

Minutes

ICSU GeoUnions Meeting

Sunday, 28 April 2013, 9:00 - 18:00

Venue: Maison de la géologie, 77 rue Claude Bernard, 75005 Paris, FRANCE

Present: Ron Abler (IGU, Past President (PP); Chair of the GeoUnions Joint Board); Orhan Altan (ISPRS PP; ICSU Executive Board Member); Allan Chivas (INQUA PP); Ian Corbett (IAU Past Secretary General (SG)); Harsh Gupta (IUGG President (P)); Lena Halounova (ISPRS Congress Director); Alik Ismail-Zadeh (IUGG SG; Vice Chair of the GeoUnions Joint Board); Vladimir Kolossov (IGU P); Ian Lambert (IUGS SG); Francois Lefevre (URSI PP); Mike Meadows (IGU SG); Stephen Nortcliff (IUSS Past SG); Roland Oberhänsli (IUGS P); and Phil Wilkinson (URSI P).

Guests: Jean-Paul Cadet (Honorary President, Commission for the Geological Map of the World; host); Gordon McBean (ICSU President-Elect; attended from 9:00 to 12:00); Howard Moore (ICSU Senior Advisor; attended from 9:00 to 12:00); Jane Rovins (Executive Director, Integrated Research on Disaster Risk (IRDR); attended from 9:00 to 12:30); and Steven Wilson (ICSU Executive Director; attended from 9:00 to 10:30)

Ron Abler chaired the meeting. Alik Ismail-Zadeh took the Minutes.

Jean-Paul Cadet welcomed all participants of the meeting at the Maison de la géologie and wished a fruitful meeting. He presented two maps, “International Chronostratigraphic Chart (version 2013/1)” and “A 3D model of the World’s geology”, to each participant as a gift.

1. Tour de Table

Participants introduced themselves.

2. Approval of the Agenda.

Harsh Gupta proposed to consider outcomes of the meeting by the end of the meeting.

3a. Communication between ICSU and GeoUnions

Steven Wilson was invited to present his view on the topic. He thanked GeoUnions for the letter sent to the ICSU President and mentioned that this letter was well received by the Executive Board and intensively discussed before the reply sent by Prof. Lee, ICSU President. Communication should be certainly enhanced. Gordon McBean discussed about the impact of ICSU, that ICSU mobilizes scientists to multidisciplinary research of major societal importance. Meanwhile the visibility of ICSU and its recognition by the world policy makers should be improved. Orhan Altan supported the statement of Steven Wilson that the letter from GeoUnions made a good impact at the Executive Board. He mentioned that cooperation among GeoUnions is quite strong. Harsh Gupta mentioned that selections to the ICSU committees and new programmes in ICSU are still not transparent which generate some concern. The communication between the Secretariat and the Unions should be improved. Phil Wilkinson discussed about communication of Unions and the national member countries, about the important role of the ICSU Unions, and about lack of information from ICSU. Steven Nortcliff mentioned that a positive aspect of the ICSU activities is that it looks up and broad rather than down and narrow. Another point was that ICSU should try to convince the academic institutions (universities etc.) regarding the importance of ICSU and its activities; little is known about ICSU in the academic world. Ian Corbett mentioned that the

GeoUnions advanced significantly for the last 9 years. IAU develops well and believes that a membership in ICSU is quite valuable. Meanwhile ICSU has little visibility. He asked to whom does ICSU talk about? Gordon McBean mentioned that ICSU should find ways of better communication to the media. Steven Wilson invited GeoUnions to send him hardest (strongest) evidence of involvements of the Unions in ICSU. We all should think about the health of ICSU structures. A low involvement of early career scientists in the ICSU activities was also discussed.

3b. Role of Unions in ICSU interdisciplinary bodies

Steven Wilson mentioned that interdisciplinary bodies (IBs) of ICSU are doing significant research. There was a brief discussion about the involvement of Unions in IBs. Alik Ismail-Zadeh noted that some IBs lose their cooperation with ICSU Unions once they are well established. There should be a mechanism developed to strengthen cooperation between Unions and IBs. Phil Wilkinson made a comment that as ICSU develops its various initiatives, it also needs to make it clear what its exit strategy will be.

3c. ICSU Grant Programme

There was a short discussion how the programme encourages Unions, IBs and National Members to develop new initiatives in a multidisciplinary arena. Also it was expressed that the increase of funding per project could extend the projects to 2 years with more significant outcomes. It was discussed that the ICSU Grant Programme provides a chance for GeoUnions to develop joint proposals and to work together in the case of successful applications.

3d. Future Earth: What we know about this Program and how to be involved?

Gordon McBean stated that the new high-level major program of ICSU is aimed at an integrated and solutions-oriented research and will consider topics related to global environmental change and sustainability. It should develop outstanding science and broad international cooperation. Steven Wilson informed that Future Earth received 134 outstanding nominations for the Science Committee. These nominations were narrowed down to a shortlist through several rounds of evaluation, by a joint ICSU/ISSC selection panel. The panel was delighted to see such a strong line-up of candidates, which made their task tough but rewarding. Based on this evaluation, the ICSU Executive Board and ISSC Executive Council are currently considering and agreeing the proposal for chairmanship and committee membership. Once agreed, the proposal will be forwarded to the Science and Technology Alliance for Global Sustainability for endorsement. The final membership will be announced soon. The Committee will consist of 18 members. Harsh Gupta emphasized the importance of the topic of resources to be included in Future Earth. Also he mentioned that ICSU tries to place the program on the shoulders of the Regional Offices, but it seems that the regional offices are overloaded by various projects and with a limited number of staff members. Vladimir Kolossov mentioned that Unions of ICSU should be incorporated into the activities of Future Earth. Alik Ismail-Zadeh mentioned that many scientists are not aware about this program, and at Town Hall meetings at the AGU Fall Meeting in December 2012 and at the EGU GA in April 2013 made not a great impact on the understanding of the program by scientists. Meanwhile, he mentioned that Future Earth is still unfocused in a sense of topics to be considered and funding available for the research. The Belmont Forum already initiated the first call in October 2012 without wide announcement of the program. Stephen Nortcliff mentioned that outreach is quite important for Future Earth. Ron Abler indicated that tomorrow at the Unions meeting the topic of Future Earth is a principal one, and we should discuss about what Future Earth should not do and also discuss about the responsibilities of the ICSU Scientific Unions with respect to the program.

4a. Minutes of the Meeting held in Istanbul, 28-29 April 2012

The Minutes were approved with no changes.

4b. Review of major actions

Action 5 from the previous meeting “Orhan Altan to prepare a proposal outlining ideas for a GeoUnions Joint Board which would be considered at the next meeting in Paris in 2013” was postponed until the next meeting of GeoUnions.

5. Report from IRDR (Integrated Research on Disaster Risk)

Jane Rovins reported on the recent IRDR activities. Particularly, she presented the project on Assessment of Integrated Research on Disaster Risk (AIRDR), which is designed to undertake the first systematic and critical global assessment of integrated research on disaster risk. The goals of AIRDR are to: (i) provide a baseline of the current state of the science on integrated research on disaster risk to measure the effectiveness of multiple programs; (ii) identify and support a longer-term science agenda for the research community and funding entities; (iii) create a mechanism for substantiating advances in the scientific evidentiary basis for supporting policy and practice. Alik Ismail-Zadeh expressed a concern that the core group members of the AIRDR project are all social scientists, and suggested to include natural scientists in the core group. Jane mentioned that a joint effort between IUGG and IRDR was made to raise an initiative on setting up an intergovernmental panel on disaster risk assessment (similar to IPCC and IPBES).

6. Working together toward an intergovernmental panel/platform on disaster risk assessment

Alik Ismail-Zadeh reported on the developments of the initiative. IUGG proposed at the ICSU GA that ICSU together with existing relevant bodies of the United Nations and international institutions (UNESCO, UNISDR, UNDP, UN-SPIDER, WMO, World Bank and others) start negotiation on setting up a high-level inter-governmental body of experts (Panel, Platform) on disaster risk assessment. The Panel will develop a process of assessing and synthesizing the policy-relevant results of peer-reviewed published research on (i) the understanding of the natural phenomena and the social vulnerability associated with disasters; (ii) the capability of predictive systems to disseminate timely and accurate information needed for policy and decision making; methodologies and approaches for reducing vulnerability and increasing resilience of societies; and (iii) the overall ability of societies to reduce risk (prevent, mitigate and prepare for the increasing impact of natural events). The assessment would contribute to enhance the knowledge of disaster risk at global, regional, and local levels and the awareness of the people living with risk.

The idea was discussed during his presentation of the ENHANS project at the IRDR meeting at the ICSU Secretariat in Paris in 2010. The idea was further discussed and refined during interactions with many experts including members of the IRDR Scientific Committee. IUGG discussed at the 2011 GeoUnions meeting in Rome a proposal on submission of a resolution on the topic, and this proposal was supported by GeoUnions (at least, there were no objections). During the General Assembly of ICSU Jane Rovins (IRDR Executive Director), Salvano Briceno (incoming Chair of IRDR SC and former Director of the UNISDR Secretariat), Gordon McBean (former IRDR Chair and candidate for the ICSU President-elect position), Harsh Gupta (IUGG President), and Alik Ismail-Zadeh (IUGG Secretary General) prepared a resolution to be tabled at the 2011 ICSU General Assembly (GA). Harsh Gupta submitted this resolution to the ICSU Resolution Committee in due time, and A. Ismail-Zadeh was given a chance to present the resolution at the GA. Unfortunately, because of the strict ICSU procedures related to resolution submissions, the resolution was not accepted, and the ICSU President Catherine Brechignac decided to forward the draft resolution for consideration by the new Executive Board of ICSU.

During the 2011 ICSU GA, Alik Ismail-Zadeh met Gretchen Kalonji, Assistant Director General for Natural Sciences of UNESCO, and discussed briefly the initiative and potential interest of UNESCO to be involved in setting up such a panel. Kalonji invited Ismail-Zadeh to UNESCO for negotiations. On 11 July 2012, Alik Ismail-Zadeh met Gretchen Kalonji and the Director of the UNESCO Unit for Natural Disasters Badaoui Rouhban (retired now) in Paris. During the meeting, it was mentioned that (i) IUGG

and IRDR proposed a resolution at the ICSU General Assembly, but was not accepted due to regulations related to resolutions submission. (ii) IRDR should be a primary international scientific body in this development (and should perhaps play a role similar to WCRP for IPCC) and hence be indeed one of the essential Partners in this development. It was also discussed that IRDR initiates a new program AIRDR related to assessment of disaster risks, and definitely the Scientific Committee of IRDR composed of high-level experts in the field of disaster risk research could significantly contribute to the research and assessment of disaster risks. Meanwhile there is a concern with potential future implementations of the recommendations by the AIRDR program, as an opinion from independent scientists is not much appreciated by governments. The case of IPCC shows clearly that only an inter-governmental body with a relevant mandate can influence governmental decisions, and at least a part of the IPCC recommendations are or will be implemented. Both Kalonji and Rouhban expressed their interest in the initiative. Rouhban mentioned that the initiative should be supported by several nations. Also it was mentioned that it would be important to present the initiative at the *Third United Nations World Conference on Disaster Reduction* in 2015. Also Rouhban mentioned that he will retire from UNESCO by autumn 2012 but would be interested in cooperation on this project.

On 20 February 2013, Alik Ismail-Zadeh met Alexandros Makarigakis, Chief of Unit a.i., Cross-Cutting Thematic Unit on Disaster Risk Reduction to introduce to him the initiative. He was quite positive and promised to promote the initiative in UNESCO. Jane Rovins informed the participants that she has an appointment with Makarigakis on 29 April 2013 to discuss AIRDR and the initiative on intergovernmental panel.

Howard Moore emphasized the importance of supporting the initiative by countries. Gordon McBean reminded that a similar initiative had already been proposed a decade ago (Burton, I., The intergovernmental panel on natural disasters (IPND), *Environmental Hazards*, 3, 139-141, 2001). Some countries were not supportive of the initiative. However after a major disaster (the 2004 Indian Ocean tsunami) countries and the U.N. changed their minds. The Hyogo Framework for Action (2005-2015) was approved as a 10-year plan to make the world safer from natural hazards. Orhan Altan suggested linking this initiative to other stakeholders and the Belmont Forum funding agencies. Harsh Gupta suggested forming a small group of experts to prepare a document describing the strategy of the initiative. The names proposed: Irasema Alcántara-Ayala, Orhan Altan, Alik Ismail-Zadeh, Howard Moore, and Jane Rovins.

7. Future of scientific publications

Phil Wilkinson suggested that the GeoUnions discuss important issues related to the future of scientific publications. Over the last 10 years scientific journals have adopted various forms of electronic delivery. This has the potential to make the journals more widely available to an expanding science community. However, it will cost money if it is to be sustained into the future. This is a complex topic with many opinions involved. Unfortunately, many of those opinions are not based on facts but on desires, and the modern tendency is to believe that if it is on the Web, it doesn't cost anything and it should be free. The truth is that good Web-based publishing probably costs about as much as good print publishing.

Both the move from electronic delivery and the issues of open access are new. For over a century, publishers have used one basic model: delivery in print with revenue via subscription. There are at least two fundamental aspects in accessing publications. The first is the business model. These days, that basically comes down to a subscription-based model versus author-pays open access. There are advantages and disadvantages to both, from the publisher's viewpoint, from the author's viewpoint, and from the user's viewpoint. However, with electronic delivery, subscription revenues have decreased dramatically putting pressure on how these interests are balanced.

There are those who argue that open access is preferable for both authors and users. However, they usually are thinking more about the users, and have no understanding of the implications for the scientific organizations that do the publishing, or, in many cases, for the authors. Open access has shifted the business model from a subscription model (user pays) to an author-pays model. Part of the problem with the author-pays model is that it is a one-time, up-front payment: there is no continuing subscription revenue stream, as in the past. The result of all of this is that publishers are in totally uncharted waters as

regards what constitutes a sustainable business model. They are therefore experimenting with all sorts of variations. One aspect of this is to offer subscription packages intended to attract and maintain subscribers. The problem is that they usually don't know what mix of packages will be most successful. In short, they are experimenting – in many cases, with factors that affect their very ability to exist. Publishing companies may make a financial decision to exit the science publishing arena, other groups, for instance non-profit scientific organizations may not survive.

The second aspect is content delivery. This is not just a matter of print versus digital. There is also a significant issue involving various forms of digital delivery, and what can be done with the chosen digital formats. This includes a long-term archive role previously the domain of libraries. The scientific Unions need to be part of this decision process. We want a robust, sustainable scientific literature that is accurate, readily accessible, and provided by responsible publishers who are sensitive to the scientific communities' interests. Different disciplines, which are the Unions domain, may place different weights on aspects of the publication cycle. When compromise is required, as it will be during times of rapid change, we should be well enough informed about the processes and pressures to understand what is happening. It may be we should champion some of the less desirable short-term changes to our communities in the interests of sustaining long-term access to all scientific literature.

During discussion, Alik Ismail-Zadeh mentioned the problem of developing countries in the era of open-access electronic publications. Scientists from these countries will have significant difficulties to publish in open-access journals. Orhan Altan mentioned that ISPRS supports scientists from developing countries to get their papers published in the ISPRS open-access journal. Gordon McBean emphasized the archiving problem. He told that ICSU is considering the importance of this problem and will bring it forward. Ian Corbett spoke about electronic and open-access journals in astronomy; IAU digitized old issues of the Union's journals. Roland Oberhänsli mentioned that currently we faced with the diverse stocking of printed documents and we should consider that hardware and software were changing and this would create some problems for electronic publications in future. Orhan Altan talked about the importance of long-term archiving and data preservation. Also he proposed to prepare a White paper on the topic. Ian Corbett mentioned that only about 10% of published papers are being cited by others (Meho, L.I., The rise and rise of citation analysis, *Physics World*, 32-36, January 2007). He considers that the situation is far from optimal and there are simply too many papers being published. Gordon McBean indicated meanwhile that sometimes the work is not cited for years, but suddenly becomes highly cited (said that it happened with an article by one Nobel-prize winner).

Action: Orhan Altan proposed to set up a small group (chaired by Phil Wilkinson) to work on an Information report related to this topic, to be discussed at the next GeoUnions business meeting.

8. Scientific advice underpinning decision making

Ian Lambert presented his paper related to this topic. He mentioned the importance of scientific advice being taken into account in making decisions directed at meeting the needs of the rapidly increasing global population and the aspirations of developing nations, while sustaining Earth systems. However, this has not commonly been the case – it is at all too frequent complaint of scientists that their advice has not been sought, or has been ignored. Better community education and ubiquitous rapid communication are resulting in increasing questioning of what are perceived as poor decisions and policies. As a consequence, many governments and other key decision makers are now more amenable to supporting constructive proposals for provision of authoritative scientific and technical advice to guide their responses to major challenges. He discussed how effective mechanisms can be developed for provision of authoritative scientific and technical advice to decision and policy makers and illustrated this in relation to Australia where scientific inputs are now routine. It also emphasizes the need to ensure that all of the information and monitoring required for authoritative advice is available. He mentioned that the new program, Future Earth, would provide an excellent platform for international coordination and action to drive consideration of scientific advice, tempered by social and economic considerations, in addressing major challenges.

9. Updates from the Unions

IAU (presented by Ian Corbett)

- (1) XXVIII IAU General Assembly was held in Beijing, China, 20-31 August 2012. More than 3200 registered participants.
- (2) The International Astronomical Union (IAU), through its Office of Astronomy for Development (OAD), has established the three Task Forces, which will drive global activities using astronomy as a tool to stimulate development. These Task Forces are (i) Astronomy for Universities and Research, (ii) Astronomy for Children and Schools, and (iii) Astronomy for the Public.
- (3) Three new National Members were admitted to IAU: Democratic People's Republic of Korea, Ethiopia, and Kazakhstan.
- (4) The IAU's Office for Astronomy Outreach (OAO) began its operations. The National Astronomical Observatory of Japan in Tokyo hosts the office.

IGU (presented by Vladimir Kolossov)

- (1) The 32nd IGU International Geographical Congress was held in Cologne (Germany) from 26 to 30 August 2012. It was the largest congress in the almost 150-years history of International Geographical Congresses and gathered 2865 participants from 90 countries. The registration fee was not high (about EUR300) which included lunches.
- (2) Election of the 2012-2016 IGU President and Executive Committee Members: Vladimir Kolossov was elected IGU President. Secretary General Mike Meadows was re-elected.
- (3) The IGU awards are *Planet and Humanity Medal* and *Lauréat d'Honneur*.
- (4) One of the IGU's current key initiatives is an initiative on the International Year of Global Understanding. A report on IYGU will be presented later.
- (5) IGU Journal Database. There are many journals globally that deal with the broad church that is the discipline of Geography. In recent years the domination of major publishing houses in the scientific journal market has become much stronger and it is clear that many geographical journals are published that have a much lower profile and yet could provide a very valuable resource for geographers – researchers and teachers alike – in particular national or regional contexts. It was for this reason that the IGU embarked on a project to establish a searchable global database of geographical periodicals. Information, including contact details, impact factor (where appropriate) and website addresses of more than 1000 journals from more than 80 countries worldwide are now available online.
- (6) Sustainable Cities: The IGU 'OurSus' Project. Cities are growing everywhere, and as complex organisms, they are all different, yet face similar challenges in terms of sustainable features, such as green R&D, environment-friendly consumption, green campaigns, challenges, and education, etc. The IGU organized a group of volunteers to develop a global sustainable information network in order to tackle such challenges.
- (7) The main communication tools of the IGU are its quarterly newsletter, compiled by Vice-President Giuliano Bellezza and its website, maintained by Secretary-General Mike Meadows. Four issues of the new series of the e-Newsletter were published in 2012 and can be downloaded from the IGU website.
- (8) Forthcoming IGU Conferences: 4-9 August 2013, Kyoto, Japan Regional Conference; 18-22 August 2014, Krakow, Poland Regional Conference; and 20-26 August 2015, Moscow, Russia Regional Conference.

INQUA (presented by Allan Chivas)

- (1) Membership. INQUA has over 50 national and regional Members. In recent years INQUA has welcomed the following new or returning members to the INQUA fold: Argentina, Brazil, Belarus, Georgia, Hungary, Indonesia, Iran, Lithuania, Tunisia, Ukraine and WAQUA (Western

Africa). In addition, there are active negotiations concerning membership with another seven countries: Bulgaria, Chile, Mexico, Peru, Vietnam, Turkey, and Romania.

- (2) The goals of INQUA are achieved mainly through the activities of its five Commissions: Coastal and Marine Processes (CMP), Palaeoclimate (PALCOMM), Humans and Biosphere (HABCOM), Stratigraphy and Chronology (SACCOM), and Terrestrial Processes, Deposits and History (TERPRO).
- (3) INQUA submitted a successful application to ICSU for a project entitled “G@GPS-Africa: Long-term Recharge of Large Groundwater Basins”, with leader Sylvi Haldorsen, and supported by IUGS and IUGG.
- (4) Successful INQUA projects arranged a number of meetings in 2012/2013, some of which were co-operative ventures with other organizations. 28 projects will be supported by INQUA during 2013.
- (5) A regular briefing is sent to the National and Regional delegates of the International Council to keep them updated on business and proposals emanating from the work of the INQUA Executive Committee. These newly introduced briefings are intended to ensure that delegates are familiar with topics to be discussed at meetings of the International Council and to provide a conduit for delegates to raise important matters with the INQUA Executive Committee.
- (6) The INQUA web page <http://www.inqua.org/> is regularly updated and is visited by over 1400 people per month. It contains information on all aspects of the Union, including the INQUA brochure, names of all office bearers and National Members as well as INQUA’s newsletter (*Quaternary Perspectives*) and links to the journal (*Quaternary International*), Commission activities and INQUA projects.
- (7) INQUA has been fully engaged in the debate over the definition of the term ‘Quaternary’ and its geological meaning. The International Commission on Stratigraphy (ICS), a body of the International Union of Geological Sciences (IUGS) recommended that the Quaternary Period be defined as covering the past 2.6 million years of Earth history and that the Quaternary Period (and the Pleistocene Series) incorporate the Gelasian Stage previously ascribed to the underlying Pliocene Series. In June 2009 this position was formally ratified by the Executive Committee of the IUGS.
- (8) Other outputs include: (i) Publication of high standard scientific papers in *Quaternary International* and other journals; (ii) High standard projects in all scientific Commissions; (iii) Increased cooperation with other international scientific bodies, particularly other GeoUnions affiliated to ICSU; (iv) 10-20 international workshops are arranged each year by INQUA supported projects.

ISPRS (presented by Lena Halounova)

- (1) Joint IGU and ISPRS Seminar on Geo-frontier Understanding took place in Beijing on 15 March 2012; the organization was prepared by School of Geography, Beijing Normal University (BNU), and co-sponsored by IGU, ISPRS, and China Society of Geography (CSG). The major objective of this seminar was to discuss the basic issues of geo-frontier understating and promote inter-disciplinary collaboration among geography, Geomatics and international relations studies.
- (2) Working Group IV/8 (Technical Commission IV) hosted the 7th International Conference on 3D Geoinformation in Québec on 16-17 May 2012.
- (3) ISPRS co-organized the Training Course on Geospatial Open Source Software in the Regional Centre for Mapping of Resourcing for Development (RCMRD), Nairobi, Kenya on 20-24 August 2012.
- (4) ISPRS organized the XXII ISPRS Congress in Melbourne, which was attended by 1941 registered participants from 74 countries. 292 double-blind reviewed papers were published in Annals (peer-reviewed Congress proceedings) and 787 papers with reviewed Abstracts were published in Archives (Congress proceedings). The congress is a quadriannual action of ISPRS.

- (5) ISPRS publishes Journal of Photogrammetry and Remote Sensing, open-access International Journal of Geo-Information (IJGI), eBulletin – journal informing about the latest news of the society.
- (6) The Society web page: www.isprs.org, proceedings of WS and conferences are on <http://www.isprs.org/publications/archives.aspx>

IUGG (presented by Harsh Gupta)

- (1) IUGG established the Union Commission on Climatic and Environmental Change to promote scientific understanding of climatic and environmental change, to boost research in reducing uncertainties in climate and environmental models, and to define criteria for collaborative trans-disciplinary research on climate and environmental change. Also IUGG established the Working Group on History of Earth and Space Sciences to raise the historical consciousness of the Union Members and to spearhead the effort to commemorate the IUGG's 100th anniversary (to be celebrated in 2019).
- (2) The Kingdom of Saudi Arabia became an IUGG Member.
- (3) The International Association of Hydrological Sciences celebrated its 90th birthday.
- (4) Three Union Commissions of IUGG held conferences: CMG on mathematical geophysics (Edinburgh, Scotland, UK, 18-22 June), SEDI on structure of the Earth and deep interior (in Leeds, UK, 1-6 July), and GRCon Extreme Natural Hazards and Their Impacts (in Orange, California, USA, 8-11 December).
- (5) IUGG signed a Memorandum of Agreement with the Cambridge University Press to publish a series of works entitled “Special Publications of the International Union of Geodesy and Geophysics”. The series will be composed of high-quality books, which will review the present state-of-the-art developments, discoveries and/or perspectives in Earth and space sciences.
- (6) IUGG co-sponsored (US\$50,000 in total) fifteen scientific meetings (workshops, symposia, conferences) worldwide (<http://www.iugg.org/meetings/sponsored.php>) and six science education events (<http://www.iugg.org/publications/reports/education.php>). IUGG awarded five grants (US\$ 80,000 in total) to support scientific projects of importance to the international geophysical and geodetic community, which will explore new scientific ideas and develop future international initiatives.
- (7) IUGG continued to strengthen the cooperation with other International Scientific Unions and multi-disciplinary bodies of the International Council for Science (ICSU) as well as with the World Meteorological Organization (WMO), the United Nations Education, Science and Culture Organization (UNESCO), the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO), the American Geophysical Union (AGU), the Asia-Oceania Geosciences Society (AOGS), the European Geosciences Union (EGU), and some other international and intergovernmental organizations. Particularly, IUGG participated in the GeoUnions Joint Board Meeting (Istanbul, Turkey). IUGG co-sponsored the IRDR-IUGG joint workshop on FORIN (Forensic Investigation of Disaster).
- (8) IUGG endorsed the International Year of Deltas (IYD). The IYD calls for developing an effective paradigm of basic research in service to society that demonstrates the power of research to improve conditions in these focused hotspots of vulnerability and change: deltas around the world.
- (9) The IUGG Bureau met in Lauterbad, Germany, in October to discuss the Union business and activities in 2013. The IUGG Secretariat moved to Potsdam, Germany and is hosted by the GFZ-Potsdam. The full 2012 Annual Report of the International Union of Geodesy and Geophysics (104 pages) is available at <http://www.iugg.org/publications/reports/report2012.pdf>

IUGS (presented by Roland Oberhänsli)

- (1) IUGS develops geological conventions and standards and promotes their worldwide acceptance. It supports international and interdisciplinary scientific studies relevant to the entire Earth-system

and application of the results of these and other studies to (i) Preserving Earth's natural environment; (ii) Using all natural resources wisely; and (iii) Improving the prosperity of nations and the quality of human life. It does so mainly through its Commissions, Task Groups and Initiatives, as well as major joint initiatives with UNESCO – the International Geoscience Program (IGCP) and Geoscience Applications of Remote Sensing (GARS).

- (2) IUGS' major scientific forum is the International Geological Congress (IGC) and it publishes the journal EPISODES.
- (3) At the 34th IGC held in Brisbane in August 2012, which was attended by approximately six thousand delegates, IUGS Council endorsed an almost completely new Executive Committee (EC). The core Bureau comprises Roland Oberhaensli (President), Ian Lambert (Secretary General), and Shuwen Dong (Treasurer).
- (4) The EC is looking at new collaborative activities and strengthening existing programs. It has commenced scoping a major initiative – Resourcing Future Generations, which poses the question: What needs to be done now to help secure the resources that will be required by future generations? This will be collaborative with many groups and will supplement/complement a number of current and planned activities. It will have a strong capacity building component leading to enhanced knowledge of resource potential in under explored regions, particularly in less developed countries. This will be developed with a view to incorporation into the Future Earth program, being implemented by an alliance headed by ICSU.
- (5) The EC has endorsed in principle a major inter-IGC meeting in Vancouver in 2018, as proposed by Canada. It is proposed that this will involve other GeoUnions and will have a primary theme of Resourcing Future Generations.
- (6) IUGS is sponsoring a workshop to be held in conjunction with the G-EVER meeting in Sendai, Japan, October 2013, to which ICSU and its GeoUnions are invited (<http://g-ever.org/en/symposium/symposium2.html>). This workshop is aimed at identifying information gaps that are limiting prediction of areas where devastating tsunami are likely to occur – it will identify priorities for addressing gaps and how to fill these.

IUSS (presented by Steven Nortcliff)

- (1) World Soil Day and The Year of Soils. Following from my audience with the King of Thailand in April 2012 (reported at our meeting in Istanbul last year) when I presented the King with the Medal of '*IUSS Humanitarian Soil Scientist*', things have moved at a pace. In December 2012 at the meeting of FAO Council in Rome following a proposal from the Government of Thailand it was moved that December 5th should be declared World Soil Day. IUSS presented short statements at this meeting providing background to the establishment of World Soil Day at the World Congress of Soil Science in 2002 and also brief information about IUSS, its role in supporting and promoting world Soil Science and its links with other scientific communities. This proposal was carried and will be tabled at the UN General Assembly in September 2013. Subsequent to this meeting a further proposal has been made by FAO that the UN should designate 2017 as the Year of Soils. This proposal is in its early stages, but has already gained considerable momentum.
- (2) Global Soil Week. IUSS participated fully in Global Soil Week hosted by the Potsdam Institute for Advanced Sustainability Studies which was held in Berlin 18-22 November 2012. This meeting included a diverse mix of scientists, social scientists, policy makers and NGOs. There was a considerable degree of engagement with the general public through films, displays, debates, interviews and press and TV coverage. The consensus was that this was a successful meeting and there will be a similar meeting in October 2013.
- (3) Elected President. Following discussions with fellow ICSU GeoUnions, IUSS decided at our Council Meeting held in Brisbane in 2010 to separate the role of IUSS President from the hosting of the World Congress (in the past the President of IUSS and ISSS before was nominated by the country hosting the World Congress and served from the end of the previous Congress until the end of the Congress in his own Country (we have never had a female President!). In 2012 we

held our first election electronically and Professor Rainer Horn from the University of Kiel was successful; he will take up his position as President at the end of our World Congress of Soil Science to be held in Jeju, South Korea in June 2014. The President will serve a two-year term. This change will lead to a review of our current organizational structure in particular in relation to the roles of Secretary General and Deputy Secretary General. We may need to discuss with other Unions how they support their elected Presidents and the roles and responsibilities of other officers.

URSI

1. After the 2011 Istanbul URSI General Assembly our Long Range Planning Committee (LRPC) carried out a survey of around 1000 people who attended this assembly and others in the past to assess various aspects of the Assembly as well as some other initiatives of URSI. Over 200 people responded and 180 of these provided their email addresses for further follow-ups. The sample was divided into Young Scientist (YS) responses (under 36 at the time of the Assembly) and the rest and there was good agreement between the two samples, which gave us some confidence in the survey. The survey reinforced general thinking about how the Assembly should operate with good support for YS initiatives, with YS was more enthusiastic than the others, as you would hope. It also supports planned changes that will reinforce the current assembly processes.
2. After looking at the IAU membership, the URSI Board plans to develop an individual membership category based on professional development (probably the number of radio science related papers people have published). Membership will be linked loosely to the URSI Commission structure and it is hoped this will increase the pool of talent assisting URSI programs, increase the national visibility of URSI and provide concrete support for radio scientists in non-URSI countries.
3. The three-year URSI Assembly cycle leads to a loss of momentum, sometimes leading to initiatives failing. There is already a South-East Asian regional meeting (APRASC – Asia-Pacific Radio Science Conference) that takes place in the year before the Assembly. The Board is now planning to add a second regional meeting the year after the Assembly. This will increase the potential to follow through with initiatives. All URSI Commissions will be encouraged to participate in these science meetings.
4. URSI feels it is important to further increase the way it connects with Young Scientists. Although the current YS program is successful, it is difficult to measure retention rates and it is unclear that the current program is optimum since there is almost no input from YS to its operation. To increase YS input, each Commission will elect a YS to represent the Commission's YS interests. This YS group will offer guidance to the URSI Board as well as a YS perspective on URSI. This idea is still being fine-tuned.

10. Report on the International Year of Global Understanding

Vladimir Kolossov presented the report on behalf of Benno Werlen, Executive Director of the IYGU Initiative. One of the IGU's current key initiatives is to establish a UN International Year of Global Understanding (IYGU) in 2016. Global action towards resolving the problems arising from global social and climate change requires a global level of understanding. This initiative aims to bridge the gap in awareness between local actions and global effects. IYGU aims to facilitate understanding of global processes, to encourage everyone to make daily decisions in light of global challenges and to contribute to bottom-up initiatives that connect individual, local action to global sustainability. The IYGU intends to strengthen collaboration between natural, social, and cultural sciences, to identify how local actions yield results on a global scale, and to empower individuals to manifest local-scale change with global effects. It should enable people to move from simply knowing about sustainability to actually living sustainably. Human actions play a part in creating such worldwide challenges as climate change. However, human actions must also bring solutions. If individual people are aware of what their day-to-day routines mean for the planet, they can take appropriate action. Therefore, the IYGU prompts a transdisciplinary

perspective, starting from the logic of everyday actions rather than from traditional scientific disciplines, learning firstly how human actions produce ecological problems and then seeking appropriate science-based solutions. Consequently the IYGU focuses on actual embodied individual human activities performed by each person, each day, everywhere in the world. This IGU initiative has already obtained the support of ISSC, ICSU, and CIPSH as well as significant private sector partners. The project is being led by Professor Benno Werlen, chairperson of the IGU Commission on the Cultural Approach in Geography. More information about this is available at: <http://global-understanding.info/>. Rwanda agreed to act as applicant country and will submit the proposal to the UNESCO Executive Board in 2013.

11. Report on the International Year of Deltas (IYDs)

Alik Ismail-Zadeh presented the initiative on behalf of Efi Foufoula-Georgiou, a leader of the project. The establishment of the IYD is proposed as a call to arms to the global community to: (i) increase awareness and attention to the value and vulnerability of deltas worldwide; (ii) promote and enhance international and regional cooperation at the scientific, policy, and stakeholder level; and (iii) serve as a launching pad for a ten-year committed effort to understand these complex socio-ecological systems and ensure preparedness in protecting and restoring them in a rapidly changing environment.

The idea to establish the International Year of Deltas (IYD) was first proposed in 2010 in the “World Deltas Dialogue” in New Orleans. The support and interest was overwhelming and led to presentations and discussions in several meetings around the world. The rationale for such an International Year was further articulated in an EOS article (Foufoula-Georgiou, et al., *EOS*, 2011). Several international scientific unions and interdisciplinary bodies of ICSU and other scientific organizations have already endorsed the IYD idea. They are the International Union of Geodesy and Geophysics (IUGG) including two of its associations, the International Association of Hydrological Sciences (IAHS) and the International Association of the Physical Sciences of the Ocean (IAPSO) as well as IGU, INQUA, ISPRS, IUGS, IGBP, WCRP, the National Center for Earth surface Dynamics (NCED), the Community Surface Dynamics Modeling System (CSDMS), The Land-Ocean Interactions in the Coastal Zone (LOICZ) programme, and the American Rivers Foundation (see also www.iyds-2013.org).

A project proposal on deltas sustainability was submitted for funding, as a response to the first call of the Belmont Forum. Efi Foufoula-Georgiou requested formal ICSU support of the IYDs project.

12. Report on the VALID project

Orhan Altan presented the VALID project’s progress report. The Value of Geo-Information for Disasters and Risk Management is a program of the Joint Board of Geospatial Information Sciences (JBGIS) and UN Office for Outer Space Affairs / UN-SPIDER. A booklet on Risk Management was launched by JBGIS in July 2010 in Vienna. Orhan presented a hardcopy of this booklet, and it is free to download from the ISPRS website.

The results of the VALID project will be presented in September in Vienna at the Headquarters of the UN Office for Outer Space Affairs. There is a fee (EUR750) for the Unions to participate in writing 2 pages for the new booklet. Unions wishing to participate should contact Orhan Altan by the end of May 2013. Orhan Altan will send all necessary information in 2 weeks to the GUs Joint Board members.

13. ISPRS project proposal “Global Land Cover Information for Future Earth” (GLCi-FE)

Lena Halounova presented the project proposal submitted to the GeoUnions by the ISPRS President Chen Jun. The ICSU Strategic Plan 2012-2017 identified the Earth system science for global sustainability as one of its research priorities. The 2011 ICSU General Assembly in Rome had approved the establishment of a new 10-year research initiative, Future Earth (FE), which critically depends on reliable global spatio-temporal data and information. This proposed project will contribute to the FE initiative by: 1) exploring the potentials of land cover information at a global scale in the three research themes of FE, namely dynamic planet, global development and transformations toward sustainability; 2) identifying key gaps

and major challenges in providing reliable global land cover information (GLCi); and 3) developing a scientific vision towards future GLCi at high spatiotemporal resolution and its ubiquitous services. The project will also support young scientists and researchers from developing countries by exploring ways to help build their GLCi capacity and to share knowledge required for a variety of applications.

This proposed project aims at promoting the development, dissemination, and utilization of global land cover information at high spatio-temporal resolution for supporting long-term future earth research and applications. The project will be accomplished by realizing the following objectives: 1) Organize joint workshops to investigate the requirements of the Future Earth's three research themes (dynamic planet, global development and transformations toward sustainability) on reliable global land cover information; 2) Set up a special task force to review the availability and accessibility of current global land cover data/information, analyze the key gaps, identify major scientific challenges, and develop a research agenda for global land cover information research and service; 3) Establish international networks to link individuals and organizations that are involved in global land cover data/information services; and 4) Disseminate scientific results through the publication of 1-2 special issues in scientific journals, online news and conference reports and non-scientific news magazines, as well as booklet(s). This project will bring together experts from geomatics, remote sensing, computer science, environment science, climate change, and will be accomplished mainly through the following well-organized tasks including organization of workshops, committee works, international networking, and high-quality publications.

Major Planned Activities

- May-August 2014: Form team and engage supporting organizations through teleconferences
- August 2014: 1st Workshop (Ryerson University, Toronto), dialogue with Future Earth's committee members and key personnel, supporting organizations and associate partners
- December 2014: 2nd Workshop (TBA), dialog on review results, gaps and challenges identified and initial scientific research agenda
- April 2015: 3rd Workshop (TBA), dialogue with Future Earth's committee members and key personnel, supporting organizations and associate partners on project results
- May 2015: Final reporting

Potential Supporting Organizations could be: IGU, IUGG, GEO, OGC, ICSU Future Earth's Science Committee and Engagement Committee, IRDR, CODATA, ROAP, ROLAC, and others.

14. Urban Health / Scientific Data and Information

Due to lack of time and the fact that the topics will be discussed at the ICSU Scientific Unions Meeting on 29-30 April 2013, these two topics were not discussed at the GeoUnions meeting.

15. Earth Science Matters Foundation

The Earth Science Matters Foundation is an IYPE outcome. Through its strap-line: *bringing knowledge of the Earth to everyone*, the Earth Science Matters Foundation will spread knowledge of the Earth beyond the professional Earth scientific communities to a wider audience, including politicians, decision-makers, funding organizations, students and to the public at large. That will be achieved through publications, events, projects, the media and a variety of other communication tools. National Committees will play a key role in such outreach activities. As in the IYPE, the Earth Science Matters Foundation believes that knowledge of the Earth is essential to make our planet a safer, healthier and more prosperous place for future generations. The Earth Science Matters Foundation was registered on 17 December 2010, initially as The Planet Earth Institute and is based at Wageningen University and Research (WUR) in Wageningen, The Netherlands. (Source: the Earth Science Matters website).

Vladimir Kolossov informed the participants that Ed de Mulder, Executive Director of the Earth Science Matters, asked him to raise at the GeoUnions meeting a point regarding a support of the Foundation.

After discussion, it was decided that it is premature to consider this point until the scope and activities of the Foundation are clearly identified.

16. Web page of the GUs Joint Board

Alik Ismail-Zadeh presented a prototype of the web page, which could include the information on the GeoUnions Joint Board, its membership, meetings, news, joint activities, scientific events of the GeoUnions, relevant links, contacts etc. It should be determined which Union will take care of the web page. Also GeoUnions could share the cost of the web page (the development of the web page is estimated to be about EUR1000, and its maintenance of about EUR100 a month). There was a discussion whether ICSU should host the web page of GeoUnions. It was decided to contact ICSU and ask for hosting the web page.

Action. Alik Ismail-Zadeh to contact the ICSU Secretariat asking for hosting the web page of the GeoUnions Joint Board.

17. Next GeoUnions meeting

Orhan Altan invited the GeoUnions to hold the next meeting in Antalya on 16-17 November 2013 in conjunction with the ISPRS Conference on “Serving Society with Geoinformatics”.

The venue is the “WOW Kremlin Palace”. The hotel is 17 km from Antalya city and located in Lara Beach in Kundu region. Antalya, also known as “Turkish Riviera” due to its archaeological and natural beauties, is a city on the Mediterranean coast of southwestern Turkey offering all the mysticism of the past in our day. There is a special offer of the hotel (EUR 80 + VAT a day, all inclusive).

It was followed by an informal champagne reception. The participants of the meeting expressed their gratitude to the host, Jean-Paul Cadet, and to Alik Ismail-Zadeh for an effective preparation of the meeting.

The meeting was closed at 18:30.