Klump, J., Allison, L., Asch, K., Fox, P., Gundersen, L., Jacksen, I., Loewe, P., Snyder, W. S., Ritschel, B. (2008): Enabling global collaboration in the geosciences. - EOS, Transactions, American Geophysical Union, 89, 49, 503-504.

Enabling Global Collaboration in Geoscience

Geoinformatics 2008;

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Scientists are facing an increasing flood of data and information in the Earth sciences from which they try to distill knowledge. The emerging discipline of geoinformatics brings together the tools necessary to create and make accessible the knowledge needed to respond to the society's complex challenges, such as climate change, new energy and mineral resources, new sources of water, and protecting environmental and human health.

Globalization of geoinformatics-based research and education in support of meeting societal challenges was the theme for the Geoinformatics 2008 conference, which was held at the German Research Centre for Geosciences, in Potsdam, Germany. Participants came from China, France, Germany, Japan, Netherlands, Russia, Switzerland, the United Kingdom, and the United States, representing academic institutions, national research centers, and government agencies.

The conference provided an international forum for researchers and educators from Earth and planetary sciences, information technology, and computer science to present new data systems, data analysis or modeling techniques, visualization schemes, or technologies as they relate to developing the cyberinfrastructure for the geosciences. In addition to technological topics, the conference participants also discussed implementation strategies for cyberinfrastructures and current research programs in geoinformatics.

A key issue at the conference was the need to make data and knowledge about global Earth processes more accessible. This encompasses not only unlocking of data and making it globally available through the Web, but also increasing accessibility by making it comprehensible to people outside the geoscience profession, which conference participants agreed would add much value for society.. The emerging Earth science digital information network will allow data to be seamlessly integrated with pre-existing data ressources worldwide through interoperable Web services.

Establishing interoperability among geoscience information resources requires enhanced understanding and interaction across the disciplines of the geoscience informatics community, conference participants agreed. The call is to transform present-day boundaries into the exchange interfaces of tomorrow. Contributions to the conference discussed concepts, approaches, and solutions in Earth and space

science informatics and showcased examples of information systems interoperability ranging from astrophysics to paleontology. Speakers reported that such demonstrations of interoperability are setting precedents for other scientific disciplines and for spatial data infrastructure development globally.

Further, meeting attendees hoped that an international effort to tackle data interoperability could fuel new science and technology to improve our quality of life. Governments are moving quickly to adopt common open-source standards (such as the Open Geospatial Consortium, Inc., and GeoSciML), as shown by speakers who presented talks on the European Commission funding the OneGeology-Europe initiative and the U.S. National Science Foundation funding the Geoscience Information Network. At the same time, discussions at the meeting revealed that academic institutions, government agencies, and industry appear to be adopting a Web-services, service-oriented architecture that is producing rapid progress in creating cyberinfrastructure.

Participants at Geoinformatics 2008 agreed that the meeting provided a unique platform for discussion and positive steps toward enhanced collaboration, in particular, between federal and state geological surveys and academic-based geoinformatics.