



International Union of Geodesy and Geophysics (IUGG)

Union Géodésique et Géophysique Internationale (UGGI)

ANNUAL REPORT 2008



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INTRODUCTION

Established in 1919, the International Union of Geodesy and Geophysics (IUGG) is the international, non-governmental, non-profit organization dedicated to advancing, promoting, and communicating knowledge of the Earth system, its space environment, and the dynamical processes causing change. Through its constituent associations, commissions, and services, IUGG convenes international assemblies and workshops, undertakes research, assembles observations, gains insights, coordinates activities, liaises with other scientific bodies, plays an advocacy role, contributes to education, and works to expand capabilities and participation worldwide. Data, information, and knowledge gained are made openly available for the benefit of society – to provide the information necessary for the discovery and responsible use of natural resources, sustainable management of the environment, reducing the impact of natural hazards, and to satisfy our need to understand the Earth's natural environment and the consequences of human activities. IUGG Associations and Union Commissions encourage scientific investigation of Earth science and especially interdisciplinary aspects. Each Association establishes working groups and commissions that can be accessed by using the links on our website.

IUGG is one of thirty scientific unions adhering to the International Council for Science (ICSU). ICSU provides a global forum for scientists to exchange ideas and information and to develop standard methods and procedures for all fields of research. IUGG brings expertise on Earth studies from researchers in its International and Inter-Association Commissions. As a member of ICSU, IUGG strongly supports its policy of non-discrimination by affirming the rights and freedom of scientists throughout the world to engage in international scientific activity without limitation by such factors as citizenship, religion, creed, political stance, ethnic origin, race, color, language, age or gender.

IUGG has initiated and/or vigorously supported collaborative efforts that have led to highly productive world-wide interdisciplinary research programs, such as the International Geophysical Year (1957-58), the Upper Mantle Project (1964-70), the International Hydrological Decade (1965-74), the Geodynamics Project (1972-79), the Global Atmospheric Research Programme (1967-80), the International Lithosphere Programme, the World Climate Research Programme, the International Decade for Natural Disaster Reduction, Integrated Research on Risk Disasters, the International Heliophysical Year (2007-2009), the Electronic Geophysical Year (2007-2008), the International Year of Planet Earth (2007-2009), and the International Polar Year (2007-2008). These programs have set a model for international, interdisciplinary cooperation. Representing all geophysical disciplines, IUGG is involved in the projects and programs related to climate change, global warming, and related environmental impacts. IUGG scientists working under the umbrella of Inter-governmental Panel on Climate Change (IPCC) made us all proud, when IPCC shared the 2007 Nobel Peace Prize.

IUGG supported and supports initiatives by ICSU, especially those in which Earth sciences have a role to play. One major contribution has been the creation, some 50 years ago, through ICSU, of the World Data Centers and the Federation of Astronomical and Geophysical Data Analysis Services. These are being transformed to the ICSU World Data System, from which the data gathered during the major programs and data products will be available to researchers everywhere. IUGG cooperates with UNESCO in the study of natural catastrophes, hydrological and oceanographic research. IUGG also places particular emphasis on the scientific problems of economically less-developed countries by sponsoring activities relevant to their scientific needs (e.g. Geosciences in Africa, Water Resources, Health and Well-Being etc.)

The web site, available in English and French, can be found at <http://www.IUGG.org>.

GENERAL INFORMATION

MEMBERSHIP

By their very nature, geodetic and geophysical studies require a high degree of international co-operation. IUGG is critically dependent on the scientific and financial support of its member Adhering Bodies. The list of present and past IUGG Adhering Bodies is published in the IUGG Yearbook and posted on the web site. Each Adhering Body establishes a National Committee for IUGG, and names Correspondents to each Association (as appropriate). During 2008, the Union had 65 Member Adhering Bodies. Several members were in observer status because they were in arrears of dues payment. Four Adhering Bodies were in Associate Member status. New member country applications are being actively encouraged.

STRUCTURE

Responsibility for directing the Union's affairs is vested in the IUGG Council by the Statutes and Bylaws. The IUGG Council consists of the Council Delegates, who are designated by the Adhering Body of their respective countries as their representatives for each Council meeting. The Council is convened at each quadrennial General Assembly. A Bureau, an Executive Committee and a Finance Committee administer IUGG affairs between Council meetings. The Executive Committee has the particular responsibility of overseeing the scientific programs of the Union. There is no permanent Secretariat; the National Committee of the country where the IUGG Secretariat is located is expected to provide administrative support for Union affairs.

Associations

The Union brings together eight semi-autonomous Associations, each responsible for a specific range of topics or themes within the overall scope of the Union's activities and each with a sub-structure. The Associations convene their own assemblies and sponsor scientific symposia, often in partnership with one another. Within its own discipline each Association is responsible for determining its own program of investigations and for supporting the activities of its own component parts. All Earth scientists, worldwide, are eligible to participate in IUGG and Association assemblies, workshops, and symposia, although only scientists from member countries with dues paid may serve as officers.

The eight International Associations are listed below, and short reports on their 2008 activities are included here. Additional information about each Association is given on their web sites, which can be accessed from the IUGG web site.

- International Association of Cryospheric Sciences (IACS)
- International Association of Geodesy (IAG)
- International Association of Geomagnetism and Aeronomy (IAGA)
- International Association of Hydrological Sciences (IAHS)
- International Association of Meteorology and Atmospheric Sciences (IAMAS)
- International Association for the Physical Sciences of the Oceans (IAPSO)
- International Association of Seismology and Physics of the Earth's Interior (IASPEI)
- International Association of Volcanology and Chemistry of the Earth's Interior (IAVCEI)

Union Commissions

Owing to the interactive nature of the subject fields addressed by the Union's Associations, a number of Union Commissions have been established that promote the study of particular interdisciplinary problems. In 2008, the following bodies were active:

- Commission for Data and Information (UCDI) [since August 2008]

- Commission on Geophysical Risk and Sustainability (GRC)
- Commission on Mathematical Geophysics (CMG)
- Commission on the Study of Earth's Deep Interior (SEDI)

Inter-Unions Commission

The International Lithosphere Program, guided by the Scientific Committee on the Lithosphere (SCL), was established in 1980 as the Inter-Unions Commission on the Lithosphere (ICL) by the International Council for Science (ICSU), at the request of IUGG and the International Union of Geological Sciences (IUGS). The name was formally changed to the Scientific Committee on the Lithosphere in 1999. According to Decision 8.4 from the 2005 ICSU General Assembly, ICSU decided "to withdraw ICSU sponsorship from SCL/ILP and to recommend that responsibility would then shift to IUGG and IUGS. Since that time, IUGG and IUGS have reaffirmed the ILP mission and have collaborated to re-define ILP as an Inter-Unions body.

GENERAL ASSEMBLIES OF THE UNION

General Assemblies have been held since 1922 and, since 1963, at 4-year intervals. These assemblies provide an extraordinary opportunity for Earth scientists from around the world to gather and share expertise, research data, and results. Past IUGG General Assemblies are listed in the IUGG Yearbook and on the web site. The most recent General Assembly was held in Perugia, Italy, 2-13 July 2007. The next General Assembly will be held in Melbourne, Australia, 27 June – 8 July 2011.

OTHER SCIENTIFIC MEETINGS

Each Association organizes its own scientific assembly in the 4-year interval between Union General Assemblies in order to report scientific progress and conduct Association business. Associations sometimes meet jointly with the purpose of promoting interdisciplinary science. Topical and regional symposia and workshops are organized on other occasions by the Associations to provide opportunity for geodesists and geophysicists worldwide to discuss their respective methodologies, results and hypotheses and to plan collaborative research projects. The symposia, often held in less-visited, geophysically interesting locales, are intended to be attractive to the younger scientists from the developing countries of the world.

PUBLICATIONS

The IUGG publishes an annual Yearbook that lists the organizational structure and officers of each body within the Union. The Yearbook is posted on the IUGG web site: <http://www.iugg.org/publications/yearbooks/yearbook2009.pdf>. The Union also distributes an electronic newsletter (the IUGG E-Journal) monthly to Adhering Bodies and National Committees. Each Association manages their own publications.

IUGG OFFICERS FOR 2007-2011

IUGG Bureau members

President: Dr. Tom Beer (Australia)

Secretary General: Dr. Alik Ismail-Zadeh (Germany/Russia)

Vice President: Dr. Harsh Gupta (India)

Treasurer: Dr. Aksel Hansen (Denmark)

Members: Dr. Yun-Tai Chen (China), Dr. David Jackson (USA), Dr. Ali Tealeb (Egypt)

IUGG Executive Committee

IUGG Bureau members

Immediate Past President: Dr. Uri Shamir (Israel)
IACS President: Dr. Georg Kaser (Austria)
IAG President: Dr. Michael Sideris (Canada)
IAGA President: Dr. Eigil Friis-Christensen (Denmark)
IAHS President: Dr. Arthur Askew (Switzerland/Australia)
IAMAS President: Dr. Guoxiong Wu (China)
IAPSO President: Dr. Lawrence Mysak (Canada)
IASPEI President: Dr. Zhongliang Wu (China)
IAVCEI President: Dr. Setsuya Nakada (Japan)

IUGG Finance Committee members

Chair: Dr. Juan Vilas (Argentina).
Members: Dr. David Collins (UK), Dr. Jan Krynski (Poland), Dr. Kiyoshi Suyehiro (Japan)

Association Presidents and Secretaries General

International Association of Cryospheric Sciences

President: Dr. Georg Kaser (Austria, 2007-2009)
President-elect: Dr. Ian Allison (Australia, 2009-2013)
Secretary General: Dr. Manfred Lange (Germany)

International Association of Geodesy

President: Dr. Michael Sideris (Canada)
Secretary General: Dr. Hermann Drewes (Germany)

International Association of Geomagnetism and Aeronomy

President: Eigil Friis-Christensen (Denmark)
Secretary General: Dr. Bengt Hultqvist (Sweden)

International Association of Hydrological Sciences

President: Dr. Arthur Askew (Switzerland/Australia, 2005-2009)
President-Elect: Dr. Gordon Young (Canada, 2009-2013)
Secretary General: Dr. Pierre Hubert (France)

International Association of Meteorology and Atmospheric Sciences

President: Dr. Guoxiong Wu (China)
Secretary General: Dr. Hans Volkert (Germany)

International Association for the Physical Sciences of the Oceans

President: Dr. Lawrence Mysak (Canada)
Secretary General: Dr. Johan Rodhe (Sweden)

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

President: Dr. Zhongliang Wu (China)
Secretary General: Dr. Peter Suhadolc (Italy)

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

President: Dr. Setsuya Nakada (Japan)

Secretary General: Dr. Joan Martí (Spain)

Union Commission Officers

Union Commission for Data and Information (UCDI)

President: Dr. Peter Fox (USA)

Secretary General: Dr. Adelina Geyer Traver (Spain)

Union Commission on Geophysical Risk and Sustainability (GRC)

President: Dr. Kuniyoshi Takeuchi (Japan)

Secretary General: Dr. Gerd Tetzlaff (Germany)

Union Commission on Mathematical Geophysics (CMG)

President: Dr. Dan Rothman (USA)

Secretary General: Dr. Claudia Pasquero (USA)

Union Commission on Studies of Earth's Deep Interior (SEDI)

President: Dr. Gauthier Hulot (France)

Secretary General: Dr. Michael Bergman (USA)

Inter-Unions Commission: International Lithosphere Program (ILP)

President: Dr. S. Cloetingh (The Netherlands)

Secretary General: R. Oberhänsli (Germany)

NEXT IUGG BUREAU AND EXECUTIVE COMMITTEE MEETINGS

Tom Beer, IUGG President, announced the place and the dates of the next IUGG Bureau and Executive Committee (EC) meetings. Both meetings will be held in Melbourne, Australia; the Bureau meeting on 8-9 October 2009 and the EC meeting on 9-11 October 2009. The Scientific Program Committee for the 2011 IUGG General Assembly will meet on 12 October 2009.

MESSAGE FROM THE PRESIDENT



At the quadrennial IUGG General Assembly, the Council elects the new Bureau for a four-year term. Each of the eight scientific associations that comprise IUGG elect their own office bearers. The Presidents of the eight Associations, the members of the Bureau and the Immediate Past President comprise the IUGG Executive.

One of the roles of the President is to convene and to chair meetings of the Executive. This met for the first time in Karlsruhe, Germany in August 2008. One of the most exciting outcomes was the formation of a new Union Commission on Data and Information. As a result of both the International Polar Year (IPY) and the electronic geophysical year (eGY) this topic has assumed renewed relevance and importance.

The International Council for Science (ICSU) has restructured its data and information committees and services. The ICSU General Assembly in Maputo, Mozambique in October 2008 passed resolutions affirming the importance of the collection, processing and archiving of data and information. IUGG is a member of ICSU and was well-represented at the Maputo Assembly with the IUGG President, Vice-President, Immediate Past President and Secretary-General all in attendance.

I also attended the IAVCEI Scientific Assembly held in Reykjavik, Iceland in August and was privileged to witness the awards ceremony at which medals and awards were presented to outstanding volcanologists – many of whom had perfected their science amidst the volcanoes and glaciers of Iceland. In the pages of this annual report one can find the names of many other scientists who have been honoured for the excellence of their science and their contribution to society. I congratulate them all on behalf of the whole Union.

The excellence of the individual scientists that make up IUGG is in no doubt. The excellence of their science is in no doubt. But in economic times that continue to become more harsh, we need continually to demonstrate the relevance of this science to our constituent adhering bodies, to the decision-makers in each of the 65 countries that are members of IUGG, and to the wider community all over the world. IUGG and the individual Scientific Associations continue to work with ICSU, with the UN and its agencies, and with regional bodies to continue to show the relevance and importance of the IUGG and its work. IUGG has joined with seven other international scientific unions that deal with the Geosciences to form the GeoUnions Consortium within ICSU so that by sharing information and ideas each Union will be strengthened by the co-operation and partnership of their fellow GeoUnions.

The IUGG Union Commission on Geophysical Risk and Sustainability works to find ways to link the science of Natural Hazards with the societal response. I write these words shortly after Black Saturday, 7 February 2009, when over 200 people lost their lives as a result of wildfires in the outskirts of Melbourne. It is sobering to realise that in spite of the marked superiority in weather forecasting, telecommunication, suppression techniques and fire-fighting technology more people died in these fires than in the fires of Friday 13 January 1939, which had previously been Australia's worst wildfire disaster. In spite of the disaster, planning for the XXV IUGG General Assembly to be held in Melbourne, Australia, 27 June – 8 July 2011 is well under way.

Tom Beer, President

MESSAGE FROM THE SECRETARY GENERAL



The Year 2008 went down in history as the year of four International Programs: International Year of Planet Earth (IYPE), International Polar Year (IPY), Electronic Geophysical Year (eGY), and International Heliophysical Year (IHY). The International Union of Geodesy and Geophysics and the Union Associations took active part in developing these Programs. Major events in the life of the Union in 2008 include the following:

- (i) The Union Commission for Data and Information was set up to provide a focused and sustainable organizational structure that supports and strengthens IUGG science through integrated scientific information activities.
- (ii) The IUGG Executive Committee Meeting was held in August in Karlsruhe.
- (iii) Four major scientific projects were supported through the new IUGG Grants Programme.
- (iv) IUGG strengthened further its relationship with ICSU GeoUnions via cooperation in programmes on natural hazards and health & well-being.
- (v) Greece rejoined IUGG as a Regular Member.

The IUGG Secretariat thanks the Union Associations and Commissions as well as individuals who helped making the year 2008 exciting and productive in strengthening international geophysical science for the benefit of society.

The IUGG Secretariat is located on the campus of the University of Karlsruhe, Germany. As a response to the request of the German National Committee for Geodesy and Geophysics (NKG), the German Research Foundation (DFG) awarded the IUGG Secretariat a grant to hire an Assistant Secretary General and to assist with business travels of the Secretary General for the years 2008-2009. The IUGG is very grateful to the NKG for the support and to the DFG for the sponsorship of the IUGG Secretariat.

Assistant Secretary General Katina Rogers (USA) left the IUGG Secretariat at the end of 2008. Katina had worked for IUGG for several years, and her assistance has been greatly appreciated by JoAnn Joselyn, Alik Ismail-Zadeh, many IUGG Executive Committee, and IUGG Council members. Recently, Katina took PhD courses at the University of Colorado in Boulder.

Simone Oswald (Germany) replaced Katina Rogers as the Assistant Secretary General of IUGG.

The report below highlights the activities of the Union, Union Associations and Commissions, and the International Lithosphere Programme (inter-Unions Commission) for 2008.

Alik Ismail-Zadeh, Secretary General

IUGG ACTIVITIES

THE IUGG EXECUTIVE COMMITTEE MEETING

The IUGG Executive Committee (EC) met in Karlsruhe on 5-6 August 2008. The IUGG EC is comprised of the IUGG Bureau (which met on 3 August 2008), immediate Past President and Presidents of 8 Union Associations. Association Secretaries General and the Chair of the IUGG Finance Committee were invited to attend the meeting. The IUGG President and Presidents/ Secretary Generals of the Union Associations reported on the activities after the XXIV IUGG General Assembly (Perugia, Italy, 2007). The IUGG Vice President reported on the activities of three Union Commissions: CMG, SEDI and GRC. The IUGG Secretary General reported on the activity of the IUGG Secretariat and interaction with ICSU and its committees. Other topics of the meeting agenda included (i) an evaluation of the activity of the International Lithosphere Program (ILP) and Federation of Astronomical and Geophysical Data Analysis Services (FAGS), (ii) a report on the GeoUnions activity; (iii) reports on the IYs sponsored by IUGG: IYPE, eGY, and IHY; (iv) an analysis of the XXIV IUGG General Assembly in Perugia (2007); (v) preparations to the XXV IUGG General Assembly in Melbourne (2011); (vi) reports of IUGG liaisons to ICSU committees and to other international bodies; (vii) a financial report and the IUGG Grant Programme; and (viii) the relationship with national and regional geophysical unions and societies. The IUGG EC established a new commission (Union Commission on Data and Information), issued a statement on geophysical data analysis services, and approved the decision of the IUGG Bureau to award several grant applications.

MEMBERSHIP

The Democratic Republic of Congo, Ghana and Morocco have been Associate members of IUGG for many years. In early 2008 the Royal Society of London announced a new initiative to support and increase African membership of ICSU Scientific Unions through the payment of their annual membership fees. D.R. Congo, Ghana, and Morocco applied to the Royal Society to fund their membership, and their applications were successful. D.R. Congo, Ghana, and Morocco became regular members of Category 1.

On 7 July 2008 an application for the re-admission of Greece to IUGG as a regular member of Category 3 was received from the Hellenic National Committee for Geodesy and Geophysics. The IUGG Executive Committee welcomed this application, and it was placed before the IUGG Adhering Bodies in regular status for a vote by correspondence. The application was accepted by the Adhering Bodies. According to the IUGG Statutes and By-Laws, the membership of Greece is provisional until the next meeting of the IUGG Council in Melbourne, Australia, 2011, when a final vote will be taken.

New member country applications are being actively encouraged. The IUGG Secretariat communicated with Azerbaijan, Burkina Faso, Georgia, Kazakhstan, Mongolia, Montenegro, Ukraine, and the United Arab Emirates regarding the adhesion to IUGG, and with the Philippines and Venezuela regarding their membership situation.

PUBLICATIONS

- The 2008 Yearbook that lists the organizational structure and officers of each body within the Union was published (<http://www.iugg.org/publications/yearbooks/yearbook2008.pdf>).
- The IUGG web site, in English and French, is being updated.
- The E-Journal, an informal newsletter, was published monthly keeping IUGG Member National Committees informed about the activities of the IUGG Associations, and actions of the IUGG Secretariat (<http://www.iugg.org/publications/ejournals/>).
- The newly designed and updated IUGG brochure was printed and is electronically available at the IUGG web page (www.iugg.org/about/brochure.pdf). The bilingual brochure contains information on the objectives, activities, research topics, and structure of IUGG and introduces the eight Union Associations and their activities. Hard copies of the brochure were presented at the Global Launch Event of the

International Year of Planet Earth, IYPE (UNESCO, Paris, 12-13 February 2008) and at the 29th General Assembly of ICSU (Maputo, Mozambique, 21-24 October 2008).

NEW IUGG UNION COMMISSION ON DATA AND INFORMATION

The IUGG Executive Committee at its meeting in Karlsruhe decided to establish a Union Commission for Data and Information. The Commission should provide a focused and sustainable organizational structure that supports and strengthens IUGG science through integrated scientific information activities. It builds on the foundation established during the Electronic Geophysical Year (eGY). Activity areas of the Commission are: (i) Data science: Earth and space (geo)- informatics; (ii) distributed data systems: virtual observatories, libraries, research communities and organizations; (iii) open access to data and information: and (iv) all issues related with data acquisition, processing, storing, manipulation, interpretation and use. Within the above activity areas, the Commission will:

- provide a focus and single voice within IUGG, spanning all IUGG Associations and inter-Association bodies.
- connect IUGG and its scientists to other bodies/agencies/initiatives that have interest and responsibility on matters of geo-data.
- advocate and facilitate research and development in the growing field of informatics to improve data and information systems and practices.
- promote open access to data and adoption of inter- operable data sets.

Web: <http://www.iugg.org/about/commissions/ucdi.html>

IUGG STATEMENT ON GEOPHYSICAL DATA ANALYSIS SERVICES

IUGG approves the admittance into FAGS of those Services approved by the Union Associations, endorses and encourages the continued existence and activities of FAGS on the understanding that the new SCID framework now under consideration by ICSU will ensure the standing and continued operation of the geophysical and astronomical services under guidance of the competent Unions and their Associations.

IUGG GRANTS

Support for Workshops and Symposia

Each year, IUGG co-sponsors symposia and meetings appropriate to our disciplines of study. US\$20,000 is allocated annually to assist meetings, especially to support the attendance of young scientists and scientists from developing countries. In 2008, IUGG selected the following research meetings to be held in 2009 for support:

- Clouds and Turbulence Workshop, London, UK, 23-25 March.
- Spring School "Fluid Mechanics and Geophysics of Environmental Hazards", Singapore, 19 April-2 May.
- Second International Seminar on prediction of earthquakes, Lisbon, Portugal, 23-24 April.
- Symposium on Earthquake Seismology and Earthquake Predictability, Beijing, China, May.
- 24th International Tsunami Symposium, Novosibirsk, Russia, 14-17 July.
- Workshop "Geodynamical Phenomena from Field, Observational, Computational, Seismological and Rheological Perspectives", Suzdal, Russia, 19-23 August.
- Symposium "Geodesy in Latin America", Buenos Aires, Argentina, 31 August-4 September.
- Scientific School on GPS and GIS, Brazzaville, Congo, November.
- IAGA Symposium 2: Solar wind - Space Environment interaction, Cairo, Egypt, 18-22 December

IUGG Grants Programme

IUGG established a new Grants Programme for 2008-2011 to complement its existing programme of funding symposia and workshops. US\$150,000 is allocated to this Programme. Key priority areas are defined for the Grants Programme in line with IUGG overall scientific strategies: (a) Creation of New Knowledge in Geodesy and Geophysics; (b) Dissemination of Data and Information on Geophysics and Geodesy; (c) Geo-science for Sustainable Development; (d) Geo-science and Policy Interface; and (e) Geo-science in Africa. For 2008-2009, IUGG awarded the following projects:

- Dust events and impacts in Africa (Lead Applicant: IAMAS; Supporting Applicants: IUGG GRC, IAHS, and ICSU ROA);
- Enhancement of geohazard research capacity in sub-Saharan Africa (Lead Applicant: IUGG GRC; Supporting Applicant: ICSU ROA);
- Monitoring Taal volcano unrest in the Philippines based on a joint Electromagnetic and multi-disciplinary educational EMSEV-PHIVOLCS program (Lead Applicant: IAVCEI; supporting Applicants: IAGA, IASPEI, and EMSEV); and
- Electronic Geophysical Year in Africa (Lead Applicant: IAGA; Supporting Applicants: IAHS, U.S. National Academy of Sciences).

IUGG LIAISON REPORTS

On behalf of IUGG, Dr. Guoxiong Wu, the IUGG liaison to **WCRP** and IAMAS President, attended the annual Joint Scientific Committee meeting of the World Climate Research Program (Arcachon, France, 31 March - 4 April). He welcomed the WCRP scientists to fully use IUGG as a science forum and provide their support to IUGG. At the meeting the progress in implementing the WCRP Strategic Framework 2005-2015 and its future directions were discussed. The main activities of the WCRP JSC meeting were as follows: (1) WCRP has been calling for cross-cutting issues such as anthropogenic climate change, atmospheric chemistry and climate, monsoon, extreme events, seasonal prediction, sea-level rise, etc. There were reports from cross-cutting programs, the implementation of the WCRP strategic framework 2005-2015 and its future direction. (2) Change of the leadership. John Church has completed his eight-year service and stepped down from the chairmanship. Tony Busalacchi was elected the new chair of WCRP. Ghrassem Asrar has replaced Anne Henderson Sellers to act as the new Director of the WCRP Office.

On 22-24 April 2008 the **FAGS** Council meeting was held in Paris. The WDC's Panel members, Service Directors, ICSU Deputy Director, and Secretaries General of IAU, IUGG, and URSI were invited to attend the meeting. Major topics of the agenda were the presentation and discussion of the draft SCID report and plans for the future ICSU structure; reports by the FAGS Chairman and Secretary, reports by the Service Directors; budget and allocations to Services for 2008. Ruth Neilan, FAGS Council member and member of the ad hoc SCID; Hermann Drewes, IAG Secretary General; and Alik Ismail-Zadeh, IUGG Secretary General, represented IUGG at the meeting.

The Board of Directors of the International Year of Planet Earth (**IYPE**) Corporation met on 14-15 February at UNESCO Headquarters in Paris. The Board discussed the composition of the Board, evaluated the work of the IYPE Secretariat for 2007, estimated the financial condition of the Corporation, discussed and accepted reports by the chairs of the Outreach and Science programs. The importance for the IYPE legacy of having strong programs for both science and outreach was emphasized. The Board also discussed the relation between IYPE National Committees and the IYPE Corporation and the relation with concurrent initiatives such as IPY, IHY, eGY, and GEOSS. Another meeting of the Board of Directors of the IYPE Corporation was held on 7 August in Oslo on the occasion of the International Geological Congress. The Board discussed its composition, evaluated the work of the IYPE Secretariat for the first two quarters of 2008, estimated the financial condition of the Corporation, discussed and accepted reports by the chairs of the Development, Outreach and Science programs. The importance for the IYPE legacy of having a strong program for Science was again emphasized. Also the Board discussed several IYPE launch events around the world and the

relation between the National Committees and the IYPE Corporation. IUGG Secretary General Alik Ismail-Zadeh represented IUGG at both Board meetings of the IYPE Corporation.

SCAR, the Scientific Committee on Antarctic Research, is an ICSU interdisciplinary committee, and it is charged with the initiation, promotion and co-ordination of scientific research in Antarctica. The XXX biennial meetings of SCAR were held in Saint-Petersburg and Moscow (Russia). The business meetings of SCAR subsidiary bodies, the SCAR Open Science Conference and the annual meeting of the Council of Managers of National Antarctic Programs (COMNAP) and its Standing Committee on Antarctic Logistics and Operations (SCALOP) were held in Saint Petersburg during the first week (5-11 July 2008). The Delegates Meeting was scheduled in Moscow for the second week, 14-16 July 2008. The 2008 medal for Excellence in Antarctic Research was awarded to Angelika Brandt (Germany), the medal for International Scientific Coordination to Claude Lorius (France), and the President's Medal to Vladimir Kotlyakov. During the St. Petersburg Conference, Ian Allison, President-Elect of the International Association of Cryospheric Sciences (IACS), signed a Memorandum of Understanding on behalf of IACS that determines future cooperation between SCAR, IASC (International Arctic Science Committee), and IACS. Such an arrangement builds the foundation for IUGG's organized and sustained attention to cryospheric sciences. IACS was invited to attend the SCAR Delegates Meeting in Moscow, and G. Kaser, the Association's President, attended the meeting as an observer. At the Delegates Meeting in Moscow Malaysia has been admitted as a Full Member of SCAR, and Romania has been admitted to Associate Membership. The International Astronomical Union (IAU) was admitted for Union Membership. The total membership of SCAR now counts 31 Full Members, 4 Associate Members and 9 ICSU Union members. Reports on and reviews of the five SCAR Scientific Research Programmes were presented by the leaders of these programs. Based on advice from the Fellowship Review Panel, the Executive Committee approved the awarding of four SCAR Fellowships for the 2007-2008 season and three SCAR Fellowships for the 2008-2009 season. The next SCAR Executive Committee Meeting will meet in association with COMNAP in summer 2009 in Punta Arenas (Chile). The XXXI SCAR meeting will be in Buenos Aires (Argentina) in August 2010 with the Open Science Conference being held back-to-back.

On behalf of IUGG, C. Barton, the liaison to **CODATA**, attended the 21st Conference of ICSU's Committee on Data for Science & Technology held at the National Technical University of Ukraine, Kiev, 5-8 October 2008. It continued the emphasis on the Information Society that has emerged in the last few biennial meetings. Conference details and programs can be found at the CODATA web site: <http://www.codata.org/08conf/index.html>. The meeting attracted nearly 600 participants from 30 countries. The Conference was followed by a 2-day CODATA General Assembly (equivalent to an IUGG Council meeting). The Executive Committee now comprises: President: K. Lal (India), Vice Presidents: S. Rossouw (South Africa) and G. Wood (Canada), Secretary General: R. Chen (USA), Treasurer: M. Sabourin (Canada), and members P. David (UK), M. Gaune-Escard (France), S. Graves (USA), Guo Huadong (China), F. Kuznetsov (Russia), R. Norris (Australia), A. Nowakowski (Poland), and M. Zgurovsky (Ukraine). Australia and the UK have been admitted as new member countries, and IUGG has renewed its membership. Twelve Task Groups (<http://www.codata.org/taskgroups/index.html>) were approved, including one called *eGY: Earth and Space Science Interoperability* (chair: A. Gvishiani, co-chairs: E.Kihn and J. Bonnin). This group will continue some functions of the Electronic Geophysical Year beyond the end of 2008 when eGY ends. There continues to be a mismatch in CODATA between the ad-hoc set of Task Groups and the new strategic directions of the organization. If CODATA is to capitalize on the new opportunities and to become the principal international body and forum for informatics, it will need a formal internal structure that gives comprehensive coverage of all aspects of the business.

The American Geophysical Union (**AGU**) invited national and regional geophysical societies to discuss topics of common interest. The meeting was held in San Francisco (USA) on 15-17 December 2008. Representatives of several national geophysical societies (Australia, Canada, Finland, Hungary, and Russia), the European Geosciences Union, the Asian Oceanic Geophysical Society, and IUGG attended the meeting. IUGG was represented by the Secretary General A. Ismail-Zadeh. The major topic of the agenda was enhanced networking among societies and individuals in the Earth, atmospheric, ocean and space sciences. Successful networking can serve many ends and include a variety of very different components and

activities. Geophysical societies should support the attraction and development of students and encourage them to become active in the worldwide geo-community, and thus enhance the flow of excellence into the ranks of geoscience. The geo-organizations should maintain and enhance the quality of science and its contribution to society in all countries, reducing the gap among countries. Attendees discussed the idea of launching a new joint web site as a source of information on these scientific societies, meetings, programs, student opportunities, etc.

PREPARATIONS TO THE XXV IUGG GENERAL ASSEMBLY

The Local Organizing Committee (LOC) of the XXV IUGG General Assembly met in April 2008. Professor Ray Cas of Monash University, Melbourne, Australia was elected the LOC Chair. The following decision of the LOC was announced:

- the IUGG General Assembly will be held from 27 June to 8 July 2011.
- the Assembly venue will be the new Melbourne Convention and Exhibition Centre, Melbourne, Australia.
- the Professional Conference Organizer designates “TourHosts”, Sydney, Australia.
- the Assembly theme is “*Earth on the Edge: Science for a Sustainable Planet*”.

The LOC nominated Dr. Peter Manins, CSIRO Division of Marine and Atmospheric Research, Melbourne, for the position of the Chair of the Scientific Program Committee. Peter Manins, who has a long and distinguished research career with CSIRO, has recently retired from full-time employment but maintains a research affiliation with CSIRO and has the time to commit. The IUGG Executive Committee approved the nomination.

CONFERENCE “EARTH SCIENCE FOR SOCIETY”

The Conference was held at the University of Karlsruhe (Germany) on 4 August 2008. In the presence of officers of the International Union of Geodesy and Geophysics (IUGG) and of the eight IUGG Associations, several lectures highlighted achievements of German geosciences in Earth System sciences. Dr. P. Frankenberg (Minister for Science, Research and Arts of Baden-Württemberg, Germany) and Prof. J. Becker (Vice-Rector, University of Karlsruhe) welcomed the members of the IUGG Executive Committee, distinguished guests and Conference participants. IUGG President Dr. T. Beer thanked the Minister and the Vice-Rector for the welcome address and spoke about IUGG and its scientific activities. Dr. E. de Mulder (Executive Director, International Year of Planet Earth Secretariat) welcomed the Conference on behalf of the IYPE Board and presented achievements of IYPE. The scientific part of the Conference comprised several lectures. Prof. C. Kottmeier (University of Karlsruhe) presented the lecture on the topic of climate change. Prof. M. Ghil (Ecole Normale Supérieure, Paris, France & University of California, Los Angeles, USA) discussed uncertainties and prospects in predictions of climate change. Prof. U. Schumann (Deutsches Zentrum für Luft- und Raumfahrt, Oberpfaffenhofen-Wessling) spoke about the contributions of thunderstorm lightning to atmospheric composition and possible climate impact. Prof. T. Spohn (Institut für Planetenforschung, Berlin) gave a lecture on the topic of habitability and the evolution of the terrestrial planets. Prof. V. Mosbrugger (Senckenberg Research Institute and Natural History Museum, Frankfurt) presented an exciting talk on biosphere, man and Earth system dynamics. Prof. R. Hüttel (Deutsches GeoForschungsZentrum Potsdam) gave an overview of the Research Center activities in various fields of geophysics and talked about links between Earth system analysis and its management. Prof. H.-J. Kämpel (Bundesanstalt für Geowissenschaften und Rohstoffe, Hannover), President of the Adhering Organization to IUGG, discussed hydraulic tests in deep KTB boreholes in Germany. The Conference was followed by the Press Conference with Prof. C. Kottmeier, Prof. Wenzel, Dr. T. Beer, and Dr. A. Ismail-Zadeh. The press release “Der Mensch wirkt im Anthropozän” can be found at the web (in German):

http://www.kit.edu/fzk/idcplg?IdcService=KIT&node=4211&document=ID_066030

THE INTERNATIONAL COUNCIL FOR SCIENCE (ICSU)

The International Council for Science, formerly known as the International Council of Scientific Unions (ICSU), was created on 11 July 1931. IUGG was one of the original Unions of ICSU and has continued to participate in its programs.

ICSU General Assembly

The ICSU General Assembly (GA) was held in Maputo (Mozambique) from 21 to 24 October. IUGG was represented by the Union President (Tom Beer) and Secretary General (Alik Ismail-Zadeh). The IUGG Vice-President (Harsh Gupta) and Immediate Past President (Uri Shamir) were also in attendance because of their role on the ICSU Board and Committees.

The President of Mozambique arrived for the formal opening ceremony. ICSU launched a new program to understand the human impact on Earth's life-support systems. ICSU - along with UNESCO and the United Nations University - has taken the lead on this subject and will establish "Ecosystem Change and Human Well-being", a major international program to help fill some of those knowledge gaps.

In response to the urgent need to reduce the impacts of natural disasters, ICSU also launched the new 10-year international research program "Integrated Research on Disaster Risk (IRDR)", designed to address the gaps in the knowledge and methods that are preventing the effective application of science to avert disasters and reduce the risk.

The report "Enhancing Involvement of Social Sciences in ICSU" identifies social sciences as being essential for the implementation of the ICSU Strategic Plan 2006-2011. The ICSU General Assembly decided to encourage the participation of social sciences in its committees, task forces and collaborative research initiatives; to stimulate more social sciences unions to join ICSU; and to work with the International Social Sciences Council (ISSC) as a key partner in strengthening international social science of relevance for implementing ICSU's Strategic Plan.

The existing networks for collecting, storing and distributing data in many areas of science are inadequate and not designed to enable the inter-disciplinary research that is necessary to meet major global challenges. These networks must be transformed into a new inter-operable data system and extended around the world and across all areas of science. The GA decided to establish a new ICSU World Data System as an Interdisciplinary Body to replace the World Data Centers and Federation of Astronomical and Geophysical Data Services and to set up an ad hoc Strategic Coordinating Committee for Information and Data.

More substantive matters dealt with during the three days included a decision to discontinue ICSU endorsement of SCOPE (that was carried), and the agreement of the GA to set up a planning committee for the research program "Science of Health and Well-being in Urban Environments". The GA also voted to change the method by which ICSU collects dues. In the case of national members it is to be done on the basis of national GDP. In the case of Union members it is to be done on the basis of dues income.

IUGG had submitted two resolutions: one on the maintenance and archiving of data from the International Polar Year and another on the digital divide in Africa (both prepared by IUGG Union Commission on Data and Information). The ICSU GA accepted modified versions of the initial resolutions.

The new ICSU President C. Brechignac (France) took office at the end of the GA as did the newly elected President-Elect of ICSU, Yuan T. Lee (China – Taipei), a winner of the 1986 Nobel Chemistry Prize. K. Raivio (Finland) and R. Kuroda (Japan) were elected Vice-Presidents of ICSU, M. Tchuenté (Cameroon) and H. Ott (Switzerland) were elected Secretary General and Treasurer, respectively. The GA also elected four Ordinary Members from the Union Members and four Ordinary Members from the National Members on to the Executive Board. Uri Shamir was re-elected to the ICSU Executive Board from the GeoUnions cluster.

ICSU Unions meeting

The International Council of Science (ICSU) has both national members and Union members. On 21 October ICSU organized two separate all-day Forums in Maputo (Mozambique): one for Union Members and one for National Members. The Union Members Forum provided an opportunity to raise issues for clarification prior to the GA plenary sessions. Several topics were considered at the Forum, among them: (i) The Union involvement in new interdisciplinary initiatives, such as Hazards (H. Gupta, IUGG Vice-President, presented the report on behalf of the Hazards Planning Group and CSPR), Ecosystem services (T. Rosswall, ICSU Executive Director), and World Data System (B. Minster, Chair of the Panel of the World Data Centers); (ii) the Union involvement in ICSU Committees (T. Rosswall presented a draft evaluation report on Union involvement in ICSU activities. The report showed that IUGG is the leader among the ICSU Unions in submission of nominations and acceptance of the nominations by ICSU Executive Board); and (iii) the Union involvement with ICSU Regional Offices (N. Hassan, Director of the Regional Office for Asia and the Pacific, and S. Muhongo, Director of the Regional Office for Africa, placed IUGG as an ICSU Union with strong involvements in their regional activities, whereas A. Abreu, Director of the Regional Office for Latin America and the Caribbean, noted that IUGG had designated a liaison officer).

ICSU Grant Awards

ICSU awarded two proposals supported by IUGG.

The project proposal “Fluid Mechanics and Geophysics of Environmental Hazards”, submitted by the International Union of Theoretical and Applied Mechanics (IUTAM), has been awarded EUR 30,000. The IUGG Commission on Geophysical Risk and Sustainability will contribute to this project.

The project proposal “Mapping GeoUnions to the ICSU Framework for Sustainable Health and Wellbeing”, submitted by the International Society for Photogrammetry and Remote Sensing (ISPRS) and supported by several ICSU GeoUnions including IUGG, has been awarded EUR 30,000. The International Association of Volcanology and Chemistry of the Earth’s Interior (IAVCEI) and the International Association of Hydrological Sciences (IAHS) will coordinate IUGG’s contribution to the project.

Health and Well-being in a Changing Urban Environment

Human health is a relatively new priority area for ICSU as outlined in the Strategic Plan, 2006-2011. A large number of Scientific Unions began working together in 2002 to promote an initiative on Science for Health and Well-being. At the same time, a separate program on Global Environmental Change and Health was being developed by the Earth System Science Partnership. In 2006, the ICSU Committee on Scientific Planning and Review established an ad hoc Scoping Group to liaise with and advise on these various activities and help define ICSU’s future strategy in this area. The Scoping exercise identified the need for a more holistic/systems approach to health issues in the urban environment as being an area in which ICSU and its members might make a unique contribution. In 2007, a Planning Group was established with the aim of developing a new interdisciplinary program focusing on “A systems analysis approach to health and well-being in the changing urban environment”.

In order to initiate the program planning process, a workshop was held at the International Institute for Applied Systems Analysis (IIASA) in Laxenburg, Austria, January 24-25, 2008. This brought together around 40 scientists to explore how different disciplinary perspectives and knowledge might be integrated into a systems approach. Dr. Ania Grobicki (Research & Policy Co-operation, World Health Organisation, Geneva) represented IUGG at this meeting and delivered the talk entitled “Natural & Human-Induced Hazards Factors Related to Urban Health”. The report on the meeting was published in the IUGG E-Journal (Vol. 8, No. 4, 1 April 2008).

Information and Data

The ad hoc Strategic Committee on Information and Data (SCID) held its meeting in February 2008. A draft report and recommendations concerning the re-structuring of ICSU’s data infrastructures has been circulated

to all Members for consideration. IUGG and several Union Associations commented on the report. The major recommendations of SCID are that:

- 1) ICSU asserts a much-needed strategic leadership role on behalf of the global scientific community in relation to the policies, management and stewardship of scientific data and information;
- 2) a new World Data Services system should be created (as an ICSU Interdisciplinary Body), incorporating the World Data Centers (WDCs) and the Federation of Astronomical and Geophysical data analysis Services (FAGS) as well as other ‘state of the art’ data centers and services;
- 3) the Committee on Data for Science and Technology (CODATA) focuses its activities on the three main initiatives identified in its draft strategy and extends its links to other organizations and networks to play a more prominent role within ICSU and within the wider scientific community;
- 4) a new *ad hoc* ICSU Strategic Coordinating Committee for Information and Data should be established to provide broad expertise and advice to ICSU in this area; ICSU National Members and Unions should be strongly encouraged to establish committees or commissions, where these do not already exist, focusing on data and information issues.

The Federation of Astronomical and Geophysical Data Analysis Services (FAGS)

FAGS has been an Interdisciplinary Body (IB) of ICSU since 1956. IUGG funding for FAGS has been US\$12,000 per year for several years. This funding is most commonly used for outreach to scientists in developing countries and is fully utilized with no overhead being extracted from the receiving services. At the 2005 ICSU General Assembly, a recommendation to eliminate FAGS as an ICSU IB was not accepted and it was decided “To extend ICSU’s sponsorship of FAGS for a period of 3 years, during which the FAGS panel will continue to fulfill its role of coordination among the Services, while ICSU examines integration of this function within its activities in data and information”.

There are now 12 permanent services, each operating under the authority of one or more of the scientific unions, namely IUGG, the International Astronomical Union (IAU), and the International Union of Radio Science (URSI). The services, or components of services, are maintained nationally and their role is to collect, analyze, interpret and disseminate observations, data and information related to astronomy and geophysics. FAGS is a loose federation of diverse services, some of which themselves act as the hubs for their own distributed networks of data centers. The Federation is overseen by a Council of eight people, including representatives from the relevant Unions, which provide a small amount of funding that is distributed to the services, via the panel. The Unions provide a quality assurance function for the services and also identify gaps, where new services are needed, within their disciplinary scope.

CODATA

IUGG was readmitted as a member of the ICSU Committee on Data for Science and Technology (CODATA), which works to improve the quality, reliability, management and accessibility of data of importance to all fields of science and technology. Dr. C. Barton, IAGA Past President, was appointed as the representative of the Union to CODATA. The International CODATA Conference “Science Information for Society – from Today to the Future” was held on 5-8 October in Kiev (Ukraine). IUGG was represented at the Conference by a strong team: C. Barton (the IUGG liaison to CODATA), R. Neilan (IUGG liaison to FAGS), P. Fox (Chair of the IUGG Commission on Data and Information), and A. Ismail-Zadeh (IUGG Secretary General). CODATA Conferences are growing in popularity as the organization becomes an increasingly important forum for informatics developments internationally – covering data science, systems technologies, e-Science, data access, data preservation, data policy, and legal issues (intellectual property rights). CODATA covers all scientific disciplines, ranging from agriculture to health to archeology, and encompasses education and social issues. Geoscience is strong and growing, due in part to a close association with GEOSS. ICSU recognizes that CODATA is well-positioned to play a central role, consistent with the recommendations of the ICSU Strategic Committee for Data & Information (SCID). A special “ICSU Unions” session and discussion meeting were held to identify how CODATA can become more effective in meeting the needs of ICSU and its Unions.

GEOUNIONS CONSORTIUM

The GeoUnions consortium is a "cluster" of Unions within the ICSU family that focuses on the geosciences. Present membership consists of the following eight Unions: IAU (International Astronomical Union), IGU (Geography), INQUA (Quaternary Research), ISPRS (Photogrammetry and Remote Sensing), IUGS (Geological Sciences), IUGG (Geodesy and Geophysics), IUSS (Soil Sciences), and URSI (Radio Science). In order to take advantage of overlapping scientific expertise, a joint Science Program was agreed on the topics of Cities and Megacities, Desertification, Groundwater, Hazards, Health, and Polar science. The GeoUnions also support the IUGG initiatives on Geosciences in Africa and the electronic Geophysical Year (eGY). There is a considerable overlap between the 10 science topics of the International Year of Planet Earth (IYPE) and the GeoUnions science programs. In addition, ICSU has strategic priorities in Natural and Human-Induced Environmental Hazards, and Science for Health and Well-being. It is hoped that each program will be enhanced by cross-collaboration and communication.

A business meeting of the GeoUnions consortium was hosted by the International Astronomical Union (IAU) at the Institut d'Astrophysique de Paris (France) on February 11. Unions represented included IAU (Chair of this meeting), the International Geographical Union (IGU), the International Union for Quaternary Research (INQUA), the International Society of Photogrammetry and Remote Sensing (ISPRS), IUGG, the International Union of Geological Sciences (IUGS), the International Union of Soil Sciences (IUSS), and the International Union of Radio Science (URSI). Several topics of common interest were discussed: The ICSU dues structure; the ICSU grants program; a statement on climate change; a need to address the problem of interface with the public, policy makers and media. Uri Shamir, as ICSU Geo-Cluster Executive Board representative, reported on the geoscience activities in ICSU regional offices. GeoUnions members agreed to meet again on the occasion of the ICSU General Assembly in Maputo, Mozambique, in October 2008. Those IUGG officers who attended the meeting included IUGG Immediate Past President Uri Shamir and Secretary General Alik Ismail-Zadeh.

Another business meeting of the GeoUnions consortium was held in Maputo (Mozambique) on October 19. Each Union reported on the progress since the last business meeting in Paris. The major topics for discussions were new ICSU hazards, ecosystem, and health programs, data issue and policy, involvements of GeoUnions into the ICSU regional offices' activities. Nominations to ICSU officers and ICSU committees were considered. GeoUnions reviewed their major focus programs: Natural and Human-Induced Hazards and Disasters, Health, and GeoScience in Africa. Another topic for discussion was the International Year of Planet Earth and GeoUnions activity. Sospeter Muhongo, Chair of the IYPE Science Program, reported on the progress and activities of the Year. Possibilities to hold GeoUnions Open Forums were considered.

THE ELECTRONIC GEOPHYSICAL YEAR (EGY)

The eGY is an ICSU-endorsed program of the International Union of Geodesy and Geophysics (IUGG). Initiated by the International Association of Geomagnetism and Aeronomy (IAGA), eGY mobilizes the science community to achieve a step increase in making past, present, and future geoscientific data readily, rapidly, conveniently, and openly available. eGY provides the international framework and a target for stimulating and coordinating activities to make this happen. eGY focuses on themes of electronic data location and access, permission and release of data, conversion of data into modern digital form, data preservation, capacity building, particularly in developing countries, and outreach. Promoting the development of a network of virtual observatories is a central feature of eGY.

The 2008 eGY General Meeting was held at the Mesa Laboratories of the National Center for Atmospheric Research (NCAR) in Boulder, Colorado, March 5-6, 2008. The meeting brought together 25 people from the US, Europe, and Africa who were interested in promoting the ideals outlined in the eGY Declaration (<http://www.egy.org/declaration.php>). The meeting started with overviews of some recent successes enabled by modern data management practices and an overview of eGY. The rest of the meeting consisted of reports and discussions, outlined below. In the extensive discussions, attendees developed a list of eGY

accomplishments and further actions. A meeting of the eGY Africa working group followed the general meeting.

The Earth and Space Science Informatics Summit in Rome, March 13-14 2008, was held in response to concerns about the need to establish communication and cooperation among the many geoinformatics and space science informatics entities and initiatives that are rapidly growing up worldwide. Participants at the Summit represented the interests of more than 40 different bodies, agencies, initiatives, and programs. This was an electronic Geophysical Year activity organized by IUGG, IUGS (CGI and OneGeology), and the Earth and Space Science Informatics groups in AGU and EGU. The Summit was hosted by the International Geographical Union at the magnificent Villa Celimontana (Home of Geography) in the gardens adjacent to the Coliseum in the heart of Rome. The meeting identified many user-driven needs for geoinformatics that are not being met, as well as several activities that are candidates for cooperation and a common approach.

THE INTERNATIONAL HELIOPHYSICAL YEAR (IHY)

The International Heliophysical Year is sponsored by IUGG. There are currently 75 nations with IHY Organizing Committees, and there are activities and representation in nearly all of the 192 United Nations Member States. IHY will run for two years, 2007-2009. <http://ihy2007.org/>

THE INTERNATIONAL YEAR OF PLANET EARTH (IYPE)

On 12-13 February 2008, the International Year of Planet Earth was officially launched at UNESCO's headquarters in Paris. Participants of the opening ceremony were addressed by Mr. K. Matsuura (UNESCO Director General); Prof. Z. Hongren (IUGS President); Dr. L. Woodfork (Chair of the IYPE Board); and Ministers from France, the United Republic of Tanzania, Norway, and Egypt; a representative of the Environmental Protection Agency of Italy; and a UNEP representative. The meeting participants accepted the Paris Declaration. The launch of the IYPE was accompanied by symposia on three themes: 1. Population growth and climate change: challenges for planet Earth (speakers: Dr. R. Christ, IPCC Secretary; Prof. G. de Marsily, French Academy of Sciences; Prof. R. Lubbers, Former Prime Minister of the Netherlands, and Ms. A. Mehra, Mayor of Delhi, India); 2. Earth resources: threat or treat? (speakers: T. Desmarest, TOTAL, Chair of the Board of Directors; Dr. M. Myers, USGS Director; and Vice Minister W. Shouxiang, Ministry of Land and Resources of China); and 3. Geohazards: minimizing risk, maximizing awareness (speakers: Prof. P. Hoeppe, Munich Reinsurance, Germany; and Prof. S. Muhongo, Director, ICSU Regional Office for Africa). A video message by Sir Arthur C. Clarke closed the GLE in Paris.

Being a Founding Member of IYPE, IUGG was invited to present its activity in the UNESCO Exhibition Hall (see IUGG poster at http://www.iugg.org/about/IUGG_Poster.pdf). The Secretary General A. Ismail-Zadeh, Vice President H. Gupta, Past President U. Shamir, Assistant Secretary General K. Rogers, IAG President M. Sideris, IAHS Secretary General P. Hubert, and IASPEI Secretary General P. Suhadolc were present. IUGG appreciates the great efforts of Dr. E. de Mulder, IYPE Executive Director, and all those who contributed to the success of the GLE.

THE INTERNATIONAL POLAR YEAR (IPY)

The legacy of the IPY was recently highlighted by the UN Environment Programme (UNEP) in a resolution on sustainable development in the Arctic Region. The resolution coincides with the halfway point of the IPY and is an opportune time to revisit the IPY and its intended legacy.

The IPY is an intensive burst of internationally coordinated, interdisciplinary, scientific research and observations focused on the Polar Regions. Thousands of scientists from around the world are involved in more than 200 research projects that integrate natural and social sciences. In recognition of the public interest in the Polar Regions, education, outreach and communication activities have also been integrated into the major research projects. IPY is sponsored by ICSU and the World Meteorological Organization (WMO) and runs from March 2007 to March 2009.

Polar science post-IPY should be vastly strengthened and improved with fresh ideas seeded by examining existing and new data and an increased awareness by polar residents, schoolchildren, the general public, and decision-makers worldwide. It is intended that the IPY will leave a legacy of observing sites, facilities and systems to support ongoing polar research and monitoring. And, perhaps the most important legacy will be a new generation of polar scientists—trained and enthused during IPY—driving new discoveries. There will most certainly be other benefits that are entirely unplanned and will become clear only after the formal IPY period has ended. With key international organizations, including UNEP, recognizing and acknowledging the importance of IPY, the benefits will likely have an impact on the world for many years to come.

The Tsukuba Declaration

The participants in the four "IGY+50" programs – the International Polar Year (IPY), the International Year of Planet Earth (IYPE), the Electronic Geophysical Year (eGY), and the International Heliophysical Year (IHY) – met in Tsukuba, Japan, on 10-13 November 2008 <http://wdc2.kugi.kyoto-u.ac.jp/igy50/>. These programs extend and enhance the legacy of IGY fifty years ago. An outcome of the meeting was the "Tsukuba Declaration" that advocates continued cooperation among the global science community, national academies of sciences, research funding agencies, industry, national governments, and inter-governmental bodies so that society and its leaders will have at their disposal the best possible data and information to make the decisions necessary for a sustainable future for humankind. Participants recognized the unique value of conducting international science year programs and envisaged an IGY+75 or even an IGY+100 exercise. A complete copy of the declaration is available on the eGY web site (www.egy.org).

ACTIVITIES OF THE UNION ASSOCIATIONS

The following reports, prepared by the Secretaries General of the eight Associations of IUGG:

International Association of Cryospheric Sciences (IACS)

International Association of Geodesy (IAG)

International Association of Geomagnetism & Agronomy (IAGA)

International Association of Hydrological Sciences (IAHS)

International Association of Meteorology & Atmospheric Sciences (IAMAS)

International Association of the Physical Sciences of the Oceans (IAPSO)

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

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

The reports illustrate the impressive range of activities within each Association as well as their dedication to supporting science within developing countries.



International Association of Cryospheric Sciences (IACS)

www.cryosphericciences.org

INTRODUCTION

The International Association of Cryospheric Sciences (IACS) aims to promote the study of the Cryosphere in all of its aspects. IACS strives (i) to promote studies of all aspects of, and physical processes related to, Earth's cryosphere and that of other bodies of the Solar System; (ii) to encourage research on these subjects by the cryospheric sciences community, through national and international institutions and pro-grammes, and by individual countries as well as through collaboration and international co-ordination; (iii) to provide an international platform for discussions and publications of results arising from research activities as mentioned above; (iv) to promote education and public outreach on cryospheric processes and cryospheric research; and (v) to facilitate the collection of data on cryospheric systems through standardized measurements and to promote the analysis, publication and archiving of such dat

ADMINISTRATION

General Activities of the Bureau

Members of the IACS Bureau comprise:

- Georg Kaser (President)
- Ian Allison (President-elect)
- Manfred Lange (Secretary General)
- Kumiko Goto- Azuma (Vice President)
- Gino Casassa (Vice President)
- Peter Jansson (Vice President)
- Julian Dowdeswell (Division Head; Glaciers and Ice Sheets)
- Charles Fierz (Division Head; Snow and Avalanches)
- Claude Duguay (Division Head; Marine and Freshwater Ice)
- Ralf Greve (Division Head; Planetary and Other Ices of the Solar System)
- Valérie Masson Delmotte (Division Head; Cryosphere, Atmosphere and Climate)

While there has been no Bureau meeting during the reporting period, members of the Bureau have been in regular e-mail contact with each other. Topics discussed ranged from various issues internal to IACS to the more general issue of publications of books and other products derived from IACS Working Groups. Another important topic was the interaction with other organizations and fora with aims close to those of IACS.

National Representatives to IACS

With the help of IUGG SG Alik Ismail-Zadeh and of Katina Rogers the IACS Bureau has started to build the network of National Representatives to IACS.

Joint IAVCEI-IACS Commission/Standing Group

The joint IAVCEI Commission / IACS Standing Group on “Volcano Ice Interactions” has been approved and CVII has successfully started to operate: <http://volcanoes.dickinson.edu/VIWG/>.

IUGG Commission on Geophysical Risk and Sustainability (GRC)

Prof. Martin Funk, ETH Zurich, was appointed as the IACS representative in GRC.

IUGG Commission for Data and Interpretation (UCDI)

Dr. Mark Persons, NSIDC, Boulder, was appointed as the IACS representative in UCDI.

ACTIVITIES

Proceedings of the IACS contributions to the IUGG General Assembly, Perugia, Italy, 2007

A number of papers (26 total) presented during the IUGG General Assembly in Perugia, Italy on July 2-14, 2007 have been published by the International Glaciological Society’s Annals of Glaciology, Volume 48 in 2008. The volume was edited by the Chief Editor for the Journal of Glaciology, Dr. J.Jacka, Australia. More details can be found at:

<http://www.ingentaconnect.com/content/igsoc/agl/2008/00000048/00000001>

Workshop on Mass Balance Modelling – Proceedings published

The workshop on Mass Balance Modelling took place in Skeikampen, Norway on March 26 to 28, 2008 and was devoted to advancing numerical methodologies aimed at quantifying mass balance processes of Cryospheric entities. The workshop was jointly organized by NVE, Norway, the International Glaciological Society (IGS) in Cambridge, UK, and the World Glacier Monitoring Service (WGMS) in Zurich, CH. Convenors were: Liss Andreasen, Peter Jansson and Jon-Ove Hagen.

More than 80 scientists from Europe, the USA, Canada, Chile, Russia, New Zealand, Japan, and India participated. The workshop was co-sponsored and supported by IACS through contributions from IUGG and UNESCO. During the workshop, the IACS Working Group on *Mass Balance Terminology*, that was earlier approved at the Perugia IACS Bureau Meeting, has started its activities.

While this has been reported earlier, we are happy to report that the proceedings of this workshop have been printed as Volume 50 of the Annals of Glaciology, which are published by the International Glaciological Society, Cambridge, UK.

Book on Snow and Climate published

The book *Snow and Climate* has recently been completed by the editors Richard L. Armstrong and Eric Brun and has been published at Cambridge University Press. This is the result of a former Working Group within IACS’ predecessors ICSI/UCCS.

<http://www.cambridge.org/uk/catalogue/catalogue.asp?isbn=9780521854542>

IACS Snow Classification

Led by Dr. Charles Fierz, a Working Group on Snow Classification has finalized the work on a comprehensive classification of snow in all its natural appearances. This is an update on an earlier version of the Snow Classification that was also put together by the IACS predecessor ICSI under the chairmanship of Sam Colbeck. The new Classification will be published by the UNESCO/IHP but also as an electronic IACS publication.

Standing Group on Mass Balance Terminology

Under the leadership of Prof. Graham Cogley, a new Working Group on Mass Balance Terminology is making impressive progress (http://www.cryosphericsscience.org/wg_mb.html). One of the major products derived from this Group will be a *Glossary of Mass-balance Terms*, which is rapidly taking shape. Last July, there were about 250 entries with about 30 new ones expected before a complete draft of the whole Glossary would be available. The average number of words per entry is 60 (many very short, a few quite long). Thus it is expected that the Glossary will amount to about 17,000 words, plus another 10,000 words of introductory bringing the total to 25-30,000 words with a moderate number of explanatory diagrams and maybe photos. We are currently exploring the most suitable avenues for publishing this glossary, but intend to have it available electronically on the IACS web-site.

Official Ending of the Expédition Glaciologique International au Groenland

With a letter by IACS President Prof. Georg Kaser to the members of the *Expédition Glaciologique International au Groenland* (EGIK) declared EGIK to be officially ended. EGIK was started in the early 1950s as a pioneering initiative under the auspices of IACS' predecessor ICSI. The intent was to regain momentum in polar research after World War II. In the course of the 1950s and 1960s and under the leadership of Dr. Paul-Emile Victor, a number of expeditions to the Greenland Ice Sheet were carried out and provided the foundation for later investigations.

Letter of Agreement between IACS and the Scientific Committee on Antarctic Research (SCAR) and the International Arctic Science Council (IACS)

After numerous discussions during meetings between representatives of the Scientific Committee on Antarctic Research (SCAR) and the International Arctic Science Council (IACS) and IACS, a Letter of Agreement between IASC, SCAR and IACS was signed on July 8, 2008. The Letter outlines procedures to be followed by IASC, SCAR and IACS that are intended to "...combine their efforts in cryospheric activities (to be decided by mutual agreement) so as to raise the level of impact of all three organizations in terms of making scientific advances and of advising policy makers, as well as to avoid duplication..." (http://www.cryosphericsscience.org/docs/SCAR_IASC_IACS_MOU_final.pdf)

IUGG Executive Committee meeting, Karlsruhe, Germany on 5 and 6 August 2008

Both, the President and the Secretary General of IACS participated actively in the IUGG Executive Committee meeting in Karlsruhe. During the meeting respective reports on IACS and its activities were presented and discussed.

IUGG Representative to the Scientific Committee on Antarctic Research (SCAR)

IACS President elect, Dr. Ian Allison, has been nominated to become IUGG's representative to the Scientific Committee on Antarctic Research (SCAR) and has been appointed during the last SCAR Delegate Meeting in Moscow, Russia, July 14-16, 2008.

Scientific Steering Group (SSG) of the Climate and the Cryosphere Program (CliC)

The President of IACS, Prof. G. Kaser was invited to participate in the meeting of the SSG of CliC in Geneva, 8. - 11.12.2008, and to present IACS to its delegates. CliC is a major research project of the World Climate Research program (WCRP) aimed to "...understand and represent the role of the cryosphere in Earth's climate system and to assess and quantify the impacts that climate variability and change have on components of the cryosphere and its overall stability, and the consequences of these impacts for the climate system..." and thus close to IACS' goals and objectives (http://wcrp.wmo.int/AP_CLIC.html).

UNESCO led mission to Nepal

IACS President Georg Kaser has participated in an UNESCO led mission to Nepal. This was in the framework of starting to organize training course on a glacier mass balance in Nepal in the framework of HKH-FRIEND. IACS offered to coordinate the trainers' group as well as the content and the background material to be used. The latter will be based on the widely known publication: A manual for monitoring the mass balance of mountain glaciers Kaser et al. (eds.), 2003, which was produced in the framework of an earlier course and is available at:

<http://unesdoc.unesco.org/images/0012/001295/129593e.pdf>.

Joint IAMAS-IAPSO-IACS Assembly MOCA09 “Our Warming Planet”

IACS is one of the partners in the Joint Assembly together with IAMAS and IAPSO (http://www.iamas-iapso-iacs-2009-montreal.ca/e/99-home_e.shtml), which will be convened in Montreal, Canada from July 19 to 29, 2009 (IACS Symposia will be limited to July 19 to 24). The topic of the Assembly (“Our Warming Planet”, see www.iamas-iapso-iacs-2009-montreal.ca) has attracted a large number of contributors (to date appr. 2000 abstracts have been submitted).

As somewhat of an innovative element of the Assembly, most of the symposia to be held in Montreal will be organized jointly between the three Associations. Presently, there are 18 joint symposia on topics from embracing “Tropical Cyclones” to “Icecores in Paleoclimate” (http://www.iamas-iapso-iacs-2009-montreal.ca/e/02-symposia_joint_e.shtml).

In addition, IACS will organize five symposia that are specially geared towards the Cryospheric community (http://www.iamas-iapso-iacs-2009-montreal.ca/e/02-symposia_iacs_e.shtml).

Planning and preparing for the Joint Assembly continues to comprise one of the major activities of IACS during the reporting period. The IACS President participated in a meeting of the Scientific Program Committee of MOCA09 in Montreal at the end of February 2009.

“Cryospheric Managers”

HD Charles Fierz has attended regular telephone conferences among “Cryospheric Managers” in order to coordinate activities among the leading organisations (IACS, CliC, IGS, EGU, AGU) dealing with cryospheric issues.

Manfred Lange, IACS Secretary General



International Association of Geodesy (IAG)

<http://www.iag-aig.org>

INTRODUCTION

IAG works to promote the study of all problems of geodesy through geodetic research especially involving international cooperation and activities in developing countries. The main permanent activity is to monitor positions of points at the surface of the Earth through a global system of satellite tracking stations. According to the IAG By-Laws, the structure of IAG is built by Components and Sub-components. The Components are the four Commissions, fifteen Services, the Global Geodetic Observing System (GGOS), and the Communication and Outreach Branch (COB). Sub-components are the Inter-commission Committee on Theory (ICCT), and the Sub-commissions, Projects and Study Groups. The administration is supervised by the Council and operated by the Bureau, the Executive Committee, and the Office. The outreach is done by the COB. All these entities are in steady contact and inform about their activities through the IAG Newsletter and the bi-annual reports (Travaux).

ADMINISTRATION

IAG Council

The list of representatives of the Adhering Bodies forming the IAG Council was updated. Doubtful nominations (double or questionable) were cleared up. The Council was informed about the activities of the Bureau and the Executive Committee.

IAG Executive Committee (EC)

The IAG EC met twice in 2008, April 14 in Vienna, Austria, and December 14 in San Francisco, California, USA. The meeting summaries are available online in the IAG Homepage (<http://www.iag-aig.org>) and IAG Office Homepage (<http://iag.dgfi.badw.de>) and published in the IAG Newsletters in the IAG Journal of Geodesy (Springer Verlag). A main topic of the meetings was the preparation of the IAG Scientific Assembly to be held in Buenos Aires, Argentina, August 31 to September 4, 2009. The Scientific Committee and Assembly Secretary were installed. They are continuously cooperating with the Local Organizing Committee.

IAG Bureau

The IAG Bureau, consisting of the President, the Vice-President and the Secretary General, met regularly before the EC meetings. Day-to-day decisions were made via internet. The President and Secretary General participated in the IUGG Executive Committee meeting, Karlsruhe, 4-6 August 2008. The Bureau members represented IAG at various international meetings (see below).

ACTIVITIES

IAG Office

A main activity of the IAG Office, together with the IAG COB (see below), was the edition of the Geodesist's Handbook 2008 with descriptions of the IUGG and IAG structures, and the complete terms of reference, objectives and work plans of IAG Components (Commissions, Services, Global Geodetic Observing System) for the period 2007-2011. It was published as a special issue of the Journal of Geodesy, Springer Verlag, and online in the IAG Homepages. The personal IAG memberships were regularly updated, the membership fee was collected by bank transfer or credit card entry. IAG EC meetings were prepared, the detailed minutes and the meeting summaries were written.

Communication and Outreach Branch (COB)

The COB continued its main tasks of maintaining the IAG Homepage and publishing the monthly newsletter online and in the Journal of Geodesy. It prepared, printed and distributed a new IAG leaflet and membership application form, drafted an IAG brochure, and participated in the preparation of the Geodesist's Handbook 2008.

Commissions and Inter-Commission Committee

The four IAG Commissions and the Inter-Commission Committee on Theory compiled their programmes and work plans (published in the Geodesist's Handbook 2008 and in the IAG Homepage) and maintained their individual Homepages. Some of the Commissions held international meetings (see below).

Services

The fifteen IAG Services compiled their descriptions for the period 2007-2011 for publication in the Geodesist's Handbook and maintained their Homepages and data servers. The International Altimetry Service (IAS) was formally established. The International Gravity Field Service (IGFS) held a retreat in Bertinoro, Italy, 24-25 March 2008. The International Geoid Service (IGeS) conducted a Geoid School in Como, Italy, 15-19 September 2008. Several Services held international meetings (see below).

Global Geodetic Observing System (GGOS)

A GGOS retreat was held in Bertinoro, Italy, 25-27 March 2008. On this occasion, a GGOS Steering Committee meeting took place on March 28, 2008. Another Steering Committee meeting was held jointly with the IAG Executive Committee in San Francisco, California, USA, 14 December 2008.

Coordination with other organisations

The close connection of IAG with the Joint Board of Geospatial Information Societies (JBGIS, <http://www.fig.net/jbgis/>) was continued by e-mails, internet contacts and participation in meetings of the partner associations. The participation of IAG in the inter-governmental Group on Earth Observation (GEO) is continued.

Meetings

Important meetings of IAG components in 2008 were:

- International VLBI Service (IVS) 5th General Meeting and Analysis Workshop, St. Petersburg, Russia, 03-07 March 2008;
- Several Sessions co-organized by the Commissions at the EGU General Assembly, Vienna, Austria, 13-18 April 2008;
- FIG/IAG Joint Symposium "Measuring the Changes", Lisbon, Portugal, 12-15 May 2008;
- Sub-commission 1.3b SIRGAS General Meeting 2008, Montevideo, Uruguay, 26-29 May 2008;

- International GNSS Service Analysis Workshop, Miami Beach, Florida, USA, 02-06 June 2008;
- 7th International e-VLBI Workshop in Shanghai, China, 16-17 June 2008;
- Commission 4 participation in the FIG Working Week, 14-19 June 2008, Stockholm;
- Sub-commission 1.3a EUREF Symposium, Brussels, Belgium, 18-20 June 2008;
- Symposium on Gravity, Geoid and Earth Observation, Chania, Greece, 23-27 June 2008;
- Sessions at the 37th COSPAR General Assembly, Montreal, Canada, 01-05 July 2008;
- 16th International Symposium on Earth Tides, Jena, Germany, 01-05 September 2008;
- Journées 2008 “Systèmes de reference spatio-temporels”, Dresden, Germany, 22-24 September 2008;
- 9th European VLBI Network Symposium, Bologna, Italy, 23-26 September 2008;
- 16th International Workshop on Laser Ranging, Poznan, Poland, 13-17 October 2008;
- International DORIS Service (IDS) Workshop, Nice, France, 12-14 November 2009;
- Several Sessions co-organized by the Commissions at the AGU Fall Meeting, San Francisco, California, USA, 15-19 December 2008.

Publications

Twelve monthly issues of the Journal of Geodesy were published in Springer Verlag. The proceedings of the IAG sessions at the IUGG General Assembly, Perugia 2007, and of the IAG Symposia on Theoretical and Computational Geodesy (Wuhan 2006) and on Reference Frames (Munich 2006) were compiled to be published in the series of IAG Symposia at Springer Verlag.

Awards, anniversaries, obituaries

The Secretary General was awarded with the Cross of the Order of Merit of the Federal Republic of Germany. There was a celebration with official IAG representation on the occasion of the 70th birthday of the former IAG and IUGG President, Helmut Moritz, in Berlin, 15 November 2008. The Secretary General represented IUGG during the 50 Years Anniversary of the German IUGG adhering body “Bundesamt für Geowissenschaften und Rohstoffe”, Hannover, 25 November 2008. An obituary was written and a wreath was sent to the funeral of the former IAG officer Carlo Morelli, Trieste, Italy.

PLANNED FUTURE ACTIVITIES

A principal activity of IAG in 2009 is the Scientific Assembly, Buenos Aires Argentina, August 31 to September 4, 2009 (<http://www.iag2009.com.ar/>). Besides, there will be several meetings and workshops of the IAG Services (IERS, ILRS, IVS) and participations in interdisciplinary assemblies and symposia (e.g., European Geosciences Union, International Astronomical Union, American Geophysical Union).

The Global Geodetic Observing System (GGOS), as the “flagship” of IAG is preparing a fundamental detailed document on its scientific rationale and specifications in terms of concepts, conventions, infrastructure, and services. GGOS will undergo a re-organization by installing a Coordinating Office and special Bureaus (Networks and Communication, Conventions and Standards, Space and Satellite Missions). The IAG Bureau, the Executive Committee, and all IAG components will see through the whole procedure.

Hermann Drewes, IAG Secretary General



International Association of Geomagnetism and Aeronomy (IAGA)

www.iugg.org/IAGA/

INTRODUCTION

The International Association of Geomagnetism and Aeronomy (IAGA) is the premier international scientific association promoting the study of terrestrial and planetary magnetism and space physics. IAGA sponsors workshops, symposia, and research efforts through INTERMAGNET to modernize and standardize global observations of the Earth's magnetic field.

ADMINISTRATION

New Member of the IAGA Executive Committee

In November 2007 Vladimir Papitashvili had to resign from his membership in the IAGA EC as a consequence of having accepted a permanent position as Program Director in the US National Science Foundation, which might lead to conflicts of interest. The EC appointed in his stead Daniel Baker, Director of the Laboratory for Atmospheric and Space Physics at the University of Colorado, USA.

IAGA Executive Committee

The Executive Committee of IAGA met in 2008 (July 12-13) in connection with the COSPAR Scientific Assembly in Montreal, Canada. Among the matters dealt with by the EC the following should be mentioned:

IAGA Scientific Assemblies

The selection of the host country for IAGA Scientific Assemblies will be changed in such a way that only one location is proposed to the Conference of Delegates, closely following the procedure IUGG has recently decided for the IUGG General Assemblies.

IAGA web site

The IAGA web site custodianship was taken over from David Kerridge by Eigil Friis-Chistensen and the National Space Institute of the Technical University of Denmark.

ACTIVITIES

The year 2008 was dominated by preparations for the XIth IAGA Scientific Assembly in Sopron, Hungary. The scientific programme contains 56 symposia covering all parts of the IAGA sciences. Full information about the Assembly may be found at www.iaga2009sopron.hu. For the first time, IAGA is planning to have the outcome of the Assembly published in cooperation with Springer Science and Business Media B.V.

IGA-Sponsored Topical Meetings in 2008

IGA sponsored the following ten topical meetings in 2008 at a total cost of 14000 USD:

- Middle East and Africa IAU Regional Meeting, in April in Egypt
- 12th International Symposium on Equatorial Aeronomy, in May in Greece
- 1st International HEPPA workshop, in May in Finland
- 11th Meeting on Paleo, Rock and Environmental Magnetism, in June in Slovakia
- XIIIth Workshop on Geomagnetic Observatory Instruments, in June in USA
- 37th COSPAR Scientific Assembly, in July in Canada
- 5th Workshop on Long-Term Changes and Trends in the Atmosphere, in September in Russia
- 3rd VERSIM Workshop, in September in Hungary
- IAGA Symposium on Space Weather, in October in Egypt
- 19th International Electromagnetic Induction Workshop, in October in China.

IGA News 45

IGA News 45 was distributed in December 2008. It can be found at the IAGA web site www.iugg.org/IGA. Among other things, a number of reports from topical meetings co-sponsored by IAGA can be found there.

FUTURE ACTIVITIES

The 11th IAGA Scientific Assembly will take place in Sopron, Hungary, on August 23-30, 2009.

IGA is the proper international organization for handling the subject Sun-climate relationships, as agreed by the EC. A programme will be started in this field.

eGY activities, initiated by IAGA in Sapporo in 2003, were taken over by a Union Commission on Data and Information, which was established by IUGG in August 2008. The IAGA EC has agreed that IAGA is well located for keeping an important role in the future international work on data management and that IAGA should try to keep a lead in this field.

Bengt Hultqvist, IAGA Secretary General



International Association of Hydrological Sciences (IAHS)

<http://iahs.info>

INTRODUCTION

The International Association of Hydrological Sciences (IAHS) promotes the study of all aspects of hydrology through discussion, comparison, and publication of research results and through the initiation of research that requires international cooperation. IAHS Press publishes the bi-monthly Hydrological Sciences Journal, the Red Book Series that includes proceedings of between eight and 12 symposia per year, and other more specialised publications. IAHS maintains strong connections with the International Hydrological Programme of UNESCO and with the Hydrology and Water Resources Programme of the World Meteorological Organisation (WMO).

ADMINISTRATION

IAHS Bureau

The IAHS Bureau met in Paris in June.

New Task Force

A new Task Force on the use of GRACE data has been launched in cooperation with IAG. An important objective of this Task Force is to plan some joint sessions for the Melbourne General Assembly.

ACTIVITIES

Even though situated between the Perugia General Assembly (2007) and the Hyderabad Scientific Assembly (2009), the last year has been very active for IAHS with many Meetings and Publications.

Many scientific events have been organized, sponsored or supported by IAHS and its Commissions and Working Groups in 2008. Among them we would like to quote the following:

- The Use of Historical data in Rainfall and Flood Forecasting, Oxford (UK), 8 January 2008,
- 4th International Symposium on Flood Defence, Toronto (Canada), 6-8 May 2008,
- MODFLOW and More: Ground Water and Public Policy, Golden (Colorado, USA), 18-21 May 2008,
- Third International Conference on Managing Shared Aquifer Resources in Africa, Tripoli (Libya), 25-27 May 2008,
- BALWOIS 2008 Conference on Water Observation and Information Systems for Decision Support, Ohrid (Macedonia), 27-31 May 2008,
- XXIVth Conference of the Danubian countries, Bled (Slovenia), 2-4 June 2008,

- IAHS-UNESCO IXth Kovacs Colloquium River Basins - from hydrological science to water management / Les bassins versants - de la science hydrologique à la gestion des eaux, Paris (France), 6-7 June 2008,
- Flow and Transport in Heterogeneous Subsurface Formations: Theory, Modelling & Applications, Istanbul (Turkey), 18-20 June 2008,
- Groundwater & Climate in Africa, Kampala (Uganda), 25-28 June 2008,
- HydroPredict'2008 : International Interdisciplinary Conference on Predictions for Hydrology, Ecology and Water Resources Management: Using Data and Models to benefit Society, Prague (Czech Republic), 15-18 September 2008,
- 12th Biennial Conference of Euromediterranean Network of Experimental and Representative Basins (ERB 2008) Hydrological Extremes in a Small Basin, Kraków (Poland), 18-20 September 2008,
- International Conference on Water Resources Management in Extreme Conditions, Bucharest (Romania), 22-24 September 2008,
- HydroChange 2008, Kyoto (Japan), 1-3 October 2008,
- Symposium "The Role of Hydrology for Water Resources Management" & Workshop "New Statistical Tool in Hydrology", Capri (Italy), 14-16 October 2008,
- 9th WaterNet/WARFSA/GWP-SA Symposium, Johannesburg (South Africa), 29-31 October 2008,
- International IAHS-PUB Symposium and the 2nd International China-PUB symposium Hydrological Modeling and Integrated Water Resources Management in Ungauged Mountainous Watershed, Chengdu (China), November 7-9, 2008,
- International Symposium on "Sediment dynamics in changing environments, Christchurch (New Zealand), 1-5 December 2008,
- Water 4 health Workshop, Lyon (France), 2-3 December 2008,
- International Symposium on Hydrogeology of the Volcanic Rocks, Djibouti (Republic of Djibouti), 14-17 December 2008.

In 2008 IAHS Press published six issues of the Hydrological Sciences Journal. Two issues of the IAHS Newsletter have also been published and widely disseminated free of charge, both as hard copies and on the Web. A lot of thought is being given to what amendments should be introduced into IAHS' publications and the workings of IAHS Press in order to meet the new challenges facing scientific publishing. This is sure to lead to some important changes in the organization of our press office in Wallingford.

During the year, IAHS Press published 7 Red Books:

- Hydrological Sciences for Managing Water Resources in the Asian Developing World, Edited by Xiaohong Chen, Yongqin David Chen, Jun Xia & Hailun Zhang, IAHS Publ. 319.
- Calibration and Reliability in Groundwater Modelling Credibility of Modelling, Edited by J.C. Refsgaard, K. Kovar, E. Haarder & E. Nygaard, IAHS Publication No 320.
- Groundwater - Surface Water Interaction : Process Understanding, Conceptualization and Modelling, Edited by C. Abesser, Thorsten Wagener & Gunnar Nuetzmann, IAHS Publication No 321 (2008).
- Hydrological Research in China : Process Studies, Modelling Approaches and Applications, Edited by Dawen Yang, Fuqiang Tian, Lihua Tang & Zhiyu Liu, IAHS Publ. 322.
- Rivers Basins - from Hydrological Science to Water Management / Les bassins versants – de la science hydrologique à la gestion des eaux, Edited by I. Tchiguirinskaia, S. Demuth & P. Hubert, IAHS Publication No 323.
- Groundwater Quality: Securing Groundwater Quality in Urban and Industrial Environments, Edited by Michael G. Trefry, IAHS Publ. 324.
- Sediment Dynamics in Changing Environments, Edited by Jochen Schmidt, Tom Cochrane, Chris Phillips, Sandy Elliott, Tim Davies & Les Basher, IAHS Publ. 325.

One Blue Book has been published:

- Climate and the Hydrological Cycle, Edited by Marc Bierkens, Han Dolman & Peter Troch, Foreword by Jim Shuttleworth, IAHS Special Publication n°8.

A third volume has also been published in the “Benchmark Papers in Hydrology” Series:

- Groundwater Selection, Introduction and Commentary by Mary P. Anderson, Benchmark Papers in Hydrology n°3.

IAHS Task Force for Developing Countries (TFDC)

The TFDC continued its work and distributed free of charge all IAHS publications (Hydrological Science Journal and the Red Books) to more than 60 selected universities and research institutions in Africa, Asia, South-America and Eastern Europe.

The close cooperation of IAHS with UNESCO, WMO, the World Water Council and UNWater has been continued. We have attended the IHP Council meeting held at Paris in June 2008 and the session of the WMO Commission of Hydrology held at Geneva November 2008, and contributed to the preparation of the Fifth World Water Forum to be held in Istanbul next March.

We also participated to the activities of the UNESCO-WMO International Flood Initiative. Much effort during the year has been put into preparations for the next IAHS Scientific Assembly which will be held in September 2009 jointly with the Congress of the International Association of Hydrogeologists in Hyderabad, Andhra Pradesh, India.

Awards

Jean Margat (France) has been awarded the International Hydrology Prize, which is administrated together with UNESCO and WMO, for his long career devoted to hydrology and hydrogeology. Gregor Laaha (Austria) received the 2008 Tison Award for his paper “A national low flow estimation procedure for Austria”, co-authored by Günter Blöschl and published in Hydrological Sciences Journal in August 2007.

Pierre Hubert, IAHS Secretary General



International Association of Meteorology & Atmospheric Sciences (IAMAS)

<http://www.IAMAS.org>

INTRODUCTION

IAMAS is the specialized association of the International Union of Geodesy and Geophysics (IUGG) which deals with all aspects of the gaseous envelope around the Earth and other planets. The main research work is carried out, coordinated and communicated in IAMAS's ten International Commissions (IC), which are in alphabetical order the ICs on Atmospheric Chemistry and Global Pollution (ICACGP), on Atmospheric Electricity (ICAE), on Climate (ICCL), on Clouds and Precipitation (ICCP), on Dynamical Meteorology (ICDM), on the Middle Atmosphere (ICMA), the International Ozone Commission (IOC), the IC on Planetary Atmospheres and their Evolution (ICPAE), on Polar Meteorology (ICPM), and the International Radiation Commission (IRC). The ICs are historically grown from mostly personal initiatives and focus on topics of global extent (ICPAE, ICACGP, ICCL), on combinations of important processes within the Earth's atmosphere (ICCP, ICDM, IOC, IRC, ICAE), or on certain regions within the atmosphere (ICMA, ICPM); for details see the links collected under www.iamas.org/Commissions.html.

All ICs, and IAMAS as a whole, take a leading part within the global communication and discussion of latest research results in a wide range of scientific meetings that are open to all scientists. Personalities of many countries serve on a voluntary basis as presidents and secretaries for all these bodies. This network on an often personal basis forms an important supplement and extension to research activities and applications overseen by the national meteorological services (NMS) under the umbrella of the World Meteorological Organization (WMO), a specialized agency of the United Nations.

ADMINISTRATION

For IAMAS, officers and members at large were routinely elected at the IUGG Assembly in Perugia in July 2007. No changes occurred in 2008.

IAMAS-IOC elected as new officers at the *Quadrennial Ozone Symposium* in July 2008: Christos ZEREFOS (Athens, Greece) as president, Richard S. STOLARSKI (Greenbelt, USA) as vice-president, and Sophie GODIN-BEEKMANN (Paris, France) as secretary.

IAMAS-IRC elected as new officers at the *International Radiation Symposium* in August 2008: Robert F. CALAHAN (Greenbelt, USA) as president, Werner SCHMUTZ (Davos, Switzerland) as vice-president, and Byung-Ju SOHN (Seoul, Korea) as secretary.

ACTIVITIES

Here a brief selection of activities is reported; the full compilation of commission reports will be posted on www.iamas.org/Reports.html.

IAMAS

President and Secretary General (SG) met at the occasion of the IUGG EC meeting in Karlsruhe in July 2008 also for personal discussions of IAMAS matters. The main inner-Bureau-matters were discussed via Email on an ad-hoc basis, as e.g. the planning of the joint IAMAS-IAPSO-IACS-Assembly (MOCA-09), scheduled for July 2009 in Montréal, Canada (cf. www.moca-09.org). In August 2008 the SG joined a planning meeting with the Local Organising Committee (LOC) of MOCA-09 and discussed extensively the set-up of the programme with Jacques DEROME, chair of the MOCA-09 Scientific Programme Committee. The SG and his deputy joined the regular telephone-conferences between the LOC members. IAMAS newsletter, issue 7 appeared in Aug. 2008 (cf. www.iamas.org/Newsletter/IAMAS_Newsletter_Aug2008.pdf).

Hans-Jürgen BOLLE (IAMAS president 1983-87) compiled a 150-page monograph about the development of IAMAS-IRC from 1896 to 2008. This publication appeared as IAMAS Publication Series, No.1 (ISBN 978-3-00-024661), can be ordered from Hans.Volkert@dlr.de or downloaded from www.iamas.org, and is hoped to serve as an example for additional surveys dealing with the role of IAMAS and its commission for the gradual advancement of atmospheric research through international cooperation on a voluntary basis.

IAMAS-ICACGP

ICACGP officials were engaged in the organisation of the 10th International Global Atmospheric Chemistry International Conference entitled "*Bridging the Scales in Atmospheric Chemistry: Local to Global*" which took place from 7 to 12 September 2008 in Annecy, France. Details are found on the IGAC www.igacfrance2008.fr/. The number of scientific contributions to the meeting was approximately 650.

Halifax was selected in 2008 as the next venue for the joint ICACGP and IGAC Conference for 2010 among three proposals. James Drummond of Dalhousie University is the chair of the local organising committee; the potential title for this event is '*Atmospheric Chemistry: Challenging the Future*'.

For MOCA-09, the Commission is organising and co-organising the following 3 symposia:

- M15: Atmospheric Composition Change: Air Pollution in the Global Environment (convenors: Maria KANAKIDOU, David EDWARDS, John BURROWS, Kimitaka KAWAMURA, Young J. KIM [all ICACGP members]);
- M13: Aerosol-Cloud-Radiation-Precipitation Interactions (convenor: Ulrike LOHMANN [ICACGP member]; co-organized with IRC, ICCP, ICACGP)
- J13: Biogeochemistry and Climate (co-convenor: John BURROWS [ICACGP secretary])

IAMAS-ICA

In 2008 a further detailed issue of the ICAE-newsletter was produced and distributed. Currently there are more people (especially from developing countries) showing interest in mitigation of lightning hazard, so our ICAE mailing list has been nearly doubled from the August of 2007. From the all ICAE-newsletters, one can find information about ICAE activity, especially the new publications contributed by our commissions. For details see www.atmospheric-electricity.org or contact the ICAE secretary under Daohong WANG via wang@gifu-u.ac.jp.

IAMAS-ICCL

In 2008 numerous commission activities took place in the following countries: Australia, Italy, Japan, Portugal, Romania, Spain, Tahiti (*outré-mer* part of France), United Kingdom, and United States of America. Among them are:

- the Japanese *Innovative Program of Climate Change Projection for the 21st Century* (cf. www.kakushin21.jp/eng/);
- the Portuguese workshop *Land Surface Analysis: Satellite Applications Facility* (cf. landsaf.meteo.pt/workshops.jsp?seltab=6&starttab=0#Proceedings);
- the symposium *Effects of Climate Change on the World's Oceans* (cf. www.pices.int/meetings/international_symposia/2008_symposia/Climate_change/climate_background_3.aspx);
- the *ENSO summer school* in Hawaii (cf. iprc.soest.hawaii.edu/~axel/ENSOsummerschool.html);
- a number of reports compiled by the US Climate Change Science Program (cf. www.climate-science.gov).

IAMAS-ICCP

The *15th International Conference on Clouds and Precipitation* was held in Cancun, Mexico, between 7 and 11 July, 2008. The detailed program and an archive of the extended abstracts is stored under cabernet.atmosfcu.unam.mx/ICCP-2008/. About 400 scientists attended the conference and presented about 550 papers in oral talks and posters. The presentations covered a wide range of topics on the formation of clouds and precipitation, the interactions of aerosols and clouds, the effects of clouds on climate, new instrumentation for measuring various processes in clouds and many more. Special sessions were devoted to reports on results from RICO (Rain in Cumulus Over the Ocean), a field campaign that took place in the Western Caribbean, November 2004 to January 2005, and to reports from the ice nucleation comparison workshop (AIDA) that took place in Karlsruhe Germany, September 2007.

Roland LIST, year-long commission member and past SG of IAMAS was elected as honorary member. The achievements and services to ICCP of the recently deceased members Peter V. HOBBS (USA), Albert CHERNIKOV (Russia), Yoram KAUFMAN (USA), Brian RYAN (Australia), Solomon M. SHMETER (Russia), and Henri LAURENT (France) were remembered.

The *16th International Conference on Clouds and Precipitation* will be held during the summer of 2012 in Leipzig, Germany; the *18th International Conference on Nucleation and Atmospheric Aerosols* will be held in Prague on August 10-14, 2009 (cf. www.icnaa.cz)

IAMAS-ICDM

The activities of the International Commission on Dynamical Meteorology (ICDM) during 2008 have been focused on preparations for the MOCA-09 assembly taking place in Montreal in 2009. ICDM is sponsoring or co-sponsoring seven IAMAS sessions on several different topics relating to dynamical meteorology. The commission is also co-sponsoring two joint (inter-association) sessions, on tropical cyclones and data assimilation.

IAMAS-ICMA

Activities included the co-sponsorship of the *37th COSPAR Scientific Assembly*, 13 to 20 July 2008 in Montreal, Canada, through symposia C22 “*Multi-Scale Wave Coupling and Energetics from the Troposphere to the Ionosphere*” and C23 “*Variability of the Middle Atmosphere and Lower Ionosphere in Composition and Dynamics Induced by External Forcing from Space*” and the co-sponsorship of 5th IAGA/ICMA/CAWSES Workshop on *Long-Term Changes and Trends in the Atmosphere*, 9 to 12 September 2008 in St. Petersburg, Russia.

More details about the activities can be found on the new ICMA website under www.icma-iamas.org.

IAMAS-IOC

Activities culminated in the organization of the *Quadriennial Ozone Symposium*, 30 June to 5 July 2008, in Tromsø, Norway. More than 350 scientists from various countries attended the meeting. At this occasion, the Dobson Award was awarded to both Veronica EYRING and Björn-Martin SINNHUBER (both from

Germany) for their contribution to ozone science. Honorary member Rumen BOJKOV reviewed the historical development of IOC. Details like programme and abstracts can be found under www.qos2008.no.

IAMAS-ICPAE

Activities included the organization and co-sponsorship of sessions at the *European Geosciences Union Assembly*, 14-18 April in Vienna, Austria, (Session PS4.0), at the *Asian-Oceanian Geophysical Society (AOGS) meeting*, 16-20 June 2008 in Busan, South Korea (Sessions PS05 & PS08), and at the COSPAR Assembly, 13-20 July 2008 in Montreal, Canada (Session B03). For MOCA-09 two symposia are organized, for which the participation of NASA scientists was observed to have considerably diminished (probably due to financial constraints).

Commission members served as guest editors for a special issue of *Planetary and Space Sciences*, Vol. 56, issue 12, Nov. 2008.

IAMAS-ICPM

Members of ICPM contributed to Open Science Conference of the Scientific Committee on Arctic Research (SCAR) and the International Arctic Science Committee (IASC) in conjunction with the International Polar Year (IPY), 8 to 11 July 2008 in St. Petersburg, Russia (cf. www.scar-iasc-ipy2008.org/)

IAMAS-IRC

Activities culminated in the organization of the *International Radiation Symposium (IRS2008)*, 3-8 August 2008 in Foz do Iguaçu, Brazil (cf. www.irs2008.org.br/) to which several hundreds of scientists from all continents contributed. The *16th International TOVS Study Conference*, 7-13 May 2008, in Angra dos Reis, Brazil was another highlight (cf. cimss.ssec.wisc.edu/itwg/itsc/).

FUTURE ACTIVITIES

A survey was started to find an appropriate venue for the IAMAS assembly in 2013, possibly again in conjunction with other IUGG associations. During and after MOCA-09 decision will be made taking into account the experiences made during MOCA-09.

All IAMAS commissions are planning the coming events in their often long standing conference series besides dedicated workshops for special purposes and smaller groups.

Hans Volkert, IAMAS Secretary General



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

iaps0.iugg.org

INTRODUCTION

IAPSO has the prime goal of "promoting the study of scientific problems relating to the oceans and the interactions taking place at the sea floor, coastal, and atmospheric boundaries insofar as such research is conducted by the use of mathematics, physics, and chemistry." IAPSO has addressed this goal through four fundamental objectives:

- a. Organize, sponsor, and co-sponsor formal and informal international forums permitting ready means of communication amongst ocean scientists throughout the world;
- b. Establish commissions, sub-committees, and organize commensurate workshops to encourage, stimulate, and coordinate new and advanced international research activities;
- c. Provide basic services significant to the conduct of physical oceanography, and
- d. Publish proceedings of symposia, meetings, and workshops, and fundamental references on the current state-of-the art and knowledge of physical oceanography.

IAPSO maintains formal liaison with other scientific commissions and committees. These include the ICSU's Scientific Committee on Oceanic Research (SCOR), and UNESCO's Intergovernmental Oceanographic Commission (IOC).

For more information see <http://iaps0.sweweb.net/db/>.

ADMINISTRATION

The EC and the Bureau have not met during 2008, though several issues have been discussed by e-mail, e.g. questions arising from the IUGG EC meeting. Two informal planning meetings between the President and the Secretary General have taken place during 2008. The Secretary General participated in the IUGG EC meeting in Karlsruhe, Germany, in August.

A new SCOR/IAPSO WG OceanScope was set up in autumn 2008. The long-term goal of OceanScope is to help the Merchant Marine to put in place an observing system to regularly monitor the physical, chemical and biological properties of the global surface and subsurface ocean.

ACTIVITIES

2008 was "a year in between Association Assemblies" and most of the administrative effort was related to the planning of the MOCA-09 Joint Assembly in Montreal, July 2009.

The SCOR/IAPSO WG 129 Deep Ocean Exchange with the Shelf (DOES) arranged a workshop in Cape Town from 6 to 9 October. 45 scientists from 18 countries attended the workshop, including several oceanographers from African countries.

19 to 24 October the President and the Secretary General participated in the SCOR 50th Anniversary Conference in Woods Hole, MA USA, and the SCOR annual meeting that followed the Conference.

The SCOR/IAPSO Working Group 127 Thermodynamics and Equation of State of Seawater has completed much of its work. The new thermodynamic description of seawater is now out for comment from the oceanographic community.

A SCOPE/SCOR/IAPSO publication “Watersheds, Bays, and Bounded Seas” was published. The former IAPSO President, Paola Malanotte-Rizzoli, was one of the editors.

Professor Harry L. Bryden FRS, University of Southampton, UK, has been awarded the 2009 Prince Albert I Medal of IAPSO, "...in recognition of his fundamental contributions to understanding the ocean's role in the global climate system."

PLANNED FUTURE ACTIVITIES/ ANNOUNCEMENTS

The main activity is the IAMAS-IAPSO-IACS Joint Assembly in Montreal, Canada, to be held July 20-24 (IAMAS 20-29) 2009. During the Assembly the Prince Albert I Medal will be presented to Professor Bryden whereupon he will give the Albert I Memorial Lecture.

At the Assembly there will be two IAPSO EC meetings and one GBM of IAPSO for all National Correspondents. In addition, the Lafond Medal will be awarded to a developing country scientist.

The new SCOR/IAPSO WG OceanScope will have a first meeting in connection with the MOCA-09 Joint Assembly.

Johan Rodhe, IAPSO Secretary General



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

www.iaspei.org

INTRODUCTION

IASPEI promotes the study of earthquakes and other seismic sources, the propagation of seismic waves, and the Earth's internal structure, properties, and processes. Scientists participating in IASPEI initiate and coordinate research and scientific exchanges that demand co-operation among countries. Work on specific topics is carried out through commissions, sub-commissions, committees and working groups formed to meet specific needs of new, exciting problems as they emerge.

ADMINISTRATION

EC & Bureau meetings

The Bureau has met in Vienna in April during the EUG General Assembly.

New Working Groups

As an outcome of the Perugia IUGG conference a new WG has been established: Triggered and induced seismicity (TAIS). Chair of the WG is Prof. Stan Lasocki. Details on the new webpage: <http://www.tais.agh.edu.pl>

In Beijing, during the 14th WCEE, a new Joint IAEE-IASPEI WG has been formally established: IAEE-IASPEI Joint Working Group on the International Alliance of Seismology and Earthquake Engineering Professional Associations. Three possible missions have been tentatively identified:

- Hazard and Risk workshops with basic applications to simple and non- or low-engineered structures (start with a Schools safety program)
- Hazard and risk assessment for highly hazardous installations – the need for a strong co-operation, also through a specialised workshop
- GEM project – a global risk assessment initiative

The IASPEI Co-Chair is Prof. Peter Suhadolc.

ACTIVITIES

During 2008 IASPEI activities were mainly dedicated to the preparation of the January 2009 Scientific Assembly in Cape Town, South Africa. The Secretary General paid a week-long visit to the LOC in order to inspect the site, venue, hotels and arrangements. Most of the other activities were related to the preparation of the Scientific Programme, contacts with conveners, chairs of Commissions and Working groups. The IASPEI website has been refurbished and updated continuously, mainly with the help of the IASPEI webmaster Alice Walker. Also the IASPEI Newsletter has been given a new vest and is now sent as pdf file attachment to e-mails. The Newsletters are also available for downloading from the website.

European Seismological Commission

The European Seismological Commission (ESC) held its 31st General Assembly in Hersonissos, Crete Island, Greece. About 450 scientists have participated to the well-organized conference, that was structured in 28 sessions organized within 12 thematic areas. The new ESC Executive Committee members are:

President: Jochen Zschau
Past President: Domenico Giardini
Vice President: Michel Cara
Past Vice President: Gerassimos Papadopoulos
Secretary General: Mariano Garcia Fernandez
Assistant Secretary: Ina Cecic
Executive Committee Members:
Rami Hofstetter, Steinunn Jakobsdottir, Dario Slejko

The venue of the next 2010 ESC conference will be:
Montpellier, France. A conference report will be soon available on the ESC website:
<http://www.esc-web.org/>.

Asian Seismological Commission

In November, the 7th General Assembly of the Asian Seismological Commission (ASC) and the Seismological Society of Japan (SSJ) 2008 Fall Meeting was held in Tsukuba, Japan, being the first joint meeting of ASC with a national seismological society. About 760 scientists (more than 600 from Japan) from 39 countries and regions have participated to the well-organized conference, which was structured in 22 thematic sessions. The ASC has received from IUGG (through IASPEI) a financial support. The new ASC Executive Committee members are:

President: Prof. Kazuro Hirahara (Japan)
First Vice President: Prof. Trieu Dinh Cao (Vietnam)
Second Vice President: Sumalee Prachuab (Thailand)
Secretary General: Dr. R.K. Chadha (India)
Member: Dr. Ding Zhifeng (China)
Member: Dr. Andrew King (New Zealand)

The venue of the next 2010 ESC conference will be: Hanoi, Vietnam. A conference report will be soon available on the ASC website: <http://www.asc1996.com/>.

World Stress Map Conference

The International WSM Conference “Frontiers in Stress Research: Observation, Integration and Application”, organized by the Task Group on World Stress Map Project (Chair Dr. Oliver Heidbach) was held in Heidelberg, Germany, during 14-17 October 2008. The conference was also sponsored by IUGG (through IASPEI).

Scientific Programmes, Projects, Publications

- The OECD/GFS initiative has evolved into the Global Earthquake Model (GEM) project. IASPEI Secretary General has attended a preliminary meeting in Zurich in June. Outlooks for major well funded activities in world seismic risk are excellent.
- The Seismoarchives (IDEA) project is going on. The USGS contract managed by IASPEI has come to and end. Willie Lee has been working hard on this. IRIS is archiving the scanned seismograms, e.g. <http://www.iris.edu/seismo/quakes/1964niigata/>.

Awards/Anniversaries/Obituaries

Obituaries for prominent scientists are published in the IASPEI Newsletters.

PLANNED FUTURE ACTIVITIES

IASPEI is supporting the International Scientific Studies Project of the CTBTO and will actively participate in the June conference in Vienna.

IASPEI has agreed to sponsor a few workshops/symposiums that will take place during this and next year, such as:

- International Symposium on Earthquake Seismology and Earthquake Predictability, Beijing, China, May, 2009; organized by the Seismological Society of China and the Institute of Geophysics, CEA
- Workshop: From Core to Crust: Towards an Integrated Vision of Earth's Interior July 20 – 24, 2009, Trieste, Italy, at The Abdus Salam International Center for Theoretical Physics
- Advanced Workshop on Evaluating, Monitoring and Communicating Volcanic and Seismic Hazards in East Africa, August 17 - 28, 2009, Trieste, Italy, at the Abdus Salam International Center for Theoretical Physics.
- The international workshop at Suzdal, near Moscow, August 2009. The topics to be covered will range from crustal dynamics to core convection.
- The 2010 AGU Joint Assembly in Brazil, Iguassu Falls, 08-13 August, co-sponsorship by also taking an active role in the organization of the seismological sessions at the conference.

Peter Suhadolc, IASPEI Secretary General & Treasurer



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

<http://www.IAVCEI.org>

INTRODUCTION

The International Association of Volcanology and Chemistry of the Earth's Interior (IAVCEI) represents the primary 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.

Volcanology over the last 25 years has increased greatly its status as a fundamental discipline in the earth sciences. Its concerns reach from the deep roots of volcanic systems where magma is generated in the Earth's mantle, to the upper atmosphere which was formed originally- and is still being modified - by volcanic eruptions. Furthermore, only part of the scientific interests of IAVCEI centres on active volcanism. Much of the work undertaken to understand volcanic processes is carried out on dormant or extinct volcanoes and in ancient volcanic areas. The earliest crust-forming processes on Earth were volcanic, and large portions of Archaean terrains- the greenstone belts-are entirely volcanic. A small, but dedicated part of the scientific community also studies volcanic processes on the Earth's Moon and on planets such as Mars and Venus.

IAVCEI is run by the Executive Committee, whose membership changes every four years. The Executive Committee determines policies for the Association, enacting them through a series of Commissions and Task Groups. IAVCEI aims to be outward-looking, seeks relationships with other international scientific organisations, and participates in international scientific projects. It aims also to maintain a robust publishing policy, encouraging the presentation of high calibre, volcanological research results, mainly through its premier international journal the Bulletin of Volcanology.

In 2008 the number of IAVCEI individual members was 764, 54 of them being Life Members.

ADMINISTRATION

One meeting of the IAVCEI Executive Committee was held on August 17, 2008 in Reykjavik, coinciding with the Scientific General Assembly. The following aspects were discussed:

- IAVCEI Finances, funding support, and potential funding sources and strategies.
- Venue for the Scientific General Assembly 2013 was decided to hold in Kagoshima, Japan, from October 29 to November 3 (tentative), 2013
- IAVCEI Commissions and Working Groups: Review of the existing commissions, their past activities and future plans. This process will continue during the first half of 2009
- Website and new strategies for members list, membership fees, membership renewal and payment
- IAVCEI merchandising (calendars, DVDs, books)
- IAVCEI official journal, Bulletin of Volcanology; volume 73, nos. 3-10 in 2008 and volume 74, nos. 1- in 2009.

- Review of IAVCEI Statutes and By Laws. This process has to be completed during the first half of 2009
- Participation of IAVCEI in the IUGG GS Melbourne, 2011.

The IAVCEI web page has been updated. Membership renewal can now be done automatically through the webpage. An official IAVCEI mailing list, volcano list, has been created and it is used to distribute among the IAVCEI members that information strictly concerning to them. The volcano list administered by Arizona State University that reaches >2700 people is still used to distribute general information related to volcanology.

Three new commissions have been accepted by the EC during 2008: Caldera Volcanism, Volcano-Ice Interaction, and Basaltic Volcanism

ACTIVITIES

Scientific General Assembly

IAVCEI's Scientific General Assembly was held in Reykjavik, Iceland, August 18-22, 2008. The meeting was sponsored by the Ministry of Foreign Affairs in Iceland and ten other institutions including the University of Iceland, and the Icelandic Geosciences Society. For the conference 907 participants registered from 49 countries. One hundred thirty eight grants were given to students and young researchers from 38 countries and 54 grants to researchers from less developed countries. IAVCEI and the European Science Foundation allocated 5000 Euros each to this program.

The main theme of this General Assembly was "Understanding Volcanoes". The meeting was divided up into 4 symposiums; from source to vent (13 sessions), Volcanoes and eruptions (14 sessions), Volcano – ice - water interaction (7 sessions) and Volcano - environment – society (8 sessions). A total of 1238 contributions were presented at the meeting; 640 oral and 598 poster presentations. The meeting was conducted in 10 lecture halls during 4 days at the University of Iceland campus. On Wednesday August 20, intra meeting field trips were organized to Þingvellir, Reykjanes, Hengill volcano and Hvalfjörður. Four pre-conference and five post-conference field trips were carried out within Iceland.

The meeting was opened by the President of Iceland, Mr. Ólafur Ragnar Grímsson, and the Open Ceremony also included presentation by Prof. Tom Beer, President of the IUGG and Prof. Setsuya Nakada, President of IAVCEI. During the meeting IAVCEI awards were presented to the following IAVCEI members: The Krafft Medal (for contribution to community) to Christopher G. Newhall, the Wager Medals (outstanding contribution) to Alessandro Aiuppa and Joachim Gottsman, the George Walker Awards (for outstanding recent graduates) to Diana C. Roman and Fukashi Maeno, the Thorarinsson Medal (fundamental contribution) to Robert Stephen John Sparks. Prof. Hans Ulrich Schmincke presented a plenary talk on the evolution of volcanological research during the past 50 years. Prof. Stephen Sparks gave the Thorarinsson medal talk. During the conference dinner, held in the Restaurant Perlan, three IAVCEI Honorary Members were announced; Prof. Haraldur Sigurdsson, Prof. Franco Barberi and Prof. Wally Johnson.

Four IAVCEI commission and working group meetings were organized at the IAVCEI 2008, including IAVCEI/IASC Joint Commission on Volcano-Ice Interactions and IASPEI/IAVCEI Joint Commission on Volcano Seismology were organized on August 21.

Three workshops were organized in relation to the meeting; "Silicic explosive volcanism and near-vent successions", "Field-based methodologies for quantifying volcanic activity" and "Recent developments in explosive volcanism".

The products of IAVCEI General Assembly in Iceland, including abstract volumes, meeting program, newsletters, and useful meeting data can be seen at: <http://www.iavcei2008.hi.is>

Opening address by the President of Iceland, Mr. Ólafur Ragnar Grímsson can be downloaded at: http://www.forseti.is/media/files/08_08_18_eldfjallafradithing.pdf

Other meetings, workshops and courses

Other meetings, workshops, and courses organised by the IAVCEI commissions and held in 2008 include:

- 2008 Collapse Caldera Workshop (México, October 2008) (40 participants)
- 16th International Field Course of Central Andes (Argentina, November 2008) (32 participants)

Newsletters

Two issues of the newsletter "IAVCEI News" have been published through the website in 2008.

PLANNED FUTURE ACTIVITIES

Forthcoming meetings in 2009 are:

- Volcanic Gases Commission meeting, Mexico 2009
- 11th International Meeting “Volcan de Colima” (Mexico, February 2009)
- International Volcanological Conference, Volcan Jorullo’s Birth (Mexico, September 2009)
- 3rd International Maar Conference. (Argentina, April 2009)

Joan Martí, IAVCEI Secretary General

ACTIVITIES OF THE UNION COMMISSIONS AND INTER-ASSOCIATIONS WORKING GROUPS

The following reports illustrate the impressive range of activities within each Union Commission as well as their dedication to supporting science within developing countries. Each Union Commission has a web site where much more information can be found.

Commission for Data and Information (UCDI)

INTRODUCTION

In 2008 the IUGG established the Union Commission on Data and Information (hereafter UCDI) to provide IUGG's eight Associations an entity to deal with data and information issues at the Union level and engage with similar bodies in other Unions and Societies.

The Commission provides a focused and sustainable organizational structure that supports and strengthens IUGG science through integrated scientific information activities in order to ensure the availability of modern data and information systems and services. These services are globally distributed, provide universal open access, and must be sustainable. The UCDI objectives are to:

- provide a focus and single voice within IUGG, spanning all IUGG Associations and inter-Association bodies.
- connect IUGG and its scientists to other bodies/agencies/initiatives that have interest and responsibility on matters of geo-data.
- advocate and facilitate research and development in the growing field of informatics to improve data and information systems and practices.
- promote open access to data and adoption of inter- operable data sets.

ADMINISTRATION

Membership - UCDI executive

| | | |
|--------------|--|--|
| IACS | Mark Parsons, NSIDC, IPYDIS (USA) | parsonsm@nsidc.org |
| IAG | Bernd Richter (Germany) | richter@iers.org |
| ICSU-FAGS | Ruth Neilan JPL (USA) | Ruth.Neilan@jpl.nasa.gov |
| IAGA | Peter Fox, RPI (USA) – Chair | pfox@cs.rpi.edu |
| IAHS | Pierrick Givone (France) | pierrick.givone@cemagref.fr |
| IAMAS | Maria Assunção F. Silva Dias, CPTEC/INPE (Brazil) (IAMAS Vice-Pres.) | assuncao@cptec.inpe.br |
| IAPSO | W John Gould, Southampton, UK | wjg@noc.soton.ac.uk |
| IASPEI | Tim Ahern, IRIS, (USA) | tim@iris.washington.edu |
| IAVCEI | Adelina Geyer Traver, Barcelona (SPAIN) – Secretary | ageyer@ija.csic.es |
| eGY & CODATA | Charles Barton, Australian National University, (Australia) – Vice Chair | cebarton@gmail.com |

Business meetings

None to date, first executive telecon will be held in March 2009

ACTIVITIES

Scientific Meetings

UCDI was intended to build on foundations, established prior to its formation in 2008 such as the IUGG/IAGA-led activity, the Electronic Geophysical Year (eGY). The commission has thus just started to continue and expand certain functions of eGY since the completion of that activity in December 2008. However, within this context, UCDI executive members have participated in several international meetings after UCDI's formation to represent IUGG Data and Information interest. These meetings include CODATA (Fox, Barton, Parsons, Neilan, and IUGG Secretary General Alik Ismail-Zadeh), IGY+50 (Fox, Barton, Parsons), and Fall AGU (Fox, Parsons, Ahern, Neilan).

Projects and publications

Project – define scope:

- Data science: Earth and space (geo)- informatics.
- Distributed data systems: virtual observatories, libraries, research communities and organizations.
- Open access to data and information.
- All issues related with data acquisition, processing, storing, manipulation, interpretation and use.

Project – define web site content

Participation and representation

UCDI's near-term plans and progress were

- Establish initial Commission website presence (www.iugg-ucdi.org reserved and web hosting secured, initial web context due in April 2009, verification of commission web page on IUGG web site)
- Collect, compare, adapt and recommend policies and procedures for collaboration on data collection, and use and sharing across IUGG Association activities (Barton, Parsons, ongoing).
- Contribute to the deliberations about the future of the World Data Centre System as it relates to IUGG Association science areas (Now World Data System Services. Fox, Ismail-Zadeh to contribute to March 2009 meeting).
- Contribute to the deliberations about the future of the Federation of Astronomical and Geophysical Data Analysis Services (now included in the above item).
- Seek members from within and beyond IUGG's Associations (to commence in 2009).

Representation

- UCDI submitted, via the IUGG executive, nominations for the new ICSU Strategic Steering Committee on Information and Data (SSCID)
- Liaisons for scientific societies:
 - AGU (Peter Fox)
 - EGU (Peter Fox, Adelina Geyer Traver)
 - GSA - pending
 - JGPS - pending

PLANNED FUTURE ACTIVITIES

- Continue ongoing near-term activities from above
- Continue membership outreach, especially for participants in activities
- Liaise with related data and information bodies and forums to advance the shared responsibilities for modern data and information practices – identify commission representatives to those bodies' and forums.

- Arrange informatics and collaborative sessions at Assemblies and major conferences of IUGG and at other Geo-union activities.
- Arrange workshops and training in support of IUGG's mission related to data and information.
- Outreach to increase awareness – encourage Commission members to include discussions on the Commissions activities in talks, lectures at any suitable venue.
- Ensure the themes of the Commission are publicized in publications – via articles in journals and newsletters, and potentially the development of promotional literature.
- Maintain an active and evolving website presence.
- Issue an (at least yearly) Electronic Newsletter.

Peter Fox, UCDI Chair

Commission on Geophysical Risk and Sustainability (GRC)

<http://www.iugg-georisk.org/>

INTRODUCTION

The IUGG Commission on Geophysical Risk and Sustainability (IUGG GeoRisk Commission) established by the IUGG Bureau in August 2000 is dedicated (i) to promoting scientific studies applied to the reduction of risk from natural hazards in an increasingly urbanized world and sustainability and (ii) to reducing death and destruction from natural and technological hazards by providing hazards data and information to emergency managers, policy-makers, scientists and the general public in the most timely and effective manner as possible. This includes the integration of knowledge concerning environmental, social and economic processes. The fundamental scope of this Commission is to facilitate communications – between scientists via meetings, workshops and publications, as well as between scientists and decision makers, between scientists and the public, and between scientists and schools. The GeoRisk Commissioners are:

| Name | Duty | Representative |
|-----------------------------|---|--------------------|
| Kuni Takeuch (Japan) | President | IAHS |
| Gerd Tetzlaff (Germany) | Secretary-General | IAMAS |
| Volodya Kossobokov (Russia) | Vice-President | IASPEI |
| Ramesh Singh (India) | Vice-President | IASPEI |
| Paula Dunbar (USA) | Treasurer | Tsunami Commission |
| Alik Ismail-Zadeh (Germany) | Past President, IUGG Secretary General | IASPEI |
| Tom Beer (Australia) | Commissioner, IUGG President | IAMAS |
| Hermann Drewes (Germany) | Commissioner | IAG |
| Martin Funk (Switzerland) | Commissioner | IACS |
| Harsh Gupta (India) | Commissioner, IUGG Vice-President | IASPEI |
| Slava Gusiakov (Russia) | Commissioner | Tsunami Commission |
| David Jackson (USA) | Commissioner IUGG Bureau Member | IASPEI |
| Jayawardena A. (China) | Commissioner | IAHS |
| Evgeny Kontar (USA) | Commissioner | IAPSO |
| Susan McLean (USA) | Commissioner | IAPSO |
| Uri Shamir (Israel) | Commissioner, IUGG Past President | IAHS |
| Steve McNutt (USA) | Commissioner | IAVCEI |

ADMINISTRATION

The GRC held its major business meeting on 10th August in Oslo within the framework of the 33rd International Geological Congress chaired by the GRC President Kuniyoshi Takeuchi and the presence of 10 commissioners and two invited guests. The main points on the agenda were the new ICSU-GeoHazard program (Integrated Research on Disaster Risk), and the discussion of the ICSU Regional Office for Africa projects. GRCommissioners contributed substantially to both programs. The two GRC guests (Konare Abdourahamane, Genene Mulugeta) presented the available projects on geo-hazards and on hydro-meteorological hazards. The further implementation will be accompanied by members of GRC (Harsh Gupta, Gerd Tetzlaff). The final program implementation of IRDR happened on the 29th General Assembly

of ICSU in Maputo on 22nd October. Reports on other activities and programs were delivered, including the ICSU regional offices.

ACTIVITIES

On 12th May a major earthquake of the magnitude 8 hit the Sichuan region (China). The events killed more than 87 000 affecting nearly 5 million people, the material damage exceeds \$85 billion. Only less than two weeks earlier (on 2-3 May) the tropical cyclone Nargis devastated the Ayeyarwady delta area in Myanmar and left more than 138 000 people dead, affecting about 2.4 million (after EMDAT). These two events underline the necessity for the GRC to not only improve on scientific knowledge, but also to make it more widely and effectively used to reduce disasters. The latter part is a cross cutting issue and is duly reflected in the networking activities of the members of GRC.

Scientific meetings

GRC-members participated actively in a wealth of scientific conferences and meetings all related to GRC topics. The following list can represent only a selection of these activities.

Sessions in conferences were organized by Volodya Kossobokov (“The planet Earth” at the ESOF2008 in Barcelona), Yevgeniy Kontar (American Geophysical Union 2008 Fall Meeting in San Francisco, USA, from 15-19 December: “Uncertainty in Geophysical Data interpretation : Implication and Developments”, “Groundwater inputs to Lakes and Oceans II”), Ramesh Singh (“International Seminars on Deserts to Monsoons”, Crete, Greece, 01-06 June), Tom Beer and Kuniyoshi Takeuchi (33rd International Geological Conference in Oslo, 06-15 August, “Minimizing Risks, Maximizing Awareness” within the “Hazards-Theme” of the International Year of the Planet Earth), Alik Ismail-Zadeh (“Earth Science for Society”-Conference, Karlsruhe, Germany, 4 August), Gerd Tetzlaff (International Disaster and Risk Conference, Davos, Switzerland, 24-29 August, “Extreme Events and Climate Change”, “Early Warning Systems for Natural Hazards”).

The number of memberships and participations in scientific and management meetings was numerous and multifold, according to the cross cutting nature of georisk research. Each one of the commissioners actively contributed to several organizations, meetings, workshops and conferences, both in more national and in international events. The individual contributions are best found via the individual members of GRC. Outstanding activities were connected to the Regional Offices of ICSU, namely ROAP and ROA. The contacts to the Asia and Pacific Office was kept by Harsh Gupta, who contributed to the science plan on Hazard and Disasters and the the plan on Special Vulnerability of Islands. The contact to Africa was kept by Harsh Gupta and Gerd Tetzlaff by trying to support development of the science plan on Geohazards and Hydrometeorological Hazards. GRCommissioners Harsh Gupta and Tom Beer were members of the planning group preparing the science plan for Integrated Research on Disaster Risk (IRDR) of ICSU (see business meeting). IUGG nominated Kuniyoshi Takeuchi to the IRDR Scientific Committee, and Kuni was appointed to the Committee by ICSU.

Publications

The GRCommissioners actively published or edited scientific articles and papers. Tom Beer is the editor of the reviewed conference contribution presented in Oslo. Springer Publishers have agreed to publish the proceedings a part of the International Year of the Planet Earth Series. Gerd Tetzlaff co-edited a volume on “Severe Storms over Europe” Second International Workshop, Hohenkammer, Germany, DKKV Volume 36, 55 p.)

There is quite a number of publications by GRC members in the year 2008. The following examples give an impression of the spectrum:

- Gupta; Purnachandra, Shashidar and Mallika : “The disastrous M 7.9 Sichuan earthquake of 12 May 2008”, J. Geological Soc. India, 72, 325-330.

- Gupta: India's initiative in mitigating tsunami and storm surge hazards; J. Earthquake and Tsunami, 3, 1-9, in press.
- Singh, Prasad, Kavetha, and Kafatos: Enhancement of oceanic parameters associated with dust storms using satellite data, J.Geophys. Res. 113, C11.
- Tang, Zhao, Zheng and Singh, Enhancement of oceanic chlorophyll-a in the northeastern Indian Ocean after the 2004 south Asian Tsunami, Internat. J. Remote Sensing, in press.
- Kürbis, Mudelsee, Tetzlaff, Brazil: Trends in extremes of temperature, dew point and precipitation from long instrumental series from central Europe, Theor..Appl. Climatol. 2008
- K. Takeuchi, H. Ishidaira, H. Sawada and T. Masumoto (guest eds) (2008.4) Studies on the Mekong River Basin - Modelling of Hydrology and Water Resources, Hydrological Processes, Special Issue, 22(9), 1243-1406

Participations, representations and networking

There were many contacts between GRCommissioners and national and international organizations. The contact to UN-ISDR is secured by Harsh Gupta, who is a member of the science committee. The contact to UN-ISDR Europe is kept by Gerd Tetzlaff. Tom Beer was actively involved in the international coordination IYPE activities, in particular on the theme "Hazards" (see Oslo conference). Gerd Tetzlaff is a contact to the UN Climate Change Secretariat (UNFCCC) on the adaptation to climate change (Nairobi work program), representing this topic also on the conference of the parties (COP 14) in Poznan in December 2008 and to a WMO regional conference in Chisinau (Moldova) in October.

PLANNED FUTURE ACTIVITIES

GRCommissioners (Jayawardena and Tetzlaff) will lecture at the Spring School on Fluid Mechanics and Geophysics of Environmental Hazards (Singapore 20 April to 02 May 2009). GRC started preparation of a Geo-Unions Open Forum during the 25th IUGG General Assembly to be held in Melbourne 2011. This is to vitalize the communication and collaboration among geo-related unions in and around ICSU.

G. Tetzlaff, GRC Secretary General

Commission on Mathematical Geophysics (CMG)

<http://www.fys.uio.no/cm2008/>

INTRODUCTION

The Commission on Mathematical Geophysics is an IUGG Union Commission. It aims to encourage exchange of ideas and information in all areas of geophysics, with emphasis on the application of mathematics, statistics and computer science to geophysical problems, and to promote the development and application of mathematical methods and appropriate theoretical techniques for the solution of problems across the complete spectrum of geophysical disciplines. The Commission is sponsored by all IUGG Associations.

The earliest incarnation of the present CMG Commission was as the Working Group on Geophysical Theory and Computers (WGGTC), which was founded by Vladimir Keilis-Borok. The first meeting of the WGGTC was held in Moscow and Leningrad in 1964 and the last in Moscow in 1971 with intervening meetings held once yearly. Subsequent to 1971 the group was re-structured as the present Commission on Mathematical Geophysics, which has met on a semi-annual basis since that time, beginning with a meeting in Banff (Canada) in 1972.

The schedule since 1986 has included the following sequence of major CMG sponsored conferences: Oosterbeek (The Netherlands, 1986), Blanes (Spain, 1988), Jerusalem (Israel, 1990), Taxco (Mexico, 1992), Villefranche (France, 1994), Santa Fe (USA, 1996), Cambridge (UK, 1998), Villefranche sur Mer (France, 2000), Torino (Italy, 2002), New York (USA, 2004), Sea of Galilee (Israel, 2006), Longyearbyen (Norway, 2008). The next Conference on Mathematical Geophysics will be held in 2010 in Pisa, Italy.

ADMINISTRATION

The following are current officers of the Union Commission on Mathematical Geophysics:

- Chair: Daniel Rothman (USA)
- Secretary General: Claudia Pasquero (USA)
- Vice-Chair: Einat Aharonov (ISRAEL)

A business meeting was held on June 17th, 2008 in Longyearbyen, Norway, during the semi-annual Conference on Mathematical Geophysics. Among the participants, CMG officers (Dan Rothman, MIT, Cambridge, USA; Einat Aharonov, Weizmann Institute, Israel), representatives from the Associations (Dick Peltier, Univ. of Toronto, Canada; Yehuda Ben Zion, University of Southern California, Los Angeles, USA), and the IUGG Secretary General, Alik Ismail-Zadeh (University of Karlsruhe, Germany). At the meeting, the candidacies for the location of the next Conference, to be held in 2010, were discussed. In particular, an articulated candidacy was presented by representatives of the Italian Institute of Geophysics and Vulcanology, Pisa, Italy, that was unanimously and enthusiastically chosen. The local organizing committee will be chaired by Augusto Neri, IAVCEI representative at CMG.

ACTIVITIES

The principal activity of the CMG is to sponsor a biennial conference on theoretical geophysics. The 27th International Conference on Mathematical Geophysics was held in June 15–20, 2008 in Longyearbyen, Norway, on the Svalbard Island. The conference theme was “Dynamics in Earth Systems: Flow, Fracture, and Waves”. The local organizing committee was chaired by Eirik Flekkoy, University of Oslo. Detailed information can be found on the conference website

<http://www.fys.uio.no/cm2008/>.

There were 58 participants, including about a half senior scientists and a half students and young scientists. Their provenience indicates a success of this Conference, that was able to really put together investigators

from different fields and from different countries (organizers were very happy about the participation of people from Africa and from South America), united by the common interest for the Earth and by the mathematical tools they use for studying and understanding it.

The program of the conference included the following sessions:

- Fracture, ranging from ice sheets to earthquakes;
- Climate and evolution in Earth
- Subsurface flows, pattern formation and granular flows
- Surface flows in Atmospheric and Ocean dynamics

Invited lectures included:

- 'Collective behavior of earthquakes and faults: Continuum-discrete transition, progressive evolutionary changes and different dynamic regimes'*, Yehoda Ben-Zion, University of Southern California, Los Angeles, USA.
- 'The physics of quicksand and quickclay landslides'*, Daniel Bonn, University of Amsterdam, The Netherlands
- 'The dynamics of the onset of frictional slip'*, Jay Fineberg, Hebrew University of Jerusalem, Israel
- 'River deltas and vegetated dunes'*, Hans Hermann, ETH, Zurich, Switzerland
- 'Scaling laws of subcritical fracture'*, Ferenc Kun, University of Stuttgart, Germany
- 'Diffusion and fragmentation processes in ice crystal dynamics'*, Mogen Høeg Jensen, Niels Bohr Institute, Copenhagen, Denmark
- 'Solid-solid phase transitions and the roughening of stylolites'*, Joachim Mathiesen, PGP, University of Oslo, Norway
- 'What is wrong with earthquake physics?'*, Amos Nur, Stanford University, USA
- 'Subsurface-atmosphere and the astronomical theory of ice ages on Mars'*, Norbert Schorghofer, University of Hawaii, Honolulu, USA
- 'Dynamic, material and geometrical heterogeneities in earthquake physics'*, Bruce Shaw, Lamont Doherty Earth Observatory, Palisades, NY, USA
- 'Space and time correlations in the activity of fracture front dynamics: A comparison to the statistics of slip and seismicity of natural faults'*, Renaud Toussaint, Ecole et Observatoire des Science de la Terre, Strasbourg, France
- 'Snap, buckle, break and melt'*, John S. Wettlaufer, Yale University, USA

Claudia Pasquero, CMG Secretary General

Commission on the Study of the Earth's Deep Interior (SEDI)

<http://www.sedigroup.org>

INTRODUCTION

SEDI is an international scientific organization dedicated to the Study of the Earth's Deep Interior. The ultimate goal of SEDI is an enhanced understanding of the past evolution and current thermal, dynamical and chemical state of the Earth's deep interior and of the effect that the interior has on the structures and processes observed at the surface of the Earth. The 'deep interior' is generally considered to be the core and lower mantle, but interest may extend to the surface, for example, in the study of mantle plumes or dynamics of descending lithospheric slabs. The scientific questions and problems of interest to SEDI include the geomagnetic dynamo and secular variation, paleomagnetism and the evolution of the Earth's deep interior, composition, structure and dynamics of the outer core, dynamo energetics, mineral physics and structure of the inner core, core cooling and the core-mantle boundary region, core-mantle boundary shape, coupling and the rotation of the Earth, lower mantle: mineral physics and structure, convection and plumes, nature and location of deep geochemical reservoirs, etc.

Since 1987, SEDI has been an Union Commission of the International Union of Geodesy and Geophysics ([IUGG](#)). As such, it cuts across the traditional discipline-oriented bounds of the Associations of the IUGG [such as the International Association of Geodesy ([IAG](#)), the International Association of Geomagnetism and Aeronomy ([IAGA](#)), the International Association of Seismology and Physics of the Earth's Interior ([IASPEI](#)), and the International Association of Volcanology and Chemistry of the Earth's Interior ([IAVCEI](#))] which normally study the Earth from a particular point of view. The intent of SEDI is to amalgamate all sources of data and all points of view to generate the most coherent and consistent picture of the workings of the Earth's deep interior.

ADMINISTRATION

SEDI is currently chaired by Gauthier Hulot (IPGP, France), vice-chaired by Satoru Tanaka (JAMSTEC, Japan), with Michael Bergman (Simon's Rock College, USA) acting as Secretary-General. SEDI has a membership of about 550, as recorded on the email list used to broadcast information related to SEDI activities.

Two business meetings have been held since the last report.

The first occurred during the 2007 AGU Fall meeting in San Francisco, USA. This business meeting was attended by members of both the SEDI Advisory Committee and the Local Organizing Committee of the then upcoming 11th biennial SEDI symposium. Detailed aspects of the organization of this symposium were discussed.

The second occurred during the 11th SEDI symposium itself (July, 2008). This business meeting was attended by about 50 participants. Options for the next (12th) SEDI symposium were presented and discussed. The need to try and have more people from the mineral physics and geochemistry communities involved in the SEDI activities was renewed. This led to the suggestion that the next SEDI symposium be organized with some coordination with the COMPRES community (<http://www.compres.stonybrook.edu/>) and the recommendation that the two high quality competing proposals (Banff, Alberta, Canada, and University of California, Santa Barbara) consider this in some detail. This also led to the decision to postpone the final decision with respect to the choice of the location of the next SEDI symposium.

Following this business meeting, and after reception of more detailed information from both proposals, an e-vote organized through the SEDI email list finally led to the choice of a 12th SEDI symposium to be held in UCSB, 19-23 July, 2010, overlapping with a 7-week CIDER (Cooperative Institute of Deep Earth Research, <http://www.deep-earth.org/workshop09.html>) program sponsored by NSF/CSEDI. This option, together with

the recommendation that at least one COMPRES related session be included in the SEDI symposium, was indeed felt as a very good opportunity to ensure more involvement from the mineral physics and geochemistry communities.

ACTIVITIES

SEDI co-sponsored eight scientific sessions at the 2008 American Geophysical Union Fall meeting in San Francisco.

The highlight of 2008 Commission's activity was the 11th SEDI Symposium, which took place 27-31 July, 2008 in Kunming, Yunnan Province, China. The meeting was attended by 92 scientists, including students, and was very successfully organized by the Chinese Local Organizing Committee, chaired by Prof. Rongshan Fu from the University of Science and Technology of China. As is usually the case with SEDI meetings, the meeting was organized around 8 sessions, with each session having two lead review talks followed by ample time for discussion of posters and key scientific issues. The sessions were: Structure of the Core, Structure of the Mantle, Mantle Dynamics, Inner-Core Outer-Core Mantle Coupling, Laboratory Modeling of Deep Earth Processes, Core Dynamics, Observations and the Geodynamo, and Deep Interiors and Magnetic Fields of Other Planets. Highlights of the meeting included the Zatman Lecture on "Geodetic constraints on core dynamics and core-mantle interactions" by Mathieu Dumberry; the awarding of the Doornbos Prizes for outstanding work by a beginning scientist to Nicolas Gillet, John Hernlund, and Ligang Li; and a report on the devastating May 12 Wenchuan (Sichuan) earthquake by Jianguo Zhang, Director of Institute of Disaster Preparedness and Mitigation of Yunnan Province. Despite the long distance from Europe and North America, the symposium was well attended by the international community, and its prime goal of getting more Chinese young scientists interested in SEDI science was achieved. The proceedings of the meeting are now under review, and will be published in a special issue of Physics of the Earth and Planetary Interiors, guest edited by Michael Bergman, Paul Tackley, and Satoru Tanaka.

In addition, SEDI continues to serve the scientific community as a means of distributing information about upcoming meetings, funding opportunities, and academic openings.

Michael Bergman, SEDI Secretary-General

Inter-Associations (IAGA/IASPEI/IAVCEI) Working Group of Electromagnetic Studies on Earthquakes and Volcanoes (EMSEV)

INTRODUCTION

The main objectives of EMSEV inter-association Working Group are:

- To promote magnetic and electric studies of earthquakes, tsunamis and volcanoes from the source to the ionosphere, through national and international collaborations,
- To integrate multi-disciplinary techniques in order to better analyze the physical mechanisms,
- To organize international and regional meetings, and to disseminate relevant data and research results,
- To contribute to develop EM studies in developing countries and to assist to develop integrated EM monitoring systems and data analyses.

EMSEV was created by IUGG in 2001. During the past seven years, EMSEV has continuously acted for the improvement of the quality of observations and interpretations of EM phenomena related to earthquakes and volcanic eruptions. The power of EMSEV comes from the considerable expertise of members in the three associations. EMSEV will attempt to keep a good balance between the three associations and related topics.

The EMSEV WG stays strongly focused on promotion of the highest quality research.

ADMINISTRATION

Membership

EMSEV is supervised by a bureau composed of a President (J. Zlotnicki), a Vice-President (M. Johnston), a Secretary (T. Nagao), a Past President (S. Uyeda), IAGA, IASPEI and IAVCEI liaison members (J.Y. Liu, M. Johnston, Y. Sasai, respectively), and a IAGA WS1.2 corresponding member (T. Harinarayana).

Thirty-eight members and more than 245 corresponding members are now enlisted in EMSEV mailing “

propagation mechanism of EM signals, and related laboratory experiments; 5: Study of ionospheric perturbations, GPS based measurements; 6: Imaging active faults, volcanoes, landslides and geothermal fields by EM methods. Integration of other methods: geophysical, geochemical, geological, etc. The Workshop sessions included 48-scientific presentations and stimulating discussion. The papers were presented by scientists from 13 countries – China, Czech Republic, France, Greece, India, Iran, Italy, Japan, Poland, Romania, Russia, USA and Taiwan.

Projects and publications

EMSEV has promoted international cooperative studies in developing countries like Philippines (Understanding and monitoring Taal volcano based on a French-Japan-Philippines cooperation) and Indonesia (EM signals related to earthquakes, managed through Chiba University (Japan)).

Volcano Taal investigation (Philippines)

Under PHIVOLCS (Philippine Institute of Volcanology and Seismology)-EMSEV 2004 agreement, a Japan-French team is pioneering efforts to understand the slow unrest of Taal volcano. The activities include implementation of EM monitoring systems, and education of PHIVOLCS teams on electromagnetic methods etc. Since 2004, one to two joint campaigns are operated every year, and several campaigns are now operated by PHIVOLCS on its own.

In July, 2008 EMSEV and PHIVOLCS signed a memorandum ‘Memorandum of Agreement on the Use of Geomagnetic Data from Muntinlupa Magnetic Observatory (Philippines)’ with the National Mapping and Resource Information Authority (NAMRIA), and the Ocean Hemisphere Research Center, and Earthquake Research Institute (OHRC-ERI, Japan). The objective is to include Muntinlupa observatory as remote reference.

Financial support from the IUGG and Associations is used to facilitate PHIVOLCS teams to field campaigns. The foreign teams provide equipment and other materials. Several papers have been published (Harada et al., 2005, 2008; Zlotnicki et al., 2008a, 2008b). Two other papers are in preparation.

International Workshop on Seismo-Electromagnetic Phenomena, Recent Progress

Indonesia consists of more than 17,000 islands and severe natural disasters in this country are frequent.

These include destructive earthquakes, tsunamis, and volcanic eruptions. Identification of electromagnetic phenomena associated with crustal activity and the detection of these phenomena should be included in the methods for monitoring seismic and volcanic activities. Even if this activity is well supported by LIPI, LAPAN, and BMG, further implementations of EM methods and the use of installed stations/equipments are crucial for improving the effectiveness of current global investigations.

A Workshop on seismo-electromagnetic precursors (IWSEP 2007) was held in Bandung, Indonesia, on 6~7 November 2007. International cooperation between developed countries in the EM field with Indonesian’s institutions, particularly BMG, LAPAN and LIPI, should be encouraged. EMSEV could largely contribute to this demand when it will be formalized by Indonesian counterparts. There are 3 main subjects that should be implemented in the future:

1. Observation on the ground and satellite for crustal activity-related phenomena
2. Data integration
3. Human resource development

PLANNED FUTURE ACTIVITIES/ ANNOUNCEMENTS

In 2009, EMSEV continues to promote and sponsored more successfully international meetings, and regional and specific meetings.

- 2009 International Workshop on Validation of Earthquake Precursors by Satellite and Terrestrial Observations (VESTO).Case studies of the recent Asian events. Chiba Univ., Japan (March 26-28, 2009). It will be an EMSEV Workshop.
- EGU, Vienna, Austria (19-24, April, 2009) (sessions organized by EMSEV members)
- Second International Seminar on Prediction of Earthquakes; Lisbon, Portugal, 23-24 April, 2009.
- State of observations of M 7.8, 2008 Sichuan Earthquake, China (should be held in July 2009).
- IAGA General Assembly, Sopron, Hungary (23-30 August, 2009 [I06. Crustal tectonic processes constrained by electromagnetic observations].
- AGU Fall Meeting, 2009
- PHILVOLCS-EMSEV meeting 2009-2010 (Philippines); EMSEV BM for Asian countries.

Understanding and monitoring Taal volcano.

IUGG Executive Committee awarded the EMSEV the two years project “Monitoring Taal volcano unrest in Philippines based on a joint Electromagnetic and multi-disciplinary educational EMSEV-PHIVOLCS program”. In addition to the research and training program, EMSEV will organize a workshop devoted to Asian countries.

Possible new EMSEV contribution to developing country: Indonesia.

The Indonesians colleagues have asked EMSEV to strengthen their EM studies during IWSEP-2007 meeting in Bandung. EMSEV will carefully consider any more formal request. We will propose to contribute to one or several areas of study in which EMSEV teams could participate for several years.

Jacques Zlotnicki, EMSEV President



The Inter-Unions Commission

International Lithosphere Program (ILP)

<http://scliip.gfz-potsdam.de>

INTRODUCTION

The International Lithosphere Program (ILP) seeks to elucidate the nature, dynamics, origin and evolution of the lithosphere through international, multidisciplinary geoscience research projects and coordinating committees. The ILP is charged with promoting multidisciplinary research projects of interest to both the geological (IUGS) and geophysical (IUGG) communities. The ILP seeks to achieve a fine balance between: “*addressing societal needs*”, e.g. understanding natural catastrophes and other solid earth processes that affect the biosphere, providing information for improved resource exploration and environmental protection; and “*satisfying scientific curiosity*”. According to the new Terms of Reference, ILP is a body of IUGG and IUGS.

ADMINISTRATION

Membership

ILP has a team of 11 executive, 6 associate, and 3 lifetime Bureau members that meet annually to monitor progress and to approve new programmes and activities together with the team of representatives of National Committees. The President, the Secretary General and the leader of the national committees lead this team.

The Bureau was restructured during the Bureau meeting in Oslo on 8 August 2008 for detail see ILP annual report as well as ILP homepage <http://www.scl-ilp.org>

Business meetings

Since ILP consists of a wide network of active scientists, contacts between Bureau and Task Forces are kept during scientific meetings throughout the year by e-mail.

A Bureau meeting of ILP was held in Oslo on 8 August 2008.

A business meeting of ILP CC-1/4 (Topo-Central Asia) was held on the 13th Gondwana Symposium in Dali, Yunnan Province, southern China.

ACTIVITIES

Scientific Meetings

ILP gets its visibility by organising sessions at international scientific meetings and workshops for internal Task Force networking.

ILP was represented at the following international meetings:

- AGU meeting 2007, San Francisco, USA (3 Sessions) - Sessions V06A; V06B and V06C: "A Retrospective and Prospective Look at Geology, Petrology, Geochemistry and Tectonics of Ultrahigh Pressure Metamorphic Rocks.
- EGU European Geoscience Union General Assembly, 2008, Vienna, Austria (6 Sessions) - GMPV-07: "Metamorphic and magmatic trends in subduction/collision zones"; GMPV-02: "Fluids in mantle and deep crust: physico-chemical and geomechanical perspective; GMPV26/TS10 "Volcano tectonics; Task Force VI: One session (oral/posters) chaired by Magdalena Scheck-Wenderoth, U. Bayer, H. Thybo and F. Roure; GD08 "Modelling and Monitoring the Deformation and State of Stress of the Lithosphere"; Task Force VIII: Plume-like instabilities in the mantle -hotspots, wetspots or displaced material from the transition zone?
- 33rd International Geological Congress, 2008, Oslo, Norway (11 Sessions) - STT-03 "Accretionary orogens: Character and processes", ASI06 "Pre-Mesozoic accretionary tectonics of Central Asia UHP-03: Ultra-high pressure metamorphism: Minerals, microstructures and nanoscale observations; UHP-04: Ultra-high pressure metamorphism: Mineral reactions, geochemistry, thermobarometry & UHP-05: General topics of geology, tectonics and petrology of collisional orogenic belts: Implication to UHP-HP metamorphic rocks; UHP-06: Numerical modeling of deep subduction and exhumation of UHPM fragments: Implication to Earth's interior. Pre-congress Field Excursion "Contrasting UHP domains in the Western Gneiss Region, Norway". Task Force II: Volcanism and geodynamics; Task Force VIII: The dynamics of Plumes; TOPO-EUROPE meetings: Session: Frontiers in integrated solid earth science
- 5th Asia Oceania Geosciences Society Conference, AOGS, 2008, Pusan, Korea (2 Sessions) - SE 57 "Metamorphism and Tectonics of HP-UHP terranes in northern Tibet and Himalaya" Session: SE 58 "Permo-Triassic Collision, HP-UHP Metamorphism and Tectonic Exhumation along the East Asian Continental Margin"
- The 5th International Symposium on Gondwana to Asia, 2008, Seoul, Korea - organized by Korean geologists and ERAS member B.F.Windley (Task Force I)
- 86th Annual Meeting of the German Mineralogical Society DMG, Berlin (1 session) - Session "Making and breaking of continents - integrating metamorphic petrology, geochronology and rheology"
- Geological Society of America, Joint annual meeting, Houston, Texas, USA (1 session) - TS84: "Exhumation of Continental Ultrahigh-Pressure Terranes"
- 4th International TOPO-EUROPE Workshop 5-7 October 2008 at El Escorial, Spain
- ILP Joint Task Forces Meeting 22-26 September 2008 in Ensenada
- ILP Task Force Meeting "World Stress Map" 15-17 October 2008 in Potsdam
- EUCOR URGENT workshop in St. Odile, France, 2-4 February, 2008
- 13th Gondwana Symposium in Dali, Yunnan Province, southern China
- Business Meeting of ILP CC-1/4 (Topo-Central Asia)

Projects and publications

Theme I: Geoscience of global change

- I-4/Task Force II: New tectonic causes of volcano failure and possible premonitory signals; Chairperson: A. Tibaldi (Italy); 52 publications 2008

Theme II: Contemporary dynamics and deep processes

- II-1/Task Force VII: Temporal and Spatial Change of Stress and Strain; Chairperson: O. Heidbach (Germany); world stress map published in 2008
- II-5/Task Force V: Global and regional parameters of paleoseismology; implications for fault scaling and future earthquake hazard; Chairperson: P. M. De Martini (Italy)
- II-6/Task Force VIII: Baby plumes in Central Europe; Chairperson: U. Achauer (France); 2 publications in 2008

- II-10/Task Force IV: Ultra-Deep Continental Crust Subduction (UDCCS); Chairperson: Larissa Dobrzhinetskaya (USA); more than 100 publications 2008, 4 special volumes

Theme III: Continental lithosphere

- III-2/Task Force VI: Sedimentary Basins; Chairperson: F. Roure (France); 3 proceeding volumes, 2 special issues published in 2008
- III-9/Task Force I: Earth Accretionary Systems (in space and time) (ERAS); Chairperson: P. Cawood (Australia); 26 publications 2008
- III-10/Task Force III: Lithosphere-Asthenosphere Interactions; Chairperson: A. Tommasi (France); 24 publications 2008

Coordinating Committees

- CC-1/1: Himalayas; Chairperson: Q. Jan (Pakistan)
- CC-1/2: Andes; Chairperson: V. A. Ramos (Argentina)
- CC-1/3: TOPO-EUROPE; Chairperson: S. Cloetingh (The Netherlands)
- CC-1/4: TOPO-CENTRAL-ASIA; Chairperson: Qingchen Wang (China)
- CC-1/5: DynaQlim; Chairperson: Markku Poutanen (Finland)
- CC-4: Continental Drilling; Chairperson: M. Zoback (USA)

Thematic IYPE Volume on Frontiers of Integrated Solid Earth Science

Editors: S. Cloetingh and J.W.F. Negendank.

According to our decisions in June 2007 we collected 11 contributions for this volume, which will be published in spring 2009.

Participation and representation

ILP was represented with scientific sessions at EGU in Vienna, IGCC in Oslo, IYPE meeting Berlin, AGU San Francisco.

PLANNED FUTURE ACTIVITIES

- Bureau meeting at EGU Vienna, April 2009
- EGU Sessions Vienna, April 2009
- Joint Task Force meeting in Grenoble, June 2009
- TOPO Europe meeting, October 2009
- Task Force VI meeting in Abu Dabi, December 2009
- AGU Sessions, San Francisco 2009
- Call for new Task Forces for the period 2010-2015

Roland Oberhänsli, ILP Secretary General

IUGG FINANCIAL REPORT 2007

GENERAL INTRODUCTION

This report describes the status of the IUGG finances for the year 2007, the last year of the quadrennium 2004-07. The report is sent to the Finance Committee and the Bureau and will be discussed at the meeting in Karlsruhe, August 3, 2008.

The budget for 2007 was approved by the Council in Sapporo, July 2003, but it was slightly adjusted in Boulder, September 2004, at the EC meeting there.

In July 2007 the 24th General Assembly took place in Perugia, Italy. Here a new budget for the coming period 2008-2011 was approved.

The downward trend in membership is replaced by a more stable period, but it is the hope that new recruiting initiatives will even increase the number of memberships. The dues paid the members are the economical basis for the activities of IUGG. I can express a positive view on the future economy. But as said in earlier Financial Reports we must always monitor the economy and the membership issues closely.

By the end of 2007 IUGG had 65 members representing 275 units. 7 members were associate members. On January 1, 2007, 2 members are supposed to have withdrawn: Algeria and Serbia/Montenegro. In 2007 D.R. Congo is counted as A-member. On January 1st, 2008, Argentina will lower their category to Cat 3 after approval by the Council in Perugia, July 2007. Venezuela has been in observer status for 4 years and will loose its membership in 2008 or be moved to Cat A-membership.


On January 1st, 2007, 15 members were in arrears with their dues. By the end of the year the number was down to 5. However, 4 new members went into observer status on January 1st, 2008, meaning 9 members were in arrears with their payment of dues on January 1st, 2008. At the time of writing the number of members in arrears with dues is now down to 5 or 6 (5 without Venezuela) and Pakistan is close to be a paid-up member again.

The price of 1 unit has gone up again from \$1,600 in 2006 to \$1,630 in 2007. The price in a given year is determined according to an inflator index in September in the year before according to the decision of the GA, Boulder 1995.

After a few years with very low interest in the accounting the 2007 interest increased to a substantial US\$ 28,000.

A student assists me with the keeping order in my files, writing letters etc. However, in 2007 my former Assistant Treasurer decided to stop and I have not yet found a substitute.

1) Comments to The summary of the IUGG accounts in US dollars for 2007



US dollars

SUMMARY OF IUGG ACCOUNTS 2007

| | Accounts | Budget |
|---|--------------|--------------|
| RECEIPTS | | |
| 1. Membership Subscription | 461.485,73 | 384.300,00 |
| 2. ICSU Grants | 0,00 | |
| 3. Assembly Surcharge | 0,00 | |
| 4. Contracts with ICSU | 0,00 | |
| 5. Sales of Publications | 310,63 | 200,00 |
| 6. Miscellaneous | | 5.000,00 |
| a. Interest | 28.177,55 | |
| b. Gain on exchange | 2.278,21 | |
| c. Other | 0,00 | |
| 7. Total Receipts | 492.252,12 | 389.500,00 |
| 8. Balance on 1/1 2007 | 726.452,83 | 617.900,00 |
| 10. Check Sum | 1.218.704,95 | 1.007.400,00 |
| EXPENDITURES | | |
| 11. Administration | | |
| 11.1 Personnel | 6.822,71 | 10.000,00 |
| 11.2 Quarters | 0,00 | 0,00 |
| 11.3 Supplies and Equipment | 1.139,14 | 2.500,00 |
| 11.4 Communications | 6.807,44 | 8.000,00 |
| 11.5 Travel, Administration only | 74.647,79 | 80.000,00 |
| 11.6 Miscellaneous | 344,22 | 5.000,00 |
| 11.7 Travel, representation | 9.530,67 | 0,00 |
| 12. Publications, Printing | 0,00 | 5.000,00 |
| 13. General Assemblies | | |
| 13.1 Organization | 4.993,25 | 10.000,00 |
| 13.2 Travel | 30.000,00 | 30.000,00 |
| 14. Symposia | 8.000,00 | 5.000,00 |
| 15. Annual allocations | | |
| 15.1 Annual allocations | | |
| 15.1a Associations | 218.470,00 | 185.300,00 |
| 15.1b WCRP, EMSEV | 4.700,00 | 4.700,00 |
| 15.2 Contracts with ICSU | 0,00 | 0,00 |
| 16. Dues and Grants | | |
| 16.1 ICSU | 13.439,08 | 16.000,00 |
| 16.2 Inter-Union Science | 29.000,00 | 29.000,00 |
| 17. Union activities (GeoRisk, UCCS, CMG, SEDI) | 18.000,00 | 29.000,00 |
| 18. Contries in need | | |
| 18.1 Initiative grants | 0,00 | 25.000,00 |
| 18.2 Travel grants | 40.000,00 | 40.000,00 |
| 19. Miscellaneous | | |
| 19.1 Miscellaneous | 0,00 | 3.000,00 |
| 19.2 Professional services | 3.848,25 | 2.000,00 |
| 19.3 Fees | 1.907,07 | 0,00 |
| 19.4 Loss on exchange | 0,00 | 0,00 |
| 20. Total Expenditures | 471.649,60 | 489.500,00 |
| 21. Balance on 31/12 2007 | 747.055,34 | 517.900,00 |
| a. IUGG | 747.055,34 | |
| b. | 0,00 | |
| 22. Total | 1.218.704,95 | 1.007.400,00 |

July 8, 2008

Aksel Walloe Hansen
Aksel Walloe Hansen

Exchange rates: Line 8 5,66
Line 21 5,06
Other: 5,46

The summary of the IUGG accounts is in USD and is based on my USD and DKK accounts in Danske Bank. In addition we have also a Mastercard account which is mostly used in connection with traveling. Two more accounts appear in the report. These two accounts are used to get higher than normal interest rates for a specified period of say 3 - 6 months.

The accounts of the treasurer's office are audited by a chartered auditor.

General comments about the economy:

IUGG has now accumulated more cash than 1 years turn over. It is noticed that IUGG always has at least \$100.000 as reserve for the next GA.

IUGG's economy is almost entirely based on USD. We are therefore not so sensitive to fluctuations in USD. But in 2007 the weak US dollar is expected to create some financial problems for end users in non-dollar countries, for example in EURO land countries.

The accounting:

My accounting is based on a cash flow model. This means that the balances not necessarily reflect the real financial status of the union.

I'll now go through the accounting line by line and compare it with the budget and where relevant I'll list my comments to the different lines:

Receipts

1

The income from members is higher than budgeted. Right now (July 8, 2008) 266 units are paid for 2007 compared to 262 for 2006 a little more than a year ago. In comparison the total number of units is 275 for the year 2007.

2, 4 and 15.2

In 2007 IUGG didn't receive any ICSU grants.

3

5

6

The interest on the balance is growing with the general trend in international economy and reached its highest level for several years.

8

The ongoing balance was higher in 2007 compared to the budget.

Expenditures

11.2 through 11.7

The sum of 11.7 includes liaison officers travel expenses.

12

In the period 2004-07 publication cost of the annual Yearbook is paid by SG's office. As of 2008 line 12 will have a new meaning.

13

14

A 2006 grant of USD 3,000 to IAG was paid in January 2007. Therefore, the sum for 2007 is 8.000 compared to 5.000 in the budget. In years with a GA the IUGG meeting grants are few and small.

15.1a

All 7 associations have received their allocations for 2007. The total is higher because the payment of dues in 2006 was high.

15.1b

16.1, 16.2

It is decided to pay in USD although ICSU has charged us in EUR. We do this because our budget is approved in USD. ICSU has declared that we owe them the difference. This will be discussed at the EC meeting in August 2008.

17

Substantially lower than in the budget. Less activity as regards liaison officers's traveling.

18.1

At the EC meeting in Perugia 2005 it was decided to allocate the 18.1 money to the Africa Initiative. However, IUGG didn't get any application in 2007 at all. The money is therefore carried forward to 2008-2011.

20+21

The balance by the end of 2007 - the last year of the quadrennium - is much higher than anticipated in the budget from 2003/2004.

2) An overview of administrative and representative travel expenses in 2007

The major 2007 event was the GA in Perugia, July 2007.

The numbers here can differ from the actual values in the accounting due to fluctuations in the exchange rates from day to day. A late reimbursement will appear in the 2008 accounting. The total expenditures on GA in Perugia therefore appears larger in the 2007 accounting.

All travel expenses related to the General Assembly in Perugia are collected and presented as one figure except for one representative travel expense.

i) Line 11.5, Travel expenses

| | |
|--|-----------------|
| General Assembly, Perugia | \$72.887 |
| Secretary General, Rome, Geounions Meeting | \$ 760 |
| FC-Chairman, Melbourne | \$ 95 |
| Treasurer, Manchester+Melbourne | \$ 191 |
| Secretary General, other than Perugia | \$ 312 |
| Subtotal | \$74.245 |

ii) Line 17.2, Liaison Officers, representative travel expenses

| | |
|--|-----------------|
| General Assembly, Perugia, Paola Rizzoli | \$ 3,160 |
| Charlie Barton, Beijing | \$ 2,425 |
| Alik Ismail-Zadeh, Japan | \$ 1,060 |
| Laura Sanches, Germany | \$ 519 |
| Kate Heal, Germany | \$ 1,140 |
| Sri Widyantoro, Thailand | \$ 1,226 |
| Subtotal | \$ 9,530 |

Total **\$83,775**

3) An overview of IUGG grants, allocations and inter-association activities in 2007

i) Line 14 (IUGG 2007 Symposia grants)

| | |
|-------------------------------------|-------------------------|
| IAG, 1 st IGFS symposium | \$ 3.000 (a 2006 grant) |
| GeoRisk, workshop in Kampala | \$ 2,000 |
| eGY, Planning meeting | \$ 1.000 |
| EMSEV, Meeting in Romania | \$ 500 |
| IAHS, UCCS workshop | \$ 1,500 |
| Total | \$ 8.000 |

ii) Lines 15.1b, 16.1, 16.2 (Inter-Association Act., ICSU, Inter-Union Act.)

| | |
|-----------------|-----------------|
| WCRP: | \$ 2.700 |
| EMSEV | \$ 2.000 |
| Subtotal | \$ 4.700 |

ICSU: **\$13.472**

| | |
|-----------------|-----------------|
| FAGS: | \$12.000 |
| ILP/SCL: | \$17.000 |
| Subtotal | \$29,000 |

iii) Line 15.2 (ICSU grant)

No ICSU grant in 2007 \$ 0

iv) Line 17.1 (Union Activities)

| | |
|--------------|-----------------|
| GeoRisk | \$ 6.000 |
| UCCS | \$ 5.000 |
| SEDI: | \$ 4.000 |
| IGY+50 | \$ 3,000 |
| Total | \$18,000 |

v) Line 18.1 (Inter-Association Act. In Developing Countries, “Geophysics in Africa”)

No initiative grants were awarded in 2007 \$ 0

vi) Line 13.2, 18.2 (traveling support for General Assembly in Perugia)

| | |
|-----------------------------------|-----------------|
| general support | \$30,000 |
| scientists from countries in need | \$40,000 |
| Total | \$70,000 |

4) Some Membership information and statistics

At the time of writing this report (July 8, 2008) IUGG has 5 members in observer status. These are

In category 1

Jordan (1. year as observer)

Croatia (2. year as observer)

Iran (2. year as observer)

In category 2

Pakistan (2. year as observer, but almost paid up by July 1st)

In category 3

Philippines (4. year as observer)

The 5 observer countries together represent 8 units (and a debt of US\$ 24,098 in total).

Venezuela left IUGG without paying their debt of US\$ 7,695 which is lost.

It should be noticed that on January 1st, 2007, the number of observers was 15. 10 member countries paid their dues in 2007, see also next page.

MEMBERS OF IUGG, 2007

Members by category

| | |
|-------------------------------|--------------------------|
| 7 adhering bodies in A | |
| Bolivia | |
| Ghana | |
| Morocco | |
| Peru | |
| Mauritius | |
| Bulgaria | |
| D.R. Congo | |
| 1 adhering body in 11 | 35 units |
| USA | |
| 3 adhering bodies in 8 | 60 units |
| Germany | |
| Great Britain | |
| Japan | |
| 1 adhering body in 7 | 15 units |
| <u>France</u> | observer |
| 4 adhering bodies in 6 | 40 units |
| Canada | |
| China | |
| Italy | |
| <u>Russia</u> | observer |
| 4 adhering bodies in 5 | 28 units |
| Australia | |
| India | |
| Spain | |
| Switzerland | |
| 7 adhering bodies in 4 | 35 units |
| <u>Academy Sinica, Taipei</u> | observer |
| <u>Argentina</u> | observer (Cat 3 in 2008) |
| Belgium | |
| Denmark | |
| Netherlands | |
| Norway | |
| Sweden | |

Members by category

| | |
|--------------------------------|-----------------|
| 5 adhering bodies in 3 | 15 units |
| Austria | |
| Brazil | |
| Finland | |
| Philippines | observer |
| <u>South Africa</u> | observer |
| 13 adhering bodies in 2 | 26 units |
| Chile | |
| Czech Republic | |
| Egypt | |
| Hungary | |
| Ireland | |
| Korea, South | |
| <u>Mexico</u> | observer |
| Nigeria | |
| Pakistan | observer |
| Poland | |
| Portugal | |
| Thailand | |
| Turkey | |
| 20 adhering bodies in 1 | 20 units |
| Albania | |
| Armenia | |
| Bosnia-Herzegovina | |
| <u>Colombia</u> | observer |
| Croatia | observer |
| Estonia | |
| Iceland | |
| Indonesia | |
| Iran | observer |
| Israel | |
| Jordan | |
| Luxembourg | |
| Monaco | |
| <u>Mozambique</u> | observer |
| New Zealand | |
| Romania | |
| <u>Slovak Republic</u> | observer |
| Slovenia | |
| Venezuela | observer |
| <u>Vietnam</u> | observer |

**Members in observer status that
paid dues during 2007 are
underlined**

| Countries | withdrawn | in | 2007 |
|-----------------------|------------------|-----------|-------------|
| | category | | |
| Serbia and Montenegro | | | A |
| Algeria | | | 1 |

New members in 2007
No new member

Aksel Walløe Hansen, IUGG Treasurer
July 8, 2008

ADDITIONAL UNION MATTERS

AWARDS AND HONORS

Laike Mariam Asfaw (Ethiopia) received the 2008 AGU International Award. L. Asfaw's major committee memberships have included the IASPEI committee for developing countries, IAG working group on the application of geodetic studies for earthquake prediction, and the IAG working group on dynamic isostasy.

The Chair of the IASPEI/IAVCEI/IAPSO International Heat Flow Commission **David Chapman** was elected an AGU fellow.

The President of the U.S. National Academy of Sciences and the Adhering Organization to IUGG **Ralph Cicerone** has been elected a foreign member of the Russian Academy of Sciences. Dr. R. Cicerone is an atmospheric scientist whose research in atmospheric chemistry and climate change has involved him in shaping science and environmental policy at the highest levels nationally and internationally.

The German President Horst Köhler awarded IAG Secretary General **Hermann Drewes** the Cross of the Order of Merit of the Federal Republic of Germany for his fundamental contribution to geodesy.

IUGG Vice President **Harsh Gupta** was elected the President of the Geological Society of India. **Harsh Gupta** was awarded the AGU Waldo E. Smith Medal "for major scientific contributions in seismology, tectonophysics, marine geophysics and geothermal resources and his eminent role in serving geosciences worldwide".

The Deputy Executive Director of AGU **Judy Holoviak** was awarded the Edward A. Flinn III Award for "overseeing AGU's publications activities for many years, through the explosive growth of the latter part of the twentieth century and through the difficult transition to electronic publication".

Every year the IAHS Tison Award is granted to a young scientist (under 41) for an outstanding paper published by IAHS. The 2008 Tison Award goes to **Gegor Laaha** (Austria) for his paper "A national low flow estimation procedure for Austria" co-authored by Günter Blöschl and published in Hydrological Sciences Journal in August 2007.

UNESCO, the World Meteorological Organization (WMO), and the International Association of Hydrological Sciences (IAHS) jointly award annually the International Hydrology Prize to a person who has made an outstanding contribution to hydrology such as confers on the candidate universal recognition of his or her international stature. For 2008 the Prize has been awarded to **Jean Margat** (France) for his achievements throughout an outstanding career.

The former President of the IUGG Commission on Mathematical Geophysics **William Richard Peltier** was awarded the 2008 Milutin Milankovic Medal of the European Geosciences Union for his fundamental and pioneer work in modeling of mantle convection, glacial isostatic adjustment process and global sea level changes.

IUGG Past President **Uri Shamir** was appointed the Chair of the Technical Advisory Committee of the World Water Assessment Programme, a joint effort of all 24 UN bodies, led by UNESCO, which prepares the World Water Development Report.

The Past President of IAVCEI **Stephen Sparks** was elected the President of AGU Section – Volcanology, Geochemistry and Petrology.

The former Secretary General of IAG **Carl-Christian Tscherning** was awarded by the 2008 Vening Meinesz Medal of the European Geosciences Union for his fundamental contributions to physical geodesy.

OBITUARIES

Bert Bolin (1925-2007), a meteorologist, who persuaded the world to take climate change seriously. Bolin made fundamental contributions to both numerical weather forecasting and in starting the science of biogeochemical cycles.

Pembroke Hart (1929–2008), a geophysicist, who was facilitating, coordinating, and implementing international research collaboration.

Carl Kisslinger (1926-2008), a geophysicist, who furthered scientific and international understanding through his tireless devotion to his field. Kisslinger was elected IUGG Bureau Member and Vice-President.

Edward Lorenz (1918-2008), a meteorologist, who tried to explain why it is so hard to make good weather forecasts and wound up unleashing a scientific revolution called chaos theory.