Branch Steering Committee.

1.5.2 The IAG **PUBLICATIONS** include the Journal of Geodesy, the IAG Newsletter, the Geodesist's Handbook, the "Travaux de l'Association Internationale de Géodésie", IAG Special Publications, and the IAG Symposia series.

The Association's journal is the **Journal of Geodesy**, hereinafter referred to as the journal. The journal is published monthly 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.

The journal publishes peer-reviewed papers, covering the whole range of geodesy, including applications.

There shall be one **Editor-in-Chief** for the journal, hereinafter referred to as the Editor. An Assistant Editor-in-Chief may assist the Editor. The Editor shall be advised and assisted by a Board of Editors, hereinafter referred to as the Board. To ensure broad expertise, each of the Commissions may nominate up to three members of the journal's editorial board.

The Editor shall be responsible for the scientific content of the journal. The Editor shall make the final decision on whether a refereed scientific manuscript is accepted for publication. The Editor shall keep the Executive Committee informed of the activities and status of operations of the journal.

At the time of each General Assembly (GA), the Editor shall, in consultation and agreement with the Bureau and after consideration of suggestions from the geodetic community, recommend candidates for membership on the new Board of Editors, which is to hold office for the next period. This list of candidates shall be published on the IAG web site at least two months in advance of the General Assembly. During the assembly, the current Board shall nominate the members of the new Board from those recommended. After taking office, the new Board shall nominate one, or more, Editors(s) for the next period. The Executive Committee shall approve the nomination of the Editor(s) and concurrence with the publisher will be sought. The Editor and the members of the Board, shall each hold office for one period, but may be eligible to be re-elected for one further period.

The **IAG Newsletter** is under the editorial responsibility of the Communication and Outreach Branch. It is to be published and distributed both in paper form and electronically.

After each General Assembly, a special issue of the Journal of Geodesy shall be published under the name of "**The Geodesist's Handbook**". This issue provides the actual information on the Association, including the reports of the President and Secretary General presented at the previous General Assembly, the resolutions taken at that assembly, and the Association structure for the running period, as well as relevant scientific information.

After each General Assembly, a collection of the reports by the Association components shall be published in the "**Travaux de l'Association Internationale de Géodésie**". This publication is supplied free of charge to the officers of the Association and to the adhering body of each member country.

Proceedings of IAG symposia may be published in the **IAG Symposia Series**. The series editor is the President of the Association, with the symposia convenors acting as volume editors. All manuscripts are subject to a refereeing process, and the volume editor shall make the final decision on whether a manuscript is accepted for publication.

At every General Assembly each member country is encouraged to supply either an adequate number of copies of its **National Report** on geodetic work done since the previous General Assembly in hard copy or a digital copy of its national report to be placed on the IAG web site. 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".

1.6 INTER-COMMISSION COMMITTEES shall handle well defined, important and permanent tasks involving all commissions. Each Inter-commission Committee shall have a steering committee consisting of the following membership:

- a) President appointed by the IAG Executive Committee.
- b) Vice-president appointed by the IAG Executive Committee.
- c) One representative from each Commission

The terms of reference for each Inter-commission Committee shall be developed by a planning group appointed by the IAG Executive Committee. The Inter-commission Committees

report to the IAG Executive Committee. The Inter-Commission Committee will be reviewed every eight years.

2. The **ADMINISTRATION** of the IAG is handled by the Membership, the General Assembly, the Council, the Executive Committee, the Bureau, and the Assistant and Assembly Secretaries.

2.1 The **MEMBERSHIP** of the Association consists of Countries, Candidate Members, Individual Members and Fellows

The IAG Executive Committee, upon the recommendation of the Secretary General accepts individuals as **Members**. Applications for individual membership are made to the Bureau. Benefits of individual membership include:

- a) Substantial reduction on the individual subscription rate to the Journal of Geodesy.
- b) The right to participate in the IAG election process both as a nominator and a nominee (provided IUGG laws are observed).
- c) Application to become a member of the IAG Commission of choice.
- d) Reduction of the registration fee for IAG meetings (as defined by the by-laws 3.2, 3.3)

The Executive Committee sets the suggested membership fee per annum. Donations in addition to this amount will be used for the IAG Fund in support of young scientists. Discounts and in some instances full remission can be obtained by application. Membership is terminated if the membership fee is not paid or if an application for discount or full remission has not been received one year after the fee was due.

Past officers of the Association shall be eligible for appointment as **Fellows** and shall be invited to become such. The IAG Executive Committee makes these appointments.

Persons elected as officers of the Association, or nominated as members of its components, shall automatically become **Candidate Members** at the next General Assembly. 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 officer or a Fellow of the Association, shall be eligible to become Candidate Members upon recommendation by the Bureau.

2.2 The Association shall hold its own **GENERAL ASSEMBLIES** in conjunction with the ordinary General Assemblies of the IUGG, at the same time and in the same country. In addition the Association may hold Scientific Assemblies, independently of IUGG, generally mid-way between the ordinary General Assemblies.

Before any General Assembly, the Bureau of the Association prepares detailed agendas for the Council, Executive Committee, the opening and the closing sessions. As far as the scientific work is concerned, the Executive Committee draws up the agenda. 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 concerning the agenda of the council, or in the Executive committee concerning the scientific program.

At each General Assembly, the President shall present a detailed report on the scientific work of the Association during his/her 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 published in "The Geodesist's Handbook".

Joint Symposia covering topics interesting two or more Associations within the Union may be arranged.

At each ordinary General Assembly, the work of each Commission, each Service, the Communication and Outreach Branch, and each IAG Project shall be reported by its President / Chair. IAG Representatives report to the Executive Committee.

A screening committee will be set up by the IAG President, in due time, to decide about the acceptance of scientific papers for presentation at the General Assemblies. The committee shall consist of one member of the Bureau and the Presidents of Commissions, Chairs of the Services and IAG Projects.

Individual authors are responsible for the reproduction of their scientific papers. The Central Bureau prior to the meeting distributes these papers to the delegates where they are presented. They may be published in the IAG Symposia Proceedings or in the Journal of Geodesy, subject to its editorial policy, or on computer disks or on the Association's web site.

2.3

The **COUNCIL**, in general, shall have the following duties:

- a) Examine questions of general scientific policy or administration, and propose actions deemed necessary.
- b) Elect the members of the Bureau and of the Executive Committee, and the Presidents of 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 Bylaws.
- f) Decide on the venue of scientific assemblies.
- g) Approve the establishment of Inter-Commission Committees and IAG Projects.

The President of the Association convenes the Council. It shall meet at least once during each General Assembly, and may be convened at other times, normally coinciding with and IAG scientific assembly.

2.4 The IAG **EXECUTIVE COMMITTEE**, in general, shall have the following duties:

- 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 Bylaws.
- c) Set up and dissolve Association components and approve their internal structure.
- d) Make recommendations to the Council on matters of general policy of the Association and on the implementation of its objectives.
- e) Appoint Fellows of the Association, upon the recommendation of the Bureau.
- f) Accept individuals as Members of the Association.
- g) Appoint planning groups for Inter-commission Committees and IAG Projects.
- h) Establish Inter-commission Committees and IAG Projects.
- i) Appoint an IAG Review Committee every eight years.
- j) Appoint the Assistant Secretaries of the Association.
- k) Confirm the links between Commissions and Services.
- l) Adopt the suggested membership fee
- m) Appoint the Vice-president of commissions.
- n) Appoint representatives to external bodies.

In addition, the Executive Committee has the right to establish a fund (**IAG Fund**) for supporting specific IAG activities as defined in the IAG Fund Rules, to be published in the Geodesist's Handbook. The fund is under the direct responsibility of the President; the fund's resources are administered by the Secretary General.

The Executive Committee may also establish **awards** for outstanding contributions to geodesy and distinguished service to the Association. The rules for the awards are published in the Geodesist's Handbook.

The President of the Association convenes the Executive Committee. It shall meet at General Assemblies and its members are expected to attend the meetings of the Council, with voice but without vote. It shall also meet normally at least once a year, especially one year before the General Assembly, in order to prepare the scientific agenda and the timetable of the next General Assembly.

At a meeting of the Executive Committee, no member may be represented by any other person, except a President of Commission who may be represented by the Vice-President. In order that the deliberations of the Executive Committee shall be valid, at least half 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.

2.5 The **BUREAU**, in general, shall have the following duties:

- 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.
- c) Receive applications for individual memberships.
- d) Recommend to the Executive Committee Candidate Members, individual Members, and Fellows.

2.5.1 The **PRESIDENT** of the Association, in general, shall have the following duties:

- a) Provide general leadership for the Association in all matters.
- b) Convene and preside over the General Assembly and over all meetings of the Council, Executive Committee and Bureau.
- c) Represent the Association in its dealing with national or international organizations or institutions.
- d) Submit a report to the General Assembly on the scientific work of the Association during his/her tenure.

2.5.2 The **VICE PRESIDENT** shall act as the President whenever the President is not present or is unable to perform any of the President's duties, and shall perform such tasks as may be assigned by the President, the Executive Committee or the Council.

2.5.3 The **SECRETARY GENERAL**, shall have the following duties:

- a) Serve as secretary of the General Assembly, the Council, the Executive Committee and the Bureau; arrange for meetings of these bodies, distribute promptly the agenda and prepare and distribute the minutes of all their meetings.
- b) Director of the Central Bureau.
- c) Manage the affairs of the Association, attend to correspondence, and preserve the records.
- d) Circulate all appropriate information related to the Association.
- e) Prepare the reports of the Association's activities.
- f) Perform such other duties as may be assigned to him by the Bureau.

2.6 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. The function of the Secretary General and the Assistant Secretaries are unpaid and only expenses incurred in connection with them are repayable.

ASSEMBLY SECRETARIES shall be appointed by the Council on the recommendation of the adhering body of the country in which the next Ordinary or Scientific Assembly will take place. In cooperation with the Bureau, the Assembly Secretary has responsibility for liaison with the organizers working on the preparation of the Assembly.

2.7. To assist the Secretary General, the Association establishes the **CENTRAL BUREAU**, after invitation from a host country.

2.8 **ELECTIONS** shall take place by mail vote before each General Assembly and should be completed one month before the assembly.

a) The President of the Association, after taking advice from the Executive Committee, shall appoint a Nominating Committee consisting of a Chair and three other members. The Nominating Committee, after taking advice from the adhering bodies of the member countries, officers, fellows, and members of the Association, shall normally propose at least two candidates 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 member countries and the individual membership shall be informed of these nominations three months before the General Assembly.

b) During the following month further nominations can be submitted by the National Delegates. Such additional 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 Chair of the Nominating Committee. Delegates shall be informed of these further nominations and resumes and of their supporters.

Elections shall be by mail ballot by majority vote. In this case the national delegates form the council

No person may hold more than one of the following offices at the same time: President of the Association, Vice-President, President of a Commission, President of a Service, President of the Communication and Outreach Branch, Chair of an IAG Project.

c) The Services' representatives to the IAG Executive Committee shall be elected as follows: The Chair of the Nominating Committee shall write to all services asking them for one nomination from each service. The Nominating Committee shall recommend normally two nominees for each of the Services' three slots, considering appropriate scientific and national distribution.

The Council will then elect the three representatives as the other Executive Committee members.

The time interval between the closures of two successive ordinary General Assemblies of the Association is called here a period.

The Vice-President is elected for one period and may not be immediately re-elected to the same office.

The President of the Association is elected for one period

The Secretary General is elected for one period initially. He/she may be re-elected for two additional periods. The same rules apply to Assistant Secretaries.

A member of the IUGG Bureau or of the IUGG Finance Committee may not occupy the post of President, of Vice-President or of Secretary General of the Association.

Should the position of President become vacant in the interval between two ordinary General Assemblies, his duties devolve to the Vice-President until the closure of the next ordinary General Assembly.

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.

2.9 The Association shall initiate **INTERNATIONAL COOPERATION** in scientific work of international and interdisciplinary character. This includes the adequate participation in international programs and projects and the representation at scientific congresses, symposia etc. of organizations with related activities. The President of the Association decides on the proper participation or representation.

Representatives to international programs and projects shall be appointed by the Executive Committee and shall keep the President informed on the activities, on a biannual basis. The representatives shall also prepare a report to be presented at the General Assembly.

3. **SCIENTIFIC MEETINGS** relevant to IAG generally are the Scientific Symposia, Scientific Assemblies, and IAG sponsored Symposia. The latter two may take place at any time.

The IAG Newsletter shall include on a regular basis, a **Calendar** of IAG Symposia and other scientific meetings organized or sponsored by the IAG or its components.

The Executive Committee shall appoint an official **IAG Representative** for each of the scientific meetings to be governed by these rules. The representative is obliged to remind the organizers to obey the rules for scientific meetings and to report back to the Executive Committee.

3.1 **SCIENTIFIC SYMPOSIA** take place at IAG General Assemblies and generally shall be **organized** Association component by Association component (including the sub-components) under the chairmanship of the Chairs of the components. The study of some questions may require joint meetings of several components under a chair, appointed by the Executive Committee. A committee consisting of the component Chairs shall decide on the agenda and on the inclusion of scientific presentations.

At each General Assembly **Joint Scientific Symposia** covering topics of interest to two or more Associations within the IUGG and/or other international scientific organizations may be arranged. Though the IAG may be asked to act as convenor or co-convenor, these symposia shall follow the rules issued by the IUGG. The IAG may participate also in joint symposia at any other time outside of the General Assemblies obeying the same procedures.

The arrangement of a scientific symposium shall be subject to the usual approval procedure provided by the Geodesist's Handbook.

3.2 **SCIENTIFIC ASSEMBLIES** are generally held at mid-way between the General Assemblies and shall consist of a group of component meetings and/or a group of Scientific Symposia, held at the same time and place.

3.3 The IAG may sponsor a symposium covering broad parts of geodesy and having large attendance at any suitable time outside the General or Scientific Assemblies, and shall call it an **IAG SPONSORED SYMPOSIUM**, provided the following conditions are fulfilled:

- a) One or more Association component or sub-component shall sponsor it or at least two Study Groups.
- b) Host organization of the symposium shall accept a Scientific Organizing Committee (SOC) appointed by the IAG Executive Committee.
- c) The symposium shall be open to all bona-fide scientists in accordance with the ICSU rules.
- d) The symposium proceedings shall be published within 6-8 months.

The SOC shall be responsible for a high scientific level of the symposium. A Local Organizing Committee (LOC) shall take care of the organization and logistics. Applications for approval of an IAG Symposium should be submitted to the Secretary General at least two years before the intended date of the meeting. Detailed guidelines for such applications, and the expectations from the SOC and LOC, may be found in the Geodesist's Handbook quoted above.

4. The **FINANCES** of the Association derive from the following sources:

- a) Contributions of IUGG member countries of which a proportion, determined by the IUGG Council on recommendation of its Finance Committee, is paid to the Association by the Treasurer of the union.
- b) Sale of publications.
- c) IAG Fund collected from individual contributions for specific purposes.
- d) Membership fees.
- e) Other sources e.g., grants, interests, and funds remaining after a symposium.

The Secretary General is responsible to the Bureau and to the Council for managing the funds in accordance with the Statutes and Bylaws, with the decisions of the Council, and with the recommendations of the IUGG Finance Committee.

The Secretary General alone shall be responsible for control of the financial operations of the Association.

At each General Assembly of the Association the budget proposal for the next 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 General Assembly, the Council shall examine all expenditures to ensure that they were in accordance with the proposed budget 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 IUGG Treasurer, as prescribed in Article 20 of the IUGG Bylaws.

IAG STATUTES

As adopted at the Extraordinary meeting of the Council, Sept. 8, 2001

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1. The **INTERNATIONAL ASSOCIATION OF GEODESY**, hereafter called the Association or the IAG, is a constituent Association of the International Union of Geodesy and Geophysics, hereafter called the Union or IUGG, and is subject to the Statutes and Bylaws of the Union as well as to these Statutes.

2. The **MISSION** of the Association is the advancement of geodesy, an earth science that includes the study of the planets and their satellites. The IAG implements its mission by advancing geodetic theory through research and teaching, by collecting, analyzing, and modeling observational data, by stimulating technological development and by providing a consistent representation of the figure, rotation, and gravity field of the earth and planets and their temporal variations.

3. The IAG shall pursue the following **OBJECTIVES** to achieve its mission:

- a) Study, at the highest possible level of accuracy, all geodetic problems related to the following:
 - Definition, establishment, and maintenance of global and regional reference systems for interdisciplinary use.
 - Rotation of the Earth and Planets.
 - Positioning and deformation studies.
 - Gravity field determination.
 - Ocean and sea level.
 - Time transfer.
 - Signal propagation through the planets' atmospheres.

- b) Support the maintenance of geodetic reference systems for continuous, long-term observations and archival of results.
- c) Provide observational and processed data, standards, methodologies, and models in a form that ensures the broadest possible range of research and application.
- d) Stimulate development and take advantage of emerging space and other technologies to increase the resolution and accuracy of geodetic data and products in order to advance geodetic and interdisciplinary research.
- e) Initiate, coordinate, and promote international cooperation and knowledge exchange through symposia, workshops, summer schools, training courses, publications, and other means of communication.
- f) Foster the development of geodetic activities and infrastructure in all regions of the world, taking into consideration the specific situation of developing countries.
- g) Collaborate with the international science and engineering community in supporting the application of geodetic theory and techniques and the interpretation of results.
- h) Cooperate with national and international agencies in establishing research goals, missions, and projects.

4. The Association's **STRUCTURE** shall comprise of a small number of components: Commissions, Services, IAG Projects and a Communication and Outreach Branch. Sub-components, such as Sub-commissions, Commission Projects, Inter-commission Committees, and Study Groups may be formed as provided for in the Bylaws.

5. The **ADMINISTRATION** of the IAG comprises of the General Assembly, the Council, the Bureau and the Executive Committee.

5.1 The **MEMBERSHIP** of the IAG shall comprise of countries and individuals. Any member country of the IUGG shall be regarded as a **National Member** of the IAG and may, through its adhering body, appoint a **National Delegate** to the Association. National Delegates represent their countries in IAG Council meetings and act as correspondents for their countries between General Assemblies. Individual scientists may become **Members, Candidate members, or Fellows** as provided for in the Bylaws.

5.2 The **IAG GENERAL ASSEMBLY** shall consist of the Fellows, Members, and Candidate Members.

5.3 Responsibility for the direction of the Association affairs shall be vested in the **COUNCIL**. 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 disagree with the decisions of the Council, the Council shall reconsider the question, and make a decision, which shall be final.

5.3.1 The **COUNCIL CONSISTS** of the National Delegates, formally accredited by the adhering body of the member countries, on the basis of one delegate per

country The delegates must have participated in IAG activities. The President of the Association shall preside over the Council meetings, without vote, except in the case of a tie as provided in Article 5.3.2 f) hereafter.

5.3.2 VOTING IN THE COUNCIL shall follow the following rules:

a) Each National 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 the matter has been clearly defined on the final agenda distributed in advance, and that the discussion thereon has not produced any significant new considerations or change in its substance, and that the said vote has been received by the President prior to the voting.

b) In order that the deliberations of the Council shall be valid, the number of National Delegates present must be at least half of the member countries represented at the General Assembly of the IUGG. If the meeting is not held at the same time as an IUGG General Assembly, the number present at the most recent IUGG Assembly is used.

c) On questions not involving matters of finance, the voting in Council shall be by member countries, each having one vote, provided that its IUGG subscriptions shall have been paid up to the end of the calendar year preceding the voting.

d) On questions involving finance, the voting in Council shall be by member countries, with the same provision that a voting country shall have paid its IUGG 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 IUGG.

e) 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.

f) 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). Blank and invalid ballots and votes not cast by delegates present are counted as abstentions.

g) Except as otherwise provided in the Statutes or Bylaws, meetings of the Council as well as those of other IAG administrative bodies shall be conducted according to Robert's Rules of Order.

5.4 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.

5.4.1 The **Bureau** of the Association shall consist of the President, the 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 Bylaws and with the decisions of the Council and the Executive Committee. No member of the Bureau of the Association shall serve as a delegate of a country.

5.4.2 The **Executive Committee** shall consist of the Bureau, the immediate Past President, the Presidents of the Commissions, three representatives of the Services, the President of the Communication and Outreach Branch, and two Members-at-Large to improve geographical and organizational balance.

Presidents of the Inter-commission Committees, Chairs of the IAG Projects and the Assistant Secretaries shall attend any meeting of the Executive Committee, with voice but without vote.

The Past Presidents and past Secretary Generals may attend any meeting of the executive committee, with voice but without vote.

The duties of the Executive Committee shall be to further the objectives of the Association through effective coordination and through the formulation of general policies.

The members of the Executive Committee shall attend meetings of the Council, with voice but without vote.

6. **CHANGES IN THE STATUTES AND BYLAWS** shall be made as follows.

6.1 The Association shall review the Statutes and Bylaws to ensure an up-to-date structure of its scientific organization every eight years. To achieve this goal a Review Committee will be appointed by the Executive Committee at its first meeting after the General Assembly in periods where a review must be performed. Proposals for a change of any article of these Statutes 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.

6.2 The Statutes may not be modified except by the approval of a two-thirds majority of votes cast at a Council meeting, and shall come into force at the close of the meeting.

6.3 The Council shall have the power to adopt Bylaws within the framework of the Statutes.

The Bylaws may be modified by a simple majority of votes cast at a Council meeting, and shall come into force at the close of the meeting.

7. In the event of the **DISSOLUTION OF THE ASSOCIATION**, its assets shall be ceded to the IUGG.

IUGG XXIII GENERAL ASSEMBLY
Sapporo, Japan, 30 June – 11 July 2003

Agenda #9

Reports by Association Presidents
Rapports des présidents des associations

IAGA / AIGA

International Association of Geomagnetism and Aeronomy (IAGA)

IAGA is the premier international scientific association promoting the study of terrestrial and planetary magnetism and space physics. Its five divisions focus on the internal magnetic field, aeronomic phenomena, magnetospheric phenomena, solar wind and interplanetary field, and geomagnetic observatories, surveys, and analyses. See the IAGA website, www.iugg.org/IAGA, for full minutes for past years and detailed information about the many meetings IAGA has sponsored.

The first IAGA Scientific Assembly in Southeast Asia, held jointly with IASPEI, took place 20-31 August 2001 in Hanoi, Vietnam. IAGA sponsored or cosponsored 70 symposia and provided funding at a level greater than for any previous Assembly to support the attendance of young scientists and scientists from the developing world.

A project to produce a unified and consistent magnetic anomaly map of Antarctica, sponsored by IAGA and other organisations, was completed in 2001. Other activities undertaken that year under the auspices of the IAGA Divisions included agreement on a geomagnetic data exchange format, and engagement with the International Organisation for Standardisation (ISO) on requirements for a standard magnetospheric model. The Executive Committee recommends that IAGA should be involved in defining specifications for and in evaluating models, but should not endorse a specific model as a standard. In 2001, a Working Group on Electric and Magnetic Studies of Earthquakes and Volcanoes (EMSEV) was established. IAGA's financial support for the group, which IASPEI and IAVCEI also support, continued into 2003.

IAGA was awarded three ICSU grants during the past 4 years. In 2000 and again in 2002, grants were received in support of INTERMAGNET, an effort to modernise instrumentation and data collection practices in the global magnetic observatory network and to train observatory workers from developing countries. Participation in INTERMAGNET has most recently grown to 75 observatories in 32 countries. In 2003, ICSU awarded a grant to IAGA to support the project 'Rescue of Old Analogue Magnetograms by Converting to Digital Images.

IUGG also awards initiative grants for interdisciplinary research. In 2002 and 2003, a project supported by IAGA and IASPEI was funded by IUGG. This initiative is a 'Detailed Study on the Active Tectonics of Afro-Arabian Rift Region Using Palaeomagnetic and Potential Field Data and Its Incorporation with Seismic Activity,' led by Attia Abdelkader El-Sayed,

Emil Pisara [Slovakia] received an IAGA Long Service Award recognizing his many years of dedicated service at Hurbanovo Observatory, Slovakia. The presentation occurred during a workshop held there in 2000. Nominations for the IAGA Long Service Medal are encouraged, and the establishment of a new IAGA medal is being discussed.

For many years, geomagnetic field modellers working under IAGA's auspices have produced the International Geomagnetic Reference Field (IGRF), a global model of the geomagnetic field and its secular variation. The model coefficients were published in *Physics of the Earth and Planetary Interiors* and in *Geophysical Journal International*.

To improve communication about IAGA activities, the IAGA home page has been redesigned, and, an informational brochure and poster have been published. In 1999, IAGA News No. 30, which focused on the Birmingham General Assembly, was published. In 2000, IAGA Bulletins 32w (Geomagnetic Data for 1993) and 32y (Geomagnetic Data for 1994) were published.

New nominating and election procedures designed to promote diversity in member and discipline participation have been adopted. Dr. Herbert W. Kroehl (USA) served from 1999 to 2001 as IAGA Secretary-General, replacing Dr. Jo Ann Joselyn (USA). Bengt Hultqvist (Sweden) was elected in 2001 as his successor. Dr. B. R. Arora (India) leader of the Interdivisional Commission on Developing Countries, replaced Professor Samuel Ogunade, (Nigeria), who died unexpectedly in 2001, on the Executive Committee.

IUGG XXIII GENERAL ASSEMBLY
Sapporo, Japan, 30 June – 11 July 2003

Agenda #9

Reports by Association Presidents
Rapports des présidents des associations

IAHS / AISH

International Association of Hydrological Sciences (1999-2002)

The International Association of Hydrological Sciences promotes the study of hydrology as an aspect of the earth sciences and of water resources. IAHS had an especially productive four years. Full minutes for these years, with information about all meetings and workshops held, are shown on IAHS website, <http://www.cig.ensmp.fr/~iahs>.

The IAHS Sixth Scientific Assembly was held at Maastricht (The Netherlands) from 18 to 27 July 2001. The overall theme was "A New Hydrology for a Thirsty Planet" and about 400 hundred participants attended. At Maastricht, President-Elect Kuni Takeuchi became President in place of John Rodda, who became Past-President. Reports about the four symposia and seven workshops held at the Assembly can be found on the website.

At the Assembly, it was agreed that the activities of the IAHS should be more closely linked to the major international scientific programmes, with IAHS appearing as an advisor for all hydrological issues. The Assembly approved the adhesion of IAHS to the IWA/IAHR/IAHS Joint Committee on Hydroinformatics and the creation of an IAHS/IAPSO Joint Commission on Groundwater-Seawater Interactions. The "Maastricht Manifesto," which underlines the important role of hydrological science in solving the world's water problems, was adopted. Two new working groups were launched, as described below.

The Hydrology 2020 Working Group is composed of twelve young hydrologists from all over the world -- nominated by IAHS Commissions, UNESCO, and WMO – who discuss issues relevant to the development of hydrology in the forthcoming twenty years. This group first met in Edinburgh in January 2002 to define its objectives and working methods. It contributed to the UNESCO/IAHS Kovacs Colloquium in 2002 in Paris held just before the XVth session of the IHP Intergovernmental Council. It will meet in Sapporo and will deliver a provisional report there.

The Prediction of Ungauged Basins (PUB) Working Group, created in Maastricht, is an international research initiative to promote the development of science and technology to provide hydrological data where ground-based observations are needed but missing. PUB consists of theoretical hydrology, remote sensing, in-situ observations, modelling of the quantity and quality of hydrological phenomena, and capacity-building for the people who need advanced science and technology to predict hydrological phenomena for the basins they are concerned with. PUB connects existing programmes inside and outside IAHS and provides a forum, network, and the framework for integration. Two PUB meetings were held in 2002: one in Kofu, Japan, in March, and the second -- the official launching of the IAHS PUB initiative -- in Brasilia in November.

The International Hydrology Prize is given annually in recognition of an outstanding contribution to science and awarded jointly with UNESCO and the WMO. In 2000, the Prize was presented to Uri Shamir (Israel), former IAHS President and current IUGG Vice President. In 2001, the Prize was awarded to Igor Shiklomanov (Russia). The Tison Award is given annually to a young scientist in recognition of an outstanding contribution to hydrology. The 2000 award was presented to Dr. S. Ulhenbrok (Germany); in 2001 it was presented to Dr. Linda See (UK). There were no awards in 2002, due to lack of nominations.

In 2000, IAHS sponsored about 30 scientific meetings and participated as observer at the XIVth session of the Intergovernmental Council of the UNESCO International Hydrological Program (France, June 2000) and the WMO Commission for Hydrology (Nigeria, November 2000). In 2001, IAHS organized or sponsored about 40 scientific events. IAHS and IUGG were represented at the Kick-Off Meeting (in Kyoto, June 2001) of the 3rd World Water Forum to be held in Kyoto, Shiga, and Osaka, Japan, in March 2003. In 2002, IAHS and its Commissions organized or sponsored more than 50 scientific events. IAHS also participated as observer to the XVth session of the Intergovernmental Council of the UNESCO IHP (France, June 2002) and in the meeting of the WMO-Commission of Hydrology Advisory Working Group in Geneva in December.

In 2000, IAHS Press published six issues of the *Hydrological Science Journal*, which is ranked as the best in this domain, six Red Books, and four issues of the IAHS Newsletter. The newsletter is widely disseminated free of charge, both in hard copy and on the Web. In 2001 IAHS Press published six issues of the *Hydrological Science Journal*, including a special issue, "Can Science and Society Avert the World Water Crisis in the 21st Century," six Red Books, and four issues of the newsletter. In 2002 IAHS Press published six issues of the *Hydrological Science Journal*, plus a special issue, "Towards Integrated Water Resources Management for Sustainable Development"; three issues of the IAHS Newsletter; and six Red Books. The IAHS Task Force for Developing Countries distributes all IAHS publications free of charge to more than 60 universities and research institutions in Africa, Asia, South America, and Eastern Europe. This task has been supported by an ICSU block grant.

IAHS is helping to prepare the next editions of the WMO "Guide to Hydrological Practices" and the UNESCO-WMO "International Glossary of Hydrology."

During the past four years, the IAHS Bureau met three times. At the first meeting, Gordon Young (Canada), elected Secretary General at Birmingham, resigned from his position to take up duties in UNESCO within the World Water Assessment Program. Dr. Pierre Hubert (France) was appointed to take the position until the Sapporo General Assembly. In 2001 the bureau meeting took place in Maastricht (The Netherlands) during the IAHS Scientific Assembly. In 2000 and 2002, the Bureau was held in Paris, between the IHP/IAHS Kovacs Colloquium and the IHP Inter-Governmental Council at UNESCO, as traditionally so for many years.

IUGG XXIII GENERAL ASSEMBLY
Sapporo, Japan, 30 June – 11 July 2003

Agenda #9

Reports by Association Presidents
Rapports des présidents des associations

IAMAS / AIMS

International Association of Meteorology and Atmospheric Sciences (IAMAS)

The International Association of Meteorology and Atmospheric Sciences exists to promote the study of the science of the atmosphere and to support international cooperation, presentation of results, and education and public awareness. Detailed information and minutes for past years are shown on the IAMAS website, www.iamas.org.

At our Scientific Assembly in Innsbruck, Austria, in July 2001, there were 840 registrants, and \$45,000 (USD, \$5,000 contributed by WMO) was distributed for 56 travel grants to attendees from developing countries. Scientists younger than 30 registered for free. The highlight was a Symposium presented by Working Group 1 of the Intergovernmental Panel for Climate Change (IPCC). The report included the work of 100-150 atmospheric scientists, mostly IAMAS members.

IAMAS is the IUGG agent for the Alliance for Capacity Transfer (ACT), which is a joint project with the World Meteorological Organization (WMO). IUGG and the University Corporation for Atmospheric Research (UCAR) received a UNESCO grant of \$30,000 from ICSU for 1999. The money was used to assemble proposals to prospective donors and to build up a small Web management group. All IAMAS bodies have endorsed ACT, but input from the developing world is needed to design the different parts of the project.

In 2002, IAMAS and its ten Commissions prepared for upcoming conferences, especially by planning scientific symposia for the IUGG Assembly in Sapporo. The "Special Nakaya-Magono Celebration: The Growth of Ice Crystals and Snow" will honor these two science giants from the University of Hokkaido. The "Sushi Lunch Lecture Series," open to all IUGG2003 attendants, will provide a relaxed learning atmosphere in which listeners can eat sushi or a sandwich, have

a pop, and be entertained by top speakers discussing the atmosphere and related geophysical fields.

The Commission for Atmospheric Electricity cosponsored a session at the 34th COSPAR Scientific Assembly in October 2002 on "Changing Middle Atmosphere Electrodynamic Phenomena." The Commission for Polar Meteorology was involved in 2002 in a workshop on an improved database of Antarctic climate data. IAMAS participated in the inaugural meeting of the Commission on Geophysical Risk and Sustainability (GeoRisk) in June 2002 in Budapest.

At the Executive Council Meeting of the World Meteorological Organization in spring 2002, the IAMAS Secretary General noted that the burning of biomass suppresses the rain formation process, especially in developing countries, and urged that the Intergovernmental Climate Change Program (ICCP) pay more attention to precipitation, a major unknown in climate models and summer weather forecasting.

IAMAS enjoys strong connections with its scientific community: Immediate Past President Robert Duce is president of the ICSU Scientific Committee on Oceanic Research, and Vice-President M. Geller is vice-president of the Scientific Committee on Solar Terrestrial Physics. Secretary-General R. List co-ordinates IUGG/IAMAS activities with the World Meteorological Organization (WMO), the WMO-ICSU World Climate Research Programme (WCRP) and the International Geosphere-Biosphere Programme.

For the period 1999-2002 IAMAS has provided support exceeding \$110000 for scientists from developing countries to attend conferences or symposia. That is close to the IUGG's quadrennial contribution to IAMAS. A special tax of \$30 per conference participant and minimal office and meeting expenses provided the funds. At the end of 2002 the balance sheet of IAMAS revealed our best-ever financial situation. Thus, we have adequate funds available to further support

attendance at IAMAS meetings by scientists from developing and needy countries.

Our website was upgraded in 2000 via a substantial grant to support the Webmasters Dr. Bettina Bauer (- 2001), and Dr Marc Wueest (from 2001) through the auspices of ETHZ.

The IAMAS statutes were revised in 1999 to create a nomination committee for the Bureau and Executive Committee. This three-member body proposed Professor Huw Davies (Switzerland) as President and Dr. Rit Carbone (USA) and Professor Bob Vincent (Australia) as Vice Presidents. Professor Guoxiong Wu's (China) term as Member at Large was extended for another four years, while Dr. Leonard A. Barrie (Canada), Jean-Louis Fellows (France), Professor Igor Mokhov (Russia), and Professor Akimasa Sumi (Japan) were newly elected.

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IAPSO / AISPO

International Association for the Physical Sciences of the Ocean (IAPSO)

IAPSO promotes the study of the physical sciences of the oceans and the interactions taking place at the sea floor, coastal, and atmospheric boundaries. IAPSO provides basic services such as the Permanent Service for Mean Sea Level and the IAPSO Standard Seawater Service (operated by Ocean Scientific International) and collaborates closely with UNESCO's Intergovernmental Oceanographic Commission (IOC) and ICSU's Scientific Committee on Oceanic Research.

The IAPSO website: www.iugg.org/iapso is a repository of information about our history, activities, resolutions, Commissions, publications, officers, and more. By late summer 2000, the IAPSO Web site was receiving 5,000 hits per month. In recent updates, abstract books from the 2001 Joint Assembly were added, as well as information for younger students and links to university, laboratory, and institute Web pages. Assembly abstract books are heavily accessed for significant periods of time following the Assemblies.

Our principal meeting for the Quadrennium was the Joint Assembly with the International Association for Biological Oceanography (IABO) in Mar del Plata, Argentina, in 2001. Attending were 430 paid registrants, including a significant number of students and young scientists. A session about IAPSO history was held in addition to technical sessions. At this meeting, Dr. Walter Munk (USA) was the first recipient of the Prince Albert I medal for distinguished accomplishments in the physical sciences of the oceans. The medal is named for the late Prince Albert I of Monaco who, in 1919, organized the Oceanography Section of the International Union of Geodesy and Geophysics. To be awarded biannually, the medal was established in partnership with Prince Rainier of Monaco.

IAPSO Commissions include the Commission on Mean Sea Level and Tides (which operates in cooperation with the Permanent Service on Mean Sea Level), the Commission on Cooperation with Developing Countries, and the Inter-Association Tsunami

Commission (jointly sponsored with IASPEI and IAVCEI). The Commission on Sea Ice was discontinued but initial action was undertaken to reform the Commission with a broader scope. The IAPSO Commission on Natural Marine Hazards has been merged with the new Inter-Association Commission on Geophysical Risk and Sustainability, The new IAPSO/IAHS Joint Commission on Groundwater-Seawater Interactions held its organizational meeting in 2001, and its activities have continued. A new Working Group on Deep Ocean Mixing was formed in 2002 by IAPSO and ICSU's Scientific Committee on Oceanic Research. An initial meeting of that group is planned at the IUGG General Assembly in Sapporo.

The IAPSO Executive Committee met twice during the Quadrennium. In addition, a special Task Committee on the future of IAPSO was formed. All National Correspondents received a questionnaire relating to this issue. The Task Force met in Cape Town, South Africa in October 2002, to review input and recommend actions.

Initial planning was carried out for a Joint IAPSO/IABO Scientific Assembly in Perugia, Italy, in September 2005.

IAPSO officers during the past Quadrennium are Dr. Paola Rizzoli, President (USA); Dr. Fred E. Camfield, Secretary General (USA); Dr. L. Vere Shannon, Past President (South Africa); Dr. John A. Johnson (UK) and Prof. S. Krishnaswami (India), Vice Presidents; and Dra. Maria Cintia Piccolo, Deputy Secretary General (Argentina). Members of the Executive committee are M. Astraldi (Italy), K. Le (China), S. Imawaki (Japan), A. Zielinski (Poland), E.G. Morozov (Russia), and D. Smyth-Wright (U.K.).

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IASPEI / AISPIT

International Association of Seismology and Physics of the Earth's Interior (IASPEI)

IASPEI promotes the study of problems relating to earthquakes, the propagation of seismic waves, and the internal structure, properties, and processes of the Earth. Comprehensive minutes of the past Quadrennium and other information are on the IASPEI website, <http://www.iaspei.org/>.

IASPEI and IAGA held a Joint Scientific Assembly at Hanoi, Vietnam, in August 2001. Other organizers were Studies of the Earth's Deep Interior and the International Lithosphere Program. Special symposia focused on the origin and evolution of Earth's natural hazards, structure and dynamics of the lithosphere, and global tectonic zones. More than 1,000 scientists from 64 countries registered. Of 1,700 abstracts submitted, more than 500 were sent to IASPEI or IASPEI-led symposia.

The Asian Seismological Commission (ASC) had two meetings in the past Quadrennium. At the Third General Assembly in Teheran, Iran, in 2000, representatives from most Asian countries and from Africa, Europe, America, and Australia offered the results of their scientific achievements in the field of seismology, earthquake hazard assessment, and topics related to the Earth's interior. An International Regional Training Course on Seismology and Mitigation of Seismic Disasters preceded the assembly. Afterward, two technical workshops -- Educating the Public about Earthquake Hazard and Risk, and Seismic Networks and Site Selection -- were held. ASC's Fourth General Assembly was in Kathmandu in November 2002. About 150 professionals from 22 countries participated. The conference underscored the need to strengthen connections of scientists, earthquake engineers, disaster risk reduction specialists, policy-makers, and administrators to reduce the impact of earthquakes. A Symposium on Seismology, Earthquake Hazard Assessment, and Risk Management followed the ASC meeting. A pilot project, "Seismic Hazard and Risk Assessment in Asia," was adopted at the ASC Fourth General Assembly. The project will focus on improving hazard evaluation,

assessing and reducing seismic risk, and early warning and notification. ASC's Fifth General Assembly will be in Armenia in 2004.

With IASPEI's financial support, the European Seismological Commission (ESC) has sponsored four Training Courses for Young Seismologists to expose them to data acquisition, processing techniques, and empirical evaluation of site effects. The 2002 course took place in Genoa and focused on analysis of digital broadband data. Seventeen students from eight countries attended. The ESC Bureau endorsed a proposal to hold a fifth training course in Potsdam in September 2004.

The International Commission for Earth Sciences in Africa (ICESA) facilitates scientific collaboration among African countries and organizations working in the field of earth sciences. The ICESA council's central objective is publication of a book that reviews two decades of research in African geology. Eight special issues of the *Journal of African Earth Sciences* will comprise the book.

The Northern African Seismological Group (NASG) is receiving IASPEI financial support as of October 2002 for its work on seismic hazard assessment in the Afro-Arab region and risk estimation in selected large cities. For each country in Northern Africa, NASG catalogued data that can be used to compute the seismic hazard for frequencies from 1 to 10 Hz. In December the databases were merged, and a map for the entire area was generated based on the deterministic approach. About 90 NASG scientists met in Algeria in October 2002 and established a link with the IGCP457 UNESCO project.

Another Education/Training Activity was the Workshop/Summer School on Structure and Tectonics of Convergent Plate Margins that was held July 1-6, 2002 at Castle of Zahradky, North Bohemia, Czech Republic. It was organised jointly by the Geophysical Institute of the Academy of Sciences of the Czech Republic (GI) and the Faculty of Mathematics and Physics of the Charles University (FMP) under IASPEI auspices. The workshop/school was aimed at exchange of the latest results of research related to

dynamics of active convergent margins, namely to the process of subduction, and at providing MSc and PhD students modern views and summaries on this problem.

The Global Seismic Hazard Assessment Program, part of the United Nations International Decade for Natural Disaster Reduction, ended in 1999 with the completion of the Global Seismic Hazard Map. A special volume of *Annali di Geofisica* contains all reports and the map. All results and ordering instructions are on the web at <http://seismo.ethz.ch/GSHAP/>. The volume and map are available free and will be distributed worldwide.

IASPEI participated in STEND (System for Technology Exchange for Natural Disasters), an information exchange program aimed at increasing awareness of available technology. STEND was developed by the World Meteorological Organization (WMO) in Geneva, Switzerland.

The Working Group on Personal Computers has prepared a PC Shareware Library on diskette that provides fast and wide distribution of geophysical programs and utilities, reduced or demonstration versions of geophysical software, and beta versions of new programs to be included in future volumes of the IASPEI Seismological Software Library (SSL). Each software volume of the SSL includes the executable code, examples on floppy diskettes, and printed documentation.

The Publications Transfer Program of IASPEI's Committee for Developing Countries (CDC) has made material on seismology available to institutions in need in Peru, India, Indonesia, Argentina, and Colombia. Also, the CDC circulated biannually, from Hyderabad, India, a newsletter for geoscientists from developing countries and those in developed countries especially interested in the development of seismology in Third World countries. Both e-mail and print versions were distributed.

The following publications are available from the IASPEI Secretariat. IASPEI on approval distributes free copies of its publications to institutional libraries in less-developed countries.

"IASPEI: Cooperation for Better Understanding of the Earth" (26-page brochure)

International Handbook of Earthquake and Engineering Seismology (Part A), the first of a two-volume comprehensive review, a state-of-the-art reference for seismologists, earthquake engineers, geologists, and geophysicists. Part A includes two CD-ROMs and 56 chapters detailing the history of seismology, theoretical and observational seismology, earthquake geology and mechanics, and the Earth's structure. Part B, to be published in spring 2003, features 34 chapters detailing strong-motion seismology, selected topics in earthquake engineering, earthquake prediction and hazards mitigation, and miscellaneous topics, including over 50 national reports and 2 CD-ROMs. Each volume has about 1,000 pages. For more information, consult the website, <http://www.academicpress.com/quake>.

New Manual of Seismological Observatory Practice provides the essential scientific and technical fundamentals, reveals their inter-relationships, and motivates observatory personnel to do their jobs as carefully as possible. Volume 1 comprises 13 chapters. Volume 2 is an annex volume comprising information sheets with a more elaborate treatment of special problems, program descriptions, data sheets, and practical exercises related to basic observatory tasks. First contributions are available on the web, and a print version is also planned. The 1979 *Manual of Seismological Observatory Practice*, is also available on the web (<http://www.seismo.com/>). It covers analogue techniques only.

Finally, IASPEI uses a bulk E-Mail System to broadcast timely announcements about forthcoming meetings and other information of interest to IASPEI members.

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IAVCEI / IAVCEI

International Association of Volcanology and Chemistry of the Earth's Interior (IAVCEI)

IAVCEI serves as an international focus for (1) research in volcanology, (2) efforts to mitigate volcanic disasters, and (3) research into closely related disciplines, such as igneous geochemistry and petrology, geochronology, volcanogenic mineral deposits, and the physics of the generation and ascent of magmas in the upper mantle and crust. The re-designed IAVCEI website, www.IAVCEI.org, contains updated information on IAVCEI meetings, Commissions, publications, Officers and Sub-Committees, and Awards. The site is frequently updated.

The IAVCEI Scientific Assembly was held in July, 2000, in Bali, Indonesia. About 500 volcanologists attended the five-day meeting and visited some of the world's most famous and destructive volcanoes. Midway through the meeting, participants traveled to Batur caldera and one of VSI's volcano observatories. The next Scientific Assembly is scheduled for November 14-19, 2004, in Pucon, Chile.

In 2001, the highly successful conference "Cities on Volcanoes 2" was held in Auckland, New Zealand. About 250 volcanologists, planners, and industry and government officials attended to discuss aspects of volcanic hazards and their effects in urban areas. A travel grant from IUGG helped pay expenses for ten young scientists or scientists from developing countries. Cities on Volcanoes 3 will be held in Hilo, Hawaii, in July 2003.

A highlight of 2002 was the highly successful conference "Mount Pelee 1902-2002" in St. Pierre, Martinique. About 200 volcanologists attended the meeting May 12-16, 2002. May 8, 2002, was the 100-year anniversary of the famous 1902 eruption that destroyed the city of St. Pierre. At the conference, two outstanding young volcanologists were awarded the IAVCEI Wager Medal: Andy Woods (UK) and James Gardner (USA).

IAVCEI has fifteen active commissions, three of which had leadership changes in 1999. A review process for all commissions was formalized in July 2000 in Bali. The newest

commission, Commission of Cities on Volcanoes, is led by David Johnston (NZ) with Diane Tilyard (NZ) as secretary, and a web site has been prepared.

The Commission of Mitigation of Volcanic Disasters has begun a new Atlas series. The first volume will cover the Caribbean region and will be prepared under the leadership of Jan Lindsay (Trinidad). The IAVCEI Executive Committee authorised \$4,000 to support the first volume.

The Commission on Explosive Volcanism is compiling a comprehensive database of all eruptions with volume $>10 \text{ km}^3$ for the last 2 million years. The Executive Committee authorized \$2,000 to help fund this significant activity.

IAVCEI was co-applicant for an ICSU grant to support training in volcanology for Latin American scientists. The grant provides \$12,000 per year for three years. The first year's funds are being spent to support attendance at a March 2003 workshop in Nicaragua on volcanic gases. Applications are being received for the second year's funds.

Two videos, one on understanding volcanic hazards and the other on reducing volcanic risk, were professionally produced under contract with IAVCEI. More than 310 videos have been sold since 1999. Also sold were more than 21,100 volcano calendars. In addition, each year, IAVCEI distributed 800 calendars to various scientific, educational, and governmental organizations. IAVCEI received a small royalty payment for the calendars.

Tim Druitt (France) is the new editor of IAVCEI's *Bulletin of Volcanology*. The IAVCEI newsletter "IAVCEI News" is mailed three times every year.

Paid membership for 1999 was 552 members. The top eleven countries in terms of memberships were the USA, Japan, Italy, Australia, U.K., Germany, New Zealand, Russia, Romania, France, and Mexico. IAVCEI ended the year 2000 with 609 paid individual members, another record. For 2001, paid individual membership was 588. At

the end of 2002, IAVCEI counted 705 paid individual members, the highest total to date. Twenty-two members chose to become Life Members. The official IAVCEI listserver is now the volcano listserver administered by Arizona State University. It has >2,500 people listed, which far exceeds the IAVCEI membership. Thus we hope to further boost the membership in IAVCEI.

The full IAVCEI Executive Committee met three times during the Quadrennium -- in Bali, Auckland, and Martinique. At Martinique it formed a Nominations Committee, chaired by Wally Johnson (Australia), to certify candidates for the postal vote to be held in spring 2003. Secretary-General Steve McNutt is working with a lawyer to obtain tax-free 501(c)3 status with the Internal Revenue Service of the United States so that contributors to IAVCEI will receive a tax benefit.

Officers are Steve Sparks (UK), President; Joerg Keller (Germany) and Tadahide Ui (Japan), Vice-Presidents; and Steve McNutt (USA), Secretary-General. Members of the Executive Committee are Toshitsugu Fujii (Japan), Bruce Houghton (NZ), Jocelyn McPhie (Australia), Hugo Moreno (Chile), and Raden Sukhar (Indonesia).

IUGG XXIII GENERAL ASSEMBLY
Sapporo, Japan, 30 June – 11 July 2003

Agenda #10.a

Review of IUGG Inter-Association bodies
Examen des Comités inter-Association de l'UGGI

Commission on Geophysical Risk and Sustainability
(GeoRisk)

Commission sur les risques géophysiques et le
développement durable



Report of the IUGG Commission on Geophysical Risk and Sustainability

Tom Beer (Chair, GeoRisk Commission)

The Inter-association Commission on Geophysical Risk and Sustainability is also known as the GeoRisk Commission. It was established by the IUGG Bureau in August 2000 to study the interaction between hazards, their likelihood and their wider social consequences as a result of the vulnerability of societies.

The Commission received the support of all the seven International Associations that comprise the IUGG, as well as the support of some of the inter-association initiatives, principally CMG and ITC. These bodies all nominated a person to be a member of the Commission, to represent their Association on the Commission, and to report Commission activities back to their respective Associations through the appropriate Secretary-General.

The GeoRisk Commission Executive consists of Tom Beer (Chair), Grant Heiken (Secretary), Paula Dunbar (Treasurer), Alik Ismail-Zadeh (vice-chair), and Kuniyoshi Takeuchi (vice-chair).

Since August 2000, the activities of the Commission have been to establish a web site, to organise future meetings, and to initiate the webyclopedia project, and to discuss the feasibility of a cities project. Communication between the membership has been via e-mail, including distribution of “GeoRisk Update”, an occasional newsletter of the Commission.

Web site

It took longer than envisaged to set up the web site – primarily because the administrative and financial arrangements proved more complex, and slower, than expected. However the attractive website is now functional at:

<http://www.mitp.ru/georisk/>

and is maintained by our webmaster, Dmitry Krupsky [s_dmitry@rambler.ru].

Past and future meetings

Crowding the Rim Summit, Stanford University (August 2001)

This successful meeting, organised by the US Geological Survey, Stanford University, the Pan-Pacific Council and the American Red Cross was supported by the GeoRisk Commission and attended by the Secretary and the Chair.

Workshop on Science for Risk Reduction and Sustainable Development of Society, Hungarian Academy of Sciences (June 2002)

The vice-chair, Alik Ismail-Zadeh, organised this workshop, which also served as the inaugural meeting of the Commission. The proceedings of the workshop are being published by Kluwer under the title “Risk Science and Sustainability: science for the reduction of risk and sustainable development of society.”

The workshop endorsed the Budapest Manifesto on Risk Science and Sustainability. The text of the manifesto may be found on the IUGG web site at www.iugg.org/budapest.pdf

IUGG General Assembly, Sapporo, Japan (July 2003)

The GeoRisk Commission is organising two sessions. The Union Symposium U4 – Geophysical Risk and Sustainability on a Crowded Planet – that is an invitation only session; and an inter-association symposium JSP11 – Geophysical Risk and Vulnerability: The population-hazard interaction.

Other meetings

The GeoRisk Commission was involved with the Third World Water Forum held in Japan during March 2003.

Webcyclopedia

The main activity of the Commission is the development of a web based “Webcyclopedia of Urban Risk and Sustainability”. The shell is developed and should be examined at <http://www.mitp.ru/georisk/webcyclopedia/index.html>

The webcyclopedia is envisaged as a matrix, ordered in terms of cities, hazards and risks. The rows of the matrix will be envisaged to be the cities, whereas the hazards and risks form the columns. The ordering of cities will be determined by the past scientific studies of the members of the commission, the future activities, and contacts made as a result of the on-going commission initiatives. The hazards to be considered will be determined by the scientific skill base, as determined by the [IUGG](#) associations - hydrological, meteorological, marine, tsunamis, volcanoes, seismic, geodetic (landslides), geomagnetic. The risks will be determined by the sustainability issues such as infrastructure issues (building vulnerability, robustness of infrastructure), and health issues (air quality, water quality, contaminated land).

The Webcyclopedia project will seek to find volunteers who will provide web-based material to insert into the cells of the matrix. The form of such material could be many and varied, ranging from the traditional scientific paper through to interactive hazard maps, real time data, models of the phenomena, or merely hyperlinks to other sites providing information on the topic.

The next stage in the development of the webcyclopedia will be to find an Editor-in-Chief, and an editorial panel of Geographic Editors and Disciplinary Editors. Applications for these positions are invited.

Other activities

The Chair of the Commission worked together with Dr Robert Hamilton, Chair of the ICSU Committee on Disaster Reduction, to prepare an ICSU position paper on natural disaster reduction, entitled Safer Sustainable Communities: making better decisions about risk. The paper is on the ICSU web site at <http://www.icsu.org/Library/ProcRep/StatemBodies/statem-NDR.pdf>

Alik Ismail-Zadeh, Vice-Chair, represented both IUGG and the Commission at a meeting in Paris to prepare an ICSU proposal for a project on environmental catastrophes, to be called "Dark Nature".

The future

The outstanding achievements within such a short time span are a tribute to the enthusiasm and energy of all of the members of the Commission, and especially the GeoRisk Executive. In July 2004 the GeoRisk Commission has agreed to hold a joint meeting with the International Natural Hazards Society in Hyderabad, India, at the invitation of the National Geophysical Research Institute, and the expectation is that in 2005 Commission members will organise symposia at the scientific assemblies of each of the associations.

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Agenda #10.a

Review of IUGG Inter-Association bodies
Examen des Comités inter-Association de l'UGGI

Committee on Geophysics: The Future (GTF)
Comité sur l'avenir de la géophysique

The Committee on Geophysics: The Future (GTF)

The IUGG Executive Committee and Program Committee for Sapporo 2003 met in July 2001, and adopted a proposal by Uri Shamir, IUGG Vice-president, to set up a Working Group titled “Geosciences: The Future” (WG-GTF). The members of the Working Group will be young (defined as $\leq \sim 30$ years old) scientists representing the seven IUGG Associations with the hope and expectation that they will become leaders in their Associations and in the Union. Their task is to develop a vision of the future of the geosciences to be presented at a Union Symposium of the IUGG General Assembly in 2003.

Subsequently, the Associations designated their representatives as follows

- IAG – Mrs. Laura Marlene Sanchez Rodriguez
Instituto Geografico Agustin Codazzi, Colombia
Currently at the University of Dresden, Germany
- IAGA - Dr. Aaron J. Ridley
Space Research
The University of Michigan, USA
- IAHS – Dr. Taikan Oki
University of Tokyo, Japan
- IAMAS – Mr. Sam Adlen
Oxford University, UK
- IAPSO – formerly Alan Meyer, University of Cape Town, but presently vacant
- IASPEI – Mr. Kazunori Yoshizawa
Currently at ANU in Australia
Appointed Assistant Prof. at the U of Hokkaido, Japan
- IAVCEI – Dr. Emily Brodsky
Department of Earth & Space Sciences
UCLA, USA

Emily Brodsky is the Committee Chair with the assistance of U. Shamir.

IUGG has supported one sub-committee meeting and one full meeting of the committee, and they have also held several conference telephone calls. A draft report is already available.

**The Final Report of the Committee on Geophysics: The Future (GTF)
will be presented as Union Symposium U8
at the IUGG General Assembly in Sapporo, Japan,
on Friday, July 11, 2003**

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Agenda #10.a

Review of IUGG Inter-Association bodies
Examen des Comités inter-Association de l'UGGI

Committee on Mathematical Geophysics (CMG)
Comité de géophysique mathématique

Committee on Mathematical Geophysics (CMG) **Comité de géophysique mathématique**

The Committee on Mathematical Geophysics is an Inter-Associations body whose purpose is to promote the development and application of mathematical methods and appropriate theoretical techniques for the solution of geophysical problems across the complete spectrum of IUGG disciplines. In recent years this has led to a focus on nonlinear dynamics. Although the origins of the Committee extend back to 1964, the present structure and pattern of biennial meetings began in 1972 in Canada. Countries that have hosted the meetings since 1986 include the Netherlands, Spain, Israel, Mexico, France, U.S.A., U.K., France, and most recently, Italy in 2002.

The 24th conference of this series was held June 17--21, 2002, in Torino, Italy. The theme of the meeting was "Pattern and Form in Earth Dynamics." The conference focused on the formation of patterns in a wide range of Earth Systems and emphasized not only their beauty and complexity but also how they could be used to infer important information about the underlying dynamic processes. Examples of pattern-forming systems discussed at the meeting included fracture and fault systems and the distribution of earthquakes, river networks and landform evolution, multi-scale atmospheric systems from clouds to hurricanes, plate formation and mantle convection, the development and consequences of magmatic plumbing systems, and spatio-temporal complexity in ecosystem dynamics. The complete program of the meeting, including a list of participants, is available at the meeting's website <http://www.icg.to.infn.it>.

Plans for our next conference, in 2004, have yet to be finalized.

Officers of the CMG are

<i>Chair:</i>	Daniel H. Rothman (U.S.A.)
<i>Vice-Chair– Russia:</i>	George Molchan (Russia)
<i>Vice-Chair – North America:</i>	Ray Pierrehumbert (U.S.A.)
<i>Vice-Chair– Europe:</i>	Antonello Provenzale (Italy)
<i>Vice-Chair – Middle East:</i>	Eli Tziperman (Israel)
<i>Secretary:</i>	Marc Speigelman (U.S.A.)

Association representatives:

<i>IAG</i>	Martin Vermeer (Finland)
<i>IAGA</i>	to be named
<i>IAHS</i>	M. Daniel Schertzer (France)
<i>IAMAS</i>	to be named
<i>IAPSO</i>	P. Rizzoli (Italy)
<i>IASPEI</i>	to be named
<i>IAVCEI</i>	A. Neri (Italy)

Dan Rothman
CMG President

IUGG XXIII GENERAL ASSEMBLY
Sapporo, Japan, 30 June – 11 July 2003

Agenda #10.a

Review of IUGG Inter-Association bodies
Examen des Comités inter-Association de l'UGGI

Committee on Studies of Earth's Deep Interior (SEDI)
Comité d'étude des profondeurs terrestres

Committee on Studies of Earth's Deep Interior (SEDI) **Comité d'étude des profondeurs terrestres**

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 International Lithosphere Programme that addresses the shallower regions. During the past quadrennium, a complete overhaul of the SEDI electronic mailing list and web site was undertaken. The web site was moved to its new address at www.sedigroup.org and the SEDI newsletter, *Deep Earth Dialog*, was revived in electronic form. The Secretary and Chairman began developing a network of national SEDI websites to report on local activities.

SEDI has continued to hold annual symposia. The 7th Symposium was held in Exeter, U.K. from July 30-August 4, 2000. In 2001, the main meeting was the IAGA/IASPEI joint symposium held in August in Hanoi, Vietnam. SEDI sponsored 7 symposia at the meeting, 4 of them joint between the two Associations and 3 directly with an Association. The 8th biennial SEDI symposium held in Lake Tahoe, California, from 22nd-26th July. It was entitled "Geophysical and Geochemical Evolution of the Deep Earth" and a special issue of *Physics of the Earth and Planetary Interiors*, edited by Michael Bergman and Peter Shearer, was prepared for publication with contributed articles by delegates. At an open meeting, it was decided that the 9th SEDI Symposium would be held in Bavaria, Germany, hosted by Prof Uli Christensen. The meeting was well attended by delegates from many countries and was considered a success by all. Regarding SEDI symposia at the IUGG General Assembly in 2003 in Sapporo, one Union session will be devoted to Deep Earth matters, and SEDI will co-sponsor 8 other relevant symposia.

At Hanoi in 2001, the Chairman signed a memorandum of understanding with Prof. BLN Kennett, President of IASPEI, on procedures for the Doornbos Memorial Prize. This Prize was set up in 1994 following the tragic death of seismologist Durk Doornbos. The fund is managed by IASPEI and the prize awarded for outstanding scientific contributions at the biennial SEDI meeting. The prize winners at the 2000 SEDI meeting were E. Dormy, M. Bergman, and I. Sumita. In 2002, the prizes were awarded to young scientists Dario Alfe of University College, London, Richard Holme of the University of Liverpool, and Stephane Labrosse of the Institute de Physique du Globe, Paris. The prize committee also discussed the possibility of establishing another prize in memory of Dr Stephen Zatman, who died under tragic circumstances during the year. Subsequent discussion with institutions where Stephen has worked have made it clear that a named lecture would be more appropriate, and future SEDI symposia will include an invited Zatman lecture.

In May, 2001, the SEDI secretary, M. Brown, had to resign because of the pressure of work and personal circumstances. Nominations were invited from the SEDI steering committee at the business meeting in Hanoi, and Dr M Bergman of Simon's Rock College, Massachusetts, U.S.A., was elected secretary. The Vice-Chair of SEDI is Henri-Claude Nataf (France).

David Gubbins (U.K.), Chair

IUGG XXIII GENERAL ASSEMBLY
Sapporo, Japan, 30 June – 11 July 2003

Agenda #10.a

Review of IUGG Inter-Association bodies
Examen des Comités inter-Association de l'UGGI

Committee on IGY+50
Comité de l'Année Géophysique Internationale + 50

IUGG Co-ordinating Committee for the International Geophysical Year + 50

Chair Michael Kuhn (Inst. für Meteorologie und Geophysik, Innsbruck, Austria;
Michael.Kuhn@uibk.ac.at)

The report on the actions of this Committee has not yet been received. In addition to the
Chair, who is a member of IAMAS, the other members of the Committee are

Dan Baker (IAGA; U.S.A.)

Domenico Giardini (IASPEI; Italy)

Ivan Mueller (IAG; U.S.A.)

IUGG XXIII GENERAL ASSEMBLY
Sapporo, Japan, 30 June – 11 July 2003

Agenda 10.b

Relations with special ICSU Committees
Relations avec les Comités Inter-Union particuliers du
CIUS

Federation of Astronomical and Geophysical Data
Analysis Services (FAGS)
Fédération des services d'analyse des données
astronomiques et géophysiques

Report to IUGG on FAGS 1999-2003

The Federation of Astronomical and Geophysical Data Analysis Services (FAGS) encourages and promotes the establishment of the operation of international Permanent Services. Dr Martine Feissel-Vernier and Dr David Pugh have represented IUGG on the FAGS Council over this period. David Pugh was elected as President of FAGS for a four-year period from March 2002. FAGS is jointly sponsored by the IUGG and by the International Astronomical Union, and the Union Radiologique Scientifique. The twelve Permanent Services collect and analyse data of long-term value in astronomy, geophysics, geodesy and related sciences and make data archaeology and rescue, particularly with former Eastern Bloc countries. FAGS is currently composed of 12 Permanent Services, which collect, analyse, interpret and distribute their work world wide. IUGG is the Lead Union for six of the Services and is a joint sponsor for two others. FAGS Council has met annually over the past four years to review the reports of the Services, where necessary encouraging collaboration; and in a few recalcitrant cases, the future publication of data through the web rather than hard copy. In that period FAGS has encouraged and approved the merger of two Services dealing with the international space environment, and awarded FAGS status to the International VLBI Service.

The web site of FAGS (www.kms.dk/FAGS) has been improved and updated in 2002. FAGS Services are substantially and mainly financed by the host agencies in each of the various countries. The total amount of operational cost can be estimated as at least 1 million \$ US, and probably much more if all the individual data collecting activities are included. FAGS itself allocates a very small amount of money, from the Unions and ICSU (related to their individual priorities). This FAGS allocation to the Services encourages interdisciplinary co-operation and focus on common activities, especially towards countries in the developing world. Increasingly it is being allocated by the FAGS Council against specific priorities, rather the former practice of allocating funds generally to the Services. Typically FAGS has between \$40,000 and \$60,000 per annum for this encouragement. However, the main work of FAGS continues to be the fostering of co-ordination, modernisation, and an ethos of serving the scientific community through the sharing of best practice and the membership of an international federation. Specifically FAGS can avert the establishment of parallel competing data analysis services (some applicants have been refused on this basis); it allows the merger of compatible services within a framework as has recently happened with IERS; and it continually encourages the Services to work through Directing Boards which are representative of the science user community. Although most Permanent Services work well within this regime there are still some Services where FAGS intervention has been necessary.

Specific developments of IUGG interest include:

- The IERS has been reorganized to focus on global reference systems and frames based on all space geodetic techniques (VLBI, GPS, laser ranging, DORIS). It relies on technique-specific scientific services for the development of the techniques themselves. Two of these technique-specific services (IVS, IGS) are members of FAGS. The ILRS (laser ranging service) is not. IERS has now a special branch for monitoring the global fluid layers of the Earth (atmosphere, oceans, mantle, core).
- BGI and ICET have joined the IAG International Geoid Service in a unique "Gravity Field and Figure of the Earth Service" (GFFS).

- PSMSL has continued and extended their main tasks, developing working connections with international programs and services such as the IGS for the geodetic monitoring of tide gauges. It is strongly related to GLOSS, the Global Sea Level Observing System. The GLOSS programme is operated under the auspices of the Joint Commission for Oceanography and Marine Meteorology (JCOMM) of the Intergovernmental Oceanographic Commission (IOC) and the World Meteorological Organisation (WMO).

In general, Services are quite flexible and adapt rapidly to a constantly changing world, while ensuring continuity of the Service to their users. IUGG and FAGS can be proud of being among the sponsors of Services that serve efficiently the interface between science and societal concerns.

FAGS operates on behalf of the sponsoring Unions and ICSU. It is part of an ongoing process considering the issue of future data structures within ICSUC and perhaps also involving UNESCO. These dialogues will be continuing into the 2004-2007 period. The support of IUGG for FAGS through this period is essential if we are to work towards a more coherent umbrella structure for all earth and astronomical measurements in the service of both science and society.

Martine Feissel-Vernier and David Pugh
February 2003

IUGG XXIII GENERAL ASSEMBLY
Sapporo, Japan, 30 June – 11 July 2003

Agenda 10.b

Relations with special ICSU Committees
Relations avec les Comités Inter-Union particuliers du
CIUS

Initiative on Science for Health and Well-Being
Initiative concernant la Science pour la santé et le bien-
être

The Initiative on Science for Health and Well-being

At the recent International Council for Science (ICSU) General Assembly, several of the member Unions agreed to consider a joint initiative on the general topic of Science for Health and Well-being. On February 10-11, 2003, a meeting chaired by Dr. M. Wake, President of the International Union of Biological Sciences, was held at ICSU Headquarters in Paris, France. Drs. Pierre Hubert and Jo Ann Joselyn attended on behalf of IUGG. The participating Unions agreed on a statement of scope of the proposed initiative. The purpose is to employ the science community to empower public and policy-makers in all countries with the knowledge base required to positively effect their health and well-being. The goals of the initiative are 1) to demonstrate the extent to which a range of science and technology is important to health and well-being; 2) to educate (at multiple levels) about the relevant science and technology using modern means of communication; 3) to collaborate to identify areas requiring new research and to produce new ideas and partnerships to look to the future; and 4) to develop an inventory of ongoing programmes and activities in order to identify unmet needs.

As discussions continued, three themes emerged. Those themes, and the Unions that will lead further development, are

- Living Environments (International Geographical Union),
- Water (IUGG), and
- Technology (International Union of Psychological Science).

Living Environments encompasses the relationships between human habitation, cultural and economic forces, and nature. Four sub-themes were identified: 1) settlement density, interconnections and structures; 2) health incentives and disincentives for living in agglomerated settlements; 3) environmental and settlement dynamics; and 4) modern metropolitan culture. Of interest to IUGG, the theme of Water is intimately connected to Living Environments because today's unprecedented number of people living at unprecedented densities requires clean water, sanitation, and reliable sources of cheap energy. Maintaining the present infrastructure and supply and extending it where it is currently inadequate will present serious challenges as settlements continue to expand as world populations continue to urbanize. Obtaining water and managing its use will become increasingly difficult in the next twenty years and beyond. Constant monitoring and steady conservation efforts and innovation will be needed to ensure that urban living environments are well ventilated in order to impede respiratory diseases, well plumbed in order to avoid intestinal disorders, that solid waste is recycled in a sustainable manner, and that settlements are increasingly designed to better withstand hazards as earthquakes, fires, flooding, landslides, tsunamis, and volcanoes.

The Theme of Water includes direct connections with health (e.g., poisons and contaminants, waterborne disease, food supply and its indirect effect on health through nutrition, land degradation, and the effects on both animals and crops, balancing the use of water between agriculture, domestic, and industrial needs), and also water management at local, regional, and national levels. It was pointed out that "well-being" is strongly influenced by water issues. In a real sense, the quantity and quality of water consumed by a society is a measure of wealth. Certainly the geopolitical aspects of water availability and use are of strategic importance to sovereign nations.

Finally, the theme of the impact of Technology on Health and Well-being includes not only the positive aspects (e.g., telemedicine, and desalinization), but also the

negative ones such as game addiction and loss of perception between reality and imagination.

The fruitful discussions at this exploratory meeting led the participants to strongly recommend that ICSU should consider the general topic of the relationships and contributions of science to maintain and increase the health of humans and all other living species, as a primary focus for funding for 2005.

Jo Ann Joselyn, IUGG Secretary General

IUGG XXIII GENERAL ASSEMBLY
Sapporo, Japan, 30 June – 11 July 2003

Agenda 10.c

Relations with ICSU Commissions and Committees
(renewal of liaison officers)
Relations avec les Commissions et Comités scientifiques
du CIUS (renouvellement des responsables de liaison)

on Antarctic Research (SCAR)
de la Recherche Antarctique

REPORT ON THE ACTIVITIES OF THE SCIENTIFIC COMMITTEE ON ANTARCTIC RESEARCH (1999 – 2002)

Submitted by Roland Schlich, Liaison Officer of IUGG to SCAR

SCAR, the Scientific Committee on Antarctic Research, is an interdisciplinary committee of ICSU and it is charged with the initiation, promotion and co-ordination of scientific research in Antarctica. SCAR evolved from the Special Committee on Antarctic Research established by ICSU to co-ordinate the scientific research of the twelve nations active in Antarctica during the International Geophysical Year 1957-58.

The membership of SCAR comprises the National Committees of national scientific academies or research councils of those nations which are active in Antarctic research, relevant ICSU Scientific Unions, and Associate Members which are those national scientific organisations planning to become active in Antarctic research.

SCAR Delegates meet biennially to determine SCAR policy and strategy. The Delegates elect a President and four Vice-Presidents from amongst themselves who, together with the Immediate Past President, constitute the Executive Committee which is responsible for conducting the day-to-day administration of SCAR through its Secretariat at the Scott Polar Research Institute in Cambridge, United Kingdom.

The membership of SCAR numbered in 1999, 26 Full Members (National Committees), 7 ICSU Union members and 6 Associate Members. In 2002 the membership was 27 Full Members (Peru became Full Member in 2002), 7 ICSU Union members and 4 Associate Members (Estonia withdrew in 2001).

The publication of *SCAR Bulletins* (nos 132-147) within *Polar Record*, and as a separate for internal SCAR distribution and *SCAR Reports* (nos 16-22) continued throughout the 1999-2002 period. The *SCAR Bulletin* and *SCAR Report* are also reproduced on the SCAR website and may be reached from the SCAR homepage at <www.scar.org>

Up to 2002 SCAR had eight permanent Working Groups, comprising nationally appointed representatives, and these form the international fora for the discussion of national research in Antarctica. There were several Groups of Specialists created for a limited time-span in response to specific scientific problems, whose members were appointed by SCAR for their experience and expertise.

Following the review of the *ad hoc* Group on SCAR Organisation and Strategy, SCAR operates now with three Standing Scientific Groups (Geosciences, Life Sciences, Physical Sciences). The new structure will enable SCAR to address inter-disciplinary science more efficiently and integrate more effectively with other international and global programmes. Each group elects three officers, comprises a maximum of four national representatives and is structured in several sub-groups (Action Groups, Expert Groups, Scientific Programme Planning Groups and Scientific Research Programmes) to accommodate their various activities. The scientific and business meetings of the three Standing Scientific Groups will be held two-three months before the Delegates Meeting and are open to all interested scientists. Two Delegate Committees were created to discuss scientific and organisational matters and

two Standing Committees were established one on the Antarctic Treaty System, and the second on SCAR Finance. In addition to these Standing Committees a SCAR-COMNAP Joint Committee on Antarctic Data Management has been created to advise SCAR and COMNAP on all aspects of Antarctic data matters (the new structure of SCAR and its subsidiary groups is shown in the attached diagram).

1999

A meeting of the SCAR Executive Committee was held in Goa, India, 20-24 September 1999. The meeting was held in conjunction with the eleventh annual meeting of the Council of Managers of National Antarctic Programmes (COMNAP XI) and its Standing Committee on Antarctic Logistics and Operations (SCALOP).

SCAR was represented at the Twenty-third Antarctic Treaty Consultative Meeting in Lima, Peru, by the President, the Executive Secretary and the Convenor of the Group of Specialists on Environmental Affairs and Conservation. The Executive Secretary represented SCAR at the annual meeting of the International Association of Antarctic Tour Operators held in Hambourg, Germany, during June 1999.

During the year the members of the *ad hoc* Group on SCAR Organisation and Strategy were appointed and the Group held his first meeting in Cambridge, United Kingdom, in August 1999 under the chairmanship of Dr P.M. Smith. The establishment of the Group had been decided at the XXV SCAR Meeting in Concepción and was tasked to conduct an internal review of SCAR and to make recommendations on how SCAR should change internally to meet the changing environment of global science outside of SCAR and the Antarctic.

Thirteen workshops and four symposia were organised by the permanent Working Groups.

Earth Sciences: the workshop held by the Antarctic Offshore Stratigraphy Project (ANTOSTRAT) focusing on Late Cenozoic Glaciations; the workshop held by the Working Group on Solid-Earth Geophysics to continue development of the Antarctic Digital Magnetic Anomaly Map; the 8th International Symposium on Antarctic Earth Sciences held in Wellington, New Zealand, during July 1999; the workshop held by the Working Group on Geodesy and Geographic Information to continue development of the Antarctic Place-names Gazetteer; the 2nd Symposium on Geodetic Infrastructure for Antarctic (GIANT) held in Warsaw, Poland, during July 1999.

Atmospheric and Solar-Terrestrial Sciences: the workshop held by the Working Group on Physics and Chemistry of the Atmosphere on Antarctic Climate Variability organised jointly with the Group of Specialists on Global Change and the Antarctic (GLOCHANT); the workshop held by the Antarctic Geospace Observatory Network (AGONET) to continue the collation and integration of data and to develop the database for data on magnetometry, riometry, very low frequency radio waves and the horizontal vector velocity of the ionosphere.

Life Sciences: the workshop held by the Subcommittee on Evolutionary Biology of Antarctic Organism of the Working Group on Biology on current status and trend; the workshop held by the Regional Sensitivity to Climate Change in Antarctic Ecosystems Programme (RISCC); the workshop and symposium held by the Ecology of the Antarctic Sea-ice Zone (EAZIZ); the 2nd International Symposium on Krill held in Santa Cruz, United States during August 1999.

The Group of Specialists on Global Change and the Antarctic (GLOCHANT) held its seventh annual meeting in New Hampshire, United States, during April 1999 with its principal item of business being the continuing development of a synthesis of the current status of Antarctica and the Southern Ocean. It also initiated or co-sponsored six workshops during the year. All these programmes will contribute to the relevant programme of the

International Geosphere-Biosphere Programme (IGBP) and the World Climate Research Programme (WCRP).

The Group of Specialists on Environmental Affairs and Conservation met in Montevideo, Uruguay, during July 1999. Its major concern is the provision of scientific advice on Antarctic environmental matters to SCAR for forwarding to the Antarctic Treaty.

The Joint Committee on Antarctic Data Management met in Ottawa during June 1999 in conjunction with the Arctic data management group.

2000

The Twenty-sixth biennial meeting of SCAR was held in Tokyo, Japan, 10-21 July 2000. The Council of Managers of National Antarctic Programmes (COMNAP XII) and its Standing Committee on Antarctic Logistics and Operations (SCALOP) met at the same place during the first week. All eight permanent Working Groups and the Joint Committee on Antarctic Data Management also met during the first week.

On the Executive Committee, Dr F J Davey (New Zealand) and Dr R Schlich (France) completed their terms of Office as Vice-presidents but Dr R Schlich was eligible for re-election. Professor C G Rapley (United Kingdom) and Dr R Schlich (France) were elected Vice-Presidents. Dr R H Rutford (United States), President elected in 1998 and the immediate Past President Professor A C Rocha Campos (Brazil), together with the Vice-Presidents Dr J Valencia (Chile) and Professor A D M Walker (South Africa) completed the Executive Committee.

The principal item for discussion at the XXVI SCAR was the report of the *ad hoc* Group on Organisation and Strategy. Delegates adopted all the recommendations in the report, with some modifications to some of them. It was agreed that the *ad hoc* Group on SCAR Organisation and Strategy should be disbanded and replaced by an *ad hoc* Group on Transition, comprising the Executive Committee and five members from the SCAR community, to implement the adopted recommendations of the *ad hoc* Group on SCAR Organisation and Strategy.

SCAR was represented at the Third Meeting of the Committee for Environmental Protection in The Hague, The Netherlands, during September 2000 and at the immediately following Twelfth Antarctic Treaty Special Consultative Meeting, by the President, the Convenor of the Group of Specialists on Environmental Affairs and Conservation and the Executive Secretary. The Executive Secretary also represented SCAR at an Antarctic Treaty Meeting of Experts held in London, in April 2000, to discuss guidelines for Antarctic shipping and related activities.

Delegates agreed that the SCAR Working Groups on Geology and on Solid Earth Geophysics should combine to a single Working Group on Geosciences and that the other six SCAR Working Groups should continue. It was also agreed that the existing four Groups of Specialists should continue and that a new Group of Specialists on Antarctic Subglacial Lakes should be established.

Thirteen workshops and four symposia were organised by the permanent Working Groups.

Earth Sciences: the workshop held by the Antarctic Offshore Stratigraphy Project to consider further research proposals around Antarctica in relation to the Ocean Drilling Program; two workshops held by the Working Group on Geodesy and Geographic Information on Antarctic Geodesy, in Nice during April 2000 and in Wuhan, China, during July 2000. A full colour map sheet showing the bedrock relief of the Antarctic continent (BEDMAP) has been published and a new Antarctic Magnetic Anomaly Map has also been compiled.

Atmospheric and Solar-Terrestrial Sciences: three small symposia on “Climate Variability and Change in the Antarctic from Observations and Modelling Experiments”, on “Chemical Processes in the Antarctic Troposphere and Stratosphere”, and on “Antarctic Precipitation and Mass Balance” were held by the Working Group on Physics and Chemistry of the Atmosphere during XXVI SCAR; workshops on “Astronomy and Astrophysics in Antarctica” and on “The Role of Antarctica in Understanding Solar-Terrestrial Relations” were organised by the Working Group on Solar-Terrestrial and Astrophysical Research.

Life Sciences: the Group of Specialists on Seals and the Subcommittee on Bird Biology met during the week preceding the SCAR Meeting, the Subcommittee on Evolutionary Biology of Antarctic Organisms held a workshop to develop the Evolution in Antarctica science plan,

The Group of Specialists on Global Change and the Antarctic held its eighth annual meeting at Rosendaal, The Netherlands, during October-November 2000 to develop new initiatives.

2001

A meeting of the SCAR Executive Committee was held in Amsterdam, The Netherlands, during August 2001. The meeting was held in conjunction with the thirteenth annual meeting of the Council of Managers of National Antarctic Programmes (COMNAP) and its Standing Committee on Antarctic Logistics and Operations (SCALOP). The *ad hoc* Group on Transition, appointed by the SCAR Executive Committee to provide the detail for implementing the changes to SCAR’s structure and organisation, also met in Amsterdam.

SCAR was represented at the Twenty-fourth Antarctic Treaty Consultative Meeting (ATCM) and the Fourth Meeting of the Committee for Environmental Protection (CEP), held in St Petersburg, Russia, during July 2001, by the President and the Executive Secretary. SCAR submitted several information and working papers to the meeting of CEP and submitted jointly with COMNAP a working paper on environmental liability. The highlight of the meeting was the achievement of consensus on the location of the proposed Antarctic Treaty Secretariat in Buenos Aires, Argentina.

Seven workshops and three symposia were organised by the permanent Working Groups.

Earth Sciences: a symposium on the Antarctic Offshore Stratigraphy Project (ANTOSTRAT) was held in Erice, Italy, during September 2001. The compilation of a new Antarctic Magnetic Anomaly Map was completed and published in December 2001. A symposium on Antarctic Geodesy was held in St Petersburg, Russia, during July 2001 and further papers were presented at a workshop organised by the Group of Specialists on Antarctic Neotectonics in Siena, Italy, during July 2001. A workshop on Antarctic Geographic Information was also held at this meeting and a separate workshop on the Composite Gazetteer of Antarctica was held in Rome, Italy during November 2001.

Atmospheric and Solar-Terrestrial Sciences: The SCAR Working Group on Physics and Chemistry of the Atmosphere has completed the third edition of *the International Antarctic Weather Forecasting Handbook*.

Life Sciences: the Eighth International SCAR Antarctic Biology Symposium was held in Amsterdam, The Netherlands during August 2001. The following workshops were held in conjunction with the symposium: “Subglacial Lakes – Biology and Contamination Issues”, “Latitudinal Ecosystem and Environmental Variability along Victoria Land”, Evolutionary Biology of Antarctic Organisms (EVOLANTA): metadata and website construction”, “Antarctic Pack Ice Seals Programme (APIS), cross-discipline synthesis” and on “Regional Sensitivity to Climate Change in Antarctic Terrestrial and Limnetic Ecosystems (RISCC).

A workshop on “Marine Acoustic Techniques” was organised by SCAR in Cambridge, United Kingdom, during September 2001 to address the potential effects of marine seismic surveys on marine mammals and the restrictions on such work that may be imposed by permitting authorities; participants included scientists from the marine biological and marine geophysical communities.

The Group of Specialists on Subglacial Lake Exploration (SALE) met in Bologna, Italy, during December 2001 and discussed techniques for environmental clean drilling of the ice sheet to penetrate and sample the lake and also environmental impact assessment procedures required under the Protocol on Environmental Protection to the Antarctic Treaty.

2002

The Twenty-seventh biennial meeting of SCAR was held in Shanghai, China, 15-26 July 2002. The Fourteenth annual meeting of the Council of Managers of National Antarctic Programmes (COMNAP XIV) and its Standing Committee on Antarctic Logistics and Operations (SCALOP) was held in parallel during the first week. XXVII SCAR was a landmark meeting for SCAR as the restructuring of SCAR, recommended by the *ad hoc* Group on Organisation and Structure and adopted by the Delegates at XXVI SCAR in Tokyo, Japan, July 2000, was put into place.

The first week of the meeting began with the traditional meetings of all the SCAR Working Groups plus a meeting of the Group of Specialists on Seals, and informal meetings of the Groups of Specialists on Antarctic Neotectonics and Subglacial Antarctic Lake Exploration. The groups completed the reports of their final meetings on Tuesday. Wednesday was devoted to a very successful symposium on “The Antarctic Sea Ice Zone: physical and biological processes and interactions”. On Thursday and Friday the members of the former Working Groups and Groups of Specialists reconvened in three Standing Scientific Groups on Geosciences, Life Sciences and Physical Sciences.

On the Executive Committee Professor R H Rutford (United States) completed his term of Office as President, Dr J Valencia (Chile) and Professor A D M Walker (South Africa) also completed their terms of Office as Vice-presidents. Professor Dr J Thiede (Germany) was elected President, Professor J López-Martínez (Spain) and Dr C Howard-Williams (New Zealand) were elected Vice-Presidents. The immediate Past-President Dr R H Rutford (United States), together with the Vice-Presidents Dr R Schlich (France) and Professor C G Rapley (United Kingdom) completed the Executive Committee.

The highlight of the year was the award to SCAR of the Prince of Asturias Prize for International Cooperation 2002 in recognition of SCAR's role in international cooperation in Antarctica.

The Standing Scientific Group on Geosciences elected Dr P E O'Brian (Australia), Chief Officer, Professor A Capra (Italy), Deputy Chief Officer and Professor B C Storey (New Zealand), Secretary. The Group on Life Sciences elected Professor S L Chown (South Africa), Chief Officer, Professor L A Palinkas (United States), Deputy Chief Officer and Dr A H L Huiskes (The Netherlands), Secretary.

The Standing Scientific Groups have established a number of sub-groups to accommodate their various activities in progress and being planned. Action Groups are short-term groups to address specific matters and will normally be expected to complete their activity in 2-4 years. Expert Groups will address matters on a longer time-scale. Scientific Programme Planning Groups may be established to develop plans for a research programme that will be presented to SCAR for adoption as a Scientific Research Programme. Such proposed programmes will normally be multi-disciplinary and will involve more than one Standing Scientific Group.

AT XXVII SCAR the Delegates approved the following sub-groups:

Geosciences

- Action Groups on: "Age, Growth and Evolution of Antarctic (AGEANT)", "Permafrost (PAG)", "Communication and Outreach";
- Expert Group on "Geospatial Information";
- Scientific Programme Planning Groups on: "Antarctic Climate Evolution (ACE)", "Antarctic Neotectonics (ANTEC)";
- Scientific Programme Group on: "Subglacial Antarctic Lake Exploration (SALE).

Life Sciences

- Action Groups on: "Global International Waters Assessment (GIWA)", "Best Practices for Conservation";
- Expert Groups on: "Birds", "Seals", "Human Biology and Medicine";
- Scientific Programme Planning Group on: "Evolution and Biodiversity in Antarctica: the Response of Life to Change";
- Scientific Programme Groups on: "Ecology of the Antarctic Sea-Ice Zone (EASIZ)", "Antarctic Pack Ice Seals (APIS)", "Evolutionary Biology of Antarctic Organisms (EVOLANTA)".

Physical Sciences

- Action Groups on: "Plateau Astronomy Site Testing in Antarctica (PASTA)", "Middle Atmosphere Dynamics and Relativistic Electron Precipitation (MADREP)", "Antarctic Peninsula Tropospheric-Ionospheric Coupling (APTIC)", "Oceanography", "Reference

Antarctic Data for Environmental Research (READER)”, “Antarctic Katabatic Winds”, “Antarctic Tropospheric Aerosols and their Role in Climate (ATAC)”.

- Expert Groups on: “Solar-Terrestrial Processes and Space Weather (STEPS)”, “Antarctic and Astronomy and Astrophysics(AAA)”, “Operational Meteorology in the Antarctic”, “Ice Sheet Mass Balance and Sea Level (ISMAL)”, “International Trans-Antarctic Scientific Expedition (ITASE)”, “Antarctic Sea-Ice Processes and Climate (ASPeCT)”.

-Scientific Programme Planning Groups on: “Antarctica and the Global Climate System”, “Inter-hemispheric Conjugacy on Environmental, Solar-Terrestrial and Atmospheric Research (ICESTAR).

Thus the major work of re-structuring SCAR was achieved. The process of reorganisation will continue during the next two years, as the new Standing Scientific Groups refine their *modi operandi*, and will be completed at XXVIII SCAR in 2004 with the new style of SCAR meeting.

The XXVIII SCAR meeting will be held in two parts: a SCAR Science Week to be held in Bremen, Germany, 25-31 July 2004 when the Standing Scientific Groups will meet around a symposium on a relevant subject and the Delegates Meeting to be held in Bremerhaven, Germany, 3-9 October 2004.

Dr Roland Schlich
Strasbourg, February 2003

IUGG XXIII GENERAL ASSEMBLY
Sapporo, Japan, 30 June – 11 July 2003

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Relations with ICSU Commissions and Committees
(renewal of liaison officers)

Relations avec les Commissions et Comités scientifiques
du CIUS (renouvellement des responsables de liaison)

on the International Geosphere-Biosphere Programme (IGBP)
du Programme International sur la Géosphère et la Biosphère

THE INTERNATIONAL GEOSPHERE BIOSPHERE PROGRAMME (IGBP)

Report by the IUGG Representative C. J. E. Schuurmans (The Netherlands)

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. These are:

Core Projects of IGBP:

Biospheric Aspects of the Hydrological Cycle (BAHC)
Global Change and Terrestrial Ecosystems (GCTE)
International Global Atmospheric Chemistry Project (IGAC)
Joint Global Ocean Flux Study (JGOFS)
Land- Ocean Interactions in the Coastal Zone (LOICZ)
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)

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). Later on two new Core Projects were defined. These are:

Global Ocean Ecosystem Dynamics (GLOBEC)
Land- Use/Cover Change (LUCC)

In 1995 an evaluation of IGBP took place. At that time the Evaluation Committee concluded that the IGBP was an outstanding and generally well conducted scientific programme that provided added value to the sum of national and regional activities. The evaluation had taken into consideration the scientific aspects of IGBP, but not peer reviewed the scientific output as such. IGBP itself started the process of preparing so-called Science Reports, for each of the 'mature' Core Projects. The management of the IGBP also planned for a synthesis of the full IGBP programme, to be initiated at the Second IGBP Congress (Japan, 1999). It was foreseen that the result could inaugurate a new phase of IGBP from 2001 onwards, involving also a new structure of the programme. Closer linkages with other international environmental research programmes like WCRP and IHDP should also be established. This could result in a Earth System Research programme as outlined already in the ICSU- brochure *Understanding Our Planet* (1996). A synthesis report of the full IGBP did not appear, but instead of this, the IGBP Science Report No.4 presented a basis of the future research of the Global Environmental Change Programmes (IGBP, IHDP, WCRP and DIVERSITAS). The report entitled *Global Change and the Earth System: A planet under pressure*, became available in 2001, in time for the Global Change Open Science Conference in Amsterdam (The

Netherlands). This conference, jointly organised by IGBP, WCRP and IHDP, laid the basis for further planning, which as far as IGBP is concerned, resulted in IGBP- II. The plan as such was presented in a special News Letter (issue no. 50) in June 2002.

In the following I will give a short description of the nature of the IGBP research, followed by some remarks on the results. Finally, I will describe the planned new structure of IGBP as part of the Earth System Science Partnership (ESSP) of the 4 global change programmes.

NATURE OF THE IGBP RESEARCH

IGBP research differs in nature and character from 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.

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 be: 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

Results of IGBP research are reported in the scientific literature and in the proceedings of numerous symposia, organised by the various core projects, individually, or in a number of cases jointly with related international programmes. An example of a successful collaborative effort is the intersection research between PAGES and CLIVAR (Climate Variability) of WCRP. Results of IGBP research are also incorporated in the national and international reports prepared for use by policy makers and the public press. The best known example in this respect is the periodic IPCC Reports on the state of the climate system. Certain parts of the IPCC Reports rely strongly upon research in the core projects of IGBP. An example of this is the state of the art of our knowledge of the global carbon cycle. For this knowledge GCTE and JGOFS are important suppliers.

On the research in the core projects and the integrative activities IGBP issues special reports as a kind of position paper, usually on a specific subject. Examples are: mountain research and research on permafrost. In addition IGBP Science Reports are issued in which the research of a Core Project is summarised: No.1, *A synthesis of GCTE and related research* (1998), No.2, *Ocean Biogeochemistry and Global Change* (JGOFS,2000), No.3, *Environmental Variability and Climate Change* (PAGES,2001). These Science Reports are very well- written and contain a wealth of up- to- date information on the subject. Recently, the IGBP Synthesis project is continued in the IGBP Book Series, in which up till now (February 2003) 5 volumes appeared: Proceedings of the Global Change Open Science Conference, Amsterdam, The Netherlands, 10- 13 July 2001 and syntheses on START, PAGES, IGAC and BAHC. Finally, the monthly IGBP News Letter should be mentioned. Apart from the usual information of a newsletter the IGBP News Letter contains Science Features in which new results of research in the core projects are highlighted.

IGBP- II

As mentioned in the introductory paragraph IGBP is in transition to its second phase. The relations with other global research organisations including WCRP, IHDP and Diversitas have been strengthened. Together they comprise the Earth System Science Partnership (ESSP), which aims at a broad engagement of scientists in projects which improve the relevance of the earth sciences for sustainable development. The structure of IGBP, with core projects and integrative activities will be maintained. Some of the core projects, however, will not be continued, while some new ones are being defined. New is, for instance, the core project SOLAS (Surface Ocean- Lower Atmosphere Study). Most of the core projects that do not continue individually, will merge into a number of overarching projects related to LAND, OCEAN, WATER and ILEAPS (Integrated Land-Ecosystem- Atmosphere Processes Study). The definition of these overarching projects is discussed within the context of ESSP. Although the main aim of IGBP has not changed it intends to play its role in closer collaboration with other organisations engaged in Earth System Research. For IUGG, being itself involved with Earth System Research, developments in IGBP therefore continue to be of strong interest.

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Relations with ICSU Commissions and Committees
(renewal of liaison officers)
Relations avec les Commissions et Comités scientifiques
du CIUS (renouvellement des responsables de liaison)

on the Lithosphere (SCL/ILP)
du Programme de la Lithosphère

Report on the Activities of the ICSU Scientific Committee on the Lithosphere/ International Lithospheric Programme

Submitted by Soeren Gregersen, IUGG Liaison to SCL/ILP

Since the IUGG General Assembly in Birmingham I have attended 3 bureau and committee meetings of SCL/ILP. These meetings have been held in conjunction with other international meetings of geophysicists and geologists, IUGS 2000, IASPEI/IAGA 2001, and AGU Western Pacific Geophysics 2002. In connection with the meetings I have contacted the liaison officers for those IUGG Associations that have appointed such liaisons (IAGA, IASPEI, IAG and IAVCEI) but I have received no special instructions from any of the Associations.

Since the IUGG Birmingham meeting, the leadership of the Lithosphere committee changed from President Alan Green (Switzerland) and Secretary General Joerg Erzinger (Germany), to the new president Asahiko Taira (Japan) and Secretary General Kaye Shedlock (USA). The Lithosphere committee is functioning well in covering those parts of geophysics that are close to geology. The projects taken up are carefully evaluated to contain both a significant amount from the geophysical and geological sides. And it is emphasized that the projects have participants from many countries, developed and developing.

The Lithosphere committee operates in four themes.

Within the theme of Geoscience Of Global Change one active project has recently started: Methane hydrate - Global distribution and geological processes.

Within the theme on Contemporary Dynamics And Deep Processes the following projects are or have been active:

World map of major active faults (in the publishing phase, but there are still some loose ends in the global coverage);

Earthquake recurrence through time (setting up a data base, but ending in 2003 because the SCL/ILP bureau judges that it is not possible to continue this paleoseismology project any longer. HEREBY, I REQUEST THAT IUGG/IASPEI NOTE THAT PALEOSEISMOLOGY SHOULD FIND SOME NEW HOME BETWEEN GEOPHYSICS AND GEOLOGY);

Mantle plumes, hot spots and geodynamics of continental rifting and break-up (mainly produced results through their meetings and ended in 2002);

Earthquakes and megacities initiative (cooperated with engineers and managers of mitigation measures with good backing from ICSU and many large cities, ended 2002);

Global strain rate map (struggling with many kinds of data);

Earthquake potential (recently started).

Within the theme of Continental Lithosphere the following projects are active:

Processes and geodynamics in the formation and exhumation of ultrahigh-pressure metamorphic terrain (very important in geology, but geophysics is a sufficiently significant component of the project. It has a great emphasis on some Chinese rock complexes);

Global impact studies (on its way).

Within the theme on Oceanic Lithosphere only one project is active: *Hydrology of the oceanic lithosphere*.

Within SCL/ILP, the 3 regional committees on the Himalayas, the Andes, and Europrobe conduct varied activities. The regional committee for Africa is recently slightly more successful than the previous attempts. There are two non-regional co-ordinating committees: *continental drilling*, which successfully co-ordinates the efforts on deep scientific drilling in big countries; and *interdisciplinary lithospheric surveys* which serves as a forum for deep geophysical research with emphasis on seismic investigations.

A basic request that I have delivered to the SCL/ILP bureau many times, is that it is important that they keep the IUGG Executive Committee well informed. Since I have now been appointed as a member of the SCL/ILP Bureau, a new IUGG representative is needed.

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on Oceanic Research (SCOR)
de Recherches Océanographiques

SCIENTIFIC COMMITTEE ON OCEANIC RESEARCH (SCOR)

The Scientific Committee on Oceanic Research (SCOR) promotes international cooperation in oceanography. It was created by ICSU in 1957 as the first of its interdisciplinary bodies, and operates primarily through three types of scientific activities—large-scale research projects, working groups, and advisory bodies and planning groups—supplemented with capacity-building activities.

Large-Scale Research Projects

Global-scale issues related to the role of the ocean in environmental change are tackled through SCOR's participation in planning and guiding long-term, large-scale international ocean research projects. For example, SCOR initiated the Joint Global Ocean Flux Study (JGOFS) and the Global Ocean Ecosystem Dynamics project (GLOBEC; also co-initiated by the Intergovernmental Oceanographic Commission [IOC]). SCOR and IGBP presently co-sponsor four major ocean science activities. In addition to JGOFS and GLOBEC, these include the Surface Ocean-Lower Atmosphere Study (SOLAS) and the Ocean Biogeochemistry and Ecosystems activity (OCEANS). In addition to these projects with IGBP, SCOR also co-sponsors the Global Ecology and Oceanography of Harmful Algal Blooms program (GEOHAB), with IOC.

Working Groups

More specific ocean science topics are addressed by short-lived Working Groups, the traditional mechanism by which SCOR has operated since its inception. Some of the existing working groups are as follows:

Biogeochemistry of iron in seawater

In what forms does iron exist in seawater and what are its sources, how does it change among forms, how is it distributed in the ocean, what controls iron's availability to marine organisms, and how should iron best be measured in seawater?

Coastal ocean modeling

What are the weaknesses of coastal wave models, coastal circulation models, and coastal atmospheric boundary layer models operated separately, and how could they be coupled to produce more realistic and useful results?

Fluid flow through coastal sediments

What is the magnitude and distribution of submarine groundwater discharges in space and time, how do such discharges affect coastal nutrient and contaminant concentrations, and how do they contribute to coastal ocean processes? What reactions and transport phenomena are important in different marine environments that contain permeable sediments, for example, beach, inter-tidal, sub-tidal, and continental shelf environments?

Evolution of the Asian monsoon system

What are the key climate proxies necessary for effective comparison of the Indian and East Indian monsoon subsystems in their evolution over different time scales in response to tectonic processes, variations in Earth's orbit, and ocean circulation?

Synthesis of climate records of the past 80,000 years

Are the records of short-term climatic events in marine sediments compatible, as recorded by proxies of isotopic, elemental, paleontological, sedimentological, and magnetic properties?

The role of marine phytoplankton in global climate regulation

How do environmental factors (e.g., nutrients, grazing by zooplankton) and species-specific factors (e.g., genetic composition and cellular responses to environmental conditions) affect the production of climate-relevant gases, such as the production of dimethyl sulfide by the phytoplankton species *Phaeocystis*?

Planning Groups and Advisory Bodies

The third type of SCOR activity includes planning groups and advisory bodies:

SCOR-IOC Advisory Panel on Ocean Carbon Dioxide—The ocean absorbs approximately one-third of the carbon dioxide added to the atmosphere by human activities each year. This panel is responsible to advise global carbon research and monitoring programs on observations, data management, and modeling needed to understand the ocean component of the global carbon cycle, and to provide an international forum for initiatives to promote high-quality observations of the ocean carbon cycle.

Ocean Carbon Sequestration—As interest in tradable carbon credits has been stimulated by the Kyoto Protocol, some commercial enterprises have teamed with ocean scientists to design potential schemes to fertilize the surface ocean with iron or nitrogen to create blooms of phytoplankton, which may sink to the deep sea and remove (at least temporarily) carbon from the surface ocean. Others projects are testing techniques to inject carbon dioxide into the deep ocean with the hope that it will not return to the atmosphere for several centuries. SCOR and IOC are currently planning and raising financial support for an international workshop to document what we know and need to know related to the proposals to attempt to sequester atmospheric carbon dioxide in the ocean through fertilization of surface waters and deep-ocean injection.

Southern Ocean Research Coordination—Many nations support oceanographic research in Southern Ocean areas, but most programs tend to focus on single disciplines, with little integration among the disciplines. This can lead to overlaps or gaps among activities that can waste research resources or hinder our understanding of how the Southern Ocean works as an integrated system. SCOR is leading a planning activity among international organizations and research projects to coordinate ongoing and planned research in the Southern Ocean.

Capacity-Building Activities

In addition to its scientific activities, SCOR conducts an active program of capacity building for developing nations and nations with economies in transition. Such nations conduct significant ocean research programs on national and regional scales, but are often under-represented in major international ocean research projects. SCOR attempts to increase the involvement of scientists from such countries by awarding travel grants for their scientists to participate in ocean science meetings. SCOR also participates in a fellowship program designed to promote ocean observations (led by the Partnership for Observations of the Global Ocean).

Joint Efforts with IAPSO and IAMAS

SCOR held its 2001 meeting in conjunction with the IAPSO/IABO General Assembly in Mar del Plata, Argentina in October of that year. This was an excellent opportunity for members of SCOR to interact with IAPSO and its leadership and to discuss areas of common interest. For example, SCOR and IAPSO jointly participated in a meeting in Mar del Plata discussing ways in which research on the Southern Ocean could be more effectively coordinated in the future.

IAPSO and SCOR have recently developed joint Working Group 121 on Deep Ocean Mixing. This joint working group will meet for the first time at the IUGG General Assembly in Sapporo, Japan in July 2003. Its Terms of Reference are as follows:

- Summarize past results, including analyses of historical field data, concerning the sources for, and geographical distribution of, mixing in the deep-ocean basins. In light of recent results, tidally driven mixing mechanisms will be emphasized.
- Assess, within the established observational and theoretical context, those difficulties involved with parameterization of mixing in numerical ocean GCMs.
- Assess what more should be done by further observational programs or improved observational techniques to fill gaps in understanding essential to provide useful information for modeling the effects of deep-ocean mixing, including the potential to detect deep-ocean mixing through remote sensing and tracer techniques.
- Establish and maintain a Web site as a "virtual workshop" that can be used by the deep-ocean mixing community for exchange and discussion of ideas, results, and future planning.
- Produce a comprehensive, published final report incorporating appropriate results from the above topics.

SCOR has benefited significantly from having the Presidents (or their designees) as *ex officio* members of the SCOR Executive Committee. There has been good participation of these individuals in SCOR meetings, and this has enabled all three organizations to be kept aware of activities of the others and to look for areas of common interest and where joint efforts would be valuable to the ocean and atmosphere communities.

Paola Rizzoli (IAPSO), Robert Duce (SCOR), and Huw Davies (IAMAS)

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on the Problems of the Environnement (SCOPE)
sur les Problèmes de l'Environnement

Scientific Committee on Problems of the Environment (SCOPE)

by Norman (Jake) Peters (U.S. Geological Survey, Atlanta, GA, USA;
nepeters@usgs.gov)

SCOPE is an interdisciplinary body of natural and social science expertise focused on global environmental issues, operating at the interface between science and decision-making (policy and management). Furthermore, SCOPE is an International Council of Science (ICSU) committee consisting of a worldwide network of scientists and scientific institutions with associated links with several Unions. The committee develops syntheses and reviews of scientific knowledge on current or potential environmental issues, primarily through working groups, workshops, and symposia resulting in journal articles and SCOPE publications. The scientific program consists of projects focused on the concepts and practices of sustainability: *maintaining the life-support system of humankind by safeguarding the natural resources over time*. Its aim is to contribute to designing processes and practices, which reduce the depletion rate of non-renewable resources, identify alternate resources, and assure a sustainable supply of renewable resources. SCOPE holds that these resources must be managed in accordance with the strongest possible scientific basis, cultural sensitivity, and social justice.

SCOPE is overseen by an executive committee, which meets annually to address administrative and scientific issues, and is supported by a full-time secretariat in Paris. The officers are elected every 3 years during a General Assembly, the last being the Xith General Assembly in Bremen, Germany during September 2001. The executive committee (until 2004) consists of:

Dr. Jerry M. Melillo (President),
Prof. Rusong Wang (Vice-President),
Prof. Bernard Goldstein (Vice-President),
Prof. Ian Douglas (Treasurer),
Prof. Osvaldo Sala (Secretary-General)
Prof. Himansu Bajinath (member)
Prof. Manuwadi Hungspreugs (member)
Prof. Venugopalan Ittekkot (member)

The SCOPE scientific program is organized into three clusters, in which individual projects carry out the mission. The clusters are: (1) Managing Social and Natural Resources; (2) Ecosystem Processes and Biodiversity; and (3) Health and Environment. The individual clusters and projects are listed below and contain a summary of the associated scope and objectives. The potential linkages between SCOPE and IUGG (and its Associations and Commissions) are strongest in the areas where the earth system science is about a *transport vector*, i.e. water (IAHS, IAMAS, IAPSO) and atmospheric circulation and composition (IAHS, IAMAS, IAVCEI, IAPSO), or a *hazard* (IAHS, IAMAS, IASPEI, IAVCEI, IAPSO), such as earthquakes, volcanic eruptions, floods, droughts, and changes in atmospheric circulation and transport, e.g. ENSO. Atmospheric circulation and transport is affected by oceanic circulation and the

changes in the composition of the atmosphere caused by human activities, droughts, and volcanic eruptions.

For additional information about the SCOPE program and related contacts, see <http://www.icsu-scope.org/>, or for questions/comments, send an email to the secretariat (secretariat@icsu-scope.org).

Cluster 1: Managing Societal and Natural Resources (MSNR)

The SBP aims to understand the biophysical, social, and economic determinants of sustainable ecological systems and to stimulate the implementation of practices and policies which will lead to a sustainable biosphere.

- Sustainable Biosphere Project (SBP)
- Ecological Engineering and Ecosystem Restoration
- Global Invasive Species Programme (GISP)
- Environment in a Global Information Society (EGIS)
- Urban Waste Management (early stage of development)
- Material Flow Analysis (early stage of development)
- Implications of Aquaculture and Mariculture on Biodiversity and Ecosystem Processes (early stage of development)
- Environmental Change in Peri-Urban Areas (early stage of development)
- Forest Management and Conservation in an Information-rich World (early stage of development)

Cluster 2: Ecosystem Processes and Biodiversity

These projects focus on ecosystem processes, their interactions with human activities, and the relation between biological diversity and ecosystem functioning.

- Nitrogen Transport and Transformation
- Earth Surface Processes, Material Use and Urban Development (ESPROMUD)
- Soils and Sediment Biodiversity and Ecosystem Functioning
- Dynamics of Mixed Tree/Grass Systems
- Resilience and Behaviour of Large-Scale Ecosystems
- Land-Ocean Nutrient Fluxes: Silica Cycle
- Interactions of the Major Biogeochemical Cycles (early stage of development)
- Use of Molecular Biology in the Study of Environmental Issues (early stage of development)
- International Program on Ecosystem Change (IPEC)

Cluster 3: Health and Environment

Projects that develop methods to assess chemical risks to human and non-human species and use case studies of environmental contamination to assess the health and environmental risks of specific chemicals.

- Scientific Group On Methodologies for the Safety Evaluation of Chemicals (SGOMSEC)
- Mercury Transport and Transformation
- Cadmium in the Environment
- Radioactivity at Nuclear Sites (RADSITE)
- Endocrine Disruptors/Modulators (early stage of development)

Future Themes/Projects

- water quality and availability
- nitrogen use in agro-ecosystem management
- genetically modified organisms
- biodiversity RAP
- biological warfare

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on Science and Technology in Developing Countries (COSTED)
/ de la Science et de la Technologie dans les pays en
développement

From	
	Tuesday, March 11, 2003 3:30 pm
To	"Joann C Joselyn" <Joann.C.Joselyn@noaa.gov>
Subject	the COSTED report

Dear Jo Ann,

Here is my report on COSTED

Regards
Vinod

COMMITTEE ON SCIENCE AND TECHNOLOGY (COSTED)

1999-2002

1. Background

COSTED was created by ICSU in 1966 with the primary mission of promoting science and Technology in Developing countries, with an office in India, and Professor PMS Blackett as its first President. Its activities, however, began to gain substance with the appointment in 1988 of Professor RR Daniel as its Scientific secretary who assiduously worked to provide COSTED with a vibrant scientific focus as well as professional expertise and modern infra-structure facilities to execute its programmes. Since then COSTED has been administered by an Executive Committee headed by a Chairman and assisted by a professional scientist as its Secretary, and includes the secretaries of all regional secretariats as members.

To date, it has 30 nations as paying members, and 8 regional secretariats in different countries of Asia, Africa and Latin America. Its central secretariat, also the Asian regional office, is hosted by the Government of India at Chennai. Regional secretariats received handsome support from the local governments.

Several Indian Science Agencies notably, Council of Sc. and Ind. res., Dept. of Sc. & Tech., Space, Atomic Energy, and the national Academy, have contributed handsomely towards modernizing its infrastructure and communication facilities whilst a large number of Indian research institutions provide facilities for scientists in developing countries to work in their laboratories. The Jawahar Lal Nehru centre at Bangalore even instituted 10 fellowships given annually to scientists from DC to study and work in Indian institutions.

2. Scientific Activities

a. General:

The scientific programmes of COSTED are formulated at the annual meetings of the Executive committee. In recent years the emphasis has been on

- stimulating the emergence of S & T networks in various regions dealing with their priority problems,
- capacity building in new emerging areas of promise and urgency, and
- fostering mobility of scientists towards multiplying scientific excellence as well as meeting the requirements of the first two activities.

Additionally, COSTED has commissioned special studies relating to Science, Technology and development and publicising these as well as other potentially stimulating work through publications that were widely disseminated.

b. The past quadrennial:

COSTED, apparently greatly enhanced its visibility and catalyst power over the past 4 years including greatly increased revenue to fund its various activities. It doubled the membership of nations from 15 to 30, and helped develop consciousness of the multidisciplinary of urgent issues crucial to the development of wholesome applications and practices of science and technology in developing countries. In particular, it helped them develop through specially designed meetings and seminars, an appreciation of, and expertise for addressing the implications of globally evolving technological trends and systems, notably genetically modified crops, WTO and Intellectual Property Rights. Specially designed programmes were also conducted to create capabilities for rationally addressing specific regional/ national issues such as risk zone mapping in respect of forest fires using the concepts of forest ecology and the technology of space and GIS.

However, according to ICSU's recent decision, this outfit at Chennai, India will be wound up now to yield place to a set of regional offices although no definitive plans are yet known even if they have been formulated. It is , however, learnt that the Indian National Science Academy (INSA) at New Delhi may be considering exploiting the strengths built up by the erstwhile COSTED infrastructure and expertise at Chennai to continue the initiatives developed in recent years to service the earlier identified needs of DC's whilst evolving new programmes and strategies to continually enhance their S&T strengths.

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on Solar-Terrestrial Research (SCOSTEP)
de la Physique Terre-Soleil

1999-2002 Report on SCOSTEP Activities

Prof. W. Baumjohann (IUGG Liaison to SCOSTEP)

This is a report on the activities of SCOSTEP (Scientific Committee for Solar-Terrestrial Physics) for the period 1999-2002. SCOSTEP is a scientific committee of the International Council for Science (ICSU) and is responsible for: (1) the conduct and sponsoring of international meetings in the scientific area or solar-terrestrial physics and (2) the coordination and organization of international scientific programs in solar-terrestrial physics. SCOSTEP's Bureau consists of a President, Vice President, Scientific Secretary, and one representative each from the Participating Bodies. Current officers are: M.A. Geller (President), R.A. Vincent (Vice-president), J.H. Allen (Scientific Secretary), S.K. Avery (URSI), R. Fujii (COSPAR), B. Schmieder (IAU), F. W. Sluijter (IUPAP), T. Tsuda (IAMAS), and W. Baumjohann (IAGA). The substance of this report was extracted from material generously made available by J. H. Allen, the Scientific Secretary of SCOSTEP.

International Scientific Programs Conducted by SCOSTEP: Four new Post-STEP scientific programs began in January 1998 and continued operations during 1999. Each is scheduled to run for five years. The programs are:

- S-RAMP (STEP Results, Applications and Modeling Program, Chair D.N. Baker);
- EPIC (Equatorial Processes Including Coupling; Chairs S. Fukao, J. Forbes, R.A. Vincent);
- PSMOS (Planetary Scale Mesosphere Observing System; Chairs G. Shepherd, M. Hagan);
- ISCS (International Solar Cycle Study; Chair S.T. Wu, V. Obridko).

During the past four years, SCOSTEP was fully involved with the new Post-STEP programs listed above, all of which produced a wealth of new results.

Future Planning: To prepare for the future, the Bureau established a Long Range Planning Committee (LRPC), chaired by B. Schmieder and with Su. Basu, W. Baumjohann, J. Lean, T. Ono, and R.A. Vincent as members. The LRPC met several times and, after discussion with the general scientific community, came up with CAWSES (Climate and Weather of the Sun-Earth System), the next major international STP program for 2004-2008. The CAWSES Scientific Steering Group (Su. Basu (Chair), A. Richmond, J. Haigh, Y. Kamide, J.-L. Bougeret, L. Zelenyi, and C.-H. Liu) in 2002 specified four scientific program areas: Solar Influence on Climate; Space Weather: Science and Applications; Atmospheric Coupling Processes; and Space Climatology. These will be presented to and discussed with the scientific community in 2003.

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 organization and activities. All interested parties are encouraged to access the site and communicate with the SCOSTEP secretarial offices.

Prof. W. Baumjohann
January 2003

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(renewal of liaison officers)
Relations avec les Commissions et Comités scientifiques
du CIUS (renouvellement des responsables de liaison)

on Space Research (COSPAR)
de Recherche Spatiale

COSPAR

During the last period I have participated in COSPAR Council meetings in Warsaw (2000) and Houston (2002). During these meetings the editing and production processes for *Advances in Space Research* has continued to be an issue of high priority and substantial progress has been reported, although there are still problems with a few volumes.

On the administrative side I have been active in nominating a prominent member of our society as a candidate for the COSPAR SARABHAI MEDAL for 2002. Our candidate was, however, not elected this time.

A major issue where the viewpoints of IUGG apparently is considered valuable concerns the planning of specific interdisciplinary symposia like for example the symposium about Space Weather and Sun-Climate relationships at the Houston meeting. In this area as well as in other areas of space research like planetary research the expertise of geophysicists is being increasingly appreciated. There is a large potential for geophysicists from our society to contribute significantly to space research and the demonstration of that expertise to the COSPAR community must be regarded as one of the prime tasks of the IUGG liaison to COSPAR.

27 February 2003

Eigil Friis-Christensen, IUGG liaison to COSPAR

IUGG XXIII GENERAL ASSEMBLY
Sapporo, Japan, 30 June – 11 July 2003

Agenda 10.c

Relations with ICSU Commissions and Committees
(renewal of liaison officers)
Relations avec les Commissions et Comités scientifiques
du CIUS (renouvellement des responsables de liaison)

on Water Research (SCOWAR)
de Recherches sur l'Eau

SCOWAR

The ICSU Scientific Committee on Water Research (SCOWAR) was established by the 24th General Assembly in 1993 to provide the objective scientific expertise in water resource problems required to address frontier science issues. SCOWAR was the successor to several earlier ICSU Committees dealing with fresh water, the first being established in the 1970s. This recent Committee focused its attention on the ecological consequences of altered regimes in a future world. It was required to coordinate its activities with relevant ICSU bodies such as IAHS, BAHC/IGBP and SCOPE and with other international and national bodies such as the IHP. Professor R Naiman (USA) was designated to chair the Committee with 5 members.

Together with Professor Naiman, through Dr John C. Rodda, IUGG responded to the call from ICSU to provide a paper on "WATER SYSTEMS INCLUDING QUALITY" for its General Assembly in September 2002. This paper, available on the IUGG web site <http://www.IUGG.org> under Publications/Reports, was presented by Professor Naiman and appeared to be well received. However at this the 27th ICSU General Assembly, it was decided to terminate the activities of SCOWAR. Because this decision appears to be so completely at odds with the current upsurge in activities surrounding fresh water, its rationale can be questioned. Does it mean that ICSU considers water to be unimportant within the scientific scope of the Council's remit?

John Rodda

IUGG Liaison to SCOWAR

IUGG XXIII GENERAL ASSEMBLY
Sapporo, Japan, 30 June – 11 July 2003

Agenda 10.d

Relations with inter-governmental and other organizations
(renewal of liaison officers)

Relations avec les organisations inter-gouvernementales et
autres organismes (renouvellement des responsables de
liaison)

Cartographic Office of the United Nations
Bureau Cartographique des Nations Unies

Report on the activities of the United Nations Cartographic Office 2000–2003

Submitted
by
Juhani Kakkuri, Finnish Geodetic Institute, Masala

During the period 2000–2003 I took part in the 7th United Nations Regional Cartographic Conference for the Americas held in New York, 22–26 January 2001 at the United Nations Headquarters in accordance with Economic and Social Council decision 1997/292 of 23 July 1997.

The Conference was attended by 136 representatives of 34 countries, 4 specialized agencies, and 13 international scientific organizations (including ICA, ISPRS, IUGG, and FIG) and by 14 invited speakers.

The Conference elected the following officers by acclamation:

President: Mr. Antonio Puig (Mexico)

Vice-presidents: Mr. Santiago Borrero (Colombia) and Mr. Denis Fuentes (Panama).

Rapporteur: Mr. Roger L. Payne (United States of America)

The agenda of the Conference comprized of the following most important items:

- Country reports;
- Reports on the implementation of resolutions adopted at the 6th United Nations Regional Cartographic Conference for Americas;
- Reports of achievements in surveying, mapping, and charting in addressing national, subregional, regional, and global issues, including policy and institutional issues, technical issues, and applications; and
- Adoption of resolutions of the 7th Conference.

The most actual problems of modern cartography, spatial data infrastructure, land administration, and world mapping were treated in the reports submitted to the Conference. Of the geodetic point of view, the most important of them was the report on the development of SIRGAS, the South American Geodetic Reference System. SIRGAS has grown out of a situation in which numerous countries in the Americas had over time adopted, for national use, a number of various horizontal and vertical geodetic reference systems, making the interrelationship of spatial data produced by different countries extremely difficult. The initial objectives of SIRGAS were 1) the development of a highly

accurate geodetic network covering South America, 2) the definition of a single geocentric datum, and 3) the definition of a South American geodetic reference system. Work on these objectives was essentially completed by 1997, after which work began on the definition of a common vertical reference system for the region, including North America and Caribbean. The SIRGAS project is an excellent example of regional and international collaboration to elaborate a solution to a highly complex spatial data problem.

The resolutions adopted by the Conference were as follows:

1. Development needs;
2. Institutional capacity-building, education and training;
3. Economic aspects of modern surveying, mapping, geospatial data infrastructure and land administration;
4. Fundamental data: SIRGAS Project;
5. Land administration and spatial data infrastructure;
6. Contribution of the Permanent Committee on Spatial Data Infrastructure for the Americas (PC-IDEA);
7. Implementation of national spatial data infrastructures in Americas;
8. Global Map;
9. United Nations Geographic Information Working Group; and
10. Vote of thanks.

Texts of the resolutions adopted are shown in the report of the conference (E/CONF.93/3, United Nations Publication). Of them only the resolution on SIRGAS is to be shown here:

4. Fundamental data: SIRGAS Project

The Conference,

Recognizing the importance of high quality 3-dimensional position data referred to a unique global geodetic reference system for spatial data infrastructure;

Noting that there are large differences between existing national geodetic datums;

Considering the achievements obtained by the South American Geocentric Reference System (SIRGAS) Project with respect to a unified geodetic datum;

Bearing in mind that the SIRGAS reference frame is based on International Terrestrial Reference Frame (ITRF), and noting that the World Geodetic System of 1984 (WGS84) is practically identical to ITRF;

Also bearing in mind that SIRGAS is supporting the participating countries in terms of knowledge transfer and training;

1. *Recommends* that member countries of the Americas integrate their national geodetic reference system compatible with SIRGAS;
2. *Also recommends* that member countries of Americas provide to SIRGAS gravity data for computation of the geoid as the reference surface of the vertical (height) system;
3. *Further recommends* that member countries of the Americas correct their levelling by gravimetric observations in order to compute geopotential numbers and connect levelling networks with neighboring countries, making all these information available to SIRGAS.

Finally, the Conference approved a draft provisional agenda for the 8th United Nations Regional Cartographic Conference for Americas, which is to be held for five days no later than early 2005.

Prof. Juhani Kakkuri
Masala, March 25, 2003

IUGG XXIII GENERAL ASSEMBLY
Sapporo, Japan, 30 June – 11 July 2003

Agenda 10.d

Relations with inter-governmental and other organizations
(renewal of liaison officers)

Relations avec les organisations inter-gouvernementales et
autres organismes (renouvellement des responsables de
liaison)

International Civil Aviation Organization (ICAO)
Organisation Internationale de l'Aviation Civile (OIAAC)

International Civil Aviation Organization (ICAO)

Liaison: Grant Heiken (Los Alamos National Lab., USA; heiken@lanl.gov)

As presented on the ICAO web site (<http://www.icao.int>), the aims and objectives of ICAO are to develop the principles and techniques of international air navigation and to foster the planning and development of international air transport. Specific to IUGG, ICAO is responsible for co-ordinating the efforts of international organizations and States which comprise the International Airways Volcano Watch (IAVW). The IAVW is co-ordinated and developed by the ICAO Secretariat with the assistance of the Volcanic Ash Warnings Study Group (VAWSG).

Volcanic ash is a direct safety threat to jet transport aircraft, primarily because the melting point of the ash (mostly silicates) is around 1100°C while the operating temperatures of high by-pass jet engines are around 1400°C. The ash, therefore, does not simply blow through the engines as dust/sand tends to do, but MELTS in the hot section and then FUSES randomly on fuel nozzle guide vanes and turbine blades. With sufficient exposure to volcanic ash, jet engines have flamed out. There have been four cases since 1982 in which jet engines have flamed out in flight due to an encounter with volcanic ash. There have also been a significant number of cases where aircraft engines, cockpit windows and pitot-static systems have had to be replaced due to aircraft encounters with volcanic ash.

As liaison to ICAO, my activities during the past 4 years have been limited to replying to e-mails and reviewing documents. It is no longer possible or advisable that I continue to serve in this capacity. However, the need for a liaison continues. WMO is planning on holding a volcanic ash workshop in September 2003, and at the end of 2003 or early 2004, ICAO will convene its Volcanic Ash Operations Group. One of the principal issues at hand is the development of an international standard for radiation and other bio-hazardous materials. The OPS Group has been given this responsibility because they have the expertise in modeling and detection based on their experiences with volcanic ash. Also, many of the representatives to this group are also from the WMO Regional Specialized Centers who have experience in atmospheric dispersion.

For the next quadrennium, the President of IAVCEI R.J.S. Sparks, has appointed Prof. William I. Rose, Michigan Technological University, U.S.A., as the liaison to the ICAO and specifically to the International Airways Volcano Watch Operations Group. He is an expert in this field of study and the right person for this task.

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Agenda 10.d

Relations with inter-governmental and other organizations
(renewal of liaison officers)

Relations avec les organisations inter-gouvernementales et
autres organismes (renouvellement des responsables de
liaison)

Panamerican Institute of Geography and History (PAIGH)
Institut Panaméricain de Géographie et d'Histoire (IPGH)

Report on IUGG/IAG activities 1999 – 2003
Related to the Panamerican Institute of Geography and History (PAIGH)

Wolfgang Torge, Hannover, Germany, IUGG/IAG Liaison Officer to PAIGH

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

The co-operation of the International Association of Geodesy (IAG) and the Pan-American Institute for Geography and History (PAIGH) was continued by joint symposia and projects during the legislative period 1999-2003. Two symposia were organised in Cartagena, Colombia, February 2001, and Santiago, Chile, October 2002. The projects on the geocentric reference system for the Americas (SIRGAS) and the South American geoid (see IAG Commission XIII) were very active.

The IAG Symposium on Vertical Reference Systems, Cartagena, February 20-23, 2001, was attended by approximately 130 participants. More than 70 papers were presented (oral and posters) under five topics: (1) Vertical control systems, (2) Height determination techniques, (3) Height reference surfaces, (4) Sea level and height systems, (5) Unification of vertical reference systems. A total of 64 papers were published after a strict review process in the IAG Symposia series (Vol. 124). A report is published in J. of Geodesy (75) 679-680, 2001.

The IAG Symposium on Crustal Deformation in South America and Surrounding Areas, Santiago, Chile, 21.-25.10.2002 was organised in conjunction with the 4th Symposium on Earth Sciences. It included the sessions (1) Earthquake studies, (2) South American reference frame, (3) Andean evolution, (4) Vertical motion (5) South American plate kinematics, and (6) Sea level change with a total of some 60 oral and poster presentations.

The SIRGAS Project which was installed in 1993 by IAG, PAIGH, and the US National Imagery and Mapping Agency (NIMA) for the definition and realisation of the South American Geocentric Reference System, was extended to Central and North America and the Caribbean. During the seventh United Nations Regional Cartographic Conference for the Americas, New York, January 2001, a resolution was released recommending to all the American countries the integration of their national reference systems into SIRGAS. As a consequence, the SIRGAS Project Committee decided during its meeting in Cartagena, Colombia, February 2001, to change the synonym of the abbreviation SIRGAS to "Sistema de Referencia Geocéntrico para las Américas" and to invite the Central and North American as well as Caribbean countries to participate in the project and nominate their delegates to the Project Committee.

In May 2000, an extended GPS observation campaign over ten days of each 24 hours was performed including 184 stations in North, Central and South America, the Caribbean as well as Galapagos and Easter Islands. For South America this was the first repetition of the May 1995 observation campaign. SIRGAS Working Group I "Reference System" will include a comparison of the 1995 and 2000 results to derive station velocities for the realisation of a kinematic reference system. For the use of SIRGAS Working Group II "Geocentric Datum" a number of additional stations of national networks were included in order to improve the transformation parameters from the classical networks to the SIRGAS (and ITRF) reference frame.

A major objective of the 2000 GPS campaign was the establishment of a "vertical datum" (SIRGAS Working Group III). For this purpose, all the reference tide gauges that define national height systems (levelling networks) and additional levelling points, in particular at the borders between neighbouring countries, were included. The goal is to derive the relation between classical (normal or orthometric) and modern (ellipsoidal) height reference systems. A close co-

operation with the IAG Gravity and Geoid Commission (XIII), in particular its sub-commission for South America, was established.

During its meetings at the IAG Symposia in Cartagena 2001 and Santiago 2002, the IUGG General Assembly, Birmingham 1999, and the IAG Scientific Assembly, Budapest 2001, the SIRGAS project made an essential progress in the realisation of the geocentric reference system and the unification of the vertical systems. The latter activities are also performed in global scale, in particular in co-operation with the European Vertical Reference System (EVRS) towards a unified world height system.

With respect to the other Associations of IUGG, the result of the last period is less favorable. From the six geophysical Associations of IUGG only two responded to a corresponding investigation started by the reporter early in 2003, and only one activity was mentioned without any detailed information. Obviously, there is either no cooperation with PAIGH, or the present way of handling this cooperation does not work. The reporter consequently repeats his statements made already in his report to the General Assembly in Birmingham 1999:

- 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 through an IUGG liaison officer failed, due to lacking personal contacts with scientists engaged in South America, and related either to IUGG or PAIGH.

I propose 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 Latin America.

IUGG XXIII GENERAL ASSEMBLY
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Agenda 10.d

Relations with inter-governmental and other organizations
(renewal of liaison officers)

Relations avec les organisations inter-gouvernementales et
autres organismes (renouvellement des responsables de
liaison)

UNESCO

Solid Earth and Geodesy
Terre solide et Géodésie

IUGG-UNESCO Relations in Solid Earth Geophysics 1999-2002

Report to IUGG

The role of UNESCO in relation to the solid earth activities of IUGG has changed somewhat in recent years. UNESCO has always been one of the main providers of funds for ICSU activities, and still strongly supports solid earth geophysics in this way.

There remain strong links between UNESCO and appropriate IUGG bodies through intergovernmental scientific bodies such as to IAHS through the International Hydrological Programme and to IAPSO through the Intergovernmental Oceanographic Commission. In the solid earth sciences the International Geological Correlation Programme is a joint venture between UNESCO and IUGS, with its Secretariat in UNESCO's Division of Earth Sciences. Many IGCP projects have a strong geophysical content, and involve many individual geophysicists and geophysical organisations, and the IGCP Scientific Board has a working group dealing with geophysics. There appears, however, to be no formal link between IUGG and IGCP. Within the next few years, IGCP intends to change its name to International Geoscience Programme and amend its mission to "Earth Science in the Service of Society"; at this stage IUGG may wish to consider becoming more closely involved.

UNESCO also continues to support training programmes in solid earth geophysics, particularly in conjunction with the GeoForschungsZentrum in Germany, but again without direct involvement of IUGG bodies.

There is thus still much support from UNESCO for solid earth geophysics, but little is channelled through IUGG. There no longer appears to be the close collaboration between the Division of Earth Sciences and the relevant IUGG Associations that existed some years ago, when UNESCO provided contracts directly with IASPEI and IAVCEI for joint activities.

R D Adams

IUGG Liaison Officer to UNESCO for Solid Earth Geophysics

February, 2003

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Relations with inter-governmental and other organizations
(renewal of liaison officers)

Relations avec les organisations inter-gouvernementales et
autres organismes (renouvellement des responsables de
liaison)

UNESCO

International Oceanographic Commission (IOC)
Commission Océanographique Internationale (COI)

Liaison: P. Rizzoli (Massachusetts Institute of Technology, USA; rizzoli@mit.edu)

Dr. Rizzoli has combined her report on activities with the IOC with the report on
the ICSU Scientific Committee on Oceanic Research.

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Relations with inter-governmental and other organizations
(renewal of liaison officers)

Relations avec les organisations inter-gouvernementales et
autres organismes (renouvellement des responsables de
liaison)

World Meteorological Organization (WMO)
Organisation Météorologique Mondiale (OMM)

REPORT OF THE IUGG REPRESENTATIVE TO WMO and the WORLD CLIMATE RESEARCH PROGRAM, WCRP

TO THE IUGG ASSEMBLY, SAPPORO, JAPAN, 30 JUNE – 11 JULY, 2003

Professor R. List attended the WMO Congress, CgXIII, in Geneva in 1999 and the key meetings of the WMO Executive Council during 2000-2002. Most of the costs were carried by the Meteorological Service of Canada, the rest by IAMAS.

Relations have been established with the new director of the WCRP, Dr. David J. Carson. He is the successor to Professor H. Grassl, and was appointed by WMO and ICSU. These two bodies direct the scientific program through the Joint Scientific Committee, JSC. It may sound like a contradiction, but there is a need to monitor the relations between WCRP and ICSU at a time when ICSU tries to maintain and build programs in direct competition with WCRP. It is important that the role of WCRP to the world is recognized and not diminished. For details about the programs see "Report of the IUGG Representative to WMO and WCRP, to the IUGG EC meeting of 1-2 August, 2001 in Sapporo, Japan."

Closely related to WCRP is the work of The Intergovernmental Panel for Climate Change, IPCC, a body jointly controlled by WMO and UNEP. IPCC has published the Third Assessment Report, TAR, in 2001. This report foresees a global warming between 0.5 and 8.5 degrees Celsius by the end of the century. IPCC will be given a new mandate for the 4th Assessment Report by WMO Congress CgXIV in 2003. Professor Watson had been in charge of this report. Dr. Pachuri is the new leader.

At WMO ECIV, I have intervened after Dr. Pachuri's presentation drawing attention to the narrow view taken by IPCC in not paying the necessary attention to the main variable of climate models, precipitation. In particular, I have drawn attention to the observations that biomass burning has been shown to produce excessive numbers of Cloud Condensation Nuclei ($>800 \text{ cm}^{-3}$) and, thus, prevents clouds from producing rain. This type of pollution, caused by burning of fields after harvest (often accompanied by forest fires), cooking and heating with coal, wood and dung(!) is produced locally and is not imported from the developing world. The smoke plumes traveling across continents and half continents can easily be identified by satellite. The remedies have to be found locally. As expected, Dr. Pachuri neglected to consider the scientifically well supported argument, and had no inclination to enlarge the scope of the IPCC report to fields such as Cloud Physics with their great potential to contribute meaningfully.

The climate community does not recognize the very limited skills for the forecasting of summer precipitation, and the non-existing skills in climate modeling of precipitation. These attitudes have to be changed to make any progress.

When I intervened in a similar fashion after the report by the President of the WMO Commission for Atmospheric Science (CAS), Professor Eliason, to EC, my comments

were not even acknowledged. I did not have such a problem with the President of the Sub-commission of CAS on an aerosols and Nucleation. Surprised? No.

These comments show why it is important to have the voice of an independent scientist at the big WMO (and WCRP) meetings.

At EC LIII in 2001 I was also “volunteered” to adjust the language and meaning of the newest WMO Statement on Weather Modification.

I consider the freedom of exchange of meteorological data for scientist as one of the most important aspects of my WMO and WCRPO mission.

Toronto, 19 February 2003
Roland List

IUGG XXIII GENERAL ASSEMBLY
Sapporo, Japan, 30 June – 11 July 2003

Agenda #11

Report of the IUGG Finance Committee
Rapport du Comité des finances de l'UGGI

Review of the 1999-2003 Quadrennium
Examen du quadriennium 1999-2003

Review of Categories of Member Adhering Bodies (By-Law 11.g)
Examen des Catégories des organismes adhérents (selon RI 11g)

Preface to the Report of the IUGG Finance Committee

In the Report of the Finance Committee, two suggestions for changes are made. Unfortunately, no action can be taken on these suggestions at this time because they in violation of specific provisions of the IUGG Statutes and By-laws (see below).

From the Statutes:

III. 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.

From By-law 11:

The Council shall :

- 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;

The Report of the Finance Committee partially addresses By-law 11.g. A complete list of Member Country Categories is included in the Report of the Treasurer provided under Agenda Item 4.

Jo Ann Joselyn, Ph.D.
IUGG Secretary General
25 March 2003



International Union of Geodesy and Geophysics

Finance Committee

20 March 2003

This interim report has been prepared as background for Council members prior to the July 2003 meetings at the IUGG General Assembly in Sapporo, Japan.

The Finance Committee (FC) has met twice since the General Assembly (GA) in Birmingham in 1999. In addition two members of the FC met members of the Bureau at their meeting in Cape Town in September 2002. The FC will meet again at the GA in Sapporo to consider input from Council members prior to completing work on the budget for the next quadrennium and on other financial concerns facing the Union.

Three items are called out here as demanding the attention of Council members and Member countries. Most urgent is the shrinking number of paying Members. Membership in the Union peaked in the 1992-95 period at about 80; today it has sunk to the neighborhood of 65 and of those 5 or so are in the new non-paying Associate category and more the 10 of the remaining are in observer status. It appears that not since the 1950s have there been so few currently paid Members. Since 1995 the unit has increased more than 16% but the total subscription income has remained roughly constant and the outlook for the next quadrennium is for more of the same. The financial impact is almost certainly not the only outcome of this trend. Recruiting and retaining Members who can and will support the Union seems to be a neglected area that should be addressed by all.

Second, the FC recommends that the Council amend the resolution it adopted in Boulder in 1995 that ties adjustment of the value of the Unit of subscription to inflation. This amendment is intended to assure that Members will know a year in advance exactly what their obligation will be, and will be able to meet that obligation more promptly. The original motion is shown below with additions indicated in *italic* type and deletions by ~~strikeout~~.

The Unit of subscription for *2004 and* each year *thereafter* shall be adjusted *from the prior year* by the same percentage that the OECD inflator for the USA changes over the 12 months ending *in on the* September *30 that is 15 months prior to the start of* the previous year *to which the adjusted Unit will apply*. ~~The first adjustment shall begin in 1996, based on the 1995 Unit of 1200 dollars and on the September 94 to September 95 OECD inflator for the USA.~~

Under this resolution the percentage adjustment for 2004 would be identical to that made for 2003 under the current procedure. That percentage was approximately 1.75%. The 2005 Unit will be known as soon as the economic figures are released for September 2003.

And third, we suggest that the Treasurer be made *ex officio* a full voting member of the Finance Committee. The FC as the direct representatives of the Council in financial matters between GAs and as an audit committee has an important role to play independent of the Bureau and Executive, but our role in budgetary affairs also demands close coordination with and knowledge of the thinking and planning in those circles. We feel that the full partnership of the Treasurer in our activities would be mutually beneficial and would not compromise the critical roles we play in control and audit as a committee of stakeholders outside the management structure.

Further background related to the above issues is contained in the following reports of our activity.

A. The first meeting of the FC during this quadrennium was held in London on the 4th and 5th of December 2001. The main items discussed were:

I. The income and expenditure of the Union since the GA in Birmingham.

The surplus from the Birmingham GA was \$69,051 and in accordance with the agreement made prior to the Assembly was divided equally between the IUGG and Royal Society. The financial position of the Union overall was considered to be satisfactory.

II. The Association Financial Reports

The majority of financial reports were satisfactory. In the absence of reports from IAG and IAGA no payments had been made to either Association for the years 2000 and 2001. The FC plans to prepare a revised financial guide for the Council at Sapporo which will include a new pro-forma for Association financial reports.

III. The relationship between the FC the Council, the Bureau, the Executive and officers of the Union.

The FC reiterated its commitment to working with the Bureau and the Executive while recognizing its responsibility, under the statutes, to the Council. The FC believes that with the introduction of a formal mechanism for the distribution of funds between Associations and Union activity and the detailed notes which accompanied the budget both at Boulder and at Birmingham, there was now much more openness of its deliberations. However, because of the lack of time at GAs there was often inadequate liaison between the FC, the Bureau and the Executive

while the budget was being drawn up. Additionally the FC has the continuing responsibility to consider requirements for changes to the budget that the Council approves at the GA. The FC therefore hoped that one or more of their members could attend the Bureau meeting due to be held in Cape Town in September 2000 for a discussion on the preparation of a preliminary budget which reflected the financial implications of the directions in which the IUGG would wish to move.

B. The meeting with Bureau members on the 2nd September in Cape Town.

Following an invitation to attend part of the Bureau meeting in Cape Town the FC were represented by Dr. Spilhaus and Professor Hamlin. This was a good meeting with a presentation by Bureau members of their ambitions for the future of IUGG and the need to fund new initiatives. A preliminary budget was drawn up on the basis of 65 members paying 251 units of income. This produced a total income from membership subscriptions of \$1,708K over the four year period 2004-2007. The budget allowed for a \$40K reduction in income due to loss of members giving a net figure for income of \$1668K. The budget included \$120K for new initiatives with a deficit over the four year period of \$43K.

C. The second full meeting of the FC was held in Frankfurt on the 19th and 20th of January 2003. The main items considered were revision of the category of membership, the fall in membership numbers and the preparation of a draft budget for 2004-2007.

I. The category of membership.

The FC have previously analyzed the categories of all member countries using a measure that weights the size of a country overall economy equally with its participation at Gas. Table I shows a list of countries which on figures revised since Birmingham are both below and above their current level of membership. In view of the analysis which follows, the FC urges Council to encourage member countries to raise their level of membership where that is appropriate. Since the list of recommended actions was presented in Birmingham the Czech Republic has raised its membership category, Sweden has announced its intention to do so, and Brazil and the USA have responded that they are seeking the means and authority required.

If all the countries which are recommended to raise their categories were to do so the increase in units would be 29. This would be offset by a reduction of 11 units for countries reducing their category. The net increase of 18 units would raise member subscription income by \$ 26.6K in 2004.

Table I Category - Current and as indicated by formula together with the unit change

Country	Current	Indicated	Recommended	Change in Units
USA	11	12	12	+5
Japan	8	9	9	+5
Germany	8	9	9	+5
Netherlands	4	5	5	+2
Austria	3	4	4	+2
Brazil	3	4	4	+2
Switzerland	3	5	5	+4
South Korea	2	3	3	+1
Mexico	2	3	3	+1
Israel	1	2	2	+1
New Zealand	1	2	2	+1
France	8	7	7	-5
Russia	6	5	5	-3
Philippines	3	2	2	-1
Pakistan	2	1	1	-1
Nigeria	2	1	1	-1

II. Membership Numbers

The Treasurer presented a listing of Members which indicates a serious decline in membership numbers that has taken place since the GA in Boulder and hence in subscription income. For example only 47 countries representing 222 units of income had paid their 2002 subscriptions by the 31st December 2002. A further 9 countries which moved to observer status on the 1st January 2003 represent 37 units of income, a proportion of which may still be paid.

The Treasurer and the FC took the view it would be unwise to assume all these countries would pay their subscriptions for 2002 and that income might fall further in 2003. On this basis the FC considered it would be prudent to prepare the budget on the assumption of 250 units of income in 2004, falling to 244 units in 2007.

These assumptions make a significant change in the preliminary budget discussed in Cape Town and paint a bleak future for the Union unless this trend can be reversed as a matter of urgency. The reduced income will seriously curtail the ability of the IUGG to represent and to lead the international community of

geodesists and geophysicists. Every effort must be made to encourage the 15 countries currently in observer status to maintain their full membership. Efforts must also be made in Sapporo to contact scientists from countries formerly members of IUGG and persuade them to try and consult their colleagues with a view to rejoining IUGG, if only as Associate members in the first instance.

III The Budget

The draft budget is based on a total income from membership subscriptions of \$1506K rather than the figure of \$1668K assumed in the preliminary budget discussed in Cape Town.

This loss in income falls heavily on the Associations since, based on the rules approval in Boulder, they receive 50% of the total income. Because of the importance of the new initiative, the FC proposed that the \$120K for these should be funded from the estimated balance of the reserves, \$610K, brought forward on the 1st of January 2004. Exclusive of the new initiatives the budget surplus over the four year period is \$5.3K.

There is no explicit allowance for inflation over the period; added cost will have to be met by cutting activity. The FC welcomes the comments and suggestions of Council members regarding the budget and how their funds are being used.

D. General

- I. It was agreed in London that subject to Council approval, the inflation index to be used for determining the unit value in year N should be changed from the year on year increase of the OECD dollar rate to September in year N-1 to the year on year rate in September for year N-2.

This would enable the Treasurer when sending out the invoices for year N to notify the value of the unit rate for the following year. This would give countries advance notice of the subscription to be paid in the following year.

- II. The FC proposed that in addition to updating the Financial Guide it should prepare a short handbook which sets out the responsibilities of the FC and also the framework which is used to prepare the budget. This handbook would be primarily aimed at Council members many of whom only attend one Council meeting.

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IUGG XXIII GENERAL ASSEMBLY
Sapporo, Japan, 30 June – 11 July 2003

Agenda #12

Presentation and Adoption of the 2004-2007 Budget
Présentation et adoption du budget 2004-2007

IUGG XXIII GENERAL ASSEMBLY
Sapporo, Japan, 30 June – 11 July 2003

Agenda #13

IUGG Goals and Vision Objectifs et perspectives de l'UGGI

Report of the Questionnaire on IUGG Structure, Goals and
Objectives for the Quadrennium and Long-Term
Rapport du questionnaire sur la structure et objectifs de l'UGGI
pour le quadriennium et à long terme

IUGG Structure, Goals and Objectives

Deliberations and Conclusions by the Bureau and Executive Committee During the 1999-2003 Quadrennium Report prepared by Uri Shamir and Harsh Gupta

Introduction

A major effort has been under way during the last several years, to examine and evaluate the structure, goals and objectives of IUGG, and to support a Vision for the Union's future. This report is designed to form the basis for a presentation of the outcome to the Council in Sapporo.

Past efforts along similar lines were carried out IUGG, assigned to an Advisory Board, usually chaired by the Union Vice President. During this past quadrennial period, a vigorous process of evaluation was primed by a discussion at the Bureau and Executive Committee meetings in Boulder in 2000, based on a visionary document prepared by Vere Shannon and Peter Wyllie. This led to setting up of a working group to continue the process, comprising Vere Shannon (Chair), Masaru Kono, JoAnn Joselyn and Harsh Gupta. A questionnaire was formulated and sent to the National Adhering Bodies and a similar one to the Associations, to elicit their responses to a series of questions relating to the structure, operation, goals and objectives of the Unions. All of the Associations responded, and 31 of the 66 Adhering Bodies responded.

With the resignation of Vere Shannon from the Bureau, Uri Shamir took over as Chair, and with Harsh Gupta and Masaru Kono analyzed the questionnaires, summarized and synthesized the results, and prepared for the very extensive deliberations by the Bureau and Executive Committee that took place at their meeting in Sapporo in summer 2001. This report summarizes the outcome of those deliberations.

Summary of the Deliberations and Conclusions by the Executive Committee

To facilitate discussion, the survey questions (see Appendices A and B) were divided into 12 Issues (see Appendix C). Summaries of the discussion are presented below according to this list of Issues.

ISSUE A: Goals, Objectives, Relevance

IUGG should pay more attention to the needs of the National Adhering Bodies, who provide the funding for IUGG activities.

Improvements in the Vision and Goals statement resulting from the Boulder, 2000, Bureau and Associations meeting are needed.

In the longer term, the Union should re-consider changes in the designation of the sciences in which it is engaged.

ISSUE B: Functioning of the Union

Communication with the national committees should be improved, recognizing that much work is required to foster contacts with National Committees

Communication with national scientific societies in the field of geoscience should be initiated.

The size of the Bureau (7 members) is not an issue, nor is the location or functioning of the Secretariat.

Additional funding would increase Union/Association effectiveness.

ISSUE C: General Assemblies (GA)

The GA will remain about two weeks long.

Union level activities are the essential and important component of the GA.

Administrative meetings will be during the same time, as now.

The number of Union lectures will be kept at four.

Associations not "represented" in Union lectures should consider a high-visibility Association lecture that will draw a large and wide audience.

Associations should strive not to schedule their activities in parallel with union level activities that their own scientists are interested in.

ISSUE D: IUGG and the Associations (+ Increase visibility)

The E-Journal is successful and should be improved and expanded.

The IUGG web page should be improved.

Associations should make sure IUGG logo appears on all publications and their web pages, and create a link to the IUGG web pages from their own pages.

A "list-server" for Union officers should be created.

A suggestion to publish a Union science journal was not accepted.

A working group should be set up to propose ways to publicize the Union most effectively.

ISSUE E1: Relations with other earth science societies

Relationships with national and regional earth science societies, including AGU and EGS, and particularly in other parts of the world should be promoted.

ISSUE E2: Relations with bodies such as UNESCO, ICSU, WMO etc.

The importance of IUGG science and activities should be promoted especially within ICSU. Executive Committee members are requested to provide ideas, suggestions and contacts.

ISSUE F: Support of Developing Countries

A summary of IUGG support for Developing Countries, prepared by the Secretariat for ICSU, should be expanded, posted on the web page, and communicated to the Council and the Finance Committee.

ISSUE G: Educational activities

A summary of IUGG educational activities, prepared by the Secretariat for ICSU, should be expanded and posted on the web page.

A notable IUGG educational activity is the training for scientists by Associations (e.g., geodetic and geomagnetic measurements and analysis methodologies).

ISSUE H: Support of Young Scientists

Support of young scientists requires more than just a discount on registration fees.

A Working Group of Young Scientists that will focus on "Geo-Sciences: The Future" has been proposed and initiated by U Shamir.

ISSUE I: Budget and Finance Committee (FC)

Relations with the current FC should be strengthened.

The FC should be asked to engage in raising funds.

A proposed budget for the 2003-2007 quadrennium should be prepared for input to the FC.

Matters of disagreement should be raised at the Council Meeting.

Persons with experience in Association operations should be nominated to the FC for the 2003-2007 quadrennium.

ISSUE J: Publications: E-Journal and Yearbook

The IUGG E-Journal is an effective communication tool primarily to reach National Committees, but also to share information among Association leadership. Its content and distribution should be expanded.

The IUGG Yearbook is an important legal document that informs Adhering Bodies and scientific institutions of IUGG structure, and the roles of individual persons within that structure.

ISSUE K: Services

Service is not a primary IUGG function (promoting research is a primary function), but products and services promote IUGG science to the global social and commercial community.

IUGG does not "serve" scientists in the way that scientific societies serve their membership (e.g., job advertisement and placement service). Rather, we enable science by promoting an environment in which scientific research can flourish.

APPENDIX A

QUESTIONNAIRE SEEKING OPINIONS OF ASSOCIATIONS ABOUT THE IUGG AS A UNION, ITS PRESENT ROLE AND FUTURE DIRECTION

BACKGROUND

The IUGG has a long and proud record of achievement internationally in the field of geodesy and geophysics. Founded in 1919, the Union is a grouping of seven Associations which collectively embrace a broad spectrum of scientific study of the Earth, its physics and chemistry, along with relevant studies of other planets. The IUGG is one of 26 Scientific Unions which are members of the International Council of Science (ICSU).

The International Geophysical Year (1957/58) provided the major impetus for the focus on, and the advancement of, geophysics in the 2nd half of the 20th century, and there can be little doubt that the benefits of this first truly co-ordinated geophysical activity for mankind have been enormous, extending to the present day.

Following its role in the IGY and subsequent international geophysics activities, the Union continued to provide an all important mechanism for scientific contact, collaboration and information exchange between scientists in the “west” and those from the former “Soviet block” during the protracted cold war years, and from less developed countries.

The world of the early 21st century is a vastly different one. The past decade has seen an explosion in information technology and a revolution in global communications. Moreover, societal and economic changes have resulted in the reprioritization of science and science budgets in many countries, with a shift towards activities of “perceived relevance” – particularly those with an interdisciplinary character. A consequence has been the emergence of programmes such as the World Climate Research Programme (WCRP), the International Geosphere-Biosphere Programme (IGBP), the World Ocean Circulation Experiment, to name but a few. Moreover there exist numerous intergovernmental and non-governmental organisations and structures. National and regional geophysics associations and societies such as the AGU and the EGS have flourished and now provide forums for exchange of ideas and information and also products and services which are, to many scientists, more attractive than those which they perceive IUGG to offer.

The conduct of science at present is very different to what it was fifty or even twenty years ago. The fact remains, though, that IUGG is the only truly international organisation for geodesy and geophysics. Our members are not individual scientists but countries. The real strength of the IUGG lies in its constituent Associations, which together cover the full spectrum of international geodesy and geophysics. What the Union does is to provide the inter-disciplinary framework and organisational glue in a confederation of seven quasi-autonomous organisations.

THE NEED FOR A STRATEGIC REVIEW

The Bureau and Executive Committee of the IUGG, which are empowered in terms of the Statutes to act on behalf of the IUGG Council between General Assemblies, are in the process of reviewing the present role and functions of the IUGG with the view to making the Union more responsive to the needs of the member countries (represented by their National Committees) and the international community of geodesists and geophysicists.

This “strategic review” commenced last year with the appointment of a small *ad hoc* group which was tasked with the preparation of a working document for consideration at the meeting of the Bureau and Associations in Boulder in July 2000. Good progress was made at the Boulder meeting and a preliminary set of goals and implementation strategies was developed. The process will be an ongoing one over the next two years, and the intention is to prepare a “Strategic Vision” for consideration by the Council in Sapporo in 2003.

In order to give direction and guidance to the process, and at the same time ensure broad participation and transparency, the Bureau is seeking the opinions of the National Committees and Associations on the various matters relating to the structure and functioning of the Union.

WHAT IS REQUIRED FROM THE ASSOCIATIONS

1. The preceding background text and questions which follow should be considered by the officers of the Associations.
2. A single collective (consensus or majority) response “Yes: or “No” should be provided by the Association for each question.
3. Return the completed questionnaire by e-mail to the Secretary General of the IUGG JoAnn Joselyn (jjoselyn@cires.colorado.edu).

Deadline for submission of completed questionnaire is 31 May 2001 .

QUESTIONS

Many questions can be answered with a simple “Yes” or “No”. If your Association has no definite opinion, please leave a blank. You may add a brief comment, i.e. one or two lines, on any of the questions, should you so wish.

A working document of IUGG Goals was drafted by members of the IUGG Executive Committee in August, 2000. This document, needed to answer Question 6 below, is attached.

At the end of the list of questions there is a request for comments and suggestions. Please use it to provide your candid opinion and suggestions for this strategic review of the Union.

1. **Is the IUGG “visible” in your Association/Commission i.e. are your members aware of the existence of the Union, its functions and activities?**
2. **Do you find that the communication between the Union Secretariat and your Association is adequate?**
3. **Do you regard the IUGG as essential / important / relevant / irrelevant to the functioning of your Association (circle your answer).**
4. **Do you feel that your Association serves an essential function within the IUGG?**
5. **Do you feel that the manner in which the Union is currently functioning satisfies the needs of your Association and the scientists in your field?**
6. **Is your Association comfortable with the set of “goals” (or in some cases these are more correctly actions in support of goals) developed during the course of discussions in Boulder in 2000?**
7. **Is the funding provided by the Union significant in enabling the operation of your Association?**
8. **Do you feel that the stated intention of developing a strategic vision to take the Union through to its centenary (~2019) should be a high priority for the present IUGG Bureau and Executive Committee?**
9. **If the IUGG were to be founded in 2001, would its Objectives as defined in Statute 1 be appropriate?**

IUGG STATUTES

I. 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 standardization of measurements or to collect, analyze and publish geodetic or geophysical data, taking into account the results of planetary studies.

10. Are the present IUGG publications (the Yearbook and the E-Journal) useful?

11. A mission is a broad statement in which the purpose, main goals, how the organisation functions, how it wishes to be seen outside, and how it sees itself are articulated. Should the IUGG have a brief mission statement in which the essential details of the Statutes are summarised?

12. The IUGG is a Union of seven Associations, and its strength lies in these Associations. Should a possible option of the individual Associations evolving into unions in their own right or regrouping to form two or three “focused” unions be considered?

13. Over the past several decades a number of national and regional geophysical organisations have come into being. Is there still a useful role for the IUGG to play? If so, what is it?

14. Following on from question 13, should the links between IUGG and these organisations be further strengthened?

15. Should the IUGG develop formal linkages with organisations in the biological and social sciences?

16. Should IUGG strengthen cooperation with international organisations such as UNESCO, IOC, WMO, etc to provide expertise in addressing problems the world faces today such as global warming, shortage of water resources, seismic and volcanic mitigation?

17. One of the main functions of the IUGG (and Associations) is to support scientists from developing countries to attend IUGG and related international scientific meetings. Much of the IUGG (and Associations) budget is used for that purpose. Do you think this function is important?

18. Should the IUGG devote more attention (and funding at the expense of existing activities) to educational activities and public outreach?

19. Do you feel that the present IUGG activities are attractive to scientists, young scientists in particular?

20. Is IUGG relevant to society? If so, how?

21. Should the IUGG do more to facilitate technology transfer in geophysics between developed and developing countries and to encourage “partnerships” between such countries?....

22. Should IUGG become more service orientated? If so, how?

23. General Assemblies of the Union are held every four years. These provide the only opportunity for full interaction between the seven Associations, and are consequently expensive and long (10-14 days, which is outside the norm for most scientific forums). To shorten these would require a streamlining of IUGG bureaucratic procedures (Council meetings, Association meetings etc) and reducing inter-Association interaction. Would you support shortening/streamlining?

24. Do you find the scientific programmes at the General Assemblies attractive?

25. Do you feel that the quality of science and the presentations at the GAs is good?

26. Would you prefer to see more focused IUGG meetings/assemblies?

27. Because IUGG is big (about 4000 scientists take part in the General Assemblies) it is difficult for some countries to invite and hold the General Assembly. Does your country have the facilities and capacity to hold a General Assembly?

28. Many of the Scientific Unions (such as IUGS) operate as a whole, whereas in IUGG the seven Associations are nearly autonomous and meet together only once every four years. Do you think that the whole IUGG should hold GAs more frequently?.....

29. Do you feel that the IUGG (Union, not Association) structures and modus operandi should be overhauled and streamlined?
30. Is the IUGG Bureau (4 officers and 3 members-at-large) too big? Too small?
31. The Secretariat of the Union is located at the office of current Secretary-General, moving as the Secretary-General changes. Do you feel that the Union should keep the office at one place, similar to the IUGS which keeps has a permanent secretariat in Paris? (Note: this has major financial implications).
32. The IUGG has a competent and experienced Treasurer, who administers Union finances. These are audited annually by a firm of professional auditors. The IUGG also has a 5-member Finance Committee, elected by the Council. Do you feel that the Finance Committee
- (a) is necessary?
 - (b) is of optimum size?
 - (c) is in need of redefinition?

If you would like to provide some comments and suggestions about the IUGG, its present and future role which address *inter alia* the following, please append these:

- (a) What things are IUGG and the Association uniquely equipped to do that will advance our disciplines?
- (b) What are the strengths on which IUGG can build?
- (c) What does IUGG need to do to retain and enhance the support of its members?
- (d) What can IUGG do in collaboration with others, where appropriate, that will benefit the entire community and strengthen the IUGG.

APPENDIX B

QUESTIONNAIRE SEEKING OPINIONS OF NATIONAL COMMITTEES ABOUT THE IUGG, ITS PRESENT ROLE AND FUTURE DIRECTION

BACKGROUND

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Following its role in the IGY and subsequent international geophysics activities, the Union continued to provide an all important mechanism for scientific contact, collaboration and information exchange between scientists in the “west” and those from the former “Soviet block” during the protracted cold war years, and from less developed countries.

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The conduct of science at present is very different to what it was fifty or even twenty years ago. The fact remains, though, that IUGG is the only truly international organisation for geodesy and geophysics. Our members are not individual scientists but countries. The real strength of the IUGG lies in its constituent Associations, which together cover the full spectrum of international geodesy and geophysics. What the Union does is to provide the inter-disciplinary framework and organisational glue in a confederation of seven quasi-autonomous organisations.

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The Bureau and Executive Committee of the IUGG, which are empowered in terms of the Statutes to act on behalf of the IUGG Council between General Assemblies, are in the process of reviewing the present role and functions of the IUGG with the view to making the Union more responsive to the needs of the member countries (represented by their National Committees) and the international community of geodesists and geophysicists.

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In order to give direction and guidance to the process, and at the same time ensure broad participation and transparency, the Bureau is seeking the opinions of the National Committees and Associations on the various matters relating to the structure and functioning of the Union.

WHAT IS REQUIRED FROM THE NATIONAL COMMITTEE IN YOUR COUNTRY

- 4. The preceding background text and questions which follow should be considered by the members of your National Committee for the IUGG.**
- 5. A single collective (consensus or majority) response “Yes” or “No” should be provided by your National Committee for each question.**
- 6. Return the completed Questionnaire by e-mail (preferably) or fax to the Secretary General of the IUGG:**

e-mail : jjoselyn@cires.colorado.edu

fax: 1 303 497 3645

- 7. So that we have a clear record of your response, please provide details of the person submitting the response on behalf of your National Committee:**

Country:

Name:

Position on NC:

Fax:

Phone:.....

e-mail:

Deadline for submission of completed Questionnaire is 31 May 2001.

QUESTIONS

Many questions can be answered by a simple “Yes” or “No”.. If your National Committee has no definite opinion, please leave a blank. You may add a brief comment, i.e. one or two lines, on any of the questions, should you so wish.

At the end of the list of questions there is a request for comments and suggestions. Please use it to provide your candid opinion and suggestions for this strategic review of the Union.

1. **The Purpose Objectives of the IUGG as defined in Statute 1 “Objectives and Composition of the Union” are regarded by the Bureau as appropriate for the IUGG in the 21st Century. Do you agree?**

IUGG STATUTES

I. 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;
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 - 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 standardization of measurements or to collect, analyze and publish geodetic or geophysical data, taking into account the results of planetary studies.
2. **Do you feel that the manner in which the IUGG is currently functioning satisfies the needs of your National Committee (NC)?**
3. **The IUGG Bureau is in the process of developing a draft strategic vision for consideration by the IUGG Council in 2003. Do you feel that this action might be helpful? If so, how?**

4. Is the IUGG “visible” in your country i.e. are the majority of geodesists/geophysicists in your country aware of the existence of the IUGG, its functions and structures?
5. Is the communication between the IUGG Secretariat and your National Committee adequate?
6. Is there adequate communication between your National Committee and geodesists/geophysicists in your country?
7. IUGG activities are to a large extent limited by its annual budget.
 - (a) Do you feel that the current subscription rate (dues) of your country is adequate from the view point of the economic and scientific status of your country?
 - (b) Does your country support the idea of enhancing the activity of the IUGG to meet more adequately the needs of the Associations, even if that requires an increase in the dues (say 30%)?
8. Are the present IUGG publications (the Yearbook and the E-Journal) useful?
9. The IUGG is a Union of seven Associations, and its strength lies in these Associations.

Should a possible option of the individual Associations evolving into unions in their own right or regrouping to form two or three “focussed” unions be considered?
10. Over the past several decades a number of national and regional geophysical organisations have come into being. Is there still a useful role for the IUGG to play? If so, what is it?
11. Following on from question 11, should the links between IUGG and these organisations be further strengthened?
12. Should the IUGG develop formal linkages with organisations in the biological and social sciences?
13. Should IUGG strengthen cooperation with international organisations such as UNESCO,

IOC, WMO etc. to provide expertise to address the problems the world faces today, such as global warming, shortage of water resources, seismic and volcanic hazard mitigation?

14. One of the main functions of the IUGG (and Associations) is to support scientists from developing countries in their activities and to attend IUGG and related international scientific meetings. Much of the IUGG budget is used for that purpose. Do you think that this function is important?

15. Should the IUGG devote more attention (and funding at the expense of existing activities) to educational activities and public outreach?

16. Do you feel that the present IUGG activities are attractive to scientists, young scientists in particular?

17. Is IUGG relevant to society?

18. Should the IUGG do more to facilitate technology transfer in geophysics between developed and developing countries and to encourage “partnerships” between such countries?

19. Should IUGG become more service orientated? If so, how?

20. General Assemblies of the Union are held every four years. These provide the only opportunity for full interaction between the seven Associations, and are consequently expensive and long (two weeks, which is outside the norm for most scientific forums).

To shorten these would require a streamlining of IUGG bureaucratic procedures (Council meetings, Association meetings etc) and reduce inter-Association interaction. Would you support shortening/streamlining?

21. Because IUGG is big (about 4000 scientists take part in the General Assemblies) it is difficult for some countries to invite and hold the General Assembly. Does your country have the facilities and capacity to hold a General Assembly?

22. Do you find the scientific programmes at the General Assemblies attractive?

23. Do you feel that the quality of science and the presentations at the General Assemblies is good?

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25. Some of the Scientific Unions operate as a whole, whereas in IUGG the seven Associations are nearly autonomous and meet together only once every four years at the General Assemblies. Do you think that IUGG should hold General Assemblies more frequently?

26. Do you feel that the IUGG (Union, not Association) structures and modus operandi should be overhauled and streamlined?

27. Do you feel that the IUGG Bureau is too large? Too small?

28. The Secretariat of the Union is located at the office of current Secretary-General, moving as the Secretary-General changes. Do you feel that the Union should keep the office at one place, similar to the IUGS which keeps a permanent secretariat in Paris? (Note: this has major financial implications).

29. The IUGG has a competent and experienced Treasurer, who administers Union finances. These are audited annually by a firm of professional auditors. The IUGG also has a 5-member Finance Committee, elected by the Council. Do you feel that the Finance Committee

(a) is necessary?

(b) is of optimum size?

(c) is in need of redefinition?

If you would like to provide some comments and suggestions about the IUGG, its present and future role which address *inter alia* the following, please append these:

(e) What things are IUGG and the Association uniquely equipped to do that will advance our disciplines?

(f) What are the strengths on which IUGG can build?

(g) What does IUGG need to do to retain and enhance the support of its members?

(h) What can IUGG do in collaboration with others, where appropriate, that will benefit the entire community and strengthen the IUGG?

APPENDIX C

Organization of the Responses of the National Committees and the Associations to their Respective Questionnaires

The Issue	Question numbers (Associations)	Question Numbers (National Committees)
A. IUGG Redefined: Goals; Relevance	6.8.9.11.13.20.32	1, 3, 10, 17
B. Functioning of the Union; Communication; Bureau	2,5,8,28,29	2, 4, 5, 26, 27, 28, 30
C. General Assemblies	23,24,25,26,27	20, 21, 22, 23, 24, 25
D. IUGG and Associations	1,3,4,12	9
E1. Linkage with other earth science organizations	13.14	11, 12
E2. Linkage with UNESCO/ICSU	15,16	13
F. Support for Developing Countries	17,21	14, 18
G. Educational activities	18	15
H. Young Scientists	19	16
I. Budget; Finance Committee	7,31	29
J. Publications	10,	8
K. Other	22 – Service	19 - Service 6 - Nat'l Comm. and local scientists; 7 - Raise dues

IUGG XXIII GENERAL ASSEMBLY
Sapporo, Japan, 30 June – 11 July 2003

Agenda #13

IUGG Goals and Vision
Objectifs et perspectives de l'UGGI

Proposal from the USA National Committee
Proposition du Comité des Etats-Unis d'Amérique

U.S. National Committee for the International Union of Geodesy and Geophysics

26 December 2002

Dr. Jo Ann C. Joselyn
Secretary General, IUGG
390 Hollyberry Lane
Boulder, CO 80303-5231

Dear Jo Ann,

The U.S. National Committee for IUGG requests that adoption of a Long Range Vision Statement for the IUGG be placed on the agenda for the IUGG Council Meeting in Sapporo. We feel that having an officially adopted vision statement will help to frame future IUGG policies and motivate actions to help achieve the vision. In addition, we feel that the discussion itself will help to involve the member countries more closely in Union activities.

We suggest the following steps to help bring about a vision statement with input from the entire Council:

- (1) At the first Council meeting introduce a draft vision statement, entertain open discussion by Council Members, and appoint a committee of the Council to prepare a vision statement for formal adoption.;
- (2) By 6 July 2003, circulate proposed vision statement to Council Members; and
- (3) At the final Council meeting entertain discussion of the proposed vision statement, amend as appropriate, and vote on adoption.

Attached is a draft vision statement which we would like to have considered along with any proposal the Bureau or others may present.

Yours truly,

A. F. Spilhaus, Jr., Secretary
U.S. National Committee for IUGG

Enclosure

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DRAFT
LONG RANGE VISION STATEMENT OF THE IUGG

Objectives of the Union are as follows:

1. To support scientific progress worldwide in the Earth and space sciences;
2. To promote opportunities for Earth and space scientists from all countries to participate in scientific research and information exchange.
3. To promote scientific activities in those areas where new discoveries will best advance our understanding of the Earth and space, or in which science can best contribute to meeting human needs.

To achieve these objectives the Union shall:

- (1) Nurture and promote international scientific projects in the Earth and space sciences, both new projects and ongoing ones such as the Permanent Services.
- (2) Enhance research in developing countries by supporting conferences and workshops by lowering barriers to equal participation, and by promoting sharing of infrastructure, information and talent.
- (3) Expand the traditional definition of Geodesy and Geophysics to include Earth and space sciences and those scientific techniques that are important tools in Earth and space sciences.
- (4) Provide flexibility so that the structure and activities of the Union and its Associations adapt to changes in scientific research and the research environment.
- (5) Communicate effectively with member countries and Earth and space scientists worldwide to inform them of Union activities and to encourage their participation.
- (6) Assist the Associations in promoting their own agendas and inter-Union activities.
- (7) Carry out education and outreach activities, at both the Association and Union levels, to make Earth and spaces science information available to the public and their leaders.

IUGG XXIII GENERAL ASSEMBLY
Sapporo, Japan, 30 June – 11 July 2003

Agenda #14

Elections of IUGG Officers
(Ref. AGENDA ITEM 5)
Election des responsables de l'UGGI
(Cf point 5 de l'ordre du jour)

President / Président
Vice- President / Vice-Président
Treasurer / Trésorier
Bureau members / Membres du Bureau
Finance Committee / Comité des finances

Ballots to be distributed in Sapporo

IUGG XXIII GENERAL ASSEMBLY
Sapporo, Japan, 30 June – 11 July 2003

Agenda #15

Selection of the venue of the XXIV IUGG General
Assembly (2007) (Ref: AGENDA ITEM 8)
Choix du lieu de la XXIV^{ième} Assemblée Générale (Cf
point 8 de l'ordre du jour)

Ballots to be distributed in Sapporo

IUGG XXIII GENERAL ASSEMBLY
Sapporo, Japan, 30 June – 11 July 2003

Agenda #16

Presentation and Adoption of the Resolutions (H. Gupta)
Présentation et adoption des résolutions

Presentation and Adoption of the Resolutions

Présentation et adoption des résolutions

At the Executive Committee meeting held in Sapporo, Japan, August 1-2, 2002, a suggestion made at the August, 2000, Bureau/Associations meeting that the Resolutions Committee should be appointed before the General Assembly was reaffirmed. By so doing, it was hoped that Council Meeting time could be better managed because the Associations could prepare drafts of proposed Union resolutions in advance and preliminary revisions and approvals could be done. Suggestions were made for possible committee members.

At the 2002 Bureau meeting, President Kono confirmed the appointment of the following members of the Resolutions Committee:

Chair: Harsh Gupta (Bureau; India)
Members: Georges Balmino (past Secretary-General; France)
Robert Vincent (IAMAS; Australia)
Kathy Whaler (IAGA; U.K.)

The Committee is prepared to accept resolutions at this time, and will forward them to Council delegates as appropriate.

For your general information, all past IUGG (Union) resolutions adopted at General Assemblies since Zurich (1967), with the exception of Canberra (1979), are posted on the IUGG web site (<http://www.iugg.org>). The Resolutions for Canberra are missing. If anyone has a copy of those Resolutions, the Secretariat would very much like to have a copy of both the English and French versions.