



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

## **The IUGG Electronic Journal**

**Volume 11 No. 6 (1 June 2011)**

*NOTE: Number 7 of Volume 11 of the IUGG Electronic Journal will be issued on 15 June 2011 and will be devoted to the XXVth General Assembly of the IUGG in Melbourne, Australia (27 June – 8 July 2011)*

This informal newsletter is intended to keep IUGG Member National Committees informed about the activities of the IUGG Associations, and actions of the IUGG Secretariat. Past issues are posted on the IUGG website (<http://www.iugg.org/publications/ejournals/>). Please forward this message to those who will benefit from the information. Your comments are welcome.

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### **1. IUGG Annual Report for 2010**

The IUGG Annual Report provides a summary of the activities of the Union, the IUGG Associations, the Union Commissions and the Inter-Unions Commission on Lithosphere. Thanks to the input from the Union Associations, Union Commissions, and the International Lithosphere Program, the 2010 IUGG Annual Report is posted on the web page: <http://www.iugg.org/publications/reports/report2010.pdf>. We invite you to download this impressive summary of last year’s activities. The report is now in print together with the 2011 IUGG Yearbook and will be mailed to the Adhering Organizations, National Committees, international partners, and major libraries in June 2011.

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## 2. Position Statements of the Candidates for the IUGG Bureau (2011-2015)

Each candidate for the IUGG Bureau for 2011-2015 released a position statement. The statements together with their CV can be viewed at the IUGG web-page:

<http://www.iugg.org/nominations/FinalSlate.php>.

The candidates for the Bureau are listed below:

<u>President:</u>	Harsh Gupta (India, IASPEI) David Jackson (USA, IASPEI)
<u>Vice-President</u>	Michael Sideris (Canada, IAG) Guoxiong Wu (China, IAMAS)
<u>Treasurer</u>	Aksel W. Hansen (Denmark, IAMAS)

### Bureau Members (*Positions #1, #2, and #3*)

Isabelle Jane Ansorge (South Africa, IAPSO)  
Jaime Urrutia Fucugauchi (Mexico, IAGA)  
Pierre Hubert (France, IAHS)  
Kenji Satake (Japan, IAPSO/IASPEI)

The election will take place on 6 July 2011 at the IUGG Council Meeting.

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## 3. News from the Melbourne General Assembly

Over 3300 registered people so far, over 2200 oral and 750 poster presentations, 12 Union and more than 200 scientific sessions makes the IUGG General Assembly one of the most attractive international geoscience events in the southern hemisphere for the last decade.

The preliminary Scientific Program of the XXV General Assembly of IUGG is now available on the website: <http://www.iugg2011.com/program.asp>. The final Scientific Program will be available on the website early June.

Union Plenary Speakers are listed at <http://www.iugg2011.com/speakers.asp> and the abstracts of their talks at [http://www.iugg2011.com/pdf/IUGG\\_UnionSpeakersAbstracts\\_revAIZ.pdf](http://www.iugg2011.com/pdf/IUGG_UnionSpeakersAbstracts_revAIZ.pdf).

The schedule for administrative (business) meetings of the Union and the IUGG Associations is available on the website: <http://www.iugg2011.com/program-business-meetings.asp>.

A list of the Workshops can be found at <http://www.iugg2011.com/program-workshops.asp>.

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## 4. Report on the Meeting of the Austrian National Committee for Geodesy and Geophysics

The members of the Austrian National Committee for IUGG (ONK) gathered on 14-15 April 2011 at the Conrad Observatory (COBS) of the Central Institute for Meteorology and Geodynamics (ZAMG) for their annual meeting at the invitation of Wolfgang Lenhardt (Austrian national representative to IASPEI). Roman Leonhardt, head of COBS, welcomed the members of ONK and gave an outline of the COBS history and the Observatory's aims and presented the geophysical and geodetic instruments that have been set up so far at COBS. The guided tour included a visit to the heart of COBS, a tunnel of 150 meters equipped with a whole variety of instruments: several

seismometers, borehole seismometers, superconducting gravimeter GWR C025, absolute gravimeter FG5 and some others. A GNSS-Permanent Station of the European Permanent Network (EPN) of EUREF operated by the Federal Office of Metrology and Surveying (BEV) in Vienna is situated near COBS. Apart from the seismic observatory, several geomagnetic sensors are being installed at the Conrad Observatory. The new part of the Observatory is currently at the final stage of its construction and will boast a tunnel that will finally have a length of 400 meters.



*From the left to the right: W. Lenhardt (IASPEI), G. Kaser (IACS), N. Höggerl (IAG, ONK Secretary General), A. Ismail-Zadeh, B. Leichter (IAGA), H. Schuh (IAG, ONK President), G. Duma (IAGA), R. Leonhardt (the meeting host)*

During the ONK meeting the following topics were addressed: Preparation of the IUGG General Assembly 2011 in Melbourne; ONK membership; information exchange. The Austrian National Committee was very pleased to welcome Alik Ismail-Zadeh, IUGG Secretary General, to this meeting, which was a perfect platform for the exchange of valuable information between the members of the different associations of IUGG in a very relaxed atmosphere. Recent natural disasters have clearly shown that the regular exchange of information and results achieved in various fields of geosciences are indispensable for research on climate change and natural hazard mitigation and prevention.

More information about the Conrad Observatory and the ONK meeting can be found at the following web-sites:

[http://www.zamg.ac.at/conrad\\_observatory/index.htm.en](http://www.zamg.ac.at/conrad_observatory/index.htm.en)

<http://www.bev.gv.at>

<http://www.oegk-geodesy.at/austria/index.html>

Received from Norbert Höggerl, ONK Secretary General

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## 5. Report on the ENHANS Project Meeting “Natural Hazards and Disaster Risks in the Middle East Region”



### Extreme Natural Hazards and Societal Implications (ENHANS)

sponsored by ICSU and co-sponsored by AGU, GOOS, IGU, IRDR, ISPRS, IUGG, IUGS, IUTAM

Today a single extreme natural event in the Middle East may take up to a hundred thousand lives; result in material damage up to billions of dollars, and cause a chain reaction including economic depression, ecological catastrophe, significant damage to a megacity, and disruption of the military balance in the region. The scientific session as a part of the ICSU project “Extreme Natural Events and Societal Implications” (<http://www.enhans.org>) provided an opportunity to discuss and to analyse topics related to extreme natural events and disaster risk management in the Middle East region and to present methodologies and technologies suitable for hazard and risk analysis and disaster management.

The session was chaired by *Alik Ismail-Zadeh* (ENHANS project leader), who introduced the ENHANS project and presented the first results of the project. *Jane Rovins*, Executive Director of the IRDR International Program Office gave a talk on the ICSU-ISSC-UNISDR scientific program “Integrated Research on Disaster Risk” highlighting recent developments and the preparation of the IRDR Conference in Beijing in 2011 (<http://www.irdrinternational.org/conference2011.php>). Four invited speakers presented the state-of-the-art knowledge and research on the topics in the Middle East region.

*Mohsen Ghafory-Ashtiany* (International Institute of Earthquake Engineering and Seismology, Tehran, Iran) presented a talk on the topic of natural hazard and risks in Iran and on the experience in risk reduction capacity building in the country. He specifically emphasized the roles of vulnerability, rapid growth of population, and incompatible urban development with respect to exposed hazard levels in research on disaster risks. *Cuneyt Tuzun* (Bogazici University, Istanbul, Turkey) presented a new project EMME (Earthquake Model of Middle East Region) for the assessment of hazards and risks. The region under consideration involves the world’s most populated capitals and cities with key economic importance such as Istanbul, Baghdad, Tehran, Jeddah, Riyadh, Cairo, Kabul, Karachi and Lahore. The EMME project aims at the assessment of seismic hazard, the associated risk in terms of structural damages, casualties and economic losses and also at the evaluation of the effects of relevant mitigation measures in the Middle East region in concert with the aims and tools of the Global Earthquake Model Project. *Abdulaziz Al-Bassam* (King Saud University, Riyadh, Saudi Arabia) discussed various types of natural hazards in Saudi Arabia, such as earthquake and volcanic hazards, floods and heavy rainfall, landslides and dust storms. He mentioned that different government agencies and various universities concentrate their efforts on the issues of mitigation of natural hazards and on education of population of the country. *Tarek Merabtene* (University of Sharjah, Dubai, United Arab Emirates) spoke about flood risk management in the North Africa and the Middle East Region (MENA region). In recent years, flash floods in many different countries of MENA region have caused loss of life, social disturbance of business and livelihood and large economical damages to private and public assets. Tarek Merabtene emphasized the institutional deficiencies behind the current situation and discussed various strategic measures in the direction of mainstreaming flood risk management high in the political agenda of MENA countries.



The general discussion revealed a need for international cooperation in the region and for setting up a core group of experts dealing with natural hazards and disaster risk research in the Middle East.

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## **6. IUGG awarded an ICSU Grant**

The International Council for Science (ICSU) announced the 2011 awardees to be funded from the ICSU Grants Programme. The project proposal “eGYAfrica - better Internet connectivity for research and education institutions in Africa”, submitted by IUGG, has been awarded EUR 20,000. The project is supported by the International Union of Geological Sciences (IUGS), the ICSU Committee on Data for Science and Technology (CODATA), and the ICSU Regional Office for Africa. The ultimate goal of eGYAfrica is to help make African communities wealthier, safer, and more sustainable through full participation in the information revolution. The specific objective is to reduce the digital divide through better Internet access for scientists (and others) in Universities and similar research and education institutions in Africa. The tactical objective is to mobilise and empower the user community in African countries to influence decisions about Internet resource allocation at institutional, national, regional, and international levels. The end result sought is fuller participation by Africans scientists in main-stream research and education. The bulk of the proposed grant is for a 2012 eGYAfrica Workshop and planning meeting. The aim of the Workshop is to review and revise goals, work plans, and task allocations; heighten the common sense of purpose among eGYAfrica participants; strengthen and expand national eGYAfrica groups, and further collaboration with other organisations also concerned with reducing the digital divide in Africa. This Workshop and participation in other meetings/conferences will also raise awareness of the digital divide issue and what eGYAfrica and others are doing about it.

In 2011-2012 IUGG will be also involved in the TIERS project awarded by a 2011 ICSU grant and led by the International Geographical Union. The Trans-disciplinary Intercultural Ecological Research for Sustainability (TIERS) project will identify, collate, compare, and disseminate examples of integrative research on coupled social/natural systems and their applications to environmental policies from a broad array of cultures and traditions. A mix of young and seasoned scholars from different language and culture realms, from the natural, behavioural, and social sciences and from engineering and the humanities will meet for four days to present the latest relevant research in their respective specialties to environmental policy makers. The papers and conclusions from the conference will be reported in a special issue of a major environmental journal and will buttress ICSU-ISSC plans for a decade devoted to global sustainability research. Teaching modules based on the conference presentations will be prepared for use in schools.

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## **7. News from the International Council for Science (ICSU)**

### ***30th ICSU General Assembly***

The International Council for Science will hold its 30th General Assembly from 26 to 30 September 2011 in Rome, Italy. This event is being hosted by the ICSU National Scientific Member in Italy, the National Research Council (Consiglio Nazionale delle Ricerche, CNR). The formal opening of the 30th General Assembly will take place in the evening of 27 September and the Assembly will conclude in the evening of 30 September. Associated Meetings will be held prior to and immediately after the General Assembly. The General Assembly and Associated Meetings will be held at the headquarters of the Food and Agriculture Organization of the United Nations. More information: <http://www.icsu.org/general-assembly>

### ***Global Environmental Change Programmes Appoint New Scientific Chairs***

New Scientific Committee chairs have been appointed to two of ICSU's global environmental change programmes: the International Human Dimensions Programme on Global Environmental Change (IHDP) and the International Geosphere-Biosphere Programme (IGBP). Sir Partha Dasgupta has been appointed Chair of the IHDP Scientific Committee, succeeding Oran Young who served as chair of the Scientific Committee from 2006 to 2010. James Syvitski has been appointed chair of the IGBP Scientific Committee and will succeed Carlos Nobre on 1 January 2012. The appointments were made by the programme sponsors—ICSU for IGBP and ICSU, ISSC and UNU for IHDP—and come at a time of rapid change within the global environmental change landscape.

### ***Global Data for Global Science***

The World Data System Scientific Committee will hold its first Conference “Global Data for Global Science” in Kyoto (Japan), 3-6 September 2011. This will be the international gathering of the WDS community; a perfect occasion to launch this ambitious programme and a unique opportunity to share experiences and achievements, and to promote the importance of data management and long term data stewardship. The ICSU World Data System (WDS) was established through a decision of the 29th ICSU General Assembly in October 2008 and is guided by the following strategic vision: “...WDS will support ICSU's mission and objectives, ensuring the long-term stewardship and provision of quality-assessed data and data services to the international science community and other stakeholders.” More information: <http://wds-kyoto-2011.org/>

### ***Visioning: Towards a New Initiative for Global Sustainability Research***

The Earth System Visioning process concluded in February with participants at the third and final meeting agreeing on key elements for a new initiative that will address the Grand Challenges for Earth System Science – delivering knowledge to enable societies to meet their sustainable development goals in the next decade. The initiative will be a joint integrated research strategy that is expected to unify most of the existing global environmental change research structures (including Diversitas, IGBP, IHDP, ESSP and possibly some components of WCRP), and fully engage START. The development of the initiative has entered a fast-moving phase that will see the current research structures transition to the unified framework. A Transition Team will be established to guide the development process in the lead-up to the two-stage launch in 2012 – at the Planet Under Pressure conference in March and the UN Conference on Sustainable Development (Rio+20) in June. More than 40 participants from around the world convened for the visioning meeting; debating and discussing three main areas: framing the initiative, design criteria and goals.

Source: ICSU Insight Newsletter (April 2011)

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## **8. Report on the IAVCEI-WMO workshop on Ash Dispersal Forecast and Civil Aviation**

The regulatory response to the 14 April 2010 Eyjafjallajökull eruption (Iceland) resulted in severe disruption to air traffic. By 21 April, the UK Civil Aviation Authority (CAA) and Eurocontrol had pioneered a new way to manage the crisis based on ash concentration thresholds defined by engine manufacturers. Both the initial zero ash tolerance approach by ICAO and the new ash concentration thresholds, used by the UK MetOffice and currently under discussion within ICAO, require robust ash dispersal forecasting based on the combination of Numerical Weather Prediction (NWP), Volcanic Ash Transport and Dispersal Models (VATDM) and ash cloud data acquisition. The new

ash concentration thresholds require more accurate information on the ash mass in the eruption since downwind concentrations depend on the source.

At the occasion of the 5th International Scientific Workshop on Volcanic Ash (Santiago de Chile, March 2010), the joint WMO-IUGG Volcanic Ash Scientific Advisory Group (VASAG) was proposed to be set up. Both the IUGG Executive Committee and WMO Executive Committee-LXII endorsed the initiative. IAVCEI, as an IUGG Association dealing with volcanology, hence became a natural player in the WMO-IUGG long-standing cooperation.

The first IAVCEI-WMO Ash Dispersal Forecast and Civil Aviation Workshop aimed to produce a consensual document describing the characteristics and range of application of different VATDMs, identifying the needs of the modelling community, investigating new data-acquisition strategies and discussing how to improve communication between different disciplines, researchers and operational institutions to improve volcanic ash transport and dispersion model forecasts. The Workshop was held at the WMO Geneva Headquarters under the sponsorship of the Faculty of Sciences of the University of Geneva, the International Association of Volcanology and Chemistry of the Earth's Interior - IAVCEI (a Scientific Association of IUGG), and Canton of Geneva, and organized by scientists from the University of Geneva (Switzerland), the Barcelona Supercomputing Center (Spain), the Aeronautical Meteorology Division of the World Meteorological Organization (WMO), and the British Geological Survey (U.K.). Fifty-two volcanologists, meteorologists, atmospheric dispersion modellers, and space and ground-based monitoring specialists from 12 different countries were gathered (attendance by invitation only), including representatives from 6 Volcanic Ash Advisory Centers (VAACs) and related institutions. As a main conclusion of the Workshop, model developers, meteorologists, volcanologists and stakeholders need to work closely together to develop new and improved strategies for ash dispersal forecasting and, in particular, to improve the definition of the source term; to design models and forecasting strategies that can better characterize uncertainties; to explore and identify the best ensemble strategies that can be adapted to ash dispersal forecasting; to identify optimised strategies for the combination of models and observations; and to implement new critical operational strategies. More information is available at the website: [www.unige.ch/hazards/Workshop.html](http://www.unige.ch/hazards/Workshop.html)

Received from C. Bonadonna, A. Folch, S. Loughlin, and H. Puempel,  
co-organisers of the Workshop

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## 9. Research Urgencies in the Polar Regions

This two-day symposium will be held in the historic city of Sienna, Tuscany, on 23 and 24 September 2011. It will address all aspects of polar science, with a focus on the functioning of the Earth System in the Arctic and Antarctic, the major drivers of pervasive change and the as yet unaddressed research issues in these regions. These global issues will be considered in the polar regions within the context of the ICSU Grand Challenges and the research priorities of the Scientific Committee on Antarctic Research (SCAR), the International Arctic Science Committee (IASC), the International Association of Cryospheric Sciences (IACS) of IUGG, and other ICSU Unions and Interdisciplinary Scientific Bodies with interests in polar sciences.

Identifying and acting on the grand challenges for 'global sustainability' research and transferring scientific outputs into reliable short-medium term advice for decision makers will be increasingly critical over the coming decades. This applies in Polar Regions as much as for other parts of the Earth. But in the polar regions the ICSU co-sponsored International Polar Year 2007-2008 has heightened public awareness of environmental issues and has opened a dialogue with policy makers

to find sustainable solutions in the face of unprecedented and rapid change. This Symposium is sponsored by the ICSU organisations SCAR, IASC and IACS; supported by PNRA/MIUR, CNR Italy; and hosted by the University of Sienna. Full information is available at: [http://www.mna.it/english/News/ICSU\\_symposium](http://www.mna.it/english/News/ICSU_symposium).

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## **10. IUGG-related meetings occurring during June – August 2011**

A calendar of meetings of interest to IUGG disciplines (especially those organized by IUGG Associations) is posted on the IUGG web site (<http://www.IUGG.org/calendar>). Specific information about these meetings can be found there. Individual Associations also list more meetings on their web sites according to their disciplines.

### ***June***

- 5-8, IAHS, Golden, CO, USA, MODFLOW and More 2011: Integrated Hydrologic Modeling
- 8-10, CTBTO, Vienna, Austria, Science & Technology Conference
- 14-17, IAHS, Padova, Italy, 5th International Debris Flow Hazards Mitigation Conference

## **27 June - July 8, IUGG, Melbourne, Australia, XXVth IUGG General Assembly**

### ***July***

- 10-15, SCAR, Edinburgh, Scotland, UK, 11th International Symposium on Antarctic Earth Sciences
- 17-22, AGU, St. John's, NL, Canada, Chapman Conference: Dynamics of the Earth's Radiation Belts and Inner Magnetosphere
- 20-27, INQUA, Bern, Switzerland, XXVIII INQUA Congress

### ***August***

- 8-12, IAMAS, Rio de Janeiro, Brazil, 14th ICAE Conference
  - 23-26, IASPEI, Santa Barbara, CA, USA, 4th IASPEI International Symposium: Effects of Surface Geology on Seismic Motion
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End of IUGG Electronic Journal Volume 11 Number 6 (1 June 2011)

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**Note: Contributions to IUGG E-Journal are welcome from members of the IUGG family. Please send your contributions to Alik Ismail-Zadeh by e-mail (insert in Subject line: *contribution to E-Journal*). The contributions will be reviewed and may be shortened by the Editor.**