



UNION GEODESIQUE ET GEOPHYSIQUE INTERNATIONALE
INTERNATIONAL UNION OF GEODESY AND GEOPHYSICS

XXV General Assembly
27 June - 8 July 2011
MELBOURNE, AUSTRALIA

COMPTES RENDUS

IUGG XXV GENERAL ASSEMBLY
27 June – 8 July 2011, Melbourne, Australia

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PART I

PROCEEDINGS OF THE GENERAL ASSEMBLY

OFFICERS OF THE UNION, ASSOCIATIONS, AND COMMISSIONS FOR 2007-2011

Bureau of the Union

<i>President:</i>	Tom Beer	AUSTRALIA
<i>Vice-President:</i>	Harsh Gupta	INDIA
<i>Secretary General:</i>	Alik Ismail-Zadeh	RUSSIA/GERMANY
<i>Treasurer:</i>	Aksel W. Hansen	DENMARK
<i>Members:</i>	Yun-tai Chen	CHINA
	David Jackson	USA
	Ali A.A. Tealeb	EGYPT

Executive Committee of the Union

According to Article 10 of the Statutes of IUGG the Executive Committee consists of:

- the Bureau (see above),
- the Retiring President of the Union, Uri Shamir (ISRAEL)
- the Presidents of the International Associations:

<i>IACS:</i>	Georg Kaser (2007-2009)	AUSTRIA
	Ian Allison (2009-2011)	AUSTRALIA
<i>IAG:</i>	Michael Sideris	CANADA
<i>IAGA:</i>	Egil Friis-Christensen	DENMARK
<i>IAHS:</i>	Arthur Askew (2007-2009)	SWITZERLAND/AUSTRALIA
	Gordon Young (2009-2011)	CANADA
<i>IAMAS:</i>	Guoxiong Wu	CHINA
<i>IAPSO:</i>	Lawrence Mysak	CANADA
<i>IASPEI:</i>	Zhongliang Wu	CHINA
<i>IAVCEI:</i>	Setsuya Nakada	JAPAN

Finance Committee of the Union

<i>Chair:</i>	Juan Francisco Vilas	ARGENTINA
<i>Members:</i>	David Collins	UNITED KINGDOM
	Jan Krynski	POLAND
	Kiyoshi Suyehiro	JAPAN

Secretaries General of the International Associations

<i>IAG:</i>	Hermann Drewes	GERMANY
<i>IAGA:</i>	Bengt Hultqvist (2007-2009)	SWEDEN
	Mioara Manda (2009-2011)	FRANCE
<i>IAHS:</i>	Pierre Hubert	FRANCE
<i>IAMAS:</i>	Hans Volkert	GERMANY
<i>IAPSO:</i>	Johan Rodhe	SWEDEN
<i>IASPEI:</i>	Peter Suhadolc	ITALY
<i>IAVCEI:</i>	Joan Martí	SPAIN

Union Commissions

Union Commission on Data and Information (UCDI):

www.iugg-ucdi.org

<i>Chair:</i>	Peter Fox	USA
<i>Vice-Chair:</i>	Charles Barton	AUSTRALIA
<i>Secretary:</i>	Adelina Geyer Traver	SPAIN

Union Commission on Geophysical Risk and Sustainability (GRC):

www.iugg-georisk.org

<i>Chair:</i>	Kuniyoshi Takeuchi	JAPAN
<i>Vice-Chairs:</i>	Vladimir Kossobokov	RUSSIA
	Ramesh Singh	INDIA
<i>Secretary:</i>	Gerd Tetzlaff	GERMANY
<i>Treasurer:</i>	Paula Dunbar	USA

Union Commission on Mathematical Geophysics (CMG):

<i>Chair:</i>	Daniel H. Rothman	USA
<i>Vice-Chairs:</i>	Einat Aharonov	ISRAEL
	Eli Tziperman	USA
<i>Secretary:</i>	Claudia Pasquero	USA

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

www.sedigroup.org

<i>Chair:</i>	Gauthier Hulot	FRANCE
<i>Vice-Chair:</i>	Satoru Tanaka	JAPAN
<i>Secretary:</i>	Mike Bergman	USA

Inter-Unions Commission

Inter-Union Commission on the Lithosphere: The International Lithosphere program

www.scl-ilp.org

Officers Appointed for the Term 2008-2010

<i>President:</i>	Sierd Cloetingh	NETHERLANDS
<i>Secretary General:</i>	Roland Oberhänsli	GERMANY
<i>Bureau Members:</i>	IUGG: Kevin Furlong	USA
	IUGG: Kalanchand C. Sain	INDIA
	IUGS: Yoshiyuki Tatsumi	JAPAN
	IUGS: Jean-Paul Cadet	FRANCE
	IUGS and IUGG: Alan Green	SWITZERLAND
<i>Chair of National Members:</i>	Victoria L. Pease	SWEDEN
<i>Executive Secretary:</i>	Alexander Rudloff	GERMANY

IUGG Liaison Officers with Intergovernmental Organizations

<i>Cartographic Office of the United Nations:</i>	Luiz Fortes	BRAZIL
<i>World Meteorological Organization (WMO):</i>	Arthur Askew	SWITZERLAND/AUSTRALIA
	John Turner	UNITED KINGDOM
<i>United Nations Educational, Scientific and Cultural Organization (UNESCO):</i>		
<i>International Hydrological Programme (IHP):</i>	Pierre Hubert	FRANCE
<i>International Oceanographic Commission (IOC):</i>	Eugene Morozov	RUSSIA
<i>International Civil Aviation Organization (ICAO):</i>	William I. Rose	USA
	Marianne Guffanti	USA
<i>Pan-American Institute of Geography and History (PAIGH):</i>	Hermann Drewes	GERMANY

IUGG Representatives on ICSU Committees and ICSU Regional Offices

<i>Committee on Data for Science and Technology (CODATA):</i>	Charles Barton	AUSTRALIA
<i>Committee on Space Research (COSPAR):</i>	Eigil Friis-Christensen	DENMARK
<i>Scientific Committee on Antarctic Research (SCAR):</i>	Ian Allison	AUSTRALIA

XXV General Assembly of the International Union of Geodesy and Geophysics
Officers of the Union, Associations, and Commissions for 2007-2011

<i>Scientific Committee on the Problems of the Environment (SCOPE):</i>	Norman E. Peters	USA
<i>Scientific Committee on Oceanic Research (SCOR):</i>	Michael MacCracken	USA
	Lawrence Mysak	CANADA
<i>Scientific Committee on Solar-Terrestrial Physics (SCOSTEP):</i>	Robert Vincent	AUSTRALIA
<i>Federation of Astronomical and Geophysical Data Analysis Services (FAGS):</i>	Ruth E. Neilan	USA
<i>World Climate Research Programme (WCRP):</i>	Guoxiong Wu	CHINA
<i>Regional Office for Africa (ROA):</i>	Richard Wonnacott	SOUTH AFRICA
<i>Regional Office for Asia & the Pacific (ROAP):</i>	Sri Widiyantoro	INDONESIA
<i>Regional Office for Latin America and the Caribbean (ROLAC):</i>	Luiz Fortes	BRAZIL

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XXV General Assembly of the International Union of Geodesy and Geophysics
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Sub-committees

1. Scientific Program Sub-Committee
2. Exhibitions and Sponsorship
3. Scientific Fieldtrips and Workshops
4. Media and Community Liaison

REPORT OF THE CHAIR OF THE LOCAL ORGANIZING COMMITTEE
RAY CAS

Introduction

Organising the XXVth IUGG General Assembly in the negative international economic climate lingering from the global financial crisis has been challenging and difficult. The Joint Australian and New Zealand Local Organising Committee (LOC) is therefore extremely pleased with the successful General Assembly held in Melbourne from 27th June to 8th July, 2011. I thank and congratulate all those involved in making the conference a success, including *arinex*, the professional conference organiser, for their outstanding on-site management of the conference. Key outcomes of the conference were:

- 3,441 delegates, including exhibitors, attended the conference.
- The venue for the conference, the Melbourne Convention and Exhibition Centre, was unanimously acclaimed as an outstanding venue.
- The scientific program ran very smoothly, with fewer program gaps.
- The Plenary Lecture Program was an outstanding success.
- The workshops and field trips that ran were successful.
- The exhibitions were well received, and their integration with the coffee break and poster display area was very successful.
- Sponsorship support exceeded the target, and
- Generally delegate feedback has been extremely positive.

Specific Comments

1. I want to thank all LOC members for their constant, constructive and unwavering commitment to ensuring the success of the conference. It has been a great pleasure to work with everyone.
2. Although there were some disagreements on specific issues, the collaboration between LOC, the IUGG, and the Association Secretaries General was positive, and constructive. The different perspectives certainly helped address many issues.
3. The LOC also feels that the length of the conference contributes to higher registration fees and cost of living expenses (hotel, meals) for delegates, and that both the duration and fees are a "put-off" for many scientists. IUGG is already considering the option for reducing the length of the GA even more. Thanks to Tom Beer for being the LOC's IUGG liaison officer, keeping the LOC up to date on IUGG news.
4. The conference would not have run so smoothly without the help of the volunteers, who were invaluable in doing many small things that *arinex* staff would not have been able to attend to. The volunteers were all research students, who in return for their help as volunteers for half of the conference, were given complimentary registration fees as delegates and were able to participate in the scientific program for the other half of the conference. Thanks go to Steve Siems and Patrick Hayman for their excellent management of this program.
5. Patrick Hayman and Peter Dyson devised a scheme for receiving applications for and allocating conference grants and a payments scheme, which ran very smoothly, and we thank them for their assistance.
6. The Melbourne Convention and Exhibition Centre is an outstanding conference venue and most things worked extremely well, including the wireless internet system. The weather worked in our favour and the setting for the MCEC in the Melbourne CBD works wonderfully well. We are fortunate in many ways that our bid for 2007 was unsuccessful, so that the new convention centre was available in 2011!
7. The on-site IT facilities worked extremely well. The Speaker Preparation Room facilities were excellent, and any problems that arose were very quickly attended to. Although the ePresenter

facility for uploading and displaying digital copies of posters attracted some interest, it was not as much of a focal point as we might have expected. This was probably due in part to the late decision and communication about this facility.

8. The exhibition and poster display area together with the coffee breaks worked very well. Thanks to Joanna Sloan of arinex for this. Thanks also to Stewart Franks (LOC) for his early work in organising the Sponsorship and Exhibition program and Drew Whait and Nick Cadey of arinex for their hard work in signing up both sponsors and exhibitors, leading to a very successful program and our targets being exceeded.
9. The Opening and Closing ceremonies were very successful and the LOC received many compliments about these. Thanks to Tom Beer (LOC and IUGG President) for co-ordinating these, assisted by Helen Fremlin of arinex and myself as LOC Chair.
10. The scientific program ran very smoothly in general, and having the discussion slots worked very well in many symposia. The Plenary Lecture series was an outstanding success, the scheduling being a very big factor in this. A big thank you to Peter Manins (LOC) and the rest of the Scientific Program Committee (SPC) for overall program management, Tom Beer (LOC) for convening the Plenary Lecture series, and Jacqui Murkins, Sarah Weatherby and Bree Richardson of arinex for a tremendous effort in constructing the scientific program schedule.
11. The media liaison program, although difficult to organise, worked very well in the end, and the exposure for the conference was excellent largely due to the proactive on-site activities of Simon Torok (LOC). There were many interviews covering all aspects of the science presented, and the public outreach event, Melbourne Conversations, was very successful. Thanks Simon for the getting this all together.
12. The Field trips and Workshops program eventually worked very well due to hard work of Adrian Pittari (LOC) and Helen Fremlin of arinex. It was unfortunate that many did not run because of lack of numbers, but those that did were very successful.
13. Organisation and preparation of agendas and minutes for LOC meetings was in general well handled by arinex, who acted as a secretariat for the LOC. Thanks to Erin Simmons, Rebecca Russell and Margaret Maling of arinex for their help with this.
14. On site management of the conference by arinex was excellent, and very professional. Thanks to Margaret Maling and Denisa Adamova for their overall management roles and to Jacqui Murkins, Sarah Weatherby and Dominika Howard of arinex for handling the program changes very well.
15. The conference scientific program book was excellent, visually very appealing, informative and very easy to use. Thanks especially to Erin Simmons and Jacqui Murkins of arinex for their excellent work on this.
16. The conference website generally worked well, and coped with the demand, although we did hear there were problems with re-entering one's registration page to make additions. Thanks to Erin Simmons of arinex for being very responsive to all requests. Some items remained on the website for longer than required, indicating the LOC should have had a member of the committee specifically dedicated to the role of website manager to monitor the functionality of the website, and working with arinex to keep it up to date.
17. Thanks especially to Gary Gibson for moving the Earth and organising a very topical earthquake in east Gippsland, Victoria, during the conference, as well as general Secretary duties in promoting the conference, assisted by Steve Chiswell in New Zealand.
18. I want to give a very big thank you to Peter Dyson, who as Treasurer, managed to keep the budget balanced, by working closely with me as Chair, and Rebecca Russell, Margaret Maling and Karine Bulger of arinex. Some difficult decisions were made at times, but in the end the conference did not suffer.
19. Having a professional conference organiser, arinex, working with the LOC from the beginning of the organisation process for 4 years, was essential to the successful running of the conference.

Arinex is congratulated and thanked for delivering an extremely well run conference. Their professionalism on-site was outstanding.

20. However, there are several aspects of the conference organisation that arinex should have handled better, in large part resulting from not understanding the complex nature of IUGG General Assemblies. Some issues included:

- **LOSS OF EVENT MANAGER:** The loss of the event manager, Rebecca Russell, because of motherhood, occurred at a very bad time during the organisation of the conference, and the transition to the new event manager, Margaret Maling, had many problems associated with it. Margaret took a long time to understand the conference, and probably did not grasp it until the actual conference.
- **ABSTRACT ENTRY SYSTEM:** The abstract entry system used by arinex, requiring different aspects of an abstract to be entered into different data windows in the on-line submission process, was outdated. Abstracts should be uploaded as a single, complete file in a specified format. That way each abstract can be downloaded and printed in entirety very simply from the abstract volume.
- **CONSTRUCTING THE SCIENTIFIC PROGRAM BOOK:** This is an enormously time consuming and complex process, that cannot be underestimated. Significant time needs to be allowed for DOUBLE checking the final draft before it is sent to the publisher for printing. We discovered some major errors, but because we had some extra time in our schedule we were able to rectify them in time.
- **CONSTRUCTING THE ABSTRACT VOLUME:** This may seem like a simple process, but it is also complex and requires adequate time for checking.
- **PRELIMINARY OR PREDICTIVE BUDGET PREPARATION:** Arinex made some errors in drawing up the initial predictive budget and estimating major cost items, but due to careful budget management, we were able to adjust the budget.
- **THE COST OF THE CONVENTION CENTRE AND ITS FACILITIES:** This was the biggest budget item and cost to the conference. The nature of the cost schedule negotiated by arinex was not clear, and unfortunately surprise extra costs kept arising. This has been explained as being due to the convention centre being built while the conference was being organised and so some initial cost estimates changed once the convention centre was operational. Other costs increased as the magnitude of the conference became clear. This was not satisfactory.

Summary

Overall, the LOC is extremely pleased with how successful the conference was, justifying all the hard work involved. I thank everyone who contributed to making it so. We can be especially pleased, given that this was the most difficult global financial climate that I can remember for organising a major international conference. Achieving registered delegate numbers of about 3,400 was a significant achievement in the circumstances.

REPORT OF THE CHAIR OF THE SCIENCE PROGRAM COMMITTEE
PETER MANINS

The Scientific Program of the XXV General Assembly of IUGG (IUGG2011) ran from 28 June through to 7 July 2011. It involved about 3400 scientists from 82 countries. Over the 10 days of the Assembly delegates participated in 198 Symposia and Workshops comprised of 2831 oral and 1927 poster presentations.

As well as the 128 Symposia sponsored by the individual Associations and the 64 Joint Symposia sponsored by two or more Associations, there were nine Union Plenary Lectures by eminent scientists, and several specialty workshops held outside the core time of the Assembly.

1. Foundation and Composition

The Scientific Program Committee (SPC) began work in February 2009. It was composed of the Secretaries General (SsG) of the eight Associations, and the Secretary General (SG) of IUGG. Peter Manins, an Honorary Fellow of CSIRO Australia, Division of Marine and Atmospheric Research, was appointed as Chair of the Committee. The membership was:

- Alik Ismail-Zadeh, SG of the Union
- Manfred Lange, SG of the International Association of Cryospheric Sciences. Ian Allison, President of IACS, participated in all teleconferences on behalf of Manfred Lange.
- Hermann Drewes, SG of the International Association of Geodesy (IAG)
- Mioara Manda, SG of the International Association of Geomagnetism and Aeronomy (IAGA)
- Pierre Hubert, SG of the International Association of Hydrological Sciences (IAHS)
- Hans Volkert, SG of the International Association of Meteorology and Atmospheric Sciences (IAMAS)
- Johan Rodhe, SG of the International Association for the Physical Sciences of the Oceans (IAPSO)
- Peter Suhadolc, SG of the International Association of Seismology and Physics of the Earth's Interior (IASPEI), and
- Joan Marti, SG of the International Association of Volcanology and Chemistry of the Earth's Interior (IAVCEI). Ray Cas, President of the IUGG2011 Local Organising Committee (LOC), participated in all teleconferences on behalf of Joan Marti.

2. Meetings

The SPC initially corresponded by email, establishing an outline work plan and identifying one or two scientists in Australia and New Zealand matched to each Association, who could provide some help with local issues and scientific emphases that would assist the work of the Committee.

A first face-to-face meeting of the full SPC occurred on 12 October 2009 (21 months to Assembly start) in Melbourne, where initial science program ideas and expectations from each Association were discussed, the SsG endorsed a decision to limit the scientific program of the 2011 Assembly to 10 days, including each day of the central weekend, and a draft of the timetable for the Assembly scientific meetings was settled upon. This timetable was followed over the full planning phase and worked very well during the Assembly.

A second face-to-face meeting of the full SPC occurred over 2–3 May 2011 in Vienna (7 weeks to Assembly start). At this meeting, the SPC went through the scheduling of the draft scientific program,

combining some symposia, dropping and adding sessions, and setting the relative ordering of every symposium and workshop. The General Assembly's organising company, *arinex*, sent two staff to the Vienna meeting — Margaret Maling (IUGG2011 Manager) and Jacqueline Murkins (IUGG2011 Program Manager), their counterparts to the Local Organising Committee (LOC) and SPC Chair respectively. This meeting proved to be vital, showing that all symposia as agreed would actually fit together with only a few clashes and that there would be adequate rooms available for the scientific program and the Associations' and Union's business meetings in the venue.

Commencing 10 March 2010 (15 months to Assembly start) the SPC met for an hour by teleconference each month, a day or so before the regular meeting of the LOC in Melbourne. Also participating were Ray Cas (LOC Chair; representing IAVCEI) and Ian Allison (IACS president; representing IACS), Tom Beer (IUGG President) reporting on the Plenary Speakers, and *arinex* staff taking action notes and providing information on operational and program challenges. These meetings went very well and were very important in keeping all informed of issues and progress.

By March 2011 (14 weeks to Assembly start) it became evident that due to the rapidly evolving progress for the Assembly, the teleconference format needed to be expanded. The agenda from then on included a section chaired by Ray Cas as Chair of the LOC, and had Peter Dyson, LOC Treasurer, and Gary Gibson, LOC Secretary, also participating. Items arising were either dealt with on the spot by this LOC sub-committee or were taken to the next full LOC meeting.

3. Defining the Symposia

At the first face-to-face meeting of the SPC it was agreed that the scientific program would include

- Nine Plenary Speakers, one each recommended by the Associations and the Union to the IUGG President who made the final invitations.
- 10–12 Union Symposia identified as being of wide interest to all. Oral presentations would be by invitation only; a call for poster presentations would be made. These Union Symposia would be supported by Symposia proposed by several Associations (Joint Symposia) and by Symposia specific to different Associations (Association Symposia).
- Joint Symposia put forward by two or more Associations. Topics would be identified by Secretaries General and leading scientists who might become Lead Convenors and supporting Convenors. These Symposia would include Invited Speakers and selected oral presentations from a Call for Abstracts. Poster presentations would also be called for.
- Association Symposia as for Joint Symposia but of more specialised interest to an individual Association.

Substantial effort was made over an extended period by all Secretaries General to limit the number of Symposia so that participants would not be faced with too many overlapping themes and too many sessions running in parallel.

A coding convention, evolved from previous IUGG General Assemblies, was adopted and proved to work well:

U	Union	IUGG
J	Joint	2 or more Associations
C	Cryospheric	IACS
G	Geodesy	IAG
A	Aeronomy and Geomagnetism	IAGA
H	Hydrology	IAHS
M	Meteorology	IAMAS
P	Oceanography	IAPSO
S	Seismology	IASPEI
V	Volcanology	IAVCEI

When followed by an assigned number, this Code was used to identify Symposia and Workshops, as for example V07 — IAVCEI Symposium number 07. Joint Symposia were identified as for example, JM01 — Joint Symposium number 01 led by IAMAS. JHW03 was Joint Symposium number 03 led by IAHS.

Secretaries General oversaw the development of the symposia that would be in the Scientific Program. A first deadline of 22 February 2010 was set. Senior scientists and all with strong interests put forward proposals and volunteered as Lead Convenors. Discussions between the Lead Convenors and others brought forward co-convenors and identified cross-Association linkages. A working version of the scientific program was put up on a closed Web page on 1 April 2010, and over the next two months this program was refined, consolidated and filled out so that on Friday 4 June 2010 (just over 12 months before Assembly start) a full program of symposia and workshops was proposed on the IUGG2011 Web site.

On Monday 16 August 2010 (10.5 months before Assembly start), the Call for Abstracts along with the proposed Scientific Program and draft timetable, was announced on the Web.

The process of refining the Scientific Program symposia and workshops continued up to and even during the Assembly in June/July 2011.

4. Scientific Program Structure Defined

As defined in October 2009, the IUGG2011 Web site displayed the outline timetable for the Scientific Program both by Assembly day and by Association. This information was posted early 2010, before the Call for Abstracts was announced on 16 August 2010 and was held to throughout the planning process.

“The Scientific Program will run from Tuesday 28 June 2011 until Thursday 7 July 2011. Each day will consist of four 90 minute sessions and one poster session (excluding the first Tuesday and the second Thursday). The Tuesday afternoon session of the first week will be the opening ceremony, the Thursday afternoon session of the second week is the closing ceremony, and three morning sessions will have plenary presentations.” – from Second Circular.

IUGG2011 Draft Scientific Program : by Times

	Week 1					Week 2				
	28-Jun	29-Jun	30-Jun	1-Jul	2-Jul	3-Jul	4-Jul	5-Jul	6-Jul	7-Jul
	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs
0830-1000	Morning Session									
1000-1030	Morning Tea									
1030-1200	Morning Continued	Plenaries	Morning Continued	Plenaries	Continue	Plenaries	Morning Continued			
1200-1330	Lunch									
1330-1500	Afternoon Session									
1500-1630	Poster Session with Afternoon Tea									
1630-1800	Opening Ceremony	Afternoon Session Continued								Closing Ceremony
1800-1900	Welcome Reception			possible Reception			possible Reception			

Starting at 1030 on three days, Plenaries featured eminent Speakers presenting at a time likely to achieve a substantial audience. This worked very well.

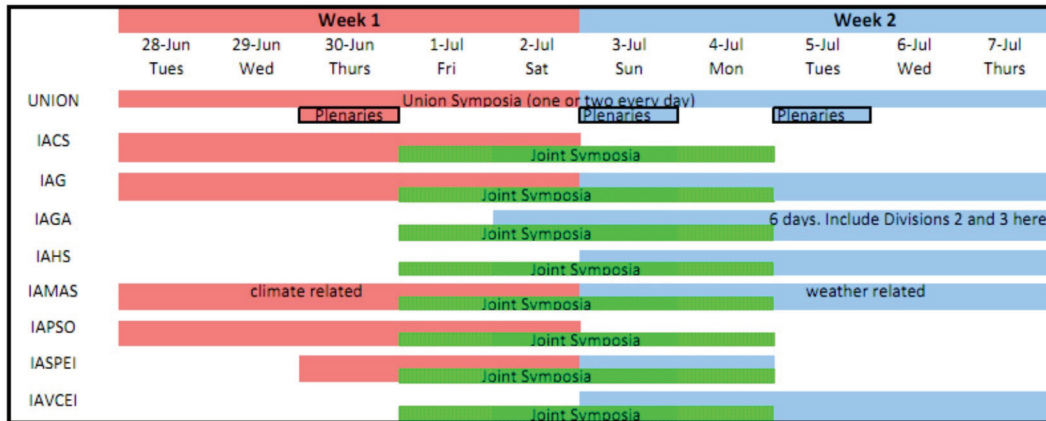
Each oral session was divided into six 15 minute slots. Session structures were the responsibility of the Lead Convenors for the symposia. They decided on how these slots would be allocated among accepted speakers, discussions or poster previews.

An important requirement was that once published, presentations should not be moved, since delegates rely on the printed program for times to move between rooms to attend selected presentations. Unfortunately a firm-enough stand was not taken on the 15 minute intervals, and a few

symposium convenors determined to do their own thing, causing extra work for the organisers and inconvenience to some speakers and delegates.

The timetable by Association was established after that by Time, since it required a sense of priorities and conflicts and the likely oral presenter numbers. Even so, it was published on the IUGG2011 Web site by August 2010 (11 months to Assembly).

IUGG2011 Draft Scientific Program : by Association



Joint Symposia were held during the central few days to allow the maximum participation by delegates who had limited time. This appeared to work well.

5. Call for Abstracts and Delegate Registration

The Call for Abstracts was announced on 16 August 2010 on the IUGG2011 Web site. The LOC had determined in October 2009 that a A\$30 abstract submission fee would be charged, in an effort to reduce abstract submissions from people who had no real prospect of turning up; otherwise such applications would likely lead to no-shows at the Assembly and holes in the Program. This fee caused some controversy, as did the limit of two presenting author abstracts, and the exact application of the fee and limit evolved over time. Indeed, a letter dated 29 November 2010 from the National Academies of USA complained about the limit on presenting authors and that they be the “first author”.

By 26 January 2011 (5 months before Assembly start) subtle word changes were in place; the Second Circular sent out then noted the requirements as stated on the IUGG2011 Web site. These were:

“Authors are permitted to submit a limit of 2 presenting author abstracts for oral presentations, but may also submit abstracts for poster papers or be non-presenting co-authors on other oral presentations. However, all presenting authors are expected to register and pay the registration fee to have their paper(s) included in the scientific program.

This deposit will be deducted from your registration fees when you register for the General Assembly. If you do not register for the General Assembly, the fee will not be refunded. ABSTRACT(S) MUST BE SUBMITTED BY THE AUTHOR WHO WILL PRESENT THE PAPER. ”

“You will be required to pay a A\$30 author deposit by credit card, cheque or electronic funds transfer (EFT).”

This Abstract Submission fee was a major difficulty for a small number of potential delegates. The author limit was widely misinterpreted, but was designed to stop multiple presentations by speakers who were only loosely familiar with their subject material.

The wording about “submitting” author being the “presenting author” rather than the “first author” was a change that helped defuse some concerns, as was allowing Union Symposia presenters to submit an additional two abstracts for oral presentation and/or any number for poster presentation.

The meaning of “Registration” also evolved over time. At the time of the Second Circular (26 January 2011, 5 months before Assembly start), it was presented as follows:

“All presenting authors are expected to register by 11 April 2011, the Early Bird Registration deadline, to guarantee their inclusion in the program and to take advantage of the early-bird registration rate. Payment of the registration fee should also be made at this time. Payment of the registration fee after this date will attract the higher standard registration fee rate.”

Submitting authors were required to register and to at least commit to pay the Assembly fee applicable at the time of payment. Without this commitment being received by *arinex*, which was extended as late as possible, indeed until 16 May 2011 (five weeks before Assembly start), speakers who had been accepted and included in the draft Program, were removed from the final Program posted on the Web and sent to the Printer on 14 June 2011 (two weeks before Assembly start).

The large majority of submitting authors followed the requirements without difficulty.

Even though some accepted authors did not respond to requests to register, nor give a commitment to register and attend, by the 16 May 2011 deadline, they were advised that if they showed up at the Assembly they would be able to present a Poster or, by arrangement with the relevant Symposium Lead Convenor, even be included in a session and present an oral paper in one of the “Discussion” slots. “Discussion” slots appeared in several sessions due to removals or last-minute withdrawals. A substantial number of delegates, including some who had never responded to any contact after their initial abstract acceptance, arrived onsite and were reinstated or presented on behalf of their non-attending co-authors in these slots.

6. Roles of Lead Convenors and Co-Convenors

Lead Convenors and Co-Convenors mostly self-nominated in the process of developing the symposia and workshops for the IUGG2011 Assembly. For Joint Symposia and Union Symposia, it was important to have convenors from the other Associations.

Lead Convenors had very important roles in the management of the Scientific Program:

- Lead Convenors developed the symposia scopes, usually with input from SsG.
- Lead Convenors reviewed all submitted abstracts, accepting, rejecting or suggesting moving some abstracts to more relevant symposia. They decided whether some proposals for oral presentation should be made as posters and *vice versa*.
- Lead Convenors scheduled the oral presentations for each symposium, and consulted with the relevant SsG and the SPC about the possible length of their symposia. In some cases this led to poster presentations being offered, rather than orals.
- Lead Convenors approached people to act as Session chairs to run the Symposia during the Assembly.

Co-Convenors were also important to the success of the Scientific Program:

- Co-Convenors reviewed abstract submissions, providing comments and scores for the Lead Convenors to make the final decisions.
- Many Co-Convenors assisted Lead Convenors in the final acceptance process, along with structuring sessions.
- Many Co-Convenors also chaired Sessions during the General Assembly.

In some cases SsG sought out Convenors, and invited the combining of some proposals to better consolidate symposia that were closely similar.

Some Lead Convenors were not timely in finalising their acceptance of abstracts and this caused delays in developing the draft full program. Further, some Lead Convenors did not structure their sessions and it was left to *arinex* to do this. In the absence of other information, Lead Convenors were made Session Chairs.

At the Vienna SPC meeting in May 2011 the Secretaries General reviewed all symposia and workshops and agreed to extend the number of sessions in some cases, combine some symposia, and delete some that had not attracted adequate numbers of abstracts. In the small number of cases involved, Lead Convenors were approached to restructure their sessions.

7. Deadlines and their Adherence

The first Newsletter for IUGG2011 was prepared in June 2010 but because of uncertainty about Plenary Speakers, it was not finalised and released until 29 October 2010.

The Second Circular for IUGG2011 was sent out 26 January 2011, noting the close of acceptance of abstracts on 1 February 2011.

On 1 February 2011, an announcement was made that the abstract submission close date had been extended to 7 February 2011. However the reality was that abstracts were accepted well after that date. Indeed, a fresh call for abstracts was made on 11 April for papers dealing with the latest Pacific Rim disasters.

The Third Circular was sent out on 29 March 2011. It reminded people that the Early Bird registration date of 11 April was fast approaching, and announced a call for abstracts for posters dealing with very recent Pacific Rim disasters. The Early Bird acceptance date was actually closed on 13 April 2011.

The final Circular was sent out 16 June 2011 (2 weeks before Assembly start), alerting recipients to the Final Program as printed, on the IUGG2011 Web site, giving information on how to use the Program, and the links for delegates arriving, speaker preparation information, and poster guidelines, which had been available for several weeks.

The deadline for authors to finalise their registration by paying the Assembly fee was 16 May 2011. Authors were then given a final deadline of 6 June 2011 to complete registration (or confirm their attendance) before their presentation position would be removed from the printed version of the Scientific Program and from the version released on the IUGG2011 Web site. In fact this was implemented on 14 June 2011.

Even though some accepted authors did not register, nor give a commitment to pay the fee by the 16 May 2011 deadline, they were advised that if they showed up at the Assembly they would be able to present a Poster or, by arrangement with the relevant Symposium Lead Convenor, be included in a session and present their accepted oral paper. A number of "Discussion" slots occurred in several sessions due to removals or last-minute withdrawals; this allowed the reinstatement of presentations or for Convenors to schedule Poster summaries. This undertaking was exercised by a substantial number of delegates, even including some who had never responded to any contact after their initial abstract acceptance.

8. The Final Program Handbook

The Final Assembly Handbook was printed in 300 pages hardcopy and the Scientific Program pages were made available on the IUGG2011 Web site.

9. Role of Conference Organising Company, arinex

The LOC contracted *arinex* to provide conference management services. For the Scientific Program activities, *arinex* assigned a Senior Program Coordinator to partner the SPC Chair. Up to October

2010 Bree Richardson had this role, with Jacqueline Murkins taking over to completion of the Assembly.

arinex arranged all SPC meetings, took Action Notes, and responded to requests and needs of the SsG. The management of the IUGG2011 Web site was also undertaken by *arinex*; they implemented a centralised Web site update process for the SsG and Symposia Convenors.

Bree Richardson worked very closely with the SPC to develop the Scientific Program symposia and workshop offerings for the Call for Abstracts, including responding to a large number of changes as the Web site for the Scientific Program was developed.

Jacqueline Murkins joined the project in time to handle the full range of tasks for a group of IAHS Symposia and Workshops that had an early submission deadline for full proceedings pre-print publication by 8 November 2010. This exercise gave her and *arinex* a taste of what was in store for the full Assembly.

As the Assembly approached, the magnitude of the tasks increased enormously. Dealing with delegate registrations and changes, the interminable changes from presenting authors, encouraging authors and convenors to respond to requests for action, developing the drafts of the detailed Scientific Program for the 10 days of the Assembly and including allocation of appropriate rooms and audio-visual requirements in the venue, and many other unseen tasks, kept Jacqueline and her team very busy.

arinex devised the drafts of all correspondence with authors and convenors, developed and managed the abstract review and assignment to themed sessions processes, managed all the details of assigning symposia sessions to a program grid and matching that with the rooms available in the venue, preparing the whole printed Assembly Handbook including devising and preparing the printed Scientific Program, produced a searchable USB stick version of the Scientific Program and all accepted Abstracts that included all co-authors.

During the Assembly Jacqueline and her team continually managed the Scientific Program onsite, including managing missing speakers, allocating new presentations to sessions, and managed replacement speakers and poster presenters.

10. Observations and Issues

The following are some points worth capturing — what should have been done, what could have been done better.

- It is important early in the Scientific Program development process to have in-depth discussions about key Scientific Program elements: such as what program structures might vary between symposia and between sessions, clarity on the needs of IAHS to have pre-Assembly preprints of proceedings, and what impact the requirements for publication of abstract proceedings might have on the way abstracts will be submitted.
- Extensions of deadlines have flow-on effects to key dates. For example, the second extension deadline for abstract submissions limited the co-convenors' review time to just 11 days, Lead Convenors were then limited to 7 days to complete all their acceptances before the Secretaries General met to finalise the program overview, with only one day remaining before the Early-Bird deadline date.
- Clarity on the requirements for abstract submissions and their repercussions: we required the submitting author to register and present at the Assembly, but it is important in scientific circles that the submitted author list be maintained and not require the first listed author to be the submitting author.
- The scientific program timetable of oral sessions, breaks, plenaries, dedicated Poster sessions and Poster Socials proved to be an excellent way to divide up each day.
- From comments received, the scientific program included too many orals of lesser quality. The SPC should be firm in restricting the number of sessions for many of the Symposia so

that Lead Convenors really do have to make hard decisions, perhaps focussing more on review papers. The size of the venue was such that it was too easy to offer Convenors of Symposia all the sessions initially requested and to even offer in a few cases, extra sessions.

- Accepting late registering presenters to fill “Discussion” slots and also offers to display posters, during the Assembly, seemed to be a popular and well received approach for dealing with latecomers.
- Session chairpersons in many cases failed to do their job well. Too few mentioned the Posters related to their session; in too few cases were Poster presenters offered an opportunity to introduce their Posters. There were some cases where timekeeping was very poorly managed.
- Electronic posters were offered as a complement to mandatory paper A0 posters.
- Although the two Poster Socials were listed in the Handbook, all too many delegates seemed to be unaware of these before the events. The venue notice screens should have featured these events and were in any case very poorly utilised throughout the Assembly.
- Scientific workshops held during the Assembly should be well incorporated into the Program.
- The offer of an oral presentation rather than a poster presentation is very important for some for participants to obtain funding from their host organisation.
- Program codes should be set for Plenary Speaker presentations and for Opening Ceremony Speaker presentations to aid in defining the timetable and uploading presentations.
- The Web site provided the ability for delegates to prepare a Letter of Invitation. A similar ability to generate a Certificate of Participation during the Assembly is also important for some and should be provided (passworded) as well.
- Poster boards were well located and well spaced in zigzag lines. However, at IUGG2011 the angle of 90deg between individual boards proved to be too tight — it should have been 120deg.
- The updating and the clarity of the Web site is an important requirement for any Assembly.
- The work involved in putting together the scientific program before the call for abstracts, the handling of abstracts, the structuring of sessions and speakers and room allocations, and the running of the Program onsite was so large that the Conference Organising company was essential.

**LIST OF LECTURES AND SYMPOSIA HELD AT THE XXV GENERAL ASSEMBLY OF THE
INTERNATIONAL UNION OF GEODESY AND GEOPHYSICS**

Union Lectures

Union – IAMAS (Tucker Memorial Lecture)	Environmental Observations as a Basis for Environmental Intelligence (Greg Ayers, Australia)
Union – IAPSO	Present-day Sea Level Rise; How Unusual and Can We Explain It? (Anne Cazenave, France)
Union – IACS (Radok Memorial Lecture)	The Hidden History of Ice-Sheets: The Secret to Predicting Sea-level Rise (David Vaughan, United Kingdom)
Union – IUGG	Probing the Earth (Brian Kennett, Australia)
Union – IASPEI	Forecasting Earthquakes and Predicting Their Hazards (Thomas Jordan, USA)
Union – IAG	The Challenge in Earth Observation: From the Fast Response to Catastrophic Events to the Reliable Detection of Very Small Trends (Markus Rothacher, Switzerland)
Union – IAGA (Troitskaya-Cole Memorial Lecture)	Assessing Solar and Solar-Terrestrial Influences as a Component of Earth's Climate Change Picture (Daniel Baker, USA)
Union – IAHS	Hydrology and Change (Demetris Koutsoyiannis, Greece)
Union – IAVCEI	Volcanism and Global Sustainability (Stephen Self, USA)

Union Symposia

U01	Science & Nuclear Test Ban Monitoring
U02	Grand Challenges in Natural Hazards Research and Risk Analysis
U021	Grand Challenges in Natural Hazards Research and Risk Analysis: Earth on the Edge – Recent Pacific Rim Disasters
U03	Recent Progress in the Studies of the Earth's Deep Interior
U04	Progress and Perspectives in Studies of the Continental Lithosphere
U05	Data Science/Informatics and Data Assimilation in Geophysical Models
U06	Geoengineering: What are the Potentials for Climate Intervention, Carbon Scrubbing, and other Approaches to Moderate Climate Change and its Impacts?
U07	Mathematical Tools in Geophysical Modelling
U08	Global and Regional Sea Level Change
U09	Do We Really Know the Hydrological Cycle?
U10	Climate Change: a 360 Degree-View from IUGG Associations
U11	Earth and Space Science in Africa
U12	Geosciences and the Future of Planet Earth

Inter-Association Symposia and Workshops

JC01	Arctic System Modelling (IACS, IAMAS, IAPSO)
JC02/JC03	Snow – Atmosphere Interactions and Avalanches (IACS, IAMAS, IAHS(ICSIH))
JC04	Ice Shelves and Glacier Tongues – Ice on the Edge (IACS, IAPSO)
JG01	Space Geodesy-based Atmospheric Remote Sensing as a Synergistic Link between Geodesy and Meteorology (IAG, IAMAS)
JG02	Application of Geodetic Techniques in Cryospheric Studies (IAG, IACS)

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List of Lectures and Symposia

JG03	History of Geosciences from Terrestrial to Spaceborne Observations (IAG, IAGA Inter-Divisional Commission on History, IASPEI)
JG04	Structure and Deformation of Plate Interiors (IAG, IASPEI, IAVCEI)
JG05	Integrated Earth Observing Systems (IAG, IACS, IAGA, IAHS, IAMAS, IAPSO, IASPEI, IAVCEI, IOC, GOOS, GCOS, GEO/GEOSS)
JG06/JS06	Tectonic Geodesy and Earthquakes (IAG, IASPEI, IASPEI, IAG)
JA01	Fluids in the crust and mantle: Geodynamic and seismological consequences – geophysical and geological constraints (IAGA, IAG)
JA02	Climate and Weather of the Sun-Earth System – CAWSES –II early results (IAGA, ICMA, IAMAS)
JA03	Long-term changes in the stratosphere, mesosphere, thermosphere and Ionosphere (IAGA, ICMA, IAMAS)
JA04	Electromagnetic oscillations from space to Earth: Celebrating 150 years and recent developments in ultra-low frequency wave research (IAGA Div.3, IAGA Divisions I, II, V, Interdivisional Commission on History and IASPEI)
JA05	Data rescue, digitisation and metadata requirements in geophysics (IAGA, IASPEI)
JH01	GRACE, other remote sensing platforms and ground based methods for estimating multi-scale surface water budgets, groundwater system characterization and hydrological processes (IAHS (ICRS, ICSW, ICGW, ICWRS, PUB, GRACE), IAG, IAMAS)
JH02	Hydro-climatology: Variability and change (IAHS (ICCLAS, ICSW, HYDROMET), IAMAS)
JHW01	Integrated flood management (IAHS (ICSW, ICWRS), IAMAS, WMO, BOM Australia)
JHW02	Interaction between fresh water and ecosystem in the coastal zone (IAHS (ICGW, ICWQ), IAPSO)
JHW03	Impacts of changing climate, snow and ice on mountain hydrology (IAHS (ICSIH, ICLAS, ICRS, ICGW, ICSW, PUB), IAMAS, IACS)
JHW04	Subglacial water: Properties, processes and role in ice-mass dynamics (IAHS (ICSIH), IACS)
JM01	Geoengineering: Can it limit climate change and its impacts? (IAMAS (ICCL), IAVCEI)
JM02	Data assimilation and ensemble forecasting for weather and climate (IAMAS (ICDM, ICMA), IAPSO, IAHS, IAGA, IACS)
JM03	Earth system observations and integration (IAMAS (ICCL), IAPSO)
JM04	Stratosphere-Troposphere-Ocean coupling in weather and climate (IAMAS (ICMA, ICDM, ICCL), IAPSO)
JM05	Manifestation of anthropogenic forcing and natural variability in the Arctic and Antarctic climate systems (IAMAS (ICPM), IAPSO, IACS)
JM06	High-impact weather and extreme climate events (IAMAS (ICCL, ICDM), IAHS)
JM07	Atmospheres and ices on terrestrial planets (IAMAS (ICPAE), IACS)
JM08	Predictability of the coupled climate system, climate system feedbacks and sensitivity to external forcing (IAMAS (ICCL, ICDM), IAPSO, IACS)
JM09	External forcing from above on the middle atmosphere and lower ionosphere (IAMAS (ICMA), IAGA)
JM10	Monsoons, Tropical Cyclones and Tropical Dynamics (IAMAS (ICCL, ICDM), IAPSO, IACS, IAHS, GEWEX, CLIVAR)
JM11	From Ice-house to Green-house: Studies of Natural and Human-Induced Climate Change (IAMAS (ICCL), IAPSO, IACS)
JM12/A06.4	Thunderstorms: from troposphere to mesosphere and beyond / Thunderstorms: Upwards and Downwards Coupling of the Atmospheric Layers and near-Earth Space (IAMAS (ICAE), IAGA (Division II))
JM13	Precipitation measurements; instrumentation and statistics at all scales (IAMAS (ICCP), IAHS)
JP01	The Southern Ocean in a changing world (IAPSO, IACS)
JP02	Future state of the Arctic and potential impact (IAPSO, IACS, IAMAS)
JP03	Global and regional sea-level change (IAPSO, IACS, IAG)
JS01	Advances in Tsunami Science, Warning, and Mitigation (IASPEI, IAPSO and IAVCEI)
JS02	Heat Flow, Tectonics, and Geothermal Energy (IASPEI)
JS03	Scientific Results from Seafloor Networks (IASPEI, IAPSO and IAGA; ION)
JS04/JV03	Physics and Chemistry of Earth Materials with Implications for Earth Structure and Processes (IASPEI, IAVCEI, IAGA, IAVCEI, IASPEI, SEDI)
JS05/JV04	The Davies Mantle: Reconciling Geophysical and Geochemical Perspectives (IASPEI, IAVCEI, IAVCEI-SEDI, IASPEI, SEDI)
JS07	Antarctic and Arctic Research (IASPEI, IACS, IAG, IAGA)

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List of Lectures and Symposia

JS08/JV12	Volcano Seismology (IAVCEI, IASPEI)
JS09	Electromagnetic Studies of Earthquakes, Active Faulting and Tsunamis (IASPEI, IAGA, IAVCEI)
JS10	Electromagnetic studies of active processes using space technology (IASPEI, IAGA, IAVCEI)
JS11/JV09	Imaging and monitoring active volcanoes and geothermal fields by Electro-Magnetic (EM) and other geophysical techniques (IASPEI, IAGA, IAVCEI)
JS12	Towards short-term earthquake prediction – Electromagnetic and other possible precursors and their generation mechanisms (IASPEI, IAGA, IAVCEI)
JV01	World Volcano Observatories (WOVO) and International Science (IAVCEI IAMAS)
JV02	Forecasting and Monitoring Volcanic Eruptions (IAVCEI, IASPEI, IAGA, IAGA)
JV03/JS04	Physics and Chemistry of Earth Materials with Implications for Earth Structure and Processes (IASPEI, IAVCEI, IAGA, IAVCEI, IASPEI, SEDI)
JV04/JS05	The Davies Mantle: Reconciling Geophysical and Geochemical Perspectives (IASPEI, IAVCEI, IAVCEI-SEDI, IASPEI, SEDI)
JV05	Using Geodesy on Volcanoes to Understand Volcanic, Tectonic, and Hydrothermal Forces (IAVCEI, IAG)
JV07	Using Paleomagnetism to Understand Volcanic Processes (IAVCEI, IAGA)
JV08	Remote Sensing of Volcanic Hazards and the Risk to Global Aviation (IAVCEI, IAMAS)
JV09/JS11	Imaging and monitoring active volcanoes and geothermal fields by Electro-Magnetic (EM) and other geophysical techniques (IASPEI, IAGA, IAVCEI)
JV10/V19	Volcanic and Seismic Issues Related to Siting of Nuclear Facilities / Probabilistic Volcanic Hazard Mapping (IAVCEI, IASPEI)
JV11	Progress and Perspectives in Studies of the Continental Lithosphere (IAVCEI, IASPEI, ILP)
JV12/JS08	Volcano Seismology (IAVCEI, IASPEI)

Association Symposia and Workshops

International Association of Cryospheric Sciences (IACS)

C01	Remote Sensing of the Cryosphere – linking and validating measurements from satellite, air, and ground
C02	Ice Cores and Climate
C03	Morphology of Snow and Ice on the Ground and in the Atmosphere (IACS, IAMAS)
C04	Glacier and Ice Cap Fluctuations

International Association of Geodesy (IAG)

G01	Reference Frames from Regional to Global Scales
G02	Monitoring and Modelling of Mass Distribution and Mass Displacements by Geodetic Methods
G03	Monitoring and Modelling Earth Rotation
G04	Multisensor Systems for Engineering Geodesy
G05	Geodetic Imaging Techniques
G06	Towards a Unified World Height System
G07	High Precision GNSS

International Association of Geomagnetism and Aeronomy (IAGA)

A011	Planetary Magnetic Fields and Geomagnetic Secular Variation (Div I and Div V)
A012	Planetary Magnetic Fields and Geomagnetic Secular Variation (Div I)
A013	Planetary Magnetic Fields and Geomagnetic Secular Variation (Div I)
A021	Electromagnetic Induction (Div I)
A022	Electromagnetic Induction (Div I)
A031	Paleomagnetism (Div I)
A032	Paleomagnetism (Div I)
A033	Paleomagnetism (Div I)
A034	Paleomagnetism (Div I)
A041	Rock Magnetism (Div I)
A042	Rock Magnetism (Div I and Div V)
A043	Rock Magnetism (Div I)
A044	Rock Magnetism (Div I)

XXV General Assembly of the International Union of Geodesy and Geophysics
List of Lectures and Symposia

- A050 Electrodynamic and energetic of the middle atmosphere and lower thermosphere: the local and global picture (Div II)
- A061 Coupling in the atmosphere-ionosphere-magnetosphere system and its response to external forcing and forcing from below (Div II)
- A062 Coupling in the atmosphere-ionosphere-magnetosphere system and its response to external forcing and forcing from below (Div II and Div III)
- A063/A065 Coupling in the atmosphere-ionosphere-magnetosphere system and its response to external forcing and forcing from below (ICDC, Div II & Div III)
- A071 Radiation belt dynamics and remote sensing of the Earth's plasmasphere (Div II and Div III)
- A072 Radiation belt dynamics and remote sensing of the Earth's plasmasphere (Div II)
- A081 Space plasma processes (Div III)
- A082 Space plasma processes (Div III)
- A083 Space plasma processes (Div III)
- A091 Magnetosphere-ionosphere coupling (Div III and Div II)
- A092 Magnetosphere-ionosphere coupling (Div III and Div II)
- A093 Magnetosphere-ionosphere coupling (Div III and Div II)
- A101 The Sun and the Heliosphere: New Views (Div IV)
- A102 The Sun and the Heliosphere: New Views (Div IV)
- A111 The Sun and the Heliosphere: Physical Processes (Div IV)
- A112 The Sun and the Heliosphere: Physical Processes (Div IV)
- A113 The Sun and the Heliosphere: Physical Processes (Div IV)
- A121 Space Weather and Space Climate (Div IV)
- A122 Space Weather and Space Climate (Div IV and Div V)
- A131 Magnetic observations from ground to space – ingredients for new geomagnetic Research (Div V)
- A132 Magnetic observations from ground to space – ingredients for new geomagnetic Research (Div V)
- A141 Lithospheric field and related geological/tectonic implications (Div V)
- A142 Lithospheric field and related geological/tectonic implications (Div V)
- A143 Lithospheric field and related geological/tectonic implications (Div V)
- A144 Lithospheric field and related geological/tectonic implications (ICDC and Div V)
- A151 Reporter's Review (Div III)
- A152 Reporter's Review (Div IV)
- A153 Reporter's Review (Div V)
- A161 History sessions focused on IAGA subdisciplines (IAGA Inter-Divisional Commission on History)
- A162 History sessions focused on IAGA subdisciplines (IAGA Inter-Divisional Commission on History)

International Association of Hydrological Sciences (IAHS)

- H01 Conceptual and modelling studies of integrated groundwater, surface water, and ecological systems (ICGW, ICSW, ICWQ, ICWRS)
- H02 Cold regions hydrology in a changing climate (ICSIH, PUB)
- H03 Risk in Water Resources Management (ICWRS, ICSW, ICWQ)
- H04 Assessment of water quality under changing climate conditions (ICWQ, ICCE, ICWRS, UNESCO)
- HW01 Tracer applications in sediment research (ICCE, ICT, ICWQ, PUB)
- HW02 Understanding and quantifying physical and geochemical processes during artificial recharge of groundwater (ICGW, ICWQ)
- HW03 Regional groundwater modelling: Approaches, challenges, and future directions (ICGW, ICT)
- HW04 Snow and ice hydrology: Principles, processes and prediction (ICSIH, ICGW, ICSW)
- HW05 Revisiting experimental catchment studies in forest hydrology (ICSW, ICRS)
- HW06 Expert judgement versus statistical goodness-of-fit for hydrological model Evaluation (ICSW, ICWRS, STAHY)
- HW07 Hydro-geomorphology (ICSW, ICCE)
- HW08 Tracer hydrology as a tool for estimating flow parameters, groundwater dynamics, pollution transport and bioremediation processes in heterogeneous systems (ICT, ICGW)
- HW09 Revaluing system knowledge in water resources management (ICWRS, ICWQ)

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- HW10 Water quality and sediment prediction in ungauged basins (ICWQ, ICCE)
HW11 Water supply and water quality in large metropolitan areas and megacities (ICWQ, ICWRS)
HW12 Quality and quantity aspects of green and blue water: Impact on agriculture, environment, energy and industry (ICWQ, ICWRS)
HW13 Recent development of statistical tools for hydrological application (STAHY, ICSW, ICWRS)
HW14 Education in the hydrological sciences (EDU)

International Association of Meteorology and Atmospheric Sciences (IAMAS)

- M01 Solar UV radiation (IRC)
M02 Chemistry-climate interactions (ICMA, ICACGP, ICCL, IOC, IRC)
M03 Aerosol-Cloud-Precipitation-Radiation-Interactions (ICCP, ICCL, IRC))
M04 Recent advances in middle atmosphere science (ICMA)
M05 Comparative Atmospheres of the giant planets and their satellites (ICPAE)
M06 Bioaerosols in the Earth system (ICCP)
M07 Advances in atmospheric dynamics (ICDM)
M08 The impact of solar variability on the Earth (ICMA, IRC, ICAE, ICCL, ICPP, IOC)
M09 Three-dimensional radiative transfer in the atmosphere (IRC)
M10 Tropospheric processes and processing: Pollution and biogeochemical cycling (ICACGP)
M11 Ice in the Atmosphere: Formation, Measurement, Modeling and Impacts (ICCP)
M12 Mesoscale and synoptic scale meteorology in the Arctic and Antarctic (ICPM)
M13 Mineral dust: Its impact on the atmosphere and the ocean (ICCP)
M14 Stratospheric processes and their role in climate focused on the Southern Hemisphere (IAMAS (ICMA), WCRP (SPARC), IGAC)

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

- PAS1 IAPSO The Prince Albert I Medal & Memorial Lecture
P01 General topics of ocean physics and chemistry
P02 Physical and biogeochemical processes in marginal enclosed and semienclosed seas
P03 Ocean Mixing
P04 Thermohaline Circulation (THC) and Deep Currents
P05 New insights from Sustained Ocean Observing Systems
P06 Eastern and Western Boundary Currents
P07 Ocean acidification, including Coastal Coral Reef Oceanography

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

- S01/S03 Seismological Observation and Interpretation/ Sub-Saharan Africa Seismology
S02 Triggered and Induced Seismicity
S04 Non-instrumental seismology
S05 Infrastructure for seismology (FDSN)
S06 Recent Large/Destructive Earthquakes
S07 Strong Ground Motions; their source, path, and site effects
S08 Seismic Hazard and Risk – The Global Earthquake Model
S09 Earthquake Early Warning Systems
S10 Physics of the seismic process: from laboratory studies to field observations
S11 Earthquake forecasting and testing
S12 Episodic Tremor, Slip, and Large Earthquakes
S13 Seismic Imaging of the Lithosphere and Mantle
S14 Plate Boundary Processes
S15 Anisotropy and attenuation: mechanisms, processes and observations
S16 Earthquake Disaster Assessments: Seismology and Engineering
S17/S18 Earthquakes and public health / Using NMSOP and other educational modules and tools for online and in-person training courses
S19 Christchurch Earthquake

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

- V01/V04 Magma chambers and intrusions: their physical and chemical dynamics
V02 Arc Magmatism: The Constructive and Destructive Dynamics of Convergent Margin Magmatism
V03 Time-scales of Magmatic Processes and Volcanological Implications

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List of Lectures and Symposia

- V05 Magmatic Volatiles and Gases
- V06 The Rheology of Magmas
- V07 Subaerial and Subaqueous Lava flows
- V08 Volcanic Conduit and Vent Processes
- V09 Eruption, Transport and Deposition of Pyroclasts in Plumes Using Field Studies, and Computational Modelling
- V10 The Dynamics of Pyroclastic Density Currents: Field Studies of Their Deposits, Computational Modelling and Experiments
- V11 Characteristics and Imaging of Pyroclasts
- V12 Tectonic Controls on Volcanism
- V13 Understanding Big Volcanic Systems
- V14 Monogenetic Volcanism: Magma Sources, Ascent and Eruption
- V15 Kimberlite Volcanology
- V16 Subglacial and Subaqueous and Volcanism: processes, products and impacts
- V17 Planetary Volcanism: what's different out there, what's new, and what are we learning?
- V18 Surface processes in volcanic terrains: the erosion, transport and redeposition of volcanoclastic material and their associated hazards
- V19/JV10 Probabilistic Volcanic Hazard Mapping / Volcanic and Seismic Issues Related to Siting of Nuclear Facilities (IAVCEI, IASPEI)
- V20 Volcanic Systems and Mineral Deposits
- VW01 VHub cyberinfrastructure for volcanology – modeling, data sharing, and collaboration
- VW02 Ground-based and remote sensing of volcanic unrest
- VW03 Workshop of the Volcanic Ash Fall Impacts Working Group

Pre-Assembly Workshops

- W01 The Greatest Natural Disasters of our Time
- S-A-VJW01 GPlates Shortcourse
- V-MJW01 Eyafjallajökull, volcanic clouds, and aviation – one year on

XXV IUGG General Assembly Opening Ceremony
MELBOURNE, AUSTRALIA, 28 JUNE 2011

The Opening Ceremony of the XXV General Assembly of the International Union of Geodesy and Geophysics was held in the afternoon of Tuesday, 28 June 2011 at the Melbourne Convention Centre, Melbourne, starting at 16:00.

PROGRAMME

Welcoming Speech by Ray Cas, Chair of the Local Organising Committee of the XXV IUGG General Assembly

Address by Peter Hall, Vice-President of the Australian Academy of Science

Welcoming Address by Keith Hunter, Vice-President of the Royal Society of New Zealand

Address by Reiko Kuroda, Vice-President of the International Council for Science (ICSU)

Address by Peter Manins, Chair of the Scientific Program Committee of the XXV IUGG General Assembly

Report by Alik Ismail-Zadeh, Secretary General of IUGG

Welcome by Tom Beer, President of IUGG

**WELCOMING SPEECH BY RAY CAS,
CHAIR OF THE LOCAL ORGANISING COMMITTEE OF THE XXV IUGG GENERAL ASSEMBLY**

Distinguished Guests and all Delegates,

You don't know how pleased I am to see you all here!!!

On behalf of the Joint Australian and New Zealand Organising Committee, welcome to Melbourne and the IUGG2011 General Assembly.

For some members of the LOC, this has been a ten year journey, involving bidding for the conference twice, and then the final organization of the conference over the last 4 years.

The last 6 months has been particularly hard work, the most difficult part being to organize the eruption of Puyehue volcano in southern Chile and then navigating the ash cloud to Australia and New Zealand, for your entertainment! Ironically much of the ash that has caused aviation problems in Australia and New Zealand will end up back in South America after circumnavigating the globe.

There are many thanks, and I apologise to those I have missed

- The members of the LOC for their unfailing dedication
- Our wives and partners for putting up with our commitment
- The Secretaries General and Presidents of the IUGG and its eight member associations for their collaborative approach and co-operation
- The conference organizing company *arinex* for their incredible and sustained hard work
- The volunteers, all students, who will also participate in the conference, most as oral and poster presenters
- The sponsors, especially
 - the Victorian State Government, the major sponsor
 - the Silver Sponsor
 - Geoscience Australia
 - the Bronze Sponsors
 - CSIRO
 - Bureau of Meteorology
 - the minor sponsors
- The exhibitors who will display their activities during the middle part of the conference
- The Melbourne Convention and Exhibition Centre for the outstanding venue
- The city of Melbourne for being such a beautiful city for hosting this conference.

Please enjoy your time at the IUGG2011 conference!

**ADDRESS BY PETER HALL,
VICE-PRESIDENT OF THE AUSTRALIAN ACADEMY OF SCIENCE**

The Australian Academy of Science is delighted that Melbourne is hosting the 2011 IUGG General Assembly, and that so many of you have come from near and far to take part in this meeting. The last time that Australia hosted an IUGG General Assembly was in Canberra in 1979. It is fitting that IUGG chose the southern hemisphere to hold this special event in 2011.

The Academy is pleased to have been the Australian adhering body to the International Council for Science, ICSU, since 1955. We greatly value the work that ICSU and the Unions have undertaken over many decades. The Academy and Australian researchers have had a long history of active involvement in IUGG and its associations. We have been particularly impressed by the work and dynamism of Dr Tom Beer as the President of the IUGG and we congratulate him on his presidency. I would also like to commend the local organisers, associations, and the scientific committee for putting together an outstanding and comprehensive program for this important event.

Australia has a proud tradition of excellence and innovation in science relating to the earth through studies of space, the oceans, the atmospheres and the solid earth. Australia plays a much larger international role in geophysics and geodesy than might be expected from the basis of mere population. We have the advantage of being a nation and a continent so that internal barriers are minimised. The configuration of a stable continent adjacent to active tectonic boundaries provides an excellent natural laboratory for many types of studies. As the largest landmass in a substantial slice of the Southern hemisphere Australia has taken a major role in the understanding of the Southern Ocean and Atmosphere, with strong links also to Antarctica where geophysical investigations help to understand the way in which this frozen continent responds to a changing environment.

Other Australian efforts range from observation and theoretical studies of the dynamic Sun to space weather, geomagnetism, meteorology, climate change, and tsunamis, all subjects of great interest to IUGG and indeed to humanity as a whole, especially in Asia and Oceania.

The Australian Academy of Science recognises the important contribution of the earth sciences and the need to both promote scientific excellence in Australia and to support Australia's contribution to international collaborative interdisciplinary science to address key global issues such as climate change.

**WELCOMING ADDRESS BY KEITH HUNTER,
VICE-PRESIDENT OF THE ROYAL SOCIETY OF NEW ZEALAND**

Ka takī te Tītī, ka takī te Tōroa, ka takī hoki ko au, tihei mauri ora! (*Behold the breath of life*)

Tēnā koutou, tēnā koutou tēnā koutou katoa. (*Once, twice and thrice welcome*)

It is a very great pleasure for me to welcome you all here to the IUGG General Assembly in Melbourne on behalf of the Royal Society of New Zealand. I bring you all the greetings of the RSNZ President, Dr Garth Carnaby, the Council of the Society and its Academy of Fellows, of which I am the current chair.

I am reminded by an earlier speaker that the first ever IUGG General Assembly to take place in the southern hemisphere was held in Canberra in 1979. I attended that meeting as a young, newly-appointed academic, and so I find it particularly pleasing to return to the second IUGG General Assembly to be held in Australia in my present capacity. How the wheel of life turns!

Arguably, there has never been a more apt occasion for scientists to be gathering together to share knowledge and have discussions about the various earth sciences. A volcano in Chile has been conspiring to prevent many delegates for getting here. In my country, the city of Christchurch has been devastated by earthquakes since last year that never seem to end, and we have seen even more destruction and tragic loss of life in Japan and Haiti. And then there is the growing spectre of climate change, with its attendant flooding, heat waves and many other consequences. Looking at the scientific programme, these events will be central themes and like most of you, I am looking forward to participating.

My wife and I travel to Melbourne almost every year and now regard it as our second home. Therefore, let me recommend to you the many delights of this wonderful city. Delicious food from all around the world, wonderful museums and galleries, fascinating architecture. I hope that you will find time during your visit to enjoy the sights, sounds and tastes of Melbourne.

Nō reira tēnā koutou, tēna koutou, kia tatou katoa. (*And therefore, once, twice and thrice welcome again*)

**ADDRESS BY REIKO KURODA,
VICE-PRESIDENT OF ICSU**

Vice-Presidents of the Australian Academy of Science and the Royal Society of New Zealand, President of IUGG, Prof. Tom Beer, Distinguished guests, Ladies and Gentlemen.

It is my great honour and pleasure to extend greetings on behalf of ICSU, the International Council for Science.

ICSU is a premier international scientific organization, non-governmental, established in 1931, and currently consists of 121 national scientific bodies, and 30 International Scientific Unions. ICSU is based on two earlier bodies: the International Association of Academies (IAA: 1899-1914) and the International Research Council (IRC: 1919-1931). It is a membership-based organization with 121 national members (representing 141 countries), and 30 International Scientific Unions, including IUGG.

ICSU has established 19 interdisciplinary bodies in key areas, with great success. Even though ICSU has limited finances it has unique worldwide access to intellectual resources.

ICSU's Mission is to "Strengthen International Science for the Benefit of Society". And to achieve this, ICSU mobilizes the scientific knowledge and resources of the international science community. The means to achieve this mission is to:

- Identify and address major issues of importance to science and society
- Facilitate interaction amongst scientists across all disciplines and from all countries
- Promote the participation of all scientists – regardless of race, citizenship, language, political stance, or gender – in the international scientific endeavor
- Provide independent, authoritative advice to stimulate constructive dialogue between the scientific community and governments, civil society, and the private sector.

We are currently finalizing the ICSU Strategic plan, 2012-2017.

Let me briefly introduce you our new initiative which is relevant to you, i.e., "*Earth System Research for Global Sustainability*".

To advance science and technology, change human behavior, and influence political will to avoid dangerous climate change, to meet needs for food, water, improved health and human security, and to eradicate extreme poverty and hunger and ensure ecosystem integrity, we will have to meet *a twofold challenge*:

- develop effective response strategies to ongoing global change
- deepen our knowledge of the functioning of the Earth system

and adopt *New ways of doing research*

- implement a more balanced mix of disciplinary, interdisciplinary, and transdisciplinary research
- actively involve stakeholders and decision-makers
- transition from research dominated by natural sciences to research
- involving the full range of sciences and humanities

IUGG consists of eight Union Associations and 69 member nations. It is noteworthy that related Unions get together to collaborate and become a big voice in the ICSU family.

IUGG promotes and coordinates physical, chemical and mathematical studies of the Earth and its space environment." Thus, IUGG and ICSU have similar missions and much in common.

The XXV General Assembly of IUGG is about to begin here in Australia, a country which produced many famous scientists, including Lawrence and William Bragg of X-ray crystallography, Howard

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Florey of penicillin, Barry Marshall of the *Helicobacter pylori* bacterium, and Elizabeth Blackburn of telomere and telomerase.

I wish a great success for the XXV General Assembly of IUGG, here in Melbourne.

Thank you for your kind attention.

**ADDRESS BY PETER MANINS,
CHAIR OF THE SCIENTIFIC PROGRAM COMMITTEE OF THE XXV IUGG GENERAL
ASSEMBLY**

It is my privilege and honour to be here to welcome you to my home city of Melbourne. You are one of about 3400 scientists from 82 countries taking part in the scientific program of the XXV Assembly of the International Union of Geodesy and Geophysics. Over the next 10 days you will participate in your selection from 198 Symposia and Workshops, over 2800 oral presentations and almost 2000 posters.

For most of you this is a welcome to the Southern Hemisphere where some things are different:

- such things as cyclones rotate clockwise,
- background carbon dioxide concentrations are lower,
- the ozone hole is a problem here,
- the sun is in the North, and the Southern Cross marks our Pole.

First of all I wish to thank the Chairman of the Local Organising Committee, Professor Ray Cas, for his strong leadership, and the entire Committee for their work in organising the logistics of this huge event.

The Scientific Program Committee, made up of the Union Secretary General and the Secretaries General of the eight member Associations of the Union, started work in January 2008. With me as Chair, they have met monthly by teleconference and in two face-to-face meetings over the period. I wish to record my admiration and thanks for their hard work in pulling together the large and complex scientific program. These people are:

- Alik Ismail-Zadeh, Secretary General of the Union,
- Manfred Lange, Secretary General of the International Association of Cryospheric Sciences,
- Hermann Drewes, Secretary General of the International Association of Geodesy,
- Mioara Manda, Secretary General of the International Association of Geomagnetism and Aeronomy,
- Pierre Hubert, Secretary General of the International Association of Hydrological Sciences,
- Hans Volkert, Secretary General of the International Association of Meteorology and Atmospheric Sciences,
- Johan Rodhe, Secretary General of the International Association for the Physical Sciences of the Oceans,
- Peter Suhadolc, Secretary General of the International Association of Seismology and Physics of the Earth's Interior, and
- Joan Marti, Secretary General of the International Association of Volcanology and Chemistry of the Earth's Interior.

I also wish to thank Bree Richardson and Jacqui Murkins of ARINEX, the Conference Organisers, for their friendly professionalism in coping with all our demands and needs and for making the science planning task run so successfully.

As well as the 128 Symposia sponsored by the individual Associations and the 64 Joint Symposia sponsored by two or more Associations, we have nine important Union Plenary Lectures by eminent scientists, including one by my friend Greg Ayers, head of the Bureau of Meteorology, Australia.

We have a series of particularly important symposia presentations dealing with recent Pacific Rim disasters where we really do feel 'Earth on the Edge'. We will cover the Japan Earthquakes, Tsunami and Nuclear disaster; the Christchurch Earthquakes; the Queensland Floods; and the Chile Earthquake and Tsunami; and possibly even the current Chilean volcanic eruptions.

There will also be a special Symposium on the 'Role of Geodesy and Geophysics in Delivering Economic, Social and Humanitarian Benefits', sponsored by Geoscience Australia.

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Special honours will also feature in Associations' meetings, including the award of the Prince Albert I Medal to my CSIRO colleague Trevor McDougall for his outstanding contributions to the enhancement and advancement of the physical sciences of the oceans.

I will now conclude by wishing you all a thoughtful and exciting science meeting, as well as hoping you have an opportunity to see something of this great city, and of Australia and New Zealand.

**ADDRESS BY ALIK ISMAIL-ZADEH,
SECRETARY GENERAL OF IUGG**

Distinguished Guests, Dear Colleagues,
Ladies and Gentlemen,

It is my pleasure to report to the XXVth IUGG General Assembly certain aspects of the administration of the Union.

As of 1 January 2011, IUGG has 69 Member Countries. This is four more than at the closing of the 24th General Assembly in Perugia, Italy, in 2007. Greece rejoined IUGG as a Regular Member. The Republic of Azerbaijan and the Former Yugoslav Republic of Macedonia became new Regular Members of the Union; Costa Rica and the Republic of Georgia joined IUGG as Associate Members; Bulgaria moved to a Regular Member; and India enhanced its membership category. Three Associate Members became regular members; thanks to the Royal Society of London (U.K. Adhering Body to IUGG) that paid membership dues of the Democratic Republic of Congo, Ghana, and Morocco for the last three years.

IUGG co-sponsored and took an active part in the four International Programs dedicated to the 50th Anniversary of the International Geophysical Year, namely: the International Polar Year, a joint initiative of the International Council for Science and the World Meteorological Organisation; the International Year of Planet Earth, a joint initiative of the International Union of Geological Sciences and UNESCO; and IUGG initiatives: Electronic Geophysical Year and the International Heliophysical Year.

During the past quadrennium, Scientific Assemblies of the Union Associations were held around the world emphasizing the importance of science to benefit society: volcanologists met in Reykjavik (Iceland); seismologists in Cape Town (South Africa); MOCA, a Joint Assembly of meteorologists, oceanographers and cryospheric scientists was held in Montreal (Canada), the association of geomagnetism and aeronomy held their assembly in Sopron (Hungary), geodesists met in Buenos Aires (Argentina), and hydrologists in Hyderabad (India).

The IUGG Union Commissions organized several conferences and symposia: two conferences on mathematical geophysics in Longyearbyen (Norway) and Pisa (Italy), two SEDI conferences in Kunming (China) and Berkeley (USA), and GeoRisk Commission symposia in Barcelona (Spain), Oslo (Norway), and Torino (Italy). GeoRisk Commission took active part in the organization and holding of the trans-disciplinary ENHANS project events in Iguassu (Brazil), San Francisco (USA), Pretoria (South Africa), Antalya (Turkey), and now in Melbourne.

Unfortunately several great natural disasters occurred for the last quadrennium. As a response to the 2010 Haiti earthquake disaster, IUGG adopted the special resolution on “Science on Natural Hazards and Environmental Disasters” and in March 2011 the special statement on the “Great East Japan Earthquake and Tsunami”. Another two statements on Volcanic Ash Clouds and on Volcanological and Meteorological Support for Volcanic Ash Monitoring, both related to the eruptions of the 2010 Icelandic volcano, were issued by IUGG and welcomed by the World Meteorological Organization and the International Civil Aviation Organization.

A new 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. Four new Union Committees on (i) Capacity Building and Education, (ii) Honours and Recognition, (iii) Membership Issues, and (iv) Visioning were set up to increase IUGG visibility worldwide.

Seven multi- and inter-disciplinary international scientific projects were supported through the new IUGG Grants Programme. For the last quadrennial, a total of US\$65,000 in grants to support meetings was allocated to the organizers of 43 symposia, workshops, schools or meetings in 31 different countries, most of them in developing countries. IUGG Bureau and Executive Committee met in 2008

in Karlsruhe (Germany) and in 2009 in Melbourne (Australia); the Bureau met also in Cairo (Egypt) in 2010.

An important part of my duties during the past quadrennium has been service to the International Council for Science (ICSU), here represented by the ICSU Vice President, Professor Reiko Kuroda. IUGG issued the statement “Freedom to Conduct Science and Responsibilities of Scientists” highlighting the ICSU Principle of the Universality of Science, which is fundamental to scientific progress.

IUGG was successful in winning a total of EUR50,000 in competitive ICSU grants to promote research on natural hazards and disaster risks as well as geophysical research and geoinformation in Africa. IUGG nominated persons for numerous ICSU panels and scientific committees, and endorsed many initiatives of the Council. IUGG officers and representatives attended multiple ICSU meetings.

IUGG strengthened further its relationship with ICSU GeoUnions Consortium and ICSU Scientific Committees via cooperation in international programmes on natural hazards, data & information, and health & well-being. Since 2005 IUGG and the International Union of Geological Sciences (IUGS) assumed responsibility for the International Lithospheric Programme (ILP), formerly an ICSU Interdisciplinary Body. During the past 4 years, IUGG spent more than US\$120,000 to support inter-Union activities, including ILP, the World Climate Research Programme and the Federation of Astronomical and Geophysical Data Analysis Services (now transforming into the World Data System). We look forward to continuing positive collaborations with ICSU Members and within the active consortium of international Unions as well as to continuing a support of international scientific programs.

On behalf of IUGG, I thank the Local Organizing Committee and the Scientific Programme Committee of the XXV General Assembly for the excellent work done. Of particular importance, the Local Organizing Committee raised AU\$300,000 to support scientists who could not otherwise afford to travel to Melbourne. We understand the challenges of hosting a General Assembly, and we are grateful for their hard work.

During these past 4 years, the office of the IUGG Secretariat has been hosted by the Karlsruhe Institute of Technology in Germany and was financially supported by the grants from the German National Research Foundation (DFG). The grants permitted to hire the Assistant to the Secretary General and to help in travels of the Secretary General.

Finally, I thank the Members of the IUGG Executive and Finance Committees, Union Committees and Commissions and all IUGG Members for their dedication and active participation in the IUGG activities for the past 4 years. In particular, the IUGG President Tom Beer and Treasurer Aksel Hansen have served the Union with passion and dedication.

Best wishes to all for a successful General Assembly! Thank you.

**WELCOME BY TOM BEER,
PRESIDENT OF IUGG**

I am pleased to welcome you all to Melbourne. It is ironic that all of you, the world's most distinguished geodesists and geophysicists, who are members of the international scientific union that devotes itself to research on the Earth, in order to be here have had to overcome volcanic ash clouds coming from South America, Earthquakes in New Zealand, Tornadoes in the United States, and devastating earthquakes and tsunamis in Japan.

All of you comprise the International Union of Geodesy and Geophysics, or IUGG as we call it. It has been in existence since 1919. Formally, countries – and only countries - are members of IUGG. This means that if your country is a member of IUGG, and you are a research scientist working on geodesy or geophysics then you are a part of IUGG. Of course, geophysics is taken in its broadest sense to mean solid earth geophysics and fluid earth geophysics, as well as studies of other planets and the space environment.

In Greek mythology there are nine spirits that inspire the creation of literature and the arts. They are known as the Muses. Each one has a name as well as a symbol that represents that particular muse. Nowadays we would say that each Muse has a logo. IUGG also has nine spirits that inspire the creation of knowledge about the physics and chemistry of the Earth. In addition to IUGG these scientific spirits are:

IACS IAG IAGA IAHS IAMAS IAPSO IASPEI IAVCEI

Muses tame the wild spirits of humanity and each of these international scientific muses, or more correctly, international scientific associations, also has their own logo.

channel them into literature and the arts. As scientists we tame the wild spirits of humanity and channel them into science. I believe that we all do our work in the belief that the way to tame wild spirits is to know more about them.

But it is also important to share the knowledge.

To continue the parallels with the ancient Greeks, the IUGG General Assembly has been called the Olympic Games of Geodesy and Geophysics. The Olympic Games are held every four years. In our case, every four years the members meet at the General Assembly. This does not just consist of a scientific conference. The Union also holds business meetings of the IUGG Council, the Executive Committee and the IUGG Bureau. In addition, there are business meetings of the IUGG Associations, Union commissions and Association commissions, committees, and working groups.

This is the first time that the General Assembly has been held in Melbourne, the second time it has been held in Australia, and only the third time that it has been held outside of Europe and North America. I was a young scientist when I attended my first IUGG meeting in Canberra in 1979. It enthused me and inspired me to devote my life to science and to international collaboration.

The highlights of IUGG General Assemblies are the Union Lectures. I invited nine of the world's leading geo-scientists to present these. Three of these Lectures have become eponymous lectures as memorials to Association Presidents with strong Australian connections who died in this past quadrennium. These are the Tucker Memorial Lecture to be given by Dr Greg Ayers; the Radok Memorial Lecture to be given by David Vaughan; and the Troitskaya-Cole Memorial Lecture to be given by Dan Baker. Details of all of the Union Lectures can be found in the Program Book. I urge you to attend all of them.

Prof. Ray Cas, the Chair of the Local Organising Committee (LOC), has been helped in the preparations for the meeting by the LOC and by a firm of professional conference organisers, arinex. The scientific program committee for IUGG General Assemblies consists of the Secretaries-General of IUGG and the Union Associations, the Union President, and a local Chair – Dr Peter Manins in this case. They have all done an excellent job and deserve our appreciation and thanks.

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Opening Ceremony

To symbolise the movement of the IUGG General Assembly from Perugia to Melbourne, and to formally open the XXVth IUGG General Assembly I would like to invite the Delegate from Italy, Giuliano Panza to present the IUGG Flag to the Chair of the Melbourne Organising Committee, Professor Ray Cas.

MINUTES OF THE COUNCIL MEETING
XXV GENERAL ASSEMBLY, MELBOURNE, AUSTRALIA, 27 JUNE - 8 JULY 2011

MINUTES OF THE FIRST SESSION
MONDAY, 27 JUNE, 2007 (14:00 – 18:00), ROOM 106, MELBOURNE CONVENTION CENTRE

PARTICIPANTS

NATIONAL DELEGATES

Australia	Brian Kennett
Austria	Norbert Höggerl
Brazil	Marcelo Assumpção
Canada	Zoltan Hajnal
China	Jianping Li
Czech Republic	Vladimir Cermak
Denmark	Søren Gregersen
Estonia	Rein Rõõm
Finland	Elena Kozlovskaya
France	Jérôme Dymont
Hungary	József Ádám
India	Virendra Tiwari
Israel	Zev Levin
Italy	Giuliano Panza
Japan	Shiro Imawaki
Luxembourg	Tonie van Dam
F.Y.R. Macedonia	Cvetanka Popovska
New Zealand	David Rhoades
Nigeria	Dagogo Fubara
Norway	Ulf-Peter Hoppe
Poland	Jan Krynski
Portugal	João Agria Torres
Romania	Constantin Sava
Russia	Alexei D. Gvishiani
South Africa	Isabelle Ansoorge Raymond Roman (alternate)
Sweden	Berit Arheimer
Thailand	Nopphadon Chotsiri Chaiwat Promthong (alternate)
Turkey	Onur Lenk Soner Özdemir (alternate)
United Kingdom	David Collins
United States of America	Priscilla Grew
Vietnam	Ha Duyen Chau

LISTENERS

Costa Rica	Marino Protti
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MEMBERS OF THE EXECUTIVE COMMITTEE

President	Tom Beer
Vice-President	Harsh Gupta
Secretary General	Alik Ismail-Zadeh
Treasurer	Aksel Hansen
Bureau Member	Yun-tai Chen
Bureau Member	David Jackson
President IACS	Ian Allison

President IAG	Michael Sideris
President IAGA	Eigil Friis-Christensen
President IAHS	Gordon Young
President IAMAS	Guoxiong Wu
President IAVCEI	Setsuya Nakada

MEMBERS OF THE FINANCE COMMITTEE

Chair	Juan F. Vilas
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GUESTS OF THE PRESIDENT ATTENDING THE FIRST SESSION OF THE COUNCIL

IUGG Liaison to CODATA	Charles Barton
Candidate for IUGG Bureau Member	Jaime U. Fucugauchi
Chair of Statutes and By-Laws Committee	David Kerridge,
IAMAS Assistant Secretary General	Jenny Lin
IUGG Liaison to SCOR	Mike MacCracken
Chair of the IRDR Scientific Committee	Gordon McBean
Chair of the ICSU Regional Office for Asia and the Pacific	Bruce McKellar
IUGG Assistant Secretary General	Simone Oswald
IAPSO Secretary General	Johan Rodhe
IUGS Councillor	Colin Simpson
IASPEI Secretary General	Peter Suhadolc
Deputy Director, BISO, National Academies of Sciences	Ester Szein

1. Greetings; Presentation of the credentials; election of tellers

The First Session of the Council Meeting was called to order at 14:00 and began with a roll call of delegates. 28 delegates were present at the opening, all of them eligible to vote. The total number of countries eligible to vote was 57 (69 minus 7 in observer status minus 5 in associate status). The quorum (19) was reached. Other delegates arrived in the course of the session, bringing the total to 31 with all eligible to vote.

Tom Beer welcomed all participants in the Council Meeting and informed them that the latest number of Assembly registrants is over 3,000. He also introduced Simone Oswald, IUGG Assistant

Secretary General, and Jenny Lin, the IAMAS Assistant Secretary General, who will help in taking the minutes and be the contact points in case of any problems.

Three tellers for voting matters were announced, namely Jenny Lin, Johan Rodhe, and Raymond Roman. The Council Members accepted the proposal by the President.

2. Approval of the Agenda

The Agenda was approved.

3. Approval of the Minutes of the Council Meeting in Perugia (2007)

The Minutes of the 2007 Council Meeting were distributed to the participants of the 2007 General Assembly for their comments, published in the Comptes Rendus of the 24th General Assembly, and also posted on the IUGG web page. The Minutes were approved.

4. Brief Reports of the Officers

President Tom Beer

Tom Beer summarized his activities since 2007 as detailed in his report in the Council Agenda Book. (Note: the quadrennial report of the President can be found in the Comptes Rendus of the 2011 IUGG General Assembly).

He especially highlighted the item on IUGG membership and expressed his concern about the decreasing attendance of National Delegates at IUGG General Assemblies. After the General Assembly in Perugia, Italy, he therefore tried to contact several IUGG members to find out why the delegates are not coming. Possible reasons are:

- Restructuring of the Adhering Body or the retirement of a long-serving IUGG National Committee Chair who had not managed to find appropriate new persons.
- Visa problems;
- Financial difficulties

Concerning the restructuring and retirement issues in the Adhering Bodies and National Committees, Tom Beer encouraged the Council Members to give some thought to their respective National Committee about the following questions:

- Does the National Committee need to be reconstituted?
- Are the Committee Members still active?
- Is there a realistic succession plan to handle retirements and resignations?
- Is the National Committee providing sufficient feedback to the Adhering Body?

Furthermore, he pointed out that regional geophysical groupings such as the American

Geophysical Union (AGU), the European Geosciences Union (EGU), and the Asian Oceania Geosciences Society (AOGS) are all very strong, robust and vibrant, but they have no direct voice in the IUGG affairs. To improve this situation, a Membership Committee, chaired by Aksel Hansen, was established. This Committee recommended a possible new Membership category and various classes of Membership, which will be discussed under item 8.

Vice-President Harsh Gupta

Harsh Gupta summarized his activities since 2007 as detailed in his report in the Council Agenda Book. (Note: the quadrennial report of the Vice-President can be found in the Comptes Rendus of the 2011 IUGG General Assembly).

Additionally, he mentioned that, during his visit to the GeoForschungsZentrum (GFZ) in Potsdam, Germany, he had a chance of discussing the possibilities of establishing an IUGG Secretariat in GFZ-Potsdam. HG mentioned that the GFZ-Potsdam sent a response, which has been discussed by the IUGG Bureau, and IUGG will reply accordingly.

Secretary General Alik Ismail-Zadeh

Alik Ismail-Zadeh summarized the activities of the Union since 2007 as detailed in his report in the Council Agenda Book. (Note: the quadrennial report of the Secretary General can be found in the Comptes Rendus of the 2011 IUGG General Assembly).

He especially highlighted the item of IUGG membership. Greece rejoined IUGG as a Regular Member; the Republic of Azerbaijan and the Former Yugoslav Republic of Macedonia became new Regular Members; Costa Rica and Georgia joined IUGG as Associate Members; Bulgaria moved to regular membership; and India enhanced its membership category. Three Associate Members, i.e., DR Congo, Ghana and Morocco, also became Regular Members thanks to the Royal Society of London, UK, which offered to pay their membership dues for the last three years.

He mentioned that IUGG has been involved in various activities of the International Council for Science (ICSU), especially emphasizing the International Polar Year, new ICSU programs related to integrated research on disaster risk, and the world data system. IUGG was involved in research and outreach programs of several international bodies dealing with the Earth system science, e.g., programs of UNESCO, IOC, IHP, IYPE, IPY, etc.

Treasurer Aksel Hansen

Aksel Hansen summarized his report on the financial status of the Union as detailed in the Council Agenda Book. (Note: the quadrennial report of the Treasurer can be found in the Comptes Rendus of the 2011 IUGG General Assembly).

IUGG currently has 69 members, i.e. 57 Regular Members, 7 Observers and 5 Associates. The Observers are: Greece and the Philippines in category 3, Egypt in category 2, Albania, Armenia, Ghana and Morocco in category 1.

Over the past years, IUGG has accumulated money. The new budget for 2012-2015 will increase expenditure of the Union on scientific programs and grants.

5. Review of IUGG Union Commissions

Harsh Gupta reported on the Union Commission activities. Detailed reports from the Union Commissions can be found in the Council Agenda Book (Note: the quadrennial reports of the Union Commissions can be found in the Comptes Rendus of the 2011 IUGG General Assembly).

The four Union Commissions are:

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

All four Commissions have been very active for the last four years.

6. Matters of Membership

Several new admissions and re-admissions of new members to IUGG require a two-thirds absolute majority vote of the Council for final approval (IUGG Statute 18). A vote by hand was conducted. Tom Beer invited Alik Ismail-Zadeh to lead through this vote. Johan Rodhe, Raymond Roman, and Jenny Lin volunteered to tally the votes.

Alik Ismail-Zadeh especially noted that Greece currently has severe financial and political problems due to which no National Delegate from Greece could travel to the Council Meeting and Greece is in arrears with its membership payments. However, he was informed by the Greek National Committee President Dr. Christos Zerefos that Greece will pay its dues in arrears as soon as possible.

The matters requiring votes were presented in detail in the Council Agenda Book. The results are as follows:

Re-Admission: Greece as Regular Member (cat. 3)
For: 26; Against: 0; Abstain: 2

Admission: Azerbaijan as Regular Member (cat. 1)
For: 28; Against: 0; Abstain: 0

Admission: F.Y.R. Macedonia as Regular Member (cat. 1)

For: 28; Against: 0; Abstain: 0

Admission: Georgia as Associate Member
For: 28; Against: 0; Abstain: 0

Admission: Costa Rica as Associate Member
For: 28; Against: 0; Abstain: 0

7. Report of the Nominating Committee

Due to health problems, Masaru Kono, Chair of the Nominating Committee, was not able to attend the Council Meeting. On his behalf, Tom Beer read his report and introduced the nominees for the IUGG Bureau and IUGG Finance Committee.

As required by IUGG By-Laws 10b and 10c, one or two candidates have been nominated for each position. The positions and the nominated candidates were:

IUGG Bureau

President: Harsh Gupta (India)
David Jackson (USA)
Vice-President: Michael Sideris (Canada)
Guoxiong Wu (China)
Treasurer: Aksel Hansen (Denmark)
Bureau Members (Positions #1, #2, #3):
Isabelle Jane Ansorge (South Africa)
Jaime Urrutia Fucugauchi (Mexico)
Pierre Hubert (France)
Kenji Satake (Japan)

IUGG Finance Committee

Position #1: Zoltan Hajnal (Canada)
Position #2: David Rhoades (New Zealand)
Position #3 and #4:
David Collins (UK)
Jan Krynski (Poland)
Juan Vilas (Argentina)

In accordance with By-Law 10b, David Jackson's nomination was changed from the position of Vice-President, for which he had originally been nominated, to the position of President.

Regarding the nomination of the Treasurer, Tom Beer explained that this does not contradict By-Law 10a because Aksel Hansen is the sole candidate for this position and agreed to serve for another period if re-elected by the Council.

In terms of the Finance Committee, By-Law 10c is not clear enough on who can be nominated for this Committee. In order to clarify this By-Law, a change in the wording was proposed and will be discussed under item 8.

Brian Kennett (Australia) made aware of the fact that it seems possible to be Council Delegate and Finance Committee Member at the same time although both statuses have different rights in the Council.

The candidates for President and for Vice-President each gave a short presentation of their position statement.

Harsh Gupta would work to engage the younger generation of geoscientists into the activities of IUGG and Union Associations; interact with decision makers to share knowledge for a better future; cut down time in making decisions; set up a permanent secretariat for IUGG; interface with industry, particularly with the energy sector; contact foundations/trusts for IUGG projects.

David Jackson would make sure the integration of associations are really maintained. His plans if elected are: encourage young people to participate; open invitations to plan scientific programs; reduce the price of meetings; outreach to users of scientific information; special projects with user involvement; collaborate with sister unions on projects.

Michael Sideris would like to strengthen relations with UNESCO to increase IUGG's visibility. He hopes the Union will make more efforts to boost IUGG visibility to the general public. He would promote the involvement of the Union in developing countries.

Guoxiong Wu would like to use his knowledge in climate to enhance the Union's activities in climate sciences and to assist the President in coordinating activities concerning the preservation of the environment, adaptation of climate change and mitigation of natural hazards.

8. Proposed Changes of Statutes and By-Laws

Tom Beer invited David Kerridge, Chair of the Statutes and By-Laws Committee, to present the report given in the Council Agenda Book.

Eleven proposed changes to the Statutes and By-Laws were received by the Statutes and By-Laws Committee and were discussed in the Council. They are:

1. Affiliate membership of IUGG – to create a new category of membership to formalize linkages with other regional and international

organizations having an overlap with the scientific interest of IUGG;

2. Fellowship of IUGG – to create an IUGG award and a new category of membership to recognize the contributions that individuals have made to the benefit of IUGG;
3. Definition of a General Assembly – to define the term “General Assembly” to better reflect the present situation;
4. Changes to the Statutes and By-Laws – to clarify the process by which proposals to change the Statutes and By-Laws are brought forward for consideration and decision by the Council and to explicitly allow the IUGG Bureau to propose changes as well as Member Countries;
5. Applications to host an IUGG General Assembly – to allow Member Countries to submit proposals to host an IUGG General Assembly up to two Assemblies ahead for consideration by the Council;
6. Council Meeting at a General Assembly – to correct an inconsistency in By-Law 10b regarding the Council Meeting as a single meeting consisting of multiple sessions;
7. Election of the Finance Committee – to eliminate an ambiguity in By-Law 10c to clarify who can be elected to the Finance Committee;
8. Transfer from Observer status to Category A – to simplify and clarify Statute 14g;
9. Reviews of Associate Membership – to clarify the process by which Associate Membership is reviewed;
10. Applications for membership and transfer to Associate Membership – to improve the clarity of By-Law 14;
11. Changes to the IUGG By-Laws – to move Statute 25 to the By-Laws.

During discussions of the changes, Tom Beer mentioned that the Executive Committee of IUGG is not in favor of the proposal to change the procedure of submission proposals to host a general assembly, as an 8-year period in advance of a general assembly is too long, and the selection would be quite uncertain.

Constantin Sava, the Council Delegate of Romania, mentioned the importance of the definition of a General Assembly and supported the change to item 3. Jérôme Dymont, the Council Delegate from France, argued that affiliated organizations should be only non-profit. Tom Beer mentioned that the new Statute's clause does not distinguish between non-profit and profit affiliated organizations, because the acceptance of an organization as an Affiliated member by the IUGG Council should be based on scientific involvement of the organization in geodesy and/or geophysics.

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A vote on the proposed changes of the Statutes and By-Laws will be taken in the third session of the Council Meeting.

9. Report on the proposals to host the XXVI General Assembly in 2015

IUGG received six bids to host the XXVI General Assembly in 2015. As Greece had withdrawn its bid due to financial problems, five bids remained to be decided on:

- Buenos Aires, Argentina
- Prague, Czech Republic
- Copenhagen, Denmark
- Hyderabad, India
- Honolulu, USA

Michel Béland, Chair of the Site Evaluation Committee, was not able to attend the General Assembly. Therefore, Kiyoshi Suyehiro, Member of the Site Evaluation Committee, agreed to act as the new Chair. He reported that the Site Evaluation Committee is comprised of the following members:

Chair: Kiyoshi Suyehiro
Members: Peter Suhadolc
Tom Beer (ex officio)
Alik Ismail-Zadeh (ex officio)

The Site Evaluation Committee will meet on 30 June 2011 where each of the bidder countries will make a presentation of 20 minutes plus 10 minutes for discussion to the Site Evaluation Committee. All Council Members are encouraged to attend this meeting to have the possibility to hear all bids. The Site Evaluation Committee then will prepare a short list of two countries, which will finally present their bids at the third session of the Council Meeting. A vote on the host of the XXVI General Assembly will be taken directly after these presentations.

Zev Levin, the Council Delegate from Israel, proposed two finalists to present their bids at the Second Session of the Council meeting. This proposal was seconded by Shiro Imawaki, the Council Delegate from Japan. Tom Beer called for a vote from the Council on the motion. The motion was lost.

After all items of the Agenda for the First Session of the Council Meeting had been discussed, Dagogo Fubara, the Council Delegate from Nigeria, commented on the visibility of IUGG which could be improved by running more summer schools in developing countries because many young scientists from Africa have problems to travel to the General Assemblies. Alik Ismail-Zadeh thanked Dagogo Fubara for his comment

and shortly introduced the new IUGG initiative to liaise with ICTP in order to improve the geodetic and geophysical education in developing countries, including Africa. Dagogo Fubara also supported the decision of IUGG to award medals, etc.

Finally, Tom Beer invited Gordon McBean to explain ICSU's work on capacity building for young people in the developing countries. Gordon McBean recalled his involvement in the IUGG and his present responsibilities in IRDR, a major initiative of ICSU involving national academies. ICSU has been bringing funding sources to support programs in Africa, Asia, etc. He appreciated IUGG's and GeoUnion's nomination of him to ICSU as a candidate for the position of President-Elect.

The First Session of the Council Meeting closed at 18:00.

MINUTES OF THE SECOND SESSION
SATURDAY, 2 JULY 2011 (10:00 – 13:00), ROOM 106, MELBOURNE CONVENTION CENTRE

PARTICIPANTS

NATIONAL DELEGATES

Argentina	Corina Risso Silvia Blanc (alternate)
Australia	Brian Kennett
Austria	Norbert Höggerl
Azerbaijan	Gulam Babayev
Belgium	Johan De Keyser
Brazil	Marcelo Assumpção Ana P. C. Larocca (alternate)
Canada	Zoltan Hajnal
Chile	Rodrigo Maturana Nadal
China	Jianping Li
China – Taipei	Shaw Chen Liu
Colombia	Laura Sanchez
Croatia	Mirko Orlic
Czech Republic	Vladimir Cermak
Denmark	Søren Gregersen
<i>Egypt</i>	<i>Ahmed Hady</i>
Finland	Elena Kozlovskaya
France	Jérôme Dymont Michel Menvielle (alternate)
Germany	Rainer Kind
Hungary	József Ádám
Iceland	Kristin Vogfjörð
India	Virendra Tiwari
Ireland	John Gamble
Israel	Zev Levin
Italy	Giuliano Panza
Japan	Shiro Imawaki
Luxembourg	Tonie van Dam
F. Y. R. Macedonia	Cvetanka Popovska
Mexico	Harald Böhnell
New Zealand	David Rhoades
Nigeria	Dagogo Fubara
Norway	Ulf-Peter Hoppe
Poland	Jan Krynski
Portugal	João Agria Torres
Romania	Constantin Sava
Russia	Alexei D. Gvishiani
South Africa	Isabelle Ansoorge Raymond Roman (alternate)
Spain	Alicia García García
Sweden	Berit Arheimer
Switzerland	Marc Parlange
Thailand	Nopphadon Chotsiri Chaiwat Promthong (alternate)
Turkey	Onur Lenk
United Kingdom	David Collins
United States of America	Priscilla Grew
Vietnam	Ha Duyen Chau

Italics for Countries in Observer Status

LISTENERS

Costa Rica Marino Protti

MEMBERS OF THE EXECUTIVE COMMITTEE

President	Tom Beer
Vice-President	Harsh Gupta
Secretary General	Alik Ismail-Zadeh
Treasurer	Aksel Hansen
Bureau Member	Yun-tai Chen
Bureau Member	David Jackson
Past President	Uri Shamir
President IACS	Ian Allison
President IAG	Michael Sideris
President IAHS	Gordon Young
President IAMAS	Guoxiong Wu
President IAPSO	Lawrence Mysak
President IASPEI	Zhongliang Wu
President IAVCEI	Setsuya Nakada

MEMBERS OF THE FINANCE COMMITTEE

Chair	Juan F. Vilas
Member	Kiyoshi Suyehiro

GUESTS OF THE PRESIDENT ATTENDING THE SECOND SESSION OF THE COUNCIL MEETING

IUGG Liaison to CODATA	Charles Barton
IAHS Secretary General	Pierre Hubert
Secretary General of the Russian National Committee for IUGG	Roman Krasnoperov
IAMAS Assistant Secretary General	Jenny Lin
IUGG Liaison to SCOR	Mike MacCracken
IAGA Secretary General	Mioara Manda
IAVCEI Secretary General	Joan Martí
IUGG Assistant Secretary General	Simone Oswald
IAPSO Secretary General	Johan Rodhe
IUGS Councillor	Colin Simpson
IASPEI Secretary General	Peter Suhadolc
Deputy Director, BISO, National Academies of Sciences	Ester Szein
IAMAS Secretary General	Hans Volkert

The Second Session of the Council Meeting was called to order at 10:00 with a roll call of delegates. 40 delegates were present at the opening, 39 eligible to vote. The quorum (19) was reached. Other delegates arrived in the course of the session, bringing the total to 44 with 43 eligible to vote.

Kiyoshi Suyehiro, Chair of the Site Evaluation Committee, reported that the hearing's session was

given by five countries: Argentina, Czech Republic, Denmark, India, and the United States of America. The committee met after the hearing and individual scoring and voted for two finalists.

Tom Beer announced two finalists: Honolulu, Hawaii, USA, and Prague, Czech Republic.

10. Reports by Association Presidents

Council Delegates were asked to note the reports of the Associations available in the Council Agenda book. (Note: the quadrennial reports of the IUGG Associations can be found in the Comptes Rendus of the 2011 IUGG General Assembly).

The IUGG Associations Presidents reported on the activities of the associations from 2007-2011 and on the revision of statutes and by-laws.

IACS

Ian Allison reported that IACS already elected a new Bureau. The new officers of the IACS Bureau for 2011-13 are:

President: Ian Allison (Australia)
President-elect: Charles Fierz (Switzerland)
Secretary General: Andrew Mackintosh
(New Zealand)

IACS established several Working Groups and Standing Groups in the last four years. In addition, IACS has Joint Bodies, i.e. Working Groups or Standing Groups run jointly with other international organizations, e.g., SCAR and IASC.

Ian Allison highlighted two reference publications, namely *The International Classification for Seasonal Snow on the Ground* and *The Glossary of Glacier and Mass Balance Terms*, which are published by the UNESCO International Hydrological Programme (IHP).

Besides working together with SCAR, IASC and UNESCO IHP, IACS has also established liaisons to other international bodies, e.g., to the Intergovernmental Panel on Climate Change (IPCC) and the United Nations Framework Convention on Climate Change (UNFCCC).

The first Joint Assembly of IACS, IAMAS and IAPSO (MOCA-09) was held in Montreal, Canada, in 2009. The next Joint Assembly of IACS and IAMAS (DACA-13) will be held in Davos, Switzerland, in 2013.

IAG

Michael Sideris reported that IAG also elected a new Bureau and Executive Committee. The new officers of the IAG Bureau for 2011-2015 are:

President: Chris Rizos (Australia)
Vice-President: Harald Schuh (Austria)

Secretary General: Hermann Drewes (Germany)

Michael Sideris especially highlighted the Global Geodetic Observing System (GGOS), which became a major component of IAG in the last four years. Furthermore, a GGOS Inter-Agency Committee was established in order to support the sustainability of GGOS.

The IAG Scientific Assembly was held in Buenos Aires, Argentina, in 2009.

In the 2011 IUGG General Assembly, IAG has contributed 7 IAG led symposia, 6 joint symposia, 1 Union symposium, 1 Union lecture, and several joint symposia with other Associations. The next scientific assembly will be held in 2013, the year of 150th anniversary of IAG.

Nigerian delegate suggested IAG having a regional office in other continents, e.g. Africa. MS replied that IAG would like to have a regional office in Africa as long as there's a host country.

IAGA

Mioara Manda gave a report on the activities of IAGA.

She especially highlighted the IAGA Scientific Assembly held in Sopron, Hungary, in 2009, where five books on the outcome of this Assembly were published by Springer.

Mioara Manda also mentioned that the European Space Agency (ESA) will launch a new mission to attract and involve more young scientists in 2012.

IAHS

Gordon Young first pointed out that IAHS is having its 90th anniversary in 2012.

The IAHS Scientific Assembly was held jointly with the International Association of Hydrogeologists (IAH) in Hyderabad, India, in 2009.

Gordon Young brought special attention to the decade of the Working Group on the Prediction in Ungauged Basins (PUB) being the major and extremely successful initiative of IAHS. 1400 hydrologists from around the world are currently working in this initiative.

IAHS has a very strong publication output. From 2007-2010, the IAHS Press published among others the *Hydrological Sciences Journal*, 31 *Red Books*, 2 *Blue Books* and 8 volumes in the *Benchmark Series*. Six further *Red Books* are already printed for the current IUGG General Assembly, two of which are joint with other sister Associations. IAHS publications, which are older than 5 years are made freely available on the internet.

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Gordon Young emphasized that IAHS strongly cooperates with other international organizations especially with UNESCO IHP, the World Meteorological Organization (WMO) and the International Atomic Energy Agency (IAEA).

The next Joint Assembly of IAHS, IAPSO and IASPEI will be held in Gothenburg, Sweden, in 2013.

IAMAS

Guoxiong Wu reported on the broad activities of IAMAS. Particularly, he mentioned that IAMAS has liaisons to the ICSU Scientific Committee on Oceanic Research (SCOR), the ICSU Scientific Committee on Antarctic Research (SCAR) and to the World Climate Research Programme (WCRP). The International Ozone Commission (IO3C) of IAMAS and IUGG signed a Letter of Agreement with WMO to establish an ad hoc expert team.

He also proposed the establishment of an IUGG Union Commission on Climate as climate change becomes more and more important scientific and political issues. ICSU established several panels and activities on climate, and IUGG is very active and important in the geosciences but has only a little voice in this issue through the International Commission on Climate of IAMAS. As climate is also a multi-disciplinary science, he has approached WCRP and the Presidents of IACS, IAHS, IAPSO and IAVCEI who showed their support. In order to get this commission working, a Task Force, chaired by Tom Beer, and with the mentioned Association Presidents as potential members, is proposed to be set up. IAG, IAGA and IASPEI were asked whether they support this proposal as well and gave positive feedback.

IAPSO

Lawrence Mysak reported that IAPSO also elected its new Bureau and Executive Committee. The members of the Bureau for 2011-2015 are:

President: Eugene Morozov (Russia)
Past President: Lawrence Mysak (Canada)

Secretary General: Johan Rodhe (Sweden)
Treasurer: Fred Camfield (USA)

Lawrence Mysak emphasized that IAPSO is closely working together and has also several joint Working Groups with SCOR.

He also highlighted the presentation of the Prince Albert 1 Medal, which was awarded to Dr. Trevor McDougall at the IUGG General Assembly in Melbourne. The next medal will be awarded at the Joint Assembly of IAPSO, IAHS and IASPEI in Gothenburg, Sweden, in 2013.

A new resolution to adopt the International Thermodynamic Equation Of Seawater (TEOS-10) was approved by the IAPSO Bureau and will be submitted to Uri Shamir, Chair of the IUGG Resolutions Committee.

IASPEI

Zhongliang Wu reported that the last IASPEI Scientific Assembly took place in Cape Town, South Africa, in 2009. This was the first time that a Scientific Assembly was held in an African country.

He especially highlighted the Asian Seismological Commission (ASC) and the European Seismological Commission (ESC) of IASPEI, which are very active.

IASPEI issued many scientific products such as technical standards and recommendations, seismological software, training courses, earth models and travel time tables.

Furthermore, IASPEI cooperated with many international organizations, e.g., in the *Global Earthquake Model (GEM)* project with the International Association of Earthquake Engineering and Seismology (IAEE), and in the *Networking of world seismologists* project with the *International Seismological Centre (ISC)*, in which IASPEI and ISC will develop and maintain a worldwide registry of seismologists and geophysicists (also in countries not adhering to IUGG) who are willing to act as contact points in their country with a special focus on developing countries. This registry will be available for scientific and research institutions, governmental bodies, charitable and relief organizations and media following natural extreme events. After several devastating earthquakes in the last four years, this networking project was established to improve international activity, which had not really been present.

Since 2007, IASPEI has collected, evaluated and implemented many successful resolutions.

Giuliano Panza, the Council Delegate from Italy, commented on the IUGG statement "Freedom to Conduct Science and Responsibilities of Scientists". He stressed the importance of having complete information about the situation after the 2009 L'Aquila earthquake and the manslaughter trial of several Italian seismologists and a government official. The legal system, if duly respected, can help scientists and science in general; so a caution is needed in supporting not fully proven statements.

IAVCEI

In his report, Setsuya Nakada highlighted that IAVCEI started its own grants program in 2009

with supporting project proposals with up EUR 20,000 each.

In addition, IAVCEI issued together with IUGG the Statement on Volcanic Ash Clouds and the Statement on Volcanological and Meteorological Support for Volcanic Ash Monitoring.

IAVCEI also issued several special publications, online textbooks and calendars.

The IAVCEI Scientific Assembly took place in Reykjavik, Iceland, in 2008.

Setsuya Nakada shortly explained the changes proposed to be made to the IAVCEI Statutes and By-Laws. The most important change is that only National Correspondents are allowed to vote on Association business. Additionally, IAVCEI removed the need to pay to become an IAVCEI member. The category of Donating Affiliate was introduced instead.

The new IAVCEI Bureau from 2011-2015, which was approved later during the IUGG General Assembly, consists of the following members:

President:	Ray Cas (Australia)
Vice Presidents:	Hugo Delgado Granados (Mexico)
	Steve Self (UK)
Secretary General:	Joan Martí (Spain)

The Council Delegates were asked to approve the reports. The reports were approved unanimously.

11. Report on Inter-Union Activities

Alik Ismail-Zadeh summarized the reports on the activities of the International Lithosphere Program (ILP) and the GeoUnions Consortium. Detailed reports can be found in the Council Agenda Book. (Note: the quadrennial report of the International Lithosphere Program can be found in the Comptes Rendus of the 2011 IUGG General Assembly).

International Lithosphere Program (ILP)

ILP is a joint body of IUGG and the International Union of Geological Sciences (IUGS).

IUGG appointed two representatives to the ILP Bureau for the term 2007-2011, namely Kevin Furlong (USA) and Kalanchand Sain (India). Alan Green (Switzerland) is the joint IUGS/IUGG representative.

ILP holds annual meetings where the results and further tasks of its Task Forces and Regional Coordinating Committees are discussed. Furthermore, an ILP award is given to young excellent scientists active within the ILP Task Forces.

The Program is also a founding member of the International Year of Planet Earth (IYPE) and still

supports it. In the context of IYPE, ILP produced a first volume, entitled *New Frontiers in Integrated Solid Earth Sciences*, which was published by Springer in a series on the highlights of the IYPE.

Alik Ismail-Zadeh especially noted that more than 800 publications, about 20 special volumes, and 2 books were published on ILP themes.

The report on the ILP activities was approved unanimously by the Council Delegates.

The GeoUnions Consortium

Eight ICSU Scientific Unions that focus on geosciences form the GeoUnions Consortium:

the International Astronomical Union (IAU), the International Geographical Union (IGU), the International Union for Quaternary Research (INQUA), the International Society of Photogrammetry and Remote Sensing (ISPRS), the International Union of Geological Sciences (IUGS), the International Union of Soil Sciences (IUSS), the International Union of Radio Science (URSI), and IUGG.

The leaders of the Unions meet annually to coordinate their activities and to cooperate on trans-disciplinary topics. After its foundation in 2004, the Consortium is now a very strong forum. It is perceived by ICSU with great enthusiasm and viewed as a model for other Unions to follow.

A joint Science Program was developed with four topics, each led by a GeoUnion:

- Health and Well-Being (ISPRS),
- Natural Hazards and Disaster Risk (IUGG),
- Geosciences in Africa (IUGG), and
- Data and Information (IUGS).

The first three teams set up to prepare a scientific program on the topics progressed very well and received grants from ICSU. In this context, Alik Ismail-Zadeh highlighted the ICSU sponsored project on Extreme Natural Hazards and Societal Implications (ENHANS) led by IUGG and supported by many other Scientific Unions, Commissions and Committees of ICSU and the United Nations.

He finally mentioned the efforts to strengthen the collaboration between the ICSU GeoUnions and UNESCO.

12. Relations with ICSU

Alik Ismail-Zadeh summarized his report on the relations with the International Council for Science (ICSU). A detailed report can be found in the Council Agenda Book.

Several IUGG officers (still) have key roles within ICSU, e.g., Uri Shamir as representative of the

GeoUnions was re-elected in 2008 to the Executive Board of ICSU, Harsh Gupta was selected as a member of the ICSU Committee on Scientific Planning and Review (CSPR), Gordon McBean was nominated by IUGG for the position of the ICSU President-elect.

IUGG has been a very active participant in ICSU programs, IUGG people were selected to serve for several ICSU panels and working groups, e.g., in the Scientific Committee of the Integrated Research and Disaster Risk, the Scientific Committee of the ICSU World Data System, and the ICSU Strategic Coordinating Committee on Data and Information.

IUGG kept very good relations with the three ICSU Regional Offices, namely the Regional Office for Africa, the Regional Office for Asia and the Pacific and the Regional Office for Latin America and the Caribbean, and appointed liaisons to each of these three Offices. A fourth Regional Office for the Middle-East Region will soon be established by ICSU, and IUGG hopes to also establish very good links to this Office.

Starting from 2012, ICSU will introduce a new dues structure, in which IUGG, being the Union with the high membership income, continues to pay (together with three other ICSU Scientific Unions) the highest membership dues to ICSU. Since the appointment of the new Director of ICSU in 2008, IUGG improved significantly relationship with the ICSU Secretariat.

Uri Shamir, Past President of IUGG and the ICSU Ordinary Board Member representing the GeoUnions cluster in ICSU, mentioned the importance of cooperation between the GeoUnions and of cooperation of the Unions with regional offices of ICSU.

No comments or questions were raised by the Council.

13. Reports from Liaisons to ICSU Commissions and Committees

In order to conserve time, Alik Ismail-Zadeh referred the Council to the reports in the Agenda Book and only briefly reviewed each of the organizations. He welcomed any comments and questions by the Council.

- Committee on Data for Science and Technology (CODATA),
- Committee on Space Research (COSPAR),
- Federation of Astronomical and Geophysical Data Analysis Services (FAGS)/ World Data System (WDS),
- ICSU Regional Office for Africa,

- ICSU Regional Office for Asia and the Pacific,
- ICSU Regional Office for Latin America and the Caribbean,
- Scientific Committee on Antarctic Research (SCAR),
- Scientific Committee on the Problems of the Environment (SCOPE),
- Scientific Committee on Oceanic Research (SCOR),
- Scientific Committee on Solar-Terrestrial Physics (SCOSTEP)

Of special note was the discontinuation of the liaison to the ICSU Scientific Committee on the Problems of the Environment (SCOPE). As SCOPE was disconnected from ICSU, the Bureau decided to not appoint a liaison to the Committee for the term 2011-2015. New liaisons were recommended and voted on in the Third Session of the Council Meeting.

No comments or questions were raised by the Council. The reports of the liaisons were accepted unanimously.

14. Reports from Liaisons to intergovernmental and other organizations

Alik Ismail-Zadeh continued to briefly review on these reports in the Council Agenda Book.

- Cartographic Office of the United Nations,
- International Civil Aviation Organization (ICAO),
- International Lithosphere Program (ILP),
- Pan-American Institute of Geography and History (PAIGH),
- UNESCO International Hydrological Programme (IHP),
- UNESCO Intergovernmental Oceanographic Commission (IOC),
- World Climate Research Programme (WCRP),
- World Meteorological Organization (WMO)

No comments or questions were raised by the Council. The reports of the liaisons were accepted unanimously.

15. Report of the IUGG Finance Committee

Juan Vilas presented the report of the Finance Committee highlighting the problem of a systematic sub-application of the budget and the recommendation by the Finance Committee to calculate the budget for the next quadrennium with a deficit. A reserve for cases of emergency should be kept.

The report of the Finance Committee was accepted by the Council.

16. Presentation of the 2012-2015 Budget

Aksel Hansen discussed the proposed budget. As recommended by the Finance Committee, the surplus of the last quadrennia as well as a reserve were taken into account in the new budget. The reserve was set at $1\frac{1}{2}$ year's turnover.

Aksel Hansen noted that the budget proposed in the original Agenda book has been replaced by a new draft, appended to the Council Minutes. He highlighted the significant changes, then went through the budget line by line and answered questions as they were asked.

A final vote to adopt the 2012-2015 Budget took place in the Third Session of the Council Meeting.

The Second Session of the Council Meeting closed at 13:00.

MINUTES OF THE THIRD SESSION
WEDNESDAY, 6 JULY 2011 (15:00 – 18:00), ROOM 203, MELBOURNE CONVENTION CENTRE

PARTICIPANTS

NATIONAL DELEGATES

Argentina	Corina Risso
Australia	Ian Jackson
Austria	Norbert Höggerl
Belgium	Johan De Keyser
Brazil	Ana P. C. Larocca
Canada	Zoltan Hajnal
Chile	Rodrigo Maturana Nadal
China	Jianping Li
Colombia	Laura Sanchez
Croatia	Mirko Orlic
Czech Republic	Vladimir Cermak
Denmark	Søren Gregersen
<i>Egypt</i>	<i>Ahmed Hady</i>
Estonia	Rein Rõõm
Finland	Elena Kozlovskaya
France	Jérôme Dymont Michel Menvielle (alternate)
Germany	Rainer Kind
Hungary	József Ádám
Iceland	Kristin Vogfjörd
India	Virendra Tiwari
Ireland	John Gamble
Italy	Giuliano Panza
Japan	Shiro Imawaki
Korea	Duk-Jin Kim
Luxembourg	Tonie van Dam
F.Y.R. Macedonia	Cvetanka Popovska
Mexico	Harald Böhnel
New Zealand	David Rhoades
Norway	Ulf-Peter Hoppe
Pakistan	Noor Elahi
Poland	Jan Krynski
Portugal	João Agria Torres
Romania	Constantin Sava
Russia	Alexei D. Gvishiani
Slovak Republic	Jozef Brestenský
South Africa	Isabelle Ansoorge Raymond Roman (alternate)
Spain	Alicia García García
Sweden	Berit Arheimer
Thailand	Nopphadon Chotsiri Chaiwat Promthong (alternate)
Turkey	Onur Lenk
United Kingdom	David Collins
USA	Priscilla Grew
Vietnam	Ha Duyen Chau

Italics for Countries in Observer Status

LISTENERS

Costa Rica	Marino Protti
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MEMBERS OF THE EXECUTIVE COMMITTEE

President	Tom Beer
Vice-President	Harsh Gupta
Secretary General	Alik Ismail-Zadeh
Treasurer	Aksel Hansen
Member	Yun-tai Chen
Member	David Jackson
Asst. Secretary General	Simone Oswald
Past President	Uri Shamir
President IAG	Michael Sideris
President IAGA	Eigil Friis-Christensen
President IAHS	Gordon Young
President IAMAS	Guoxiong Wu
President IAPSO	Lawrence Mysak
President IAVCEI	Setsuya Nakada

MEMBERS OF THE FINANCE COMMITTEE

Chair	Juan Francisco Vilas
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**GUESTS OF THE PRESIDENT ATTENDING THE
THIRD SESSION OF THE COUNCIL**

IAHS Secretary General - elect	Christophe Cudennec
IAG Secretary General	Hermann Drewes
Presenter IUGG 2015 bid for the U.S.	Jeff Freymueller
Presenter IUGG 2015 bid for the Czech Republic	Petr Holota
IAHS Secretary General	Pierre Hubert
Chair of Statutes and By-Laws Committee	David Kerridge
Secretary General of the Russian National Committee	Roman Krasnoperov
IACS Secretary General	Manfred Lange
IAMAS Assistant Secretary General	Jenny Lin
IUGG Liaison to SCOR	Mike MacCracken
IAGA Secretary General	Mioara Manda
IAG Vice-President	Harald Schuh
IASPEI Secretary General	Peter Suhadolc
Presenter IUGG 2015 bid for the Czech Republic	Pavel Susak
Presenter IUGG 2015 bid for the Czech Republic	Daniel Svarc
Deputy Director, BISO, National Academies of Sciences	Ester Sztain
IAMAS Secretary General	Hans Volkert
Presenter IUGG 2015 bid for the U.S.	Brenda Weaver

The Third Session of the Council Meeting was called to order at 15:00 with a roll call of delegates. 43 delegates were present at the opening, 42 eligible to vote. The quorum (19) was reached.

Delegates from Azerbaijan, China-Taipei, Israel, Nigeria, and Switzerland had deposited their votes with the IUGG President for matters to be taken up at the Third Session. One Delegate was not able to vote. Therefore, 46 votes were cast.

Manfred Lange, Jenny Lin, Peter Suhadolc and Raymond Roman were appointed as tellers.

Tom Beer also reminded the Council Delegates about the Closing Ceremony taking place on 7 July from 16:30-18:00 followed by a farewell reception.

Tom Beer invited the National Committees having given note to the Secretary General that they wish to present their National Reports to hold their presentations during the time the votes were being cast. Alexei Gvishiani (Russia), Onur Lenk (Turkey), Constantin Sava (Romania) and Virendra Tiwari (India) shortly presented their respective National Reports. Following a request from the Hungarian Council Delegate, Tom Beer also recommended the Council Delegates to check their pigeonholes for an announcement of the Hungarian National Report.

17. Adoption of the 2012-2015 Budget

The Council was asked to vote on the 2012-2015 Budget presented in the Second Session of the Council Meeting. Votes on financial matters are weighted by category. The results are given below.

For: 150 Against: 0 Abstain: 4

The 2012-2015 Budget was adopted.

18. Election of IUGG Officers

The Council was asked to elect the IUGG Officers for the term 2012-2015. All candidates were announced in the First Session of the Council Meeting. No further comments or questions were asked by the Council. This vote requires a simple majority of all ballots cast. For the position of President, Harsh Gupta was elected. For the position of Vice-President, Michael Sideris was elected. The three Bureau Members elected are Isabelle Ansoerge, Pierre Hubert and Kenji Satake. David Collins, Zoltan Hajnal, Jan Krynski and David Rhoades are the elected Finance Committee members for the term 2011-2015. The actual vote tallies are given below:

Candidate	For	Against	Abstain
Harsh Gupta for President	27	0	0
David Jackson for President	19	0	0
Michael Sideris * for Vice-President	31	0	0
Guoxiong Wu *	14	0	0

* 1 ballot for the vote of the Vice-President was invalid.

for Vice-President			
Aksel Hansen for Treasurer	46	0	0
Isabelle Ansoerge for Bureau Member	38	0	0
Jaime Fucugauchi for Bureau Member	29	0	0
Pierre Hubert for Bureau Member	31	0	0
Kenji Satake for Bureau Member	34	0	0
Zoltan Hajnal for Finance Committee	45	0	1
David Rhoades for Finance Committee	46	0	0
David Collins for Finance Committee	32	0	0
Jan Krynski for Finance Committee	29	0	0
Juan Vilas for Finance Committee	28	0	0

19. Presentations of the proposals to host the XXVI General Assembly. Selection of the venue of the XXVI General Assembly.

Out of five bids to hold the XXVI IUGG General Assembly, the two finalists chosen by the IUGG Site Evaluation Committee at their meeting on 30 June were Honolulu, USA, and Prague, Czech Republic. Tom Beer invited the presenters of the respective bids to give a short presentation of five minutes to the Council.

Following this, the Council was asked to vote on these two venues. The results were as follows:

2015 GA venue	Votes
Honolulu, USA	20
Prague, Czech Republic	26

The XXVI IUGG General Assembly will take place in Prague, Czech Republic.

20. Vote on proposed changes of Statutes and By-Laws

Before the vote on each proposed change to the IUGG Statutes and By-Laws, David Kerridge answered last questions that arose. Except for the proposal on the applications to host an IUGG General Assembly, all proposed changes were accepted by the Council. The changes to the Statutes and By-Laws come into effect directly after the close of the General Assembly. The results of each vote are given below.

Proposal	For	Against	Abstain	Invalid ballots
1. Affiliate membership	36	5	3	2
2. Fellowship	44	1	1	0

XXV General Assembly of the International Union of Geodesy and Geophysics
Minutes of the Council Meeting

of IUGG				
3. Definition of a General Assembly	45	0	0	1
4. Changes to Statutes and By-Laws	46	0	0	0
5. Applications to host an IUGG General Assembly	22	21	2	1
6. Council Meeting at a General Assembly	45	0	0	1
7. Election of the Finance Committee	45	0	0	1
8. Transfer from Observer status to Category A	44	2	0	0
9. Reviews of Associate Membership	43	0	1	2
10. Applications for membership and transfer to Associate Membership	43	1	1	1
11. Changes to the IUGG By-Laws	46	0	0	0

21. Renewal of the IUGG liaison officers for 2011-2015

Alik Ismail-Zadeh presented the following table of proposed liaison appointments to the Council. As noted in item 13, the liaison to SCOPE will be discontinued. Tom Beer then asked the Council to approve the appointments and there was no dissent.

Organization	Liaisons 2011-2015
U.N. Cartographic Office	Luiz Paulo Souto Fortes (BRAZIL)
UNESCO IHP	Pierre Hubert (FRANCE)
UNESCO IOC	Stefania Sparnocchia (ITALY)
WMO	Arthur Askew (SWITZERLAND) Arnau Folch (SPAIN) Hans Volkert (GERMANY)

ICAO	William Rose (USA) Marianne Guffanti (USA)
PAIGH	Hermann Drewes (GERMANY)
CCTF	Claude Boucher (FRANCE)
CODATA	Alexei Gvishiani (RUSSIA) Mark Parsons (USA)
COSPAR	Eric Donovan (CANADA)
IRDR	Kuniyoshi Takeuchi (JAPAN)
ICSU Regional Office for Africa	Isabelle Ansoorge (SOUTH AFRICA) Ali Tealeb (EGYPT)
ICSU Regional Office for Asia and the Pacific	Sukanta Roy (INDIA) Sri Widiyantoro (INDONESIA)
ICSU Regional Office for Latin America and the Caribbean	Jaime U. Fucugauchi (MEXICO)
SCAR	Ian Allison (AUSTRALIA)
SCOR	Athena Coustenis (FRANCE) Eugene Morozov (RUSSIA)
SCOSTEP	Vladimir Kuznetsov (RUSSIA)
WCRP	Tom Beer (AUSTRALIA)
WDS	Ruth Neilan (USA)

22. Presentation and adoption of the Resolutions

Uri Shamir, Chair of the Resolutions Committee, began his report by introducing the members of the Resolutions Committee: Jozsef Adam, Pierre Hubert, and Georg Kaser. Associations had been asked to submit their Resolutions to the Resolutions Committee. Each Resolution was then examined by the Resolutions Committee and carefully considered by the IUGG Executive Committee before being brought to the Council. Four Resolutions plus one traditional Resolution of Thanks of IUGG to all organizers of the 2011 General Assembly were put on screen, read and commented by Uri Shamir. He welcomed questions and comments by the Council. All Resolutions were reviewed in British English. Pierre Hubert translated all Resolutions into French (Français du Midi).

[The final versions of the Resolutions that were adopted will be presented in the Comptes Rendus as a separate section.]

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Resolution 1: Standardised schemes for the terminology for glacier mass balance measurements and for classification of snow on the ground, submitted by IACS.

Resolution 2: Gravity and magnetic field satellite missions, submitted by IAG and IAGA and endorsed by the Union Commission on the Study of the Earth's Deep Interior (SEDI).

Resolution 3: Second Realization of the International Celestial Reference Frame, submitted by IAG.

Resolution 4: Adoption of the International Thermodynamic Equation Of Seawater – 2010 (TEOS-10), submitted by IAPSO.

Resolution 5: Thanks.

Following brief discussion, Tom Beer asked the Council to vote on the Resolutions. The Resolutions passed with one abstention.

Uri Shamir also noted that several Resolutions and Statements were adopted by the IUGG Executive Committee during the inter-General Assemblies period, which are:

- Special Resolution "Science on Natural Hazards and Environmental Disasters", 29 January 2010
- Statement "Volcanic Ash Clouds", 20 April 2010
- Statement "Volcanological and Meteorological Support for Volcanic Ash Monitoring", 28 May 2010
- Statement "Freedom to Conduct Science and Responsibilities of Scientists", 28 June 2010
- Statement "The Great East Japan Earthquake and Tsunami", 18 April 2011

There was no dissent by the Council.

Closing remarks

Tom Beer thanked all Council Members, Committees and organizers of the General Assembly for their help and assistance to make the Assembly such a success. He invited all Members to make their comments for the improvement of future General Assemblies known to IUGG.

Tom Beer reminded the Council about the Closing Ceremony where the video of IUGG will be shown again.

Tom Beer declared that the Council of Delegates to the XXV General Assembly was adjourned at 18:00.

XXV General Assembly of the International Union of Geodesy and Geophysics
Officers of IUGG and the Union Associations for 2011-2015

IUGG Budget 2012 - 15, approved 6 July 2011, Melbourne

Based on discussions at Bureau meetings in Cairo, 2010, and in Melbourne

Approved by Finance Committee and Executive Committee in Melbourne, 2011

All figures, except the value and number of units, are in thousands of US dollars

						Total
Year	2011	2012	2013	2014	2015	2012-2015
Estimated unit value	\$1.750	\$1.800	\$1.835	\$1.870	\$1.900	\$1.851
Estimated number of units	275	275	275	275	275	1100
INCOME						
1. MEMBERSHIP DUES	481,3	495,0	504,6	514,2	522,5	2036,3
2. ASSEMBLY SURCHARGE					20,0	20,0
3. SALES OF PUBLICATIONS, ETC		0,2	0,2	0,2	0,2	0,8
4. MISCELLANEOUS (interest)		12,5	12,5	12,5	12,5	50,0
5. ICSU GRANTS		30,0				30,0
6. TOTAL INCOME		537,7	517,3	526,9	555,2	2137,1
7. BALANCE 1/1		766,6	708,7	638,5	588,1	
EXPENDITURES						
11. ADMINISTRATION		104,0	119,0	104,0	143,0	470,0
11.1 Personnel		20,0	20,0	20,0	20,0	80,0
11.2 Equipment		5,0	5,0	5,0	5,0	20,0
11.3 Supplies		5,0	5,0	5,0	5,0	20,0
11.4 Communication		8,0	8,0	8,0	8,0	32,0
11.5 Travel, organizational		50,0	65,0	50,0	70,0	235,0
11.6 Miscellaneous		1,0	1,0	1,0	5,0	8,0
11.7 Travel, representative		15,0	15,0	15,0	30,0	75,0
12. NEW INITIATIVES		60,0	60,0	60,0	60,0	240,0
12.1 Education and outreach		30,0	30,0	30,0	30,0	120,0
12.2 Science		30,0	30,0	30,0	30,0	120,0
13. ASSEMBLIES		0,0	0,0	0,0	70,0	70,0
13.1 Organization		0,0	0,0	0,0	10,0	10,0
13.2 Travel Grants		0,0	0,0	0,0	60,0	60,0
14. SYMPOSIA		30,0	30,0	30,0	0,0	90,0
14.1 Symposia		30,0	30,0	30,0	0,0	90,0
15. ASSOCIATIONS		240,6	247,5	252,3	257,1	997,5
15.1 Allocations		240,6	247,5	252,3	257,1	997,5
16. DUES		25,0	25,0	25,0	25,0	100,0
16.1 ICSU		25,0	25,0	25,0	25,0	100,0
17. ICSU GRANTS		30,0				30,0
17.1 eGY-Africa		30,0				30,0
18. UNION ACTIVITIES		93,0	93,0	93,0	93,0	372,0
18.1 GRC, SEDI, CMG, UCDI		18,0	18,0	18,0	18,0	72,0
18.2 Inter-Union Science (ILP)		15,0	15,0	15,0	15,0	60,0
18.3 Liaison Officers		30,0	30,0	30,0	30,0	120,0
18.4 International Scientific Programs		25,0	25,0	25,0	25,0	100,0
18.5 New commissions		5,0	5,0	5,0	5,0	20,0
19. COUNTRIES IN NEED		0,0	0,0	0,0	90,0	90,0
19.1 Travel Grants, General Assemblies		0,0	0,0	0,0	90,0	90,0
20. FEES		8,0	8,0	8,0	8,0	32,0
20.1 Professional Services		5,0	5,0	5,0	5,0	20,0
20.2 Bank Fees		3,0	3,0	3,0	3,0	12,0
21. CONTINGENCIES		5,0	5,0	5,0	5,0	20,0
22. TOTAL EXPENDITURES		595,6	587,5	577,3	751,1	2511,5
23. BALANCE 12/31		708,7	638,5	588,1	392,2	

The shaded lines under EXPENDITURES represent subtotals for each line of expenditures

18.1	GRC	8	8	8	8
	SEDI	4	4	4	4
	CMG	4	4	4	4
	UCDI	2	2	2	2
	SUM	18	18	18	18

OFFICERS OF IUGG AND THE UNION ASSOCIATIONS FOR 2011-2015

BUREAU OF THE UNION

<i>President:</i>	Harsh Gupta	INDIA
<i>Vice-President:</i>	Michael Sideris	CANADA
<i>Secretary General:</i>	Alik Ismail-Zadeh	GERMANY/RUSSIA
<i>Treasurer:</i>	Aksel W. Hansen	DENMARK
<i>Members:</i>	Isabelle Ansoerge	SOUTH AFRICA
	Pierre Hubert	FRANCE
	Kenji Satake	JAPAN

EXECUTIVE COMMITTEE OF THE UNION

According to Article 10 of the Statutes of IUGG the Executive Committee consists of:

- the Bureau (see above),
- the Retiring President of the Union, Tom Beer (Australia)
- the Presidents of the International Associations:

<i>IACS:</i>	Ian Allison	AUSTRALIA
<i>IAG:</i>	Chris Rizos	AUSTRALIA
<i>IAGA:</i>	Kathryn Whaler	UNITED KINGDOM
<i>IAHS:</i>	Gordon Young	CANADA
<i>IAMAS:</i>	Athena Coustenis	FRANCE
<i>IAPSO:</i>	Eugene Morozov	RUSSIA
<i>IASPEI:</i>	Domenico Giardini	SWITZERLAND
<i>IAVCEI:</i>	Ray Cas	AUSTRALIA

FINANCE COMMITTEE OF THE UNION

<i>Chair:</i>	David Collins	UNITED KINGDOM
<i>Members:</i>	Zoltan Hajnal	CANADA
	Jan Krynski	POLAND
	David Rhoades	NEW ZEALAND

SECRETARIES GENERAL OF THE INTERNATIONAL ASSOCIATIONS

<i>IACS:</i>	Andrew Mackintosh	NEW ZEALAND
<i>IAG:</i>	Hermann Drewes	GERMANY
<i>IAGA:</i>	Mioara Manda	FRANCE
<i>IAHS:</i>	Christophe Cudennec	FRANCE
<i>IAMAS:</i>	Hans Volkert	GERMANY
<i>IAPSO:</i>	Johan Rodhe	SWEDEN
<i>IASPEI:</i>	Peter Suhadolc	ITALY
<i>IAVCEI:</i>	Joan Martí	SPAIN

**RESOLUTIONS ADOPTED AT THE XXV GENERAL ASSEMBLY
BY THE UNION - 6 JULY 2011
XXV GENERAL ASSEMBLY, MELBOURNE, AUSTRALIA, 28 JUNE - 8 JULY 2011**

Resolution 1: Standardised schemes for the terminology for glacier mass balance measurements and for classification of snow on the ground

The International Union of Geodesy and Geophysics,

Considering

- the fundamental importance of common terminology and classification schemes for the exchange of scientific knowledge between nations and across disciplines,

Noting

- that a recognized glossary of glacier mass balance terminology and a standardized classification for snow on the ground had not been updated since the 1970s and 1990s respectively, and
- that our scientific understanding and measurement capabilities and techniques have evolved and expanded since then,

Recognizing

- the work done by IACS Working Groups to update, publish and freely disseminate new standardized schemes:
- *The International Classification for Seasonal Snow on the Ground*. IHP-VII Technical Documents in Hydrology No. 83, IACS Contribution No. 1, UNESCO-IHP, Paris. 2009. 80 p.
(<http://unesdoc.unesco.org/images/0018/001864/186462e.pdf>),
- *Glossary of Glacier Mass Balance and Related Terms*. IHP-VII Technical Documents in Hydrology No. 86, IACS Contribution No. 2, UNESCO-IHP, Paris. 2011. 114 p.
(<http://unesdoc.unesco.org/images/0019/001925/192525E.pdf>),

Urges

- snow and ice scientists, practitioners, and scientists from related disciplines to adopt these new schemes as standards.

Resolution 2: Gravity and magnetic field satellite missions

The International Union of Geodesy and Geophysics,

Considering

- the interest of the IUGG scientific community in knowing with the highest accuracy and resolution the Earth gravity and magnetic fields and their time evolutions as one of the fundamental components of the Earth system, also to understanding the climate evolution of the Earth,

Acknowledging

- the large experience acquired within the IUGG in the last 10 years in analysing data from dedicated satellite missions like GRACE, GOCE, CHAMP and Oersted, for the purpose of estimating the gravity and magnetic fields and their time variations,

Noting

- the need for a long-term monitoring of the potential fields for Earth System science beyond the current and decided missions lifetime,

Urges

- international and national institutions, agencies and governmental bodies in charge of supporting Earth science research to make all efforts in implementing

new gravity and magnetic field satellite missions that would respond to the
aforementioned need for continued observation.

Resolution 3: Second Realization of the International Celestial Reference Frame

The International Union of Geodesy and Geophysics,

Considering

- that the International Union of Geodesy and Geophysics adopted at the 23rd General Assembly in Sapporo 2003 Resolution 4 on the first realization of the International Celestial Reference Frame,
- that the International Astronomical Union (IAU) adopted Resolution B3 at its XXVII General Assembly (2009) (www.iau.org/static/resolutions/IAU2009_English.pdf) that resolves to consider the Second Realization of the International Celestial Reference Frame (ICRF2) as the fundamental realization of the International Celestial Reference System (ICRS)¹,
- that the celestial reference system and the nutation-precession model have a large influence on geodetic and geodynamic observations, analyses and interpretations,
- that the ICRF2 was constructed by the International Earth Rotation and Reference Systems Service (IERS) and the International VLBI Service for Geodesy and Astrometry (IVS),

Urges

- that the ICRF2 shall be used as a standard for all future applications in geodesy and astrometry,
- that the organizations responsible for geodetic VLBI observing programs take appropriate measures to continue existing and develop improved VLBI observing and analysis programs to both maintain and improve ICRF2,
- that highest consistency between the ICRF, the International Terrestrial Reference Frame (ITRF), and the Earth Orientation Parameters (EOP) as observed and realized by the IAG and its components such as the IERS should be a primary goal in all future realizations of the ICRS.

Resolution 4: Adoption of the International Thermodynamic Equation Of Seawater – 2010 (TEOS-10)

The International Union of Geodesy and Geophysics,

Considering

- that since the International Thermodynamic Equation Of Seawater – 2010 (TEOS-10) has been adopted by the Intergovernmental Oceanographic Commission (IOC) at its 25th Assembly in June 2009 as the official description for the properties of seawater, of ice and of humid air,

Urges

- all marine scientists to use TEOS-10² in place of EOS-80 in their research and publications.

¹ *The Second Realization of the International Celestial Reference Frame by Very Long Baseline Interferometry*, presented on behalf of the IERS / IVS Working Group, Alan Fey and David Gordon (eds.). (IERS Technical Note; 35) Frankfurt am Main: Verlag des Bundesamts für Kartographie und Geodäsie, 2009. See www.iers.org/MainDisp.csl?pid=46-25772 or hpiers.obspm.fr/iers-pc/.

² The software to implement this change is available at the web site www.TEOS-10.org. The formal description of TEOS-10 is the “TEOS-10 Manual”; IOC, SCOR and IAPSO, 2010: *The international thermodynamic equation of seawater – 2010: Calculation and use of thermodynamic properties*. Intergovernmental Oceanographic Commission, Manuals and Guides No. 56, UNESCO (English), 196 pp. The following two introductory articles are also available from the TEOS-10 web site www.TEOS-10.org:

- “Getting started with TEOS-10 and the Gibbs Seawater (GSW) Oceanographic Toolbox”, and
- “What every oceanographer needs to know about TEOS-10:- The TEOS-10 Primer”.

Resolution 5: Thanks

The International Union of Geodesy and Geophysics

Gratefully records its appreciation for the organization, arrangements, and hospitality at the XXV General Assembly. On behalf of all participants, the Council expresses its warm thanks to the Australian Academy of Science and the Royal Society of New Zealand, the Local Organizing Committee, the Scientific Program Committee, and all others for their efforts to make the XXV General Assembly a scientific success in the beautiful city of Melbourne.

Resolutions and Statements adopted by the IUGG Executive Committee during the inter-General Assemblies period:

- Special Resolution "Science on Natural Hazards and Environmental Disasters", 29 January 2010
- Statement "Volcanic Ash Clouds", 20 April 2010
- Statement "Volcanological and Meteorological Support for Volcanic Ash Monitoring", 28 May 2010
- Statement "Freedom to Conduct Science and Responsibilities of Scientists", 28 June 2010
- Statement "The Great East Japan Earthquake and Tsunami", 18 April 2011

These can all be found at: <http://www.iugg.org/about/special.php>

**RESOLUTIONS ADOPTÉES A LA XXV ASSEMBLÉE GÉNÉRALE
PAR L'UNION – 6 JUILLET 2011
XXV GENERAL ASSEMBLY, MELBOURNE, AUSTRALIE, 27 JUIN - 7 JUILLET 2011**

Résolution 1: Projets de terminologie normalisée pour la mesure du bilan de masse des glaciers et de typologie des neiges terrestres

L'Union Géodésique et Géophysique Internationale

Considérant

- l'importance fondamentale d'une terminologie partagée et d'une typologie commune pour l'échange des connaissances scientifiques entre pays et entre disciplines,

Notant

- qu'un glossaire reconnu de la terminologie du bilan de masse des glaciers et qu'une typologie normalisée des neiges terrestres n'avaient pas été mis à jour depuis respectivement les années soixante-dix et quatre-vingt-dix, et
- que notre compréhension scientifique et nos capacités de mesure ont évolué et progressé depuis,

Reconnaissant

- les travaux réalisés par les groupes de travail de l'AISC pour mettre à jour, publier et distribuer gratuitement les projets de normalisation
- *The International Classification for Seasonal Snow on the Ground*. IHP-VII Technical Documents in Hydrology No. 83, IACS Contribution No. 1, UNESCO-IHP, Paris. 2009. 80 p. (<http://unesdoc.unesco.org/images/0018/001864/186462e.pdf>),
- *Glossary of Glacier Mass Balance and Related Terms*. IHP-VII Technical Documents in Hydrology No. 86, IACS Contribution No. 2, UNESCO-IHP, Paris. 2011. 114 p. (<http://unesdoc.unesco.org/images/0019/001925/192525E.pdf>),

Recommande

- aux scientifiques du domaine des neiges et glaces, et aux scientifiques des disciplines connexes d'adopter ces projets en tant que normes.

Résolution 2: Missions satellitaires gravimétriques et magnétiques

L'Union Géodésique et Géophysique Internationale

Considérant

- l'intérêt de la communauté scientifique de l'UGGI à connaître avec la meilleure précision et selon la résolution la plus fine les champs magnétiques et gravitaires terrestres ainsi que leur évolution au cours du temps comme l'une des composantes fondamentales du système terrestre, y compris pour comprendre l'évolution climatique de la Terre,

Reconnaissant

- la grande expérience acquise au sein de l'UGGI au cours des dix dernières années dans l'analyse des données de missions dédiées tels que GRACE, GOCE, CHAMP et Oersted, afin d'estimer les champs gravitaires et magnétiques et leur variation au cours du temps,

Notant

- le besoin pour la science du système terrestre d'un suivi à long terme des champs de potentiels au delà des missions en cours ou programmées,

Recommande

- aux institutions nationales et internationales, aux agences et organismes gouvernementaux chargés de financer la recherche en sciences de la Terre, de consacrer

tous leurs efforts à la mise en place de nouvelles missions satellitaires dédiées aux champs magnétiques et gravitaires susceptibles de répondre aux besoins d'observation continue mentionnés ci-dessus.

Résolution 3: Seconde version du système de référence céleste international

L'Union Géodésique et Géophysique Internationale

Considérant

- la résolution 4 sur la première version du système de référence céleste international adoptée par l'Union géodésique et géophysique internationale lors de sa 23e Assemblée générale à Sapporo en 2003
- que l'Union Astronomique internationale (UAI) a adopté la résolution B3 lors de sa XXVIIe Assemblée générale en 2009 (www.iau.org/static/resolutions/IAU2009_French.pdf) qui décide d'adopter la seconde version du système de référence céleste international (ICRF2) comme version fondamentale du Système de référence céleste international (ICRS)³,
- que le système de référence céleste et le modèle de précession-nutation ont une grande influence sur les observations, analyses et interprétations géodésiques et géodynamiques,
- que ICRF2 a été réalisé par le Service international de rotation de la Terre et des systèmes de référence (IERS) et le Service international VLBI pour la géodésie et l'astronomie (IVS),

Recommande

- que ICRF2 soit à l'avenir utilisé en routine pour toutes les applications en géodésie et en astronomie,
- que les organisations en charge des programmes d'observation géodésiques VLBI prennent les mesures appropriées afin de poursuivre et de développer les programmes d'observation et d'analyse VLBI pour la maintenance et l'amélioration de ICRF2,
- que la meilleure cohérence entre ICRF, le Système de référence terrestre international (ITRF), et les Paramètres d'orientation terrestres (EOP), tels qu'observés et réalisés par l'AIG et ses composantes tels que IERS, soit un objectif primordial de toutes les futures versions de ICRS

Résolution 4: Adoption de l'équation thermodynamique internationale de l'eau de mer – 2010 (TEOS-10)

L'Union Géodésique et Géophysique Internationale

Considérant

- que la Commission océanographique internationale (COI) a adopté lors de sa 25e Assemblée en juin 2009 l'équation thermodynamique internationale de l'eau de mer – 2010 (TEOS-10) comme description officielle des propriétés de l'eau de mer, de la glace et de l'air,

Recommande

- que tous les scientifiques marins utilisent TEOS-10⁴ en lieu et place de EOS-80 pour leurs recherches et publications.

³ La seconde version du Système de référence céleste international par Interférométrie à très longue base, présentée au nom du groupe de travail IERS / IVS, Alan Fey and David Gordon (eds.). (IERS Technical Note ; 35) Frankfurt am Main: Verlag des Bundesamts für Kartographie und Geodäsie, 2009. Voir www.iers.org/MainDisp.csl?pid=46-25772 ou hpiers.obspm.fr/iers-pc/.

⁴ Le logiciel pour l'implémentation de cette modification est disponible sur le site www.TEOS-10.org. La description détaillée de TEOS-10 fait l'objet de "TEOS-10 Manual"; IOC, SCOR and IAPSO, 2010: *The international thermodynamic equation of seawater – 2010: Calculation and use of*

Résolution 5: Remerciements

L'Union Géodésique et Géophysique Internationale

Exprime avec gratitude sa reconnaissance pour l'organisation, les dispositions prises et l'hospitalité de la XXVe Assemblée générale. Au nom de tous les participants, le Conseil remercie chaleureusement l'Académie des sciences australienne, la Société royale de Nouvelle-Zélande, le Comité local d'organisation, le Comité scientifique et tous ceux dont les efforts ont fait de la XXVe Assemblée générale un succès scientifique dans la belle ville de Melbourne.

Résolution et déclarations adoptées par le Comité Exécutif de l'UGGI pendant l'intersession :

- Résolution exceptionnelle "Science on Natural Hazards and Environmental Disasters", 29 January 2010
- Déclaration "Volcanic Ash Clouds", 20 April 2010
- Déclaration "Volcanological and Meteorological Support for Volcanic Ash Monitoring", 28 May 2010
- Déclaration "Freedom to Conduct Science and Responsibilities of Scientists", 28 June 2010
- Déclaration "The Great East Japan Earthquake and Tsunami", 18 April 2011

que l'on peut trouver à : <http://www.iugg.org/about/special.php>

thermodynamic properties. Intergovernmental Oceanographic Commission, Manuals and Guides No. 56, UNESCO (English), 196 pp. Les deux articles introductifs suivants sont également disponibles sur le site Web de TEOS-10 www.TEOS-10.org :

- "Getting started with TEOS-10 and the Gibbs Seawater (GSW) Oceanographic Toolbox", et
- "What every oceanographer needs to know about TEOS-10:- The TEOS-10 Primer".

**RESOLUTIONS ADOPTED AT THE XXV GENERAL ASSEMBLY
BY THE IUGG ASSOCIATIONS
XXV GENERAL ASSEMBLY, MELBOURNE, AUSTRALIE, 27 JUNE - 8 JULY 2011**

IAG RESOLUTION 1: Gravity field satellite missions

The International Association of Geodesy,

considering,

the interest of the scientific community in knowing with the highest accuracy and resolution the Earth gravity field and its time evolution as one of the fundamental components of the Earth system, also to understanding the climate evolution of the Earth;

acknowledging,

the large experience acquired within the IAG in the last 10 years in analyzing data from dedicated satellite missions like CHAMP, GRACE and GOCE for the purpose of estimating the gravity field and its time variation;

noting,

the need for a long-term monitoring of the gravity field for Earth System science beyond the mission lifetime of GRACE and GOCE;

urges,

international and national institutions, agencies and governmental bodies in charge of supporting Earth science research to make all efforts in implementing new gravity field satellite missions that would respond to the aforementioned need for continued observation.

IAG RESOLUTION 2: Second Realization of the International Celestial Reference Frame

The International Association of Geodesy,

considering,

1. that the International Union of Geodesy and Geophysics adopted at the 23rd General Assembly in Sapporo 2003 Resolution 4 on the first realization of the International Celestial Reference Frame;
2. that the International Astronomical Union (IAU) adopted Resolution B3 at its XXVII General Assembly (2009) (www.iau.org/static/resolutions/IAU2009_English.pdf) that resolves to consider the “Second Realization of the International Celestial Reference Frame (ICRF2)” as the fundamental realization of the International Celestial Reference System (ICRS) (see note 1);
3. that the celestial reference system and the nutation-precession model have a large influence on geodetic and geodynamic observations, analyses and interpretations;
4. that the ICRF2 was constructed by the International Earth Rotation and Reference Systems Service (IERS) and the International VLBI Service for Geodesy and Astrometry (IVS);

recommends

1. that the ICRF2 should be used as a standard for all future applications in geodesy and astrometry,
2. that the organizations responsible for geodetic VLBI observing programs take appropriate measures to continue existing and develop improved VLBI observing and analysis programs to both maintain and improve ICRF2,
3. that highest consistency between the ICRF, the International Terrestrial Reference Frame (ITRF), and the Earth Orientation Parameters (EOP) as observed and realized by the IAG and its components such as the IERS should be a primary goal in all future realizations of the ICRS.

Note 1: The Second Realization of the International Celestial Reference Frame by Very Long Baseline Interferometry, Presented on behalf of the IERS / IVS Working Group, Alan Fey and David Gordon (eds.). (IERS Technical Note ; 35) Frankfurt am Main: Verlag des Bundesamts für Kartographie und Geodäsie, 2009. See <www.iers.org/MainDisp.csl?pid=46-25772> or <hpiers.obspm.fr/icrs-pc/>.

IAGA RESOLUTION 1:

(Division I)

IAGA,

considering

the value of continuity in magnetic satellite missions to increase our knowledge of Earth dynamics;

noting

that no successor to ESA's Swarm mission yet exists;

urges

the development of missions by national and international agencies to fill this void for the period 2016 onwards.

IAGA RESOLUTION 2:

(Division I)

IAGA,

considering

the significance of experimental data necessary for understanding the magnetic field and magnetic properties of Earth and Earth-related materials;

noting

the increasing demands on technical performance of up-to-date experimental facilities, and associated cost increases;

acknowledges

the scientific value of open and free access to sophisticated experimental facilities offered by certain research institutions.

IAGA RESOLUTION 3:

(Division V)

IAGA,

noting

the importance of the Dst index for various applications including geomagnetic field modeling, space-weather and -climate studies and detection of local anomalous variations,

recognizing

that the absolute accuracy of the data from the contributing observatories, Kakioka, Honolulu, San Juan, Hermanus and Alibag, is essential,

recommends

that all agencies operating these geomagnetic observatories continue to support both absolute and variation measurements to maintain the required level of accuracy.

IAGA RESOLUTION 4:

(Division V)

IAGA,

considering

the importance of homogenous magnetic anomaly data coverage for global geological studies,

urges

the owners of airborne and marine magnetic anomaly data sets, in particular from equatorial areas and the southern hemisphere, to release them into the public domain as soon as possible.

Note: Resolution No. 5 (1993): *De-classifying magnetic survey data (Division V)*

The IAGA, **noting** that many magnetic surveys that have been carried out by both military and civilian authorities, **urges** that all institutions holding classified magnetic data consider de-classifying those data that may contribute to international geoscientific research.

IASPEI RESOLUTION 1: Latin American Seismological Commission

Noting the increasing seismological research activities in Latin America, the high level of earthquake risk in the region, and the success of the regional IASPEI Commissions (ESC and ASC) in developing seismological programs and cooperation,

IASPEI

encourages the formation of a Latin American Seismological Commission to foster more cooperation within the region and the organization of regular IASPEI regional meetings.

IASPEI RESOLUTION 2: African Seismological Commission

Noting the increasing seismological research activities in Africa, the variable level of earthquake risk in the region, and the success of the regional IASPEI Commissions (ESC and ASC) in developing seismological programs and cooperation,

IASPEI

encourages the formation of an African Seismological Commission to foster more cooperation within the region and the organization of regular IASPEI regional meetings.

IASPEI RESOLUTION 3: IASPEI MEDAL

Noting the established practice of several other IUGG associations of recognising outstanding contributions

IASPEI

resolves to award no more frequently than biennially an IASPEI Medal for outstanding service in furthering the aims of IASPEI.

IASPEI RESOLUTION 4: Earthquake Forecasting

Recognising the challenges associated with earthquake forecasting, and noting the findings of the International Commission for Earthquake Forecasting for Civil Protection (ICEF) convened by the Italian Department of Civil Protection following the 2009 l'Aquila earthquake, and the potential of its recommendations for improving earthquake forecasting both in Italy and elsewhere,

IASPEI

Endorses the findings and recommendations of the final ICEF report.

IASPEI RESOLUTION 5: SeismoArchives Project

Noting that steady progress has been made by the IASPEI SeismoArchives project and other efforts, in scanning and making the scanned seismogram files accessible online,

IASPEI urges that

- (i) appropriate sources of funding be found to complete a library of seismograms for significant earthquakes recorded at a set of key observatories prior to the digital era (~1980), and
- (ii) the SeismoArchives project help to facilitate the selection and preparation of records (along with related seismological information) to be scanned, including identification of those at risk of destruction, and provide guidance to assure that the resulting electronic libraries contain all relevant metadata and instructions for their use.

IASPEI RESOLUTION 6: Appreciation

RECOGNISING the enormous effort required to organise the General Assembly,

IASPEI

THANKS and CONGRATULATES the IUGG Local Organizing Committee and its Chair Professor Ray CAS for a most memorable meeting in Melbourne.

**RESOLUTIONS ADOPTÉES A LA XXV ASSEMBLÉE GÉNÉRALE
PAR LES ASSOCIATIONS DE L'UGGI
XXV GENERAL ASSEMBLY, MELBOURNE, AUSTRALIE, 27 JUIN - 7 JUILLET 2011**

RESOLUTION AIGA 1:

(Division I)

AIGA,

considérant

l'importance de la continuité entre les missions satellitaires magnétiques pour l'amélioration de notre compréhension de la dynamique terrestre;

notant

qu'aucune mission n'est actuellement définie pour succéder à la mission Swarm de l'ESA;

exhorte

les agences nationales et internationales à développer de nouvelles missions pour combler cette lacune à partir de 2016.

RESOLUTION AIGA 2:

(Division I)

AIGA,

considérant

la valeur intrinsèque des données expérimentales nécessaires à la compréhension du champ magnétique et des propriétés magnétiques de la Terre et de ses matériaux compositionnels ;

notant

les exigences croissantes en ce qui concerne les performances techniques d'installations expérimentales de pointe, et l'augmentation des coûts associés ;

reconnait

la valeur scientifique de l'accès ouvert et gratuit à des installations expérimentales sophistiquées, offert par certains instituts de recherche.

RESOLUTION AIGA 3:

(Division V)

AIGA,

notant

l'importance de l'indice Dst pour de multiples applications et en particulier la modélisation du champ géomagnétique, les études de météorologie et de climatologie spatiale, et la détection de variations locales anormales,

reconnaisant

que la précision absolue des données des observatoires de Kakioka, Honolulu, San Juan, Hermanus et Alibag, qui contribuent au calcul de l'indice Dst, est essentielle,

recommande

que toutes les agences en charge de ces observatoires magnétiques poursuivent leur soutien aux mesures absolues et aux mesures des variations pour maintenir le niveau de précision requis pour le calcul de l'indice.

RESOLUTION AIGA 4:

(Division V)

AIGA,

considérant

l'importance, pour les études géologiques globales, de la couverture spatiale homogène des données d'anomalies magnétiques,

exhorte

les détenteurs d'ensembles de données d'anomalies magnétiques aéroportées ou marines, en particulier pour les zones équatoriales et pour l'hémisphère sud, à rendre dès que possible ces données disponibles dans le domaine public.

XXV IUGG GENERAL ASSEMBLY CLOSING CEREMONY

The Closing Ceremony of the XXV General Assembly of the International Union of Geodesy and Geophysics was held in the afternoon of Thursday, 7 July 2011 at the Melbourne Convention Centre, Melbourne, starting at 16:30.

PROGRAMME

Remembrance of Colleagues deceased since the 2007 General Assembly

Report of the IUGG Secretary General Alik Ismail-Zadeh

Report of the IUGG Treasurer Aksel W. Hansen

Reading of the Resolutions of the Union adopted at the XXV General Assembly

Final Remarks by Tom Beer, Outgoing IUGG President

Closing Remarks by Harsh Gupta, Incoming IUGG President

REMEMBRANCE OF COLLEAGUES DECEASED SINCE THE XXIV IUGG GENERAL ASSEMBLY

IUGG

Bert Bolin (Sweden)
Keith Cole (Australia)
James C. I. (Jim) Dooge (Ireland)
Pembroke Hart (USA)
Carl Kisslinger (USA)
Edward Lorenz (USA)
Albert Tarantola (France)
Valery Troitskaya (Russia/Australia)
Gilbert Brian Tucker (Australia)

IACS

Keith Echelmeyer (USA)
Fritz Koerner (Canada)
Louis Lliboutry (France)
Uwe Radok (Australia)
Niels Reeh (Denmark)
Hans Röthlisberger (Switzerland)
Marcel De Quervain (Switzerland)

IAG

Lubomir W. Baran (Poland)
Arne E. Bjerhammar (Sweden)
Kurt Bretterbauer (Austria)
Irene Fischer (USA)
Werner Gurtner (Switzerland)
István Joó (Hungary)
Carlo Morelli (Italy)
Leif Svensson (Sweden)
Maria I. Yurkina (Russia)

IAGA

Jules Aarons (USA)
Mario Acuna (USA)
Mark Berdichevsky (Russia)
Richard Doell (USA)
Hugo Fournier (Argentina)
Vladimir Golovkov (Russia)
Ian Gough (Canada)
Pembroke J. Hart (USA)
Jim Horwitz (USA)
Paul Kintner (USA)
Peter M. McGregor (Australia)
Kazuo Nagashima (Japan)\
Takashi Oguti (Japan)
Roy Piggott (UK)
Martin Pomerantz (USA)
David Rankin (Canada)
Luiz Rijo (Brazil)
Ingrid Sandahl (Sweden)
Ulrich Schmucker (Germany)
Wilfried Schroeder (Germany)

Bhisham P. Singh (India)
Bikrama J. Srivastava (India)
Tsutomu Tamao (Japan)
Jean-Paul Villain (France)
Peter Weidelt (Germany)

IAHS

Alfred Becker (Germany)
Jim Dooge (Ireland)
BertJan Heij (The Netherlands)
Emlyn Howard Lloyd (UK)
Zdzislaw Kaczmarek (Poland)
Vit Klemeš (Canada)
Jaromir (Jerry) Němec (Switzerland)
Jerry Ritchie (USA)
Igor Shiklomanov (Russia)
Gian Maria Zuppi (Italy)

IAMAS

Joachim Joseph (Israel)
Anthony Slingo (UK)
Bert Bolin (Sweden).
David Limbert (UK)
Chuck Stearns (USA)
David Hofmann (USA)
Derek Cunnold (USA)
Curtis P. Rinsland (USA)
Byron Boville (USA)
John Firor (USA)
William Elliott (USA)
Edward Lorenz (USA)
George Cressman (USA)
John Roads (USA)
Anthony (Tony) Slingo (UK)
John (Jack) Eddy (USA)
Joanne Simpson (USA)
Aksel Wiin-Nielsen (Denmark)
Stephen Schneider (USA)
Willi Dansgaard (Denmark)

IAPSO

Tom Allan (UK)
Fred Culkin (UK)
Laurie Draper (UK)
Peter Killworth (UK)
Johann Lutjeharms (South Africa)
Clifford Mortimer (USA)
Christian le Provost (France)
Allan Robinson (USA)
Claes Rooth (USA)
Volfango Rupolo (Italy)
Fritz Schott (Germany)
Joanne Malkus Simpson (USA)

XXV General Assembly of the International Union of Geodesy and Geophysics
Closing Ceremony

Melvin Stern (USA)
Bruce Warren (USA)
Daniel Wright (Canada)

IASPEI

Jörg Ansorge (Switzerland)
Pierre Bernard (France)
Luigi Burlini (Switzerland)
Allin Cornell (USA)
Petros Dimitriou (Greece)
José M. Febrer (Argentina)
Francesca Fitzko (Italy)
Sergey V. Goldin (Russia)
Pembroke Hart (USA)
John H. Hodgson (Canada)
Emilia Juhasova (Slovakia)
George W Housner (USA)
Sidney Kaufman (USA)
Carl Kisslinger (USA)

Leon Knopoff (USA)
George Leventakis (Greece)
Vance M. Lynch (USA)
Carlo Morelli (Italy)
Graham Neilson (UK)
Mikhail V. Nevsky (Russia)
Kacper M. R. Rybicki (Poland)
Paul Silver (USA)
Renato Vidrih (Slovenia)
Edward J Walter (USA)
Michele Zacchigna (Italy)

IAVCEI

Wulf Mueller (Canada)
Tom Simkin (USA)
Jim Luhr (USA)

REPORT OF THE IUGG SECRETARY GENERAL
ALIK ISMAIL-ZADEH
XXV GENERAL ASSEMBLY, MELBOURNE, AUSTRALIA, 7 JULY 2011

Distinguished Guests, Dear Colleagues, Ladies and Gentlemen,

69 countries are members of IUGG, and we are always encouraging new members. Any country in which “independent activity in geodesy and geophysics has been developed” is eligible for IUGG membership. We believe that IUGG membership contributes to the scientific well-being of our member countries, and may lead to economic benefits through enhanced exchange of scientific and technical expertise. The Secretary General is always interesting in talking to people about country membership, and at present we are negotiating with the Kingdom of Saudi Arabia and Kazakhstan on possibilities to join the Union.

At this meeting, delegates from 49 Adhering Bodies attended one or more sessions of the Council Meeting. The IUGG Council ratified the membership of the Republic of Azerbaijan and the former Yugoslav Republic of Macedonia as Regular Members of the Union, Costa Rica and the Republic of Georgia as Associate Members.

A number of changes to the Statutes and by-Laws were suggested and approved, among them:

- Affiliate Membership of IUGG. The Affiliate Membership will provide a mechanism to formalise linkages with various international and regional organisations dealing with Earth and space sciences to promote co-operation and collaboration. Affiliate Membership is intended to be analogous to Associate Membership, but applying to organisations rather than countries.
- Fellowship of IUGG as a category of honorary membership.

IUGG appoints official liaisons to several scientific bodies where it is advantageous to both organizations. Here is the list of persons appointed:

Organization	Liaisons 2011-2015
U.N. Cartographic Office	Luiz Fortes (Brazil)
UNESCO IHP	Pierre Hubert (France)
UNESCO IOC	Stefania Sparnocchia (Italy)
WMO	Arthur Askew (Switzerland) Hans Volkert (Germany) Arnau Folch (Spain)
ICAO	William Rose (USA)

	Marianne Guffanti (USA)
PAIGH	Hermann Drewes (Germany)
CCTF	Claude Boucher (France)
CODATA	Mark Parsons (USA) Alexei Gvishiani (Russia)
COSPAR	Eric Donovan (Canada)
IRDR	Kuniyoshi Takeuchi (Japan)
ICSU Regional Office for Africa	Isabelle Ansoorge (South Africa)
ICSU Regional Office for Asia and the Pacific	Sukanta Roy (India) Sri Widiyantoro (Indonesia)
ICSU Regional Office for Latin America and the Caribbean	Jaime U. Fucugauchi (Mexico)
SCAR	Ian Allison (Australia)
SCOPE	discontinued
SCOR	Athena Coustenis (France) Eugene Morozov (Russia)
SCOSTEP	Vladimir Kuznetsov (Russia)
WCRP	Tom Beer (Australia)
WDS	Ruth Neilan (USA)

The Council appointed liaisons to the following inter-governmental and international bodies: The United Nations Cartographic Office, the UNESCO International Hydrological Program, the UNESCO Intergovernmental Oceanographic Commission, The World Meteorological Organisation, the International Civil Aviation Organisation, Pan American Institute of Geography and History, Consultative Committee for Time and Frequency, and to various inter-disciplinary bodies of ICSU and the ICSU Regional offices.

Prague (Czech Republic) was selected by the IUGG Council as the venue for the 26th IUGG General Assembly in 2015.

The IUGG budget for 2012-2015 was approved and 5 Resolutions were passed. Those will be presented to you soon. Details about these decisions will be available via the E-Journal and on our website as soon as we can manage it.

I thank the Local Organising Committee, the Australian Academy of Sciences, and The Royal Society of New Zealand for the hospitality during the XXV IUGG General Assembly. Thank all you.

REPORT OF THE IUGG TREASURER
AKSEL W. HANSEN
XXV GENERAL ASSEMBLY, MELBOURNE, AUSTRALIA, 7 JULY 2011

My job today is to give a brief overview of IUGG's financial status just before we are closing the XXV General Assembly. I could give you many numbers, but time does not allow this, and I guess you would not want to see them. Therefore, I'll keep it simple.

IUGG is a union with 8 associations each of them having their own economy. Here I'll give a brief report of the union only.

The Union's economy is based on dues paid by the members. 64 members in different categories pay dues

equal to 283 units/year. The price of 1 unit is now \$1,750.

The money goes to Associations and commissions, meetings, grants, administration and membership dues.

IUGG has now reserves close to 1,5 years income.

Yesterday, the Council approved the budget for 2012 – 2015.

Adopted Budget for 2012 – 2015

○ Incoming balance (estimate)	US\$ 766.7K
○ Income (95% from dues)	US\$ 2,107.0K
○ Expenditures	US\$ 2,481.5K
– Administration+misc. + ICSU	US\$ 632.0K
– Associations	US\$ 997.5K
– Grants/union activities	US\$ 852.0K
○ Result	US\$ -374.5K
– Outgoing balance	US\$ 392.2K

Conclusion

The economy of IUGG is good, and we can look forward to a 4-year period that gives new opportunities. The budget allows us to have a higher level of activity than normal for the next period, e.g. we have put money in the budget that gives new initiatives a good start.

However, we cannot know what will happen in the future. Therefore, the budget cut in the reserves is only planned for this time. If we want to continue the high activity level, we must look for funding from outside.

**READING OF THE RESOLUTIONS OF THE UNION
ADOPTED AT THE XXV GENERAL ASSEMBLY
XXV GENERAL ASSEMBLY, MELBOURNE, AUSTRALIA, 7 JULY 2011**

The Resolutions adopted by the IUGG Council constitute the most serious and enduring business of the General Assembly. These Resolutions present the findings of the Union to our Adhering Bodies and to the scientific community as a whole, and recommend actions. The Resolutions of the Union and also of the

Associations that adopted resolutions are printed in these *Comptes Rendus*. At the Closing Ceremony, each resolution was read in English by Tom Beer, and they were shown on overhead projection in English.

**FINAL REMARKS BY TOM BEER, OUTGOING IUGG PRESIDENT
XXV GENERAL ASSEMBLY, MELBOURNE, AUSTRALIA, 7 JULY 2011**

IUGG Colleagues, Friends, Ladies and Gentlemen,

The XXV General Assembly has reached its closing moments. For the last two weeks we enjoyed the camaraderie of just under 4,000 geo-scientists, assembled in my home city of Melbourne to present, to listen to and study research findings, and consider the ways in which we can and should continue to carry our science ahead, expanding and improving understanding and expanding knowledge through individual and collaborative work, and making the outcome relevant to society.

It has been an exciting scientific program, spanning well over 200 sessions, emphasizing disciplinary and inter-disciplinary studies. We note with satisfaction the presence of many younger scientists, and expect them to continue to be active in the Union

The Assembly also included many organizational meetings. The Bureau and Executive Committee deliberated matters of policy and planning, and made recommendation to Council. The Council took decisions that are being reported in this session.

The Council elected the new officers of the Bureau and Finance Committee, and the Associations elected their officers. Please allow me to present the members of the 2007-2011 Bureau, Finance Committee, and Presidents and Secretaries General of the Associations.

IUGG Bureau members for 2011-2015

President: Harsh Gupta (India)
Vice-President: Michael Sideris (Canada)
Secretary General: Alik Ismail-Zadeh (Germany/Russia)
Treasurer: Aksel Hansen (Denmark)
Bureau Members: Isabelle Ansorge (South Africa)
Kenji Satake (Japan)
Pierre Hubert (France)

IUGG Finance Committee members for 2011-2015

Chair: David Collins (UK)
Members: Jan Krynski (Poland)
Zoltan Hajnal (Canada)
David Rhoades (New Zealand)

Association Presidents and Secretaries General for 2011-2015

International Association for Cryospheric Sciences

President: Ian Allison (Australia)
President-elect: Charles Fierz (Switzerland)

Secretary General: Andrew Mackintosh (New Zealand)

International Association of Geodesy

President: Chris Rizos (Australia)
Secretary General: Hermann Drewes (Germany)

International Association of Geomagnetism and Aeronomy

President: Kathy Whaler (UK)
Secretary General: Mioara Mandea (France)

International Association of Hydrological Sciences

President: Gordon Young (Canada)
President-Elect: Hubert Savenije (The Netherlands)
Secretary General: Christophe Cudenneq (France)

International Association of Meteorology and Atmospheric Sciences

President: Athena Coustenis (Germany)
Secretary General: Hans Volkert (Germany)

International Association for the Physical Sciences of the Oceans

President: Evgeny Morozov (Russia)
Secretary General: Johan Rodhe (Sweden)

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

President: Domenico Giardini (Switzerland)
Secretary General: Peter Suhadolc (Italy)

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

President: Ray Cas (Australia)
Secretary General: Joan Martí (Spain)

Location of the 2015 IUGG General Assembly

The Council selected Prague, Czech Republic, as the site of the 2015 IUGG General Assembly. The dates of the 26th IUGG General Assembly will be announced as soon as possible but are expected to be June 2015.

As I stated in my remarks at the joint Australian and New Zealand opening session, as a young scientist my eyes were wide with admiration and delight during the

XXV General Assembly of the International Union of Geodesy and Geophysics
Closing Ceremony

first IUGG meeting ever held in Australia in 1979. I am proud to have succeeded in bringing IUGG back to Australia after 32 years and thank all of those from both Australia and New Zealand who made it possible. I hope that there is a young scientist in the audience who has been so inspired that they will help to organise the IUGG General Assembly in the year 2043.

I have held various offices in the Union. Three years on the Bureau of IUGG, then four years as Vice President of IUGG and in the last four years as President. It has been an exciting and eventful time, that I have enjoyed so much that I can genuinely say that I am sad that the By-Laws limit the term of the President to one term.

I am, however, grateful for the opportunity to have served our scientific community as President, jointly with the Bureau:

Vice-President Harsh Gupta, Secretary General Alik Ismail-Zadeh, Treasurer Aksel Hansen, Bureau members Yun-Tai Chen, David Jackson and Ali Tealeb. A strong, dedicated and cooperative Executive Committee of Association Presidents who carefully scrutinised issues and provided wise and useful counsel, ably aided by their Secretaries General, greatly facilitated carrying out the task of leading the Union. To all these colleagues and friends I extend my gratitude for their support.

**CLOSING REMARKS BY HARSH GUPTA, INCOMING IUGG PRESIDENT
XXV GENERAL ASSEMBLY, MELBOURNE, AUSTRALIA, 7 JULY 2011**

Thanks to President Tom Beer for steering IUGG so remarkably well. I also wish to thank the outgoing IUGG Bureau members Yun-tai Chen, David Jackson, and Ali Tealeb for guiding us for the past four years.

The XXV IUGG General Assembly has been remarkably successful. The facilities provided in the lecture halls, catering and over all conduct of the Assembly have been very satisfying. The Symposia and the Workshops were very well attended. The quality of science in the presentations has been of very high standard. More people are attending the closing ceremony of the XXV GA today than ever before. I wish we had more students participating in the Assembly. We should find ways and means to do so in the future General Assemblies.

In spite of scientific and technical developments, the loss of lives and property in natural hazards is increasing. Not even 11 years of the 21st Century have yet passed, but the total loss of human lives due to earthquakes and resultant tsunamis has almost matched the total loss during the entire 20th Century! This calls for a global joint effort to address such problems. With the passage of time the increasing importance of geosciences, in the broadest sense, is well recognized. During 2007 through 2009, four International Years related to geo-sciences were proclaimed. In the forthcoming 30th General Assembly of International

Council of Science (ICSU) to be held at Rome in late September 2011, it is likely that a major new interdisciplinary research initiative of 10 years duration on Earth System Sustainability in collaboration with other partners will be established. IUGG with its 8 International Associations dealing with Cryospheric Sciences (IACS), Geodesy (IAG), Geomagnetism and Aeronomy (IAGA), Hydrology (IAHS), Meteorology and Atmospheric Sciences (IAMAS), Oceanography (IAPSO), Seismology and Physics of the Earth's Interior (IASPEI), and Volcanology and Chemistry of the Earth's Interior (IAVCEI) shall contribute to this major initiative and other related global issues and topics for the well being of humanity and health of the Planet Earth.

It is a very healthy sign for IUGG that 5 nations made a bid for holding the XXVI GA in 2015. These were all very competitive bids. The bid from the Institute of Geophysics of the Academy of Sciences of the Czech Republic and the Czech National Committee for Geodesy and Geophysics was successful. This is a very exciting destination and I look forward to welcoming you there.

ADMINISTRATIVE REPORTS
XXV GENERAL ASSEMBLY, MELBOURNE, AUSTRALIA, 27 JUNE - 8 JULY 2011

QUADRENNIAL REPORT OF THE PRESIDENT

IUGG

The year 2009 marked the 90th anniversary of IUGG, which was established by nine founder member countries (Australia, Belgium, Canada, France, Italy, Japan, Portugal, the United Kingdom and the United States of America) on July 28, 1919 and I was pleased on that date to be able to attend the MOCA Scientific Assembly of IAMAS, IAPSO and IACS held in Montreal and celebrate the birthday in an appropriate manner.

There have been 24 General Assemblies during that period. The first was held in Rome in 1922, the last one in Perugia in 2007, and the current one in Melbourne in 2011. The year half-way between the IUGG General Assemblies is the year in which most of the Scientific Associations that comprise the IUGG host their Scientific Assemblies. Details of these scientific assemblies can be found in the reports of the various Associations.

Though I was not able to attend the IASPEI Scientific Assembly in Capetown, or the IAHS Scientific Assembly in Hyderabad, I managed to attend all of the others. At the IAGA Scientific Assembly held in Sopron, Hungary, a large numbers of English speaking high school students had been drafted to assist the visitors. Such young people are the future of our discipline and I am pleased to see that self-organised groupings of young scientists are beginning to emerge. The Association of Polar Early Career Scientists have set up a web site (<http://apecs.arcticportal.org/>) to publicise their many activities. The Young Earth Scientists (YES, <http://www.networkyes.org/>) held a conference in Beijing in October 2009. Such groupings are to be applauded and encouraged. To encourage such activities, the Executive Committee decided to form a Capacity Building and Education Committee, which was constituted in March 2010 with Laszlo Szarka of Hungary as the Chair.

IUGG Vision and Mission Statement

The International Union of Geodesy and Geophysics (IUGG) is the international 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 curiosity about the Earth's natural environment and the consequences of human activities.

This vision and mission statement was promulgated in the November 2005 e-journal; and has provided guidance during my term as President. However times change and as they change new strategies are needed. The production of a new strategy involves extensive consultation so that the new Visioning Committee that the Executive Committee established in 2010 (chaired by Eigil Friis-Christensen) will be assisting the new President's activities.

IUGG Membership

Since 1919 the membership of IUGG has been based on national membership. Every four years the members meet at the General Assembly. This mode of operation has strengths but it also has weaknesses. I was distressed at the number of members that failed to attend the Perugia General Assembly and pursued the reasons for this. There were many different reasons.

In some cases visas were denied to applicants. This contravention of the ICSU code of freedom and responsibility in science was reported to ICSU and is illustrative of the difficulties that scientists face. Our own Secretary General has had considerable difficulties obtaining a visa to travel to the United States.

In a few cases failure to send a delegate to the Council meeting reflected difficulties in the local administration of IUGG. In some cases the difficulty arose because of local financial problems or restructuring of the Adhering Body. Sometimes it arose from the retirement of a long-serving Chair of a national IUGG Committee who had not managed to replenish the committee with new members.

I encourage every delegate to give some thought to their own national committee and ask themselves whether the committee needs to be reconstituted. Are

the members of the committee still active? Is there a realistic succession plan in place to handle retirements and resignations? Is the committee providing sufficient feedback to the Adhering Body?

These observations led me to examine the topic of membership more closely. Regional geophysical groupings such as the AGU, EGU and AOGS are strong, robust and vibrant but do not have a direct voice in IUGG affairs. The IUGG Executive Committee meeting set up a membership committee (chaired by Aksel Hansen) to consider the topic of membership and if considered appropriate recommend ways to:

1. develop an IUGG Fellows Program;
2. develop an IUGG Individual and Honorary Membership programs;
3. develop an IUGG Adjunct Members program (e.g., to provide a tight link between IUGG and national and regional geophysical and geoscience unions and societies);
4. develop IUGG Inactive Members program (to deal with the countries whose “observer” status is expired).
5. liaise with the IUGG Finance Committee, Statutes and By-Laws Committee, and Honors and Recognition Committee on the issues related to membership.

The membership committee built on the recommendation of the Honours committee (chaired by Victor Savinykh) that IUGG institute Fellowships or Honorary Membership as an honour for eminent geoscientists, and recommended that this be treated as a new membership category - honorary membership to be known as IUGG Fellowship. They also recommended that adjunct (or affiliate) members be admitted on the same basis as associate members. These recommendations have been incorporated into revisions to the Statutes and By-Laws that will be put to the Council.

IUGG Initiatives

During this past quadrennium, the issue of geophysical data and information has assumed greater prominence. Timely access to data, the storage and retrieval of data have all been scrutinised by IUGG and by ICSU, the International Council of Science. During the past quadrennium, IUGG ran the highly successful electronic geophysical year – eGY – as one of the IGY+50 suite of activities. This has continued into the present quadrennium with eGYAfrica, a program of activities specifically designed to bridge the “digital divide” whereby continents such as Europe, America and Australia have ease of access to high speed digital communication whereas many African countries have unreliable and slow access to the internet.

The International Year of Planet Earth (IYPE), held in 2008, was another – though slightly belated - IGY+50 activity. The excellent outreach programme of the was complemented by ten science themes with two science research programmes that involved IUGG – both of which published monographs during 2010 detailing their results. Sierd Cloetingh and Joerg Negendank utilised ILP scientists to edit “New Frontiers in Integrated Solid Earth Sciences” and Tom Beer utilised scientists of the Union Commission for Geophysical Risk and Sustainability to edit *Geophysical Hazards: Minimizing Risk, Maximising Awareness*.

The climate science community received harsh criticism when some leaked e-mails from a climate science unit in Great Britain received publicity and were found to contain hostile remarks about other scientists. Various Government committees were established to investigate the situation and the overall conclusion is that even though there was no evidence of wrongdoing, climate scientists have to be much more open in future: for example by publishing all their data, including raw data and the software programs used to interpret them, to the Internet. This once again highlights the growing importance of data. I am pleased that at its 2008 meeting in Karlsruhe, the IUGG Executive established the Union Commission on Data and Information (UCDI) with Peter Fox as the inaugural Chair of the Commission. The work of UCDI will also be important in our relations with ICSU, the International Council for Science.

For a long time ICSU has had a subsidiary body, CODATA, that deals with theoretical issues related to data. But many of the concerns of the geodetic and geophysical community relate to practical concerns of data identification, sharing, availability, and long term preservation as well as information retrieval. The system of World Data Centres (WDCs) and the Federation of Astronomical and Geophysical Data Services were set up after the International Geophysical Year – and these have now been incorporated into the new ICSU World Data System.

IUGG was also concerned to discover that in 2010 the L'Aquila (Italy) Prosecutor's office indicted the members of the Abruzzi region's High Risk Committee for unintended murder in L'Aquila. The indictment is based on the failure of the Committee to warn the population before the strong earthquake of 6 April 2009 that killed about 300 people. The 24 June 2010 issue of *Nature* carried an item about this. On 28 June 2010 IUGG issued a “Statement on Freedom to Conduct Science and Responsibilities of Scientists” declaring it shocking and unacceptable to accuse and legally indict scientists and members of a governmental panel because they failed to make a prediction of an extreme natural event in a particular place. IUGG also issued a number of other resolutions

and statements that can be found on the IUGG web site.

International Council of Science (ICSU)

IUGG adheres to ICSU, and is one of the eight international scientific unions that comprise the GeoUnions Consortium. ICSU has its General Assembly every three years. The previous General Assembly was 13-25 October 2008 in Maputo, Mozambique. IUGG is particularly fortunate in that two of our Executive Members hold positions in IUGG that entitle them to attend the ICSU General Assembly. Uri Shamir is a member of the ICSU Executive Board. Harsh Gupta is on the ICSU Committee for Science Planning and Review. Thus IUGG had four representatives at Maputo - these two officers, Alik Ismail-Zadeh the IUGG General Secretary, and myself. The next General Assembly will be in Rome in September 2011. A meeting of the constituent scientific unions is held between ICSU General Assemblies. This was held in Paris in April 2009 and was attended by myself, the Secretary-General and the Immediate Past President and provided an opportunity for the GeoUnions Consortium to meet.

Our particular concern at the ICSU GA in Maputo was to ensure that the legacy of the International Polar Year was maintained. Partly this will happen naturally. I have already mentioned the Association of Polar Early Career Scientists, which is a group of self-organised young people enthused by the dynamism of the IPY. I am pleased to note that they will be having a meeting during this General Assembly. The development of the ICSU WDS will also help to ensure that the data collected during the IPY will be appropriately managed.

IUGG has also maintained close liaison with ICSU Regional Offices. There are three of these – ROA, ROAP and ROLAC being respectively the regional offices for Africa; for Asian and the Pacific and for Latin America and the Caribbean. All three offices indicated that Natural Hazards was to be one of their high priority areas, and accordingly IUGG established the ENHANS program (Environmental Natural Hazards and Society) led by our Secretary General, Alik Ismail-Zadeh that has collaborated with the Regional Offices and established a program of international research activities.

Preparations for the Melbourne General Assembly

Prof. Ray Cas, the Chair of the Local Organising Committee, has been helped in the preparations for the meeting by a firm of professional conference organisers, arinex. The scientific program committee for IUGG General Assemblies consists of the Secretaries General of IUGG and the Union Associations, the Union President, and a local Chair –

Dr Peter Manins in this case. They have all done an excellent job of dealing with the 5828 abstracts that were received.

Union Lectures

I invited nine of the world's leading geo-scientists to present Union Plenary Lectures. Three of these Lectures have become eponymous lectures as memorials to Association Presidents with strong Australian connections who died in this past quadrennium.

Greg Ayers, the Director of the Australian Bureau of Meteorology in Melbourne will deliver the Tucker Memorial Lecture.

Dan Baker, Director of the Laboratory and Space Physics at the University of Colorado, will deliver the Troitskaya-Cole Memorial Lecture.

Anny Cazenave from the 'Centre National d'Etudes Spatiales' in Toulouse.

Tom Jordan, Director of the Southern California Earthquake Center, Los Angeles.

Brian Kennett of the Australian National University in Canberra.

Demetris Koutsoyiannis of the National Technical University of Athens.

Markus Rothacher of the Institute of Geodesy and Photogrammetry, Zurich.

Steve Self of the US-Nuclear Regulatory commission, Alameda.

David Vaughan of the British Antarctic Survey, Cambridge will deliver the Radok Memorial Lecture.

Committees

I appointed eight committees prior to this General Assembly after due consultation with members of the Bureau and the Executive Committee, drawing largely on past office holders and their relevant experience and seeking a geographical and disciplinary balance. Four of these have already been mentioned. The other four were

Nominating Committee: Chair: Masaru Kono (Japan)

Statutes and By-Laws Committee: Chair: David Kerridge (UK)

Resolutions Committee : Chair: Uri Shamir (Israel)

Site Evaluation Committee: Chair: Michel Béland (Canada)

The Nominations Committee solicited nominations from all those eligible to nominate to the open Bureau and Finance Committee positions, and is seeking to strike a balance of experience, disciplines and

geographical distribution in preparing its slate of candidates for each position. Further nominations are still possible, as provided by the Statutes and By-Laws of the Union.

The Statutes and By-Laws Committee has been examining various issues that have arisen over the quadrennium with respect to existing Statutes and By-Laws, especially those that relate to ways to bring regional geophysical groupings into some form of affiliation with IUGG through an extension of the membership.

The Resolutions Committee will solicit proposals during the General Assembly, examine and evaluate them, and then prepare the suggested resolutions for consideration by this Council.

The Site Evaluation Committee was established to respond to the Sapporo Council's request that the invitations to host IUGG General Assemblies should be evaluated and the results presented to Council, to facilitate its decision process. The members selected for this Committee have rich experience in the organization of large IUGG meetings, including past General Assemblies. When it was discovered that Denmark had submitted a bid the original Chair, Christian Tscherning, offered his resignation. I am delighted to have six invitations to host the 2015 General Assembly from Argentina, Czech Republic, Denmark, Greece, India and the United States. The Site Evaluation Committee will hold a session, open to all members of Council, some time between the first and second Council meetings, at which the six bidders will make presentations and a short list of two finalists prepared. These two finalists will make further presentations to the Council, who shall vote to choose the successful city.

Acknowledgment and Thanks

The end of the Melbourne General Assembly will mark the end of an 11 year period during which I served on the Union Bureau (2001-2003) as Vice President (2003-2007) and President (2007-2011). It has been a challenge and a privilege, but it certainly does not bring to an end my deep involvement with the Union.

I am grateful to many individuals who have made my task easier and pleasurable. First among them is our most able Secretary General, Alik Ismail-Zadeh. He has been my constant and wise council, while carrying the burden of the daily operation. Vice-President Harsh Gupta shouldered his part of the responsibility and was available to provide advice and take action. Treasurer Aksel Hansen, who worked closely with the Finance Committee and its Chair Juan (Finco) Vilas, kept our finances in excellent shape. Members of the Bureau Yun-Tai Chen, David Jackson and Ali Tealeb provided their perspective and advice. I am most grateful to the Presidents and Secretaries General of the Associations; their lively participation in setting and carrying out the programs of their Associations and of the Union were invaluable to the well-being of the Union. The Associations' Secretaries General, who were invited to attend the Executive Committee's meeting, also constitute the Science Program Committee for this Assembly, chaired by Peter Manins. The SPC set the program and ascertained that it can be carried out successfully in this great venue of the Melbourne Convention Centre. Special recognition is due to the Local Organizing Committee for this General Assembly, chaired by Ray Cas. They have had a gigantic task, and we all hope that the Assembly will proceed to the full satisfaction of one and all.

Being able to call upon such a band of capable and committed volunteers is the greatest strength of IUGG. The Secretary General was assisted in his work by Simone Oswald, who worked part-time in the Secretariat. I had hoped that during my Presidency IUGG would have found sufficient support to appoint a full time Executive Director, but preliminary negotiations were not successful. I still believe that we need to find mechanisms to lighten the load on the honorary officers of the Union, and hope that the new Executive will be able to deal with this issue.

Lastly, I wish to acknowledge the support provided by my home institution, CSIRO, the Australian Government Scientific Research Organisation.

Tom Beer
Melbourne, 15 February 2011

QUADRENNIAL REPORT OF THE VICE-PRESIDENT

IUGG

I participated in all the IUGG Bureau and Executive Committee meetings held during the quadrennium.

I was asked by the IUGG President to represent him at the IASPEI GA at Cape Town, South Africa in 2009. The scientific contents of the presentations, arrangements, lecture halls, social programs were of high standard. The Office Bearers of IASPEI and the Local Hosts put up an excellent show.

I was also asked by the IUGG President to represent him at the IAHS GA held at Hyderabad, India in September 2009. This was a large meeting as for the first time IAHS and IAH (International Association of Hydro-geologists) got together and had a very successful conference, the central theme being "Water: A vital resource under stress-How science can help".

As the Founder President of ASC (Asia Seismological Commission), and an invited speaker, I participated in ASC Meetings at Tsukuba, Japan in 2008 and Hanoi, Viet Nam in 2010. With the passage of time, ASC has grown, and has been addressing important problems. An important aspect is the training courses organized by ASC in conjunction with their bi-annual meetings for youngsters.

At the XXV IUGG GA I am the lead convener for U-12 (Geosciences and the Future of the Planet Earth) and S-06 (Recent Large/destructive Earthquakes). U-12 is specially designed to attract young scientist to the disciplines of Geodesy and Geophysics.

UNION COMMISSIONS

The Union Commissions performed well. An effort was made to get the terms of reference of all the Union Commissions streamlined.

Recognizing that all the eight IUGG Scientific Associations are involved with data generation, storage and manipulation, the Union Commission on Data and Information (UCDI) was formed to allow IUGG to become more cohesive on the topic of data standards as well as to retain current activities with in its Associations. UCDI activities are directed to support and advance data and metadata standards across the Union. UCDI is convening U 05 at IUGG GA 2011 on Data Science/Informatics and Data Assimilation in Geophysical Models.

The main activity of the Union Commission on the Study of the Earth's Deep Interior (SEDI) is to organize a dedicated workshop every even year. The 11th SEDI Symposium was organized in Kunming, Yunan Province of China in 2008. Sessions ranged from Structure of the Core, Structure of the Mantle, Mantle Dynamics, Inner-Core, Outer Core to Deep

Interiors and Magnetic Fields of Other Planets. The 12th SEDI Symposium was held at California, USA in 2010 and the topics ranged from Structure and Chemistry of the Core and Lower Mantle to Geodynamo Theory and Observations. 135 participants of this successful symposium came from 12 countries.

Committee on Mathematical Geophysics (CMG), a Union Commission, encourages exchange of ideas and information in all areas of geophysics with emphasis of application of mathematics, statistics and computer sciences to geophysical problems. Biennial conferences are held. The 27th International Conference was held in 2008 in Norway. The conference theme was "Dynamics in Earth Systems: Flow, Fracture, and Waves". The 28th Conference was held at Pisa, Italy and the theme was "Modeling Earth Dynamics: Complexity, Uncertainty, and Validation". This was a large conference with 165 participants.

The Union Commission on Geophysical Risk and Sustainability (GRC, the GeoRisk Commission) is dedicated to promoting scientific studies for reduction of risk from natural hazards and to provide hazard data to emergency managers, policy makers etc for reducing death toll and destruction. The Commission has been very active with useful meetings and seminars being held in several countries during the quadrennium. With the passage of time the impact of natural and manmade hazards is increasing globally and the issues addressed by GeoRisk are gaining importance. During the IUGG GA at Melbourne GRC shall be convening U 02 "Grand Challenges in Natural Hazards Research and Risk Analysis.

ICSU

During the quadrennium 2007-2011, I entered my second term as a member of the ICSU Committee on Scientific Planning and Review (CSPR). I was especially involved with programs related with the natural and man made hazards and disasters. A new program "Integrated Research on Disaster Risk" (IRDR) was developed during the period. Represented ICSU at various forums, particularly informing the development of IRDR at the ICSU GA at Maputo, Mozambique in 2008.

ICSU has created Regional Offices for Africa (ROA) at Pretoria, South Africa; Asia and Pacific (ROAP) at Kuala Lumpur, Malaysia; and for Latin America and Caribbean (ROLAC) at Brazil (moved to Mexico in 2010). Natural and man made hazard have been identified as an area needing special attention by all the three regional offices. A Committee was constituted with me as the chair by ROAP to address natural and man made hazard related issues. After very detailed discussions and interactions with a large section of

scientists, policy makers and NGOs two reports were prepared:

1. Science Plan on Hazards and Disasters: Earthquakes, Floods and Landslides.
2. Science Plan on Hazards and Disasters: Special Vulnerability of Islands.

IUGG and AOGS

During the quadrennium, very good relations have been developed between Asia-Oceania Geo-science Society (AOGS) and IUGG. President of IUGG is a permanent invitee to the Executive Committee meetings of AOGS. IUGG President asked me to represent IUGG in the Executive Committee meeting of AOGS held at Hyderabad, India. AOGS is doing well. At Hyderabad over 1200 scientists from about 50 countries participated and some 1800 papers were presented. The next AOGS Annual meeting will be held at Taipei, China, in August 2011. In 2012, AOGS shall have a joint meeting with AGU at Singapore.

AGU

During the quadrennium, I was a member of the AGU Committee On Public Affairs (COPA) and The New AGU: A Forum on the Future. AGU is remodeling itself to cope up with the challenges of the 21st Century. It may be useful for IUGG to have a look at our structure/bye-laws etc to make us more efficient.

A Common Forum

For all the major Geophysical Unions/Societies to get together and globally address issues of common interest is the need of the hour. Discussions with AGU, EGU, AOGS indicate a possibility to do so. This would help in addressing major questions/issues and form opinions that would be respected by all and would serve the humanity.

A Personal Note

The quadrennium has been scientifically productive. The Tsunami and Storm Surge Mitigation System was put in place by India by September 2007. This has performed satisfactorily for over the past three years. I was invited by Springer to design and Edit "Encyclopedia of Solid Earth Geophysics". This work has been completed and a 217 articles volume of about 1600 pages length is likely to be released during the XXV IUGG GA at Melbourne in June/July 2011.

Acknowledgements

I am grateful to IUGG Bureau, particularly to Tom Beer, Alik Ismail Zadeh and Aksel Walloe Hansen and IUGG Executive Committee for very positive support and co-operation.

Harsh Gupta
Hyderabad, 15 February 2011

QUADRENNIAL REPORT OF THE SECRETARY GENERAL

INTRODUCTION

The International Union for Geodesy and Geophysics (IUGG) is one of the largest international geoscience unions. The Union membership is comprised of the National Adhering Bodies (National Members), which establish National Committees for Geodesy and Geophysics in their countries. The Union is financially supported by National Members that benefit from the knowledge, data, services, and scientific talent that are concentrated within IUGG. Although the Union is not an individual membership organization like the American Geophysical Union (AGU), European Geosciences Union (EGU) or Asian Oceanic Geosciences Society (AOGS), all Earth and space scientists from the IUGG Members Countries become members of the International Union of Geodesy and Geophysics. IUGG is a home for all geoscientists worldwide, those who share the Union's mission in advancing, promoting, and communicating knowledge of the Earth and its environment. As a member of the International Council for Science (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 is a union of eight International Associations, each dedicated to a specific scientific discipline, but with overlapping interests and complementary strengths: they are the International Associations of Cryospheric Science (IACS), Geodesy (IAG), Geomagnetism and Aeronomy (IAGA), Hydrological Sciences (IAHS), Meteorology and Atmospheric Sciences (IAMAS), Physical Sciences of the Oceans (IAPSO), Seismology and Physics of the Earth's Interior (IASPEI), and Volcanology and Chemistry of the Earth's Interior (IAVCEI). At present, there are four Unions Commissions that are dedicated to particular interdisciplinary topics: Commission on Mathematical Geophysics (CMG), Commission on Study of the Earth's Deep Interior (SEDI), Commission on Data and Information (UCDI), and Commission on Geophysical Risk and Sustainability (GRC).

UNION ACTIVITIES

Union activities during the past quadrennium are summarized below.

- IUGG co-sponsored and took an active part in the four International Programs dedicated to the 50th anniversary of the International Geophysical Year: the International Year of Planet Earth (IYPE) as a founder member; International Polar Year (IPY) as a member of ICSU; Electronic Geophysical Year

(eGY) and International Heliophysical Year (IHY) as two programs of the Union.

- Association Scientific Assemblies were held around the world emphasizing the importance of science to benefit society: IAVCEI Assembly in Reykjavik (Iceland, 2008), IASPEI Assembly in Cape Town (South Africa, 2009), MOCA Joint Assembly of IACS, IAMAS, and IAPSO in Montreal (Canada, 2009), IAGA Assembly in Sopron (Hungary, 2009), IAG Assembly in Buenos Aires (Argentina, 2009), and IAHS Assembly in Hyderabad (India, 2009).
- Union Commissions organized several conferences and symposia: CMG conferences in Longyearbyen (Norway, 2008) and Pisa (Italy, 2010), SEDI conferences in Kunming (China, 2008) and Berkeley (USA, 2010), and GRC symposia in Barcelona (Spain, 2008), Oslo (Norway, 2008), and Torino (Italy, 2010). Also GRC took active part in the organization of ENHANS project events.
- IUGG and Union Association have been involved in the preparation of the comprehensive scientific program for the XXVth General Assembly of IUGG to be held from 27 June to 8 July 2011 in Melbourne, Australia. The assembly's program consists of twelve Union symposia, nine keynote Union speakers, Inter-Association and Association symposia and workshops. To prepare the scientific program of the assembly, the Science Program Committee met in May 2009 in Munich (Germany), in October 2009 in Melbourne (Australia) and will meet in April 2011 in Vienna (Austria).
- 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.
- Four new Union Committees on (i) Capacity Building and Education, (ii) Honours and Recognition, (iii) Membership Issues, and (iv) Visioning were set up to increase IUGG visibility worldwide.
- Seven inter-disciplinary international scientific projects (US\$79,300 in a total) were supported through the new IUGG Grants Programme.
- In 2008-2011, a total of US\$65,000 in grants to support meetings was allocated to the organizers of 43 symposia, workshops, schools or meetings in 31 different countries, most of them in developing countries.
- IUGG Bureau and Executive Committee Meetings were held in August 2008 in Karlsruhe (Germany) and in October 2009 in Melbourne (Australia); the Bureau met also in Cairo (Egypt) in October 2010.

- IUGG strengthened further its relationship with ICSU GeoUnions via cooperation in international programmes on natural hazards and health & well-being.
- As a response to the Haiti earthquake disaster, IUGG adopted the special resolution on “Science on Natural Hazards and Environmental Disasters” (29 January 2010). The statement was highlighted by ICSU as an important scientific issue related to societal needs. Two statements related to the eruptions of Eyjafjallajökull volcano in Iceland were issued by IUGG: the first statement on Volcanic Ash Clouds (20 April 2010) was distributed at the Congressional Briefings on Reducing Volcano Risks in the U.S. Senate and the House of Representatives, and the second statement on Volcanological and Meteorological Support for Volcanic Ash Monitoring (28 May 2010) was welcomed by the Executive Board of the World Meteorological Organization (WMO) and the International Civil Aviation Organization (ICAO).
- IUGG has strengthened further its relationship with the ICSU GeoUnions, UNESCO and other U.N. Institutions, and with the American Geophysical Union through cooperation in the project “Extreme Natural Hazards and Societal Implications – ENHANS” awarded by ICSU. The principal goals of the ENHANS project are (i) to improve understanding of critical phenomena associated with extreme natural events and to analyse impacts of the natural hazards on sustainable development of society; (ii) to promote studies on prediction of extreme events reducing predictive uncertainty and on natural hazards mitigation; to bring the issues into the political and economic policies; (iii) to disseminate knowledge and data on natural hazards for the advancement of research and education in general and especially in developing countries; and (iv) to establish links and networks with the international organizations involved in research on extreme natural hazards and their societal implications setting up a consortium of experts. The goals of ENHANS are achieved via scientific meetings and open forums bringing together research experts, decision makers, and disaster management, insurance agency and mass media practitioners. The project places a special emphasis on the importance of research on extreme natural hazards and disaster risk mitigation in the most vulnerable regions of the world, particularly in Latin America and the Caribbean, in sub-Sahara Africa, and in Asia and the Pacific region. Several project events were held around the world: in Iguassu (Brazil), in Cairo (Egypt), in San Francisco (USA), in Pretoria (South Africa), in Antalya (Turkey), and the final events will be held as a Union symposium and the

Open Forum in Melbourne at the IUGG General Assembly.

IUGG AND THE INTERNATIONAL COUNCIL FOR SCIENCE

IUGG has been an active participant in the International Council for Science (ICSU), including the nomination of persons for numerous panels and working groups. Those panels for which IUGG was successful included

- the Scientific Committee of the Program “Integrated Research on Disaster Risk” co-sponsored by ICSU, International Social Sciences Council, and UN International Strategy for Disaster Risk (hydrologist Dr. Kuniyoshi Takeuchi as a Vice Chair and earthquake engineer Dr. Omar Cardona as a Member). The Scientific Committee is chaired by climatologist Dr. Gordon McBean (a former Member of the IUGG Bureau);
- the Scientific Committee of the ICSU World Data System (seismologist Dr. Jean-Bernard Minster as the Chair and geodesist Dr. Ruth Neilan as a Member);
- the ICSU Strategic Coordinating Committee on Data and Information (space scientist Dr. Peter Fox is a Member of the Committee)

IUGG wrote letters to ICSU endorsing the admission of the International Union of Immunological Societies as a Scientific Union, and the Society for Social Studies of Science, International Union of Speleology, and International Council of Industrial and Applied Mathematics as ICSU International Scientific Associates.

IUGG took part in drafting the new report of ICSU “Regional Environmental Change: Human Action and Adaptation”, which states that the urgent need for the development and implementation of integrated tools for analysis, prediction and projection in support of the capability of environmental management to identify and respond to hazards, risks and vulnerability is critical to mitigate and adapt to regional and global environmental change hazards. President Dr. Tom Beer and Secretary General Dr. Alik Ismail-Zadeh attended the ICSU General Assembly in Maputo (Mozambique) and two meetings of the ICSU Scientific Unions, one held in Maputo (2008) and other in Paris (2010). Immediate Past President Dr. Uri Shamir was re-elected to the ICSU Executive Board at the ICSU General Assembly in Maputo, and Vice President Dr. Harsh Gupta was appointed as a member of the ICSU Committee on Scientific Planning and Review.

IUGG has appreciated the opportunity to propose or to support initiatives for ICSU grants. In 2008 IUGG supported and co-sponsored two ICSU project proposals “*Mapping GeoUnions to the ICSU*”

Framework for Sustainable Health and Wellbeing” (led by International Society for Photogrammetry and Remote Sensing - ISPRS) and *“Fluid Mechanics and Geophysics of Environmental Hazards”* (led by the International Union of Theoretical and Applied Mechanics - IUTAM); both projects were successful and received grants from ICSU. In 2009 IUGG supported and took active part (via UCDI and IACS) in the ICSU project proposal *“The Polar Information Commons: Establishing the Framework for Long-Term Stewardship of Polar Data and Information”* (led by the ICSU Committee on Scientific Data - CODATA) awarded by ICSU. In 2010 IUGG proposed the *ENHANS* project proposal (see above), which was granted EUR 30,000 by ICSU, and supported another project proposal *“MicroPerm - An international workshop to initiate the circumpolar integration of permafrost microbiological studies”* (led by the International Union of Geological Sciences - IUGS) also awarded by ICSU. In 2011, IUGG submitted a project proposal *“eGYAfrica - better Internet connectivity for research and education institutions in Africa”* and supported three project proposals: *“Harmonization of Scientific Data Standards within the ICSU Community”* (led by CODATA), *“Transdisciplinary Intercultural Ecological Research for Sustainability”* (led by the International Geographical Union - IGU), and *“Marine zooplankton population genetics and ocean circulation”* (led by the International Union of Biological Sciences - IUBS). The decision on the ICSU grants will be announced in April 2011.

IUGG AND GEOUNIONS

During the quadrennium, IUGG collaborated actively with the seven sister international scientific unions of ICSU in the framework of the GeoUnions Consortium: the International Astronomical Union (IAU), IGU, International Union for Quaternary Research (INQUA), ISPRS, IUGS, International Union of Soil Sciences (IUSS), and the International Union of Radio Science (URSI). The GeoUnions have met 3 times (in 2008 and 2010 in Paris and in 2010 in Maputo) and identified topics of interdisciplinary interests for future collaboration as opportunities arise.

IUGG and IUGS jointly administer the International Lithosphere Programme, a major program on origin, dynamics, and evolution of the Earth’s lithosphere. IUGG collaborated with IAU and URSI as ICSU restructured its data and information portfolio, including the Federation of Astronomical and Geophysical Data Analysis Services and the Panel on World Data Centres, into the new World Data System Scientific Committee.

IUGG AND OTHER INTERNATIONAL ORGANIZATIONS

IUGG cooperated with several U.N. organizations: UNESCO, Cartographic Office of the United Nations, International Civil Aviation Organization (ICAO), World Meteorological Organization (WMO), and World Water Assessment Program. IUGG via its liaison officers linked to the International Hydrological Program (IHP) of UNESCO. The International Association of Hydrological Sciences (IAHS) together with UNESCO and WMO administrate the International Hydrology Prize. The International Association of Meteorology and Atmospheric Sciences (IAMAS) and International Association of Physical Sciences of the Oceans (IAPSO) closely cooperate with Intergovernmental Oceanographic Commission (IOC). The International Civil Aviation Organization (ICAO) expressed its recognition to IUGG/IAVCEI for having completed the Eruption Source Parameters (ESP) Project and producing the on-line tools for use by the volcanic ash advisory centers. The International Association of Hydrological Science (IAHS) of IUGG has links with International Atomic Energy Agency (IAEA) through the uses of isotopes in water. IAHS established closed links through the Commission on Hydrology of the World Meteorological Organization. IAHS attends the WMO General Assembly as observers and is invited to the AWG (Advisory Working Group) meetings. More information on the topic can be found in the reports of the IUGG Liaison Officers.

MEMBERSHIP IN THE UNION

As of 1 January 2011, IUGG has 69 Member Countries with distribution throughout the world as follows: Europe 34, North and Central America 4, Asia 16, Africa 6, South America 7, Oceania 2. This is four more than at the closing of the XXIVth General Assembly (Perugia, Italy, 2007).

Greece rejoined IUGG as a Regular Member. The Republic of Azerbaijan and the former Yugoslav Republic of Macedonia became new Regular Members (1 cat.) of the Union, Costa Rica and Georgia joined IUGG as Associate Members; Bulgaria moved to a Regular Member; and India enhanced its membership category. Three Associate Members became regular members (cat. 1); thanks to the Royal Society (U.K. Adhering Body to IUGG) that paid membership dues of the Democratic Republic of the Congo, Ghana, and Morocco for the last three years. Unfortunately, three countries are in observer status according to Statute 14 owing to serious arrears of payment. These matters are also discussed in the Report of the Treasurer, and will be reviewed by the Council at its next meeting.

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The current membership history is summarized in the table below.

MEMBERS	Dates of ADMISSION & TERMINATION	CATEGORY	UNITS
ALBANIA	1997-2002, 2003	1	1
<i>ALGERIA</i>	<i>1971-2006</i>		
ARGENTINA	1927	3	3
ARMENIA	2000	1	1
AUSTRALIA	1919	5	7
AUSTRIA	1948	3	3
AZERBAIJAN	2010	1	1
BELGIUM	1919	4	5
BOLIVIA	1960-2000, 2006	A	0
BOSNIA & HERZEGOVINA	2003	1	1
BRAZIL	1922	3	3
BULGARIA	1930	1	1
<i>BURUNDI</i>	<i>1987-1995</i>		
CANADA	1919	6	10
CHILE	1924	2	2
CHINA – CAST	1977	6	10
COLOMBIA	1938-1971, 2000	1	1
CONGO D.R. (**)	2004	1	1
COSTA RICA	2010	A	0
CROATIA	1992	1	1
<i>CUBA</i>	<i>1960-1996</i>		
CZECH REPUBLIC	1993	2	2
DENMARK	1923	4	5
<i>DOMINICAN REP.</i>	<i>1957-1971</i>		
EGYPT	1924	2	2
ESTONIA	1991	1	1
<i>ETHIOPIA</i>	<i>1952-2000</i>		
FINLAND	1927	3	3
FRANCE	1919	7	15
GEORGIA	2009	A	0
GERMANY	1951	8	20
GHANA	1957-1987, 2006	1	1
GREECE	1922-2003, 2009	3	3
<i>GUATEMALA</i>	<i>1957-2000</i>		
<i>GUINEA</i>	<i>1987-1995</i>		
<i>HAITI</i>	<i>1956-1971</i>		
HUNGARY	1930	2	2
ICELAND	1967	1	1
INDIA	1947	6	10
INDONESIA	1951	1	1
IRAN	1957	1	1
<i>IRAQ</i>	<i>1983-1996</i>		
IRELAND	1946	2	2
ISRAEL	1951	1	1
ITALY	1919	6	10
<i>IVORY COAST</i>	<i>1975-1996</i>		
JAPAN	1919	8	20
JORDAN	1979	1	1
<i>KENYA</i>	<i>1975-1997</i>		
KOREA	1960	2	2
<i>KOREA /DEM.REP</i>	<i>1967-2000</i>		

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LEBANON	1967-2003		
LIBYA	1979-1996		
LUXEMBOURG	1971	1	1
MACEDONIA, F.Y.R.	1995-2001, 2010	1	1
MADAGASCAR	1967-1995		
MALAYSIA	1967-2002		
MAURITIUS	2003	A	0
MEXICO	1922	2	2
MONACO	1967	1	1
MONGOLIA	1995-2001		
MOROCCO	1924	1	1
MOZAMBIQUE	1983	1	1
MYANMAR (BURMA)	1957-2003		
NEPAL	1975-1987		
NETHERLANDS	1925	4	5
NEW ZEALAND	1927	1	1
NIGERIA	1971	2	2
NORWAY	1923	4	5
PAKISTAN	1952	2	2
PERU	1925-1979, 2000	A	0
PHILIPPINES	1951	3	3
POLAND	1924	2	2
PORTUGAL	1919	2	2
ROMANIA	1930	1	1
RUSSIA (***)	1992	6	10
SAUDI ARABIA	1971-2001		
SENEGAL	1960-1995		
SERBIA & MONTENEGRO (*)	1996-2006		
SIERRA LEONE	1967-1983		
SLOVAK REPUBLIC	1993	1	1
SLOVENIA	1994	1	1
SOUTH AFRICA	1924	3	3
SPAIN	1922	5	7
SUDAN	1955-2000		
SWEDEN	1923	4	5
SWITZERLAND	1923	5	7
SYRIA	1948-1995		
TANZANIA	1975-2000		
THAILAND	1923	2	2
TUNISIA	1927-2001		
TURKEY	1949	2	2
U.K.	1919	8	20
URUGUAY	1924-2000		
U.S.A.	1919	11	35
VENEZUELA	1975-2008		
VIETNAM	1931	1	1
ZIMBABWE	1967-2000		

(*) Adhesion in 1996 under the name of the Federal Republic of Yugoslavia which was changed in 2003 to Serbia & Montenegro. In 2006, Serbia & Montenegro divided, and attempts to confirm membership of either country have been unsuccessful.

(**) Adhesion in 1991 under the name Zaire, membership terminated in 1997.

(***) Adhesion in 1954 under the name of the U.S.S.R.

ADMINISTRATION

The Bureau

The Bureau of the Union consists of the President Dr. T. Beer (Australia), Vice-President Dr. H. Gupta (India), Secretary General Dr. A. Ismail-Zadeh (Germany/Russia), Treasurer Dr. A. Hansen (Denmark), and 3 Members: Dr. Y-T. Chen (China), Dr. D. Jackson (USA) and Dr. A. A. Tealeb (Egypt).

The Bureau met three times during the term:

- in Karlsruhe, Germany (3 – 4 August 2008)
- in Melbourne, Australia (8 – 9 October 2009)
- in Cairo, Egypt (30 October – 2 November 2010)

The Bureau will meet again in Melbourne on 26 June, 1 and 5 July 2011.

Discussions at the Bureau meetings included the following:

- IUGG Membership. The number of Adhering Bodies and the extent of the arrears in dues has been a topic of concern at each meeting. Possible new members, especially developing countries, and efforts to encourage dues payments were discussed and actions were taken with varying degrees of success.
- IUGG Financial Health. The state of the budget was considered at each meeting, and was found satisfactory. A draft budget for the 2012-2015 term was discussed at the Cairo meeting.
- IUGG Associations, Association Scientific assemblies and Association's activity.
- IUGG's relationship with ICSU, including the ICSU Regional Offices, Grants Programme, new initiatives on data and information (WDS) and natural hazards and disasters (IRDR).
- IUGG relationship with GeoUnions, joint programmes, statements, and projects.
- Adoption of the revised Terms of Reference for IUGG Union Commissions.
- IUGG involvements in the International Year of Planet Earth, International Polar Year, Electronic Geophysical Year, and International Heliophysical Year.
- International Lithosphere Program (ILP): review of the ILP activity and administration (jointly with IUGS).
- IUGG support of young scientists, in particular, nominations of persons to attend the Young Earth Scientist Conference in Beijing in 2009, Union Symposium "Early Career Scientists in Geophysics" in Melbourne in 2011.
- The 2011 General Assembly, including the chairs and members of the Nominations Committee, Statutes and By-Laws Committee, the Resolutions Committee, Site Selection Committee.

- New Union Committees on Capacity Building and Education, Honours and Recognition, Membership Issues, and Visioning, and their Terms of Reference.

The Executive Committee

The IUGG Executive Committee (EC) formally consists of the Bureau, the immediate past President of IUGG (Dr. U. Shamir, Israel) and the Presidents of the Associations. Association Secretaries General and the Chair of the IUGG Finance Committee are always invited to attend as well, with voice but without vote. The Executive Committee met twice

- in Karlsruhe, Germany, 4 – 6 August 2008
- in Melbourne, Australia, 9 – 11 October 2009

The Executive Committee will meet again in Melbourne on 26 June, 1 and 5 July 2011.

Decisions at the Executive Committee meetings included the following:

- Adopted a new IUGG Grant Programme and approved the funding of the inter-disciplinary international projects.
- Adopted the Terms of Reference for Union Commissions.
- Adopted new IUGG meeting guidelines.
- Appointed Dr. Ian Allison (Australia) as the IUGG liaison to SCAR (ICSU Scientific Committee on Antarctic Research), because Dr. V. Papatashvili (USA) stepped down from the position of IUGG liaison.
- Approved the Memorandum of Understanding between IUGG and the Local Organizing Committee for the XXV IUGG General Assembly.
- Approved the membership of the IUGG Committees.
- Approved a statement endorsing and encouraging ICSU to ensure the standing and continued operation of the geophysical and astronomical services under guidance of the competent Unions and their Associations.
- Approved nominations to relevant ICSU Committees (CSPR, IRDR, WDS).
- Endorsed IUGG cooperation with GeoUnions in programmes on health & well-being and natural hazards.
- Endorse the IUGG President and the Secretary General to make contacts with AGU/EGU President and AGU/EGU Executive Director to discuss on strengthening cooperation between unions to benefit geophysics and society.
- Endorsed the World Stress Mapping Service application to the ICSU Federation of Astronomical and Geophysical Data Services (ICSU-FAGS).

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- Endorsed IUGG special resolution on “Science on Natural Hazards and Environmental Disasters”, statements on “Volcanic Ash Clouds”, on “Volcanological and Meteorological Support for Volcanic Ash Monitoring”, and on “Freedom to Conduct Science and Responsibilities of Scientists”.
- Endorsed the applications for IUGG Membership (Azerbaijan, Costa Rica, Georgia, Greece, FYR Macedonia).
- Established the Union Commission on Data and Information.
- Established an *ad hoc* committee to investigate the appeal of the Japanese National Committee for IUGG regarding the IAGA election in 2007.

Secretariat

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

- Produced the monthly IUGG E-Journal, the annual Yearbook, and the annual Report
- Maintained, redesigned and expanded the IUGG Web page
- Conducted ballots by correspondence concerning the admission of Azerbaijan, Costa Rica, Georgia, Greece, FYR Macedonia, as Members of the Union and corresponded with a number of

countries (Azerbaijan, Burkina Faso, Costa Rica, Georgia, Greece, Kazakhstan, FYR Macedonia, Mongolia, Saudi Arabia, Senegal, Singapore, Ukraine, United Arab Emirates, Uzbekistan) regarding potential membership.

- Issued the calls for support of meetings and interdisciplinary projects, and facilitated the awards.
- Facilitated the work of the IUGG Nominations, Statutes and By-Laws, Site Evaluation committees as well as the new IUGG Honours and Recognition and Membership Issue committees.
- Revised the Guidelines on IUGG Administration.
- Maintained close cooperation with the ICSU Secretariat and with GeoUnions Officers and promoted joint activities of IUGG with other international organizations.
- Attended meetings of the ICSU Federation of Astronomical and Geophysical Data Analysis Services (FAGS) in 2008, ICSU Unions meetings in 2008 and 2010, and the ICSU General Assembly in 2008.
- Supported the Scientific Programme Committee and the Local Organizing Committee in preparations for the 2011 General Assembly.

Travel of the Secretary General

Presence of IUGG officers at business and scientific meetings of IUGG, Union Associations, Union Commissions, National Committees, and sister geoscience organizations help to strengthen the links between IUGG bodies and other organizations. During the quadrennium, I attended the following meetings:

2007	16-21 September	Conference organized by the Russian National Committee for IUGG	Suzdal, Russia *
	17 October	Business meeting with the President of the German Adhering Body	Cologne, Germany *
	29-30 November	Business meeting of the German National Committee for IUGG	Leipzig, Germany *
	9-17 December	AGU Fall Meeting: Committee on International Participation	San Francisco, USA *
2008	22-24 April	ICSU FAGS meeting	Paris, France
	15-19 June	IUGG CMG conference	Longyearbyen, Norway *
	19-22 July	IUGG GRC symposium	Barcelona, Spain *
	7-12 August	IGC, IUGG GRC symposium, and IYPE Board Meeting	Oslo, Norway *
	4-9 October	CODATA Conference	Kiev, Ukraine *
	17-26 October	ICSU General Assembly	Maputo, Mozambique *
	14-22 December	AGU Fall Meeting: Committee on International Participation, Convocation of Geophysical Societies	San Francisco, USA *

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2009	9-15 January	IASPEI Scientific Assembly	Cape Town, South Africa *
	9-11 March	UNESCO – IYPE Opening ceremony	Paris, France
	21-24 April	EGU General Assembly: meeting with EGU officers and CTBTO reps.	Vienna, Austria *
	19-20 May	XXV General Assembly SPC meeting	Munich, Germany
	23-29 May	AGU Joint meeting: Meeting with the Chair of the Canadian National Committee for IUGG	Toronto, Canada *
	30 May- 7 July	Conference organized by the Russian National Committee for IUGG	Pereslavl-Zalesky, Russia *
	9-12 July	CTBTO conference: meeting with the CTBTO reps.	Vienna, Austria *
	9-12 September	Conference on Marmara Sea: Meeting with the Secretary General of the Turkish National Committee for IUGG	Istanbul, Turkey *
	6-15 October	IUGG Bureau and EC meetings	Melbourne, Australia
	15-18 October	ILP conference on TOPO-Europe: meeting with the ILP President and ILP Secretary General	Heidelberg, Germany *
	18-22 November	IYPE Closing Ceremony and Board Meeting	Lisbon, Portugal *
	26-27 November	Business meeting of the German National Committee for IUGG	Hanover, Germany *
	2010	14-20 February	AGU Chapman Conference on Extreme Events – Meeting with the IUGG Vice President.
21-25 February		IUGS Executive Committee meeting	Paris, France
6-10 April		ICSU Unions meeting	Paris France *
2-7 May		EGU General Assembly: meeting with the Association SsG, attendance of the ILP business meeting, meeting with reps. IYPE, UNESCO and CTBTO.	Vienna, Austria *
6-12 June		IUGG CMG conference	Pisa, Italy *
3-4 July		ISPRS Centenary General Assembly	Vienna, Austria
4-7 July		IUGG GRC symposium	Torino, Italy *
2-3 August		Meeting with the President of the German National Committee for IUGG and the President of the GFZ-Potsdam	Potsdam, Germany
7-15 August		ENHANS symposium	Iguassu, Brazil *
29 October – 3 November		IUGG Bureau meeting	Cairo, Egypt
12-17 December		AGU Fall Meeting: ENHANS symposium, Convocation of Geophysical Societies	San Francisco, USA *
2011	15-22 January	ENHANS workshop	Pretoria, South Africa *

Note: * = Travel paid (in full or partially) by the German Research Foundation (DFG) via the special travel grant to the IUGG Secretary General or from other sources.

ACKNOWLEDGMENTS

It has been an honor and a privilege to serve IUGG in this office since July 2007. I have benefited enormously from the guidance and assistance of the members of the IUGG Executive Committee during the past four years, especially President Tom Beer. I am very thankful to the Vice-President Harsh Gupta, Treasurer Aksel Hansen, Past President Uri Shamir, and the Bureau Members Dave Jackson, Yun-tai Chen, and Ali Tealeb for their cooperation and support. Also I am very grateful to the Association Presidents and Secretaries General for their contribution to our joint work for IUGG and its Union Associations.

The office of the Secretary General has been hosted by the Karlsruhe Institute of Technology – the Geophysical Institute, and was financially supported by two grants from the German Research Foundation (Deutsche Forschungsgemeinschaft - DFG) in cooperation with the German National Committee for Geodesy and Geophysics (NKGG). The grants permitted the hire of a part-time assistant who helped to manage the database, to correspond with the Member Adhering Bodies and IUGG officers, and to prepare reports and mailings. During the past 4 years, it has been my pleasure to work with Katina Rogers (for the first year) and then with Simone Oswald, whose

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support of the duties of the Secretariat cannot be underestimated. I have appreciated Simone's language skills, German discipline, talent, humor, and friendship. Also I thank our web-master Dr. Dmitry Krupsky for redesigning the IUGG webpage and keeping it as well as related Internet pages updated. I have been benefited from the extraordinary experience

of working with excellent scientists to promote the mission and goals of IUGG and Earth and space sciences worldwide.

Alik Ismail-Zadeh
Karlsruhe, 15 February 2011

QUADRENNIAL REPORT OF THE TREASURER

Introduction

This report will be presented to the Council at the upcoming XXV IUGG General Assembly in Melbourne, Australia. It contains a financial part and some statistical information about the status of the members of IUGG. Accounting and budget spreadsheets are enclosed as 3 attachments:

- 1) The final accounting of the 2004 – 2007 quadrennium (each year + accumulated) compared to the budget, (attachment 1).
- 2) A preliminary accounting for the present quadrennium 2008 – 2011 (each year + accumulated), (attachment 2).
- 3) The 2008-2011 budget from Perugia 2007, (attachment 3).

This procedure for reporting on the finances is a continuation of what was done at the General Assembly in Perugia in 2007. With the General Assemblies normally taking place in the last year of a budget period it is not possible to give a full report on the finances of the quadrennium. Instead it is accepted to present it at the next GA together with a preliminary accounting for the present quadrennium. Therefore in Melbourne the final accounting for the quadrennial report for 2004 – 2007 will be shown.

At the time of writing the preliminary report for 2008-2011 includes the year 2011 budget as a substitute for the accounting for the same year. In Melbourne in July it will be possible to present a better estimate of the accounting for 2011.

The budget for the period 2008 to 2011 is presented in attachment no. 3. At the Bureau meeting in Karlsruhe, 2008, the Perugia budget was adjusted slightly.

The final accounting for 2004 - 2007

The year 2003 turned out to be much better than anticipated at the General Assembly in Sapporo in July 2003. The balance ended up being more than USD 100,000 higher than presented as the estimate then. This was mainly due to improved payment of dues to the Union. And during the period 2004-07 the members paid almost 200,000 more in dues. Also the interest was high. All in all, the balance at the end of the period was more than USD 300,000 higher than anticipated in the budget. (see attachment 1)

The preliminary accounting for the years 2008 – 2011 Income:

The first 3 years of the budget period 2008 – 2011 show higher income than given in the budget:

1: the members have paid more dues in 2009

2: IUGG received a significant surcharge in Perugia as in Sapporo 4 years earlier.

3: interest was lower. In 2010 it was negative! It is very variable following the market. IUGG has

made a significant amount of money in USD due to variable exchange rates.

4: For the first time in many years there was a drop in the price of 1 unit from 2009 to 2010. In 2011 it is again back to the 2009 level.

The number of members withdrawing from IUGG is only 3 in the present quadrennium. But IUGG has admitted 5 new members. Therefore, IUGG has now 69 members (January 1st, 2011), although there are problems with maintaining good contact to a few of our members.

In 2008 the Royal Society introduced a program to aid African countries in participating in the activities of unions like IUGG. This resulted in payments of dues for 3 former A-members of IUGG.

During the quadrennia 1992-1995, 1996-1999 and 2000-2003 the actual number of units paid to IUGG went down from 1170 over the first 4 year period to 1066 in the last. The preliminary number for 2008-11 is 1059 (On February 16, 2011). I expect the number to go up during 2011. We therefore hope that the decline has stopped with the expectation that it will increase slightly in the coming period.

Since 2004/2005 I have used a US Labor Department inflator index for September as the basis for calculation of the price of 1 unit for the following year. In 2009 the index went down leading to a lower price of 1 unit in 2010.

The US dollar has varied a lot during the last quadrennium. This gives very variable buying power in different countries. It has been discussed if IUGG should change basic currency to Euro, but no convincing arguments have been put forward.

Finally, it should be mentioned that in the quadrennium IUGG has welcomed a new association, International Association of Cryospheric Sciences, IACS. In Perugia it was decided that IUGG would add \$20K extra each year to smooth the introduction. The process is now completed and it is anticipated that the extra allocation is not necessary anymore for the coming quadrennium.

Expenditures:

If we compare budget and accounting line by line we notice a good resemblance between the two set of numbers: e.g. travel expenses and line 14 symposia. In contrast allocations to the associations (now 8

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associations) is much higher. This is due to the increased income from the members.

We have not been successful in initiating new projects under line 12, especially Geophysics in Africa.

IUGG is a supporting member of ICSU and therefore IUGG is paying dues to ICSU. In contrast to IUGG ICSU is strongly dependent on the value of EUR, but not on USD. Since 2007 IUGG has paid its contribution to ICSU in EUR. This change alone increased the expenditure with 30%. In addition, ICSU has increased the requested contributions with app. 20% in Euro. And a new dues system decided in Maputo 2009 will increase the payment even further.

Balance:

As explained above the year 2003 turned out to be much better than estimated in July 2003. The improvement was of the order US\$ 130,000.

Based on the above analysis it is expected that the total assets of IUGG as a union will be close to USD 750.000 by the end of 2011.

In general, one can say that the economical situation of IUGG is sound and that the net balance allows IUGG some flexibility.

However it is very important that IUGG will be able to keep its present members in the union and at the same time attract new members. The problem of keeping the members in the union is serious and needs the full attention of the union and the member countries.

As Treasurer of IUGG I want to thank everybody I have been in contact with concerning IUGG business. In particular, I will send many thanks to Secretary General Alik Ismail-Zadeh and his assistant Simone Oswald, with whom I have almost daily correspondence. Also thanks to the President Tom Beer and the entire Bureau, the Presidents and Secretary Generals of the Associations. And also thanks to the Finance Committee. During the last few years my son has helped me in running the daily administration.

Aksel Walløe Hansen
Copenhagen, March 2011

Appendix with statistical data on IUGG

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

First of all as of January 1st, 2011, IUGG has 69 member countries (2 up as compared to 2007). IUGG has lost 3 members since early 2007, but we have welcomed 5 new members.

The 69 members represent a total of 283 units. 5 members are A-members. In early 2011 we have received payments from 53 members representing a total of 265 units for 2010. The remaining 18 units are distributed over 11 members in observer status. Since January 1st 4 members have paid the dues in arrears.

In the last quadrennium India has moved to cat. 6. Argentina moved to cat. 3, Greece returned to cat. 3.

**Membership tables
2010/2011**

1) Payments for 2010 and member distribution 2011

Category	Units in Category	Number countries	Number of units	Paid 2010 (February 2011)	
				numbers	units
A	0	5	0		
1	1	25	25	19	19
2	2	13	26	10	20
3	3	7	21	5	15
4	5	6	30	6	30
5	7	3	21	3	21
6	10	5	50	4	40
7	15	1	15	1	15
8	20	3	60	3	60
9	25				
10	30				
11	35	1	35	1	35
12	40				
13	45				
14	50				
Total		69	283	53	265 (number of units from paid-up members only)
USD (2011 values)			495.520		

Special consideration:

Royal Society, London, established in 2008 a program to encourage African nations to become paying members of IUGG. Three members joined the program: Ghana, Morocco and D.R. Congo. The program was terminated in 2011. Croatia has sent the message that they want to return to paying membership.

2) Countries in Observer Status (countries in arrears for 2010 and/or earlier) on January 1:

(members that have paid dues in arrears since January 1 are shown in blue)

Cat.	Units	Countries
1	8*1	Morocco, Croatia, Vietnam, Armenia, Albania, Indonesia, Mozambique, Ghana
2	3*2	Pakistan, South Korea, Egypt
3	2*3	Greece, Philippines
6	1*10	India
7	1*15	France
Total	45 units	15 countries

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In the next table we can see that the members in observer status as of March 15 are owing a total of \$41.260. On January 1st the amount was \$53.895 higher.

For the whole period 2007-10 the amount “lost” by members withdrawing from the union is a substantial amount of money that will not be recovered.

3) Dues in arrears as of March 15, 2011

	2006	2007	2008	2009	2010	Total
Croatia	1.600	1.630	1.675	1.750	1.730	6.655
Armenia			1.675	1.750	1.730	3.425
Albania				1.750	1.730	3.480
Morocco				1.750	1.730	3.480
Old observers	1.600	1.630	3.350	7.000	6.920	17.040
						Total
Philippines					5.190	5.190
Egypt					3.460	3.460
Pakistan					3.460	3.460
South Korea					3.460	3.460
Indonesia					1.730	1.730
Ghana					1.730	1.730
Greece					5.190	5.190
New observers in 2010					24.220	24.220

IUGG Members, January 1, 2011

Member Country	Category		Member Country	Category
5 adhering bodies in	A		25 adhering bodies in	1 25 units
Bolivia			Albania	observer 2010-11
Costa Rica			Armenia	observer 2009-11
Georgia			Azerbaijan	
Mauritius			Bosnia & Herzegovina	
Peru			Bulgaria	
			Colombia	
1 adhering body in	11	35 units	Croatia	observer 2007-11
USA			D.R. Congo	
			Estonia	
3 adhering bodies in	8	60 units	Ghana	observer 2011
Germany			Iceland	
Great Britain			Indonesia	observer 2011
Japan			Iran	
			Israel	
1 adhering body in	7	15 units	Jordan	
France			Luxembourg	
			F.Y.R. Macedonia	
5 adhering bodies in	6	50 units	Monaco	
Canada			Morocco	observer 2010-11
China			Mozambique	
India			New Zealand	
Italy			Romania	
Russia			Slovak Republic	
			Slovenia	
3 adhering bodies in	5	21 units	Vietnam	
Australia				
Spain				
Switzerland				
			Countries withdrawn 2008-2011	
6 adhering bodies in	4	30 units		Category
Academy Sinica, Taipei			In 2007	
Belgium			Algeria	1
Denmark			Serbia & Montenegro	1
Netherlands				
Norway			In 2008	
Sweden			Venezuela	1
7 adhering bodies in	3	21 units	New members 2008-2011	
Argentina			In 2009	
Austria			Greece	3
Brazil			Georgia	A
Finland				
Greece	observer 2011		In 2010	
Philippines	observer 2011		Azerbaijan	1
South Africa			F.Y.R. Macedonia	1
			Costa Rica	A
13 adhering bodies in	2	26 units		
Chile				
Czech Republic				
Egypt	observer 2011			
Hungary				
Ireland				
Korea, South	observer 2011			
Mexico				
Nigeria				
Pakistan	observer 2011			
Poland				
Portugal				
Thailand				
Turkey				

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IUGG Accounting and Budget, 2004 - 2007, Final

in US dollars	BUDGET				Accounting 2004-2007	ACCOUNTING			
	2004	2005	2006	2007		2004	2005	2006	2007
RECEIPTS									
1. Membership Subscription				384.290	1.638.058	370.324	362.255	443.992	461.486
3. Assembly Surcharge				200	15.646	15.646			
5. Sales of Publications	200	200	200	200	1.022	200	162	349	311
6. Miscellaneous				5.000	58.184	0	6.187	23.820	28.178
a. Interest					2.803	524			2.278
b. Gain on exchange									
c. Other									
7. Total Receipts	371.030	375.420	379.840	379.840	1.715.711	386.684	368.604	468.161	492.252
8. Balance on 1/1	480.700	501.380	494.890	510.620	610.568	610.568	572.026	563.783	726.453
EXPENDITURES									
11. Administration				10.000	20.493	6.977	3.258	3.435	6.823
11.1 Personnel					607		170	438	
11.2 Quarters					2.485	1.033	313		1.139
11.3 Supplies and Equipment	2.500	2.500	2.500	2.500	15.944	2.864	4.008	4.008	6.807
11.4 Communications	8.000	8.000	8.000	8.000	190.809	31.336	65.735	19.090	74.648
11.5 Travel, Administration only	40.000	60.000	40.000	80.000	2.627	1.382	444		344
11.6 Miscellaneous	1.000	1.000	1.000	5.000	24.279	7.996	6.752		9.531
11.7 Travel, representation					65				
11.8 Publications, Printing	5.000	5.000	5.000	5.000					
13. General Assemblies				10.000	29.549	24.556			4.993
13.1 Organization					30.000				30.000
13.2 Travel/grants					65.005	20.000	23.000	14.005	8.000
14. Symposia				5.000	0				
15. Annual allocations				179.320	784.045	210.158	180.680	174.737	218.470
15.1a Associations	163.350	174.910	177.110	179.320	22.800	8.700	4.700	4.700	4.700
15.1b Inter-Association Science	10.700	10.700	10.700	10.700					
15.2 Assembly Surcharges									
15.3 Grants from ICSU									
16. Dues and Grants				16.000	53.855	13.472	13.472	13.472	13.439
16.1 ICSU and APS	16.000	16.000	16.000	16.000	116.064	29.000	29.000	29.064	29.000
16.2 Inter-Union Science	29.000	29.000	29.000	29.000					
17. Union				20.000	109.708	37.488	23.220	31.000	18.000
17.1 GeoRisk, (GY+50, Liaison,....)					49.952	25.018	24.834		
17.2 (Inter-Ass Act.)					40.000				40.000
17.3 GA-participation									
19. Miscellaneous				3.000	908	908	2.941	3.135	3.848
19.1. Miscellaneous	3.000	3.000	3.000	3.000	12.417	2.492	2.841	3.135	3.848
19.2. Professional services	2.000	2.000	2.000	2.000	7.487	2.389	2.023	1.168	1.907
19.3. Fees					125		82	43	
19.4. Loss on exchange									
19. Total Expenditures	355.550	387.110	369.310	480.520	1.579.224	425.235	376.848	305.491	471.650
20. Balance on 31/12	501.380	494.890	510.620	419.590	747.055	572.026	563.783	726.453	747.055

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2008 - 2011 PRELIMINARY REPORT Attachment 2, FINANCIAL REPORT, MELBOURNE, 2011

US dollars	BUDGET				2008-2011	ACCOUNTING			BUDGET
	2008	2009	2010	2011		2008	2009	2010	
RECEIPTS									
No. Of units	260	260	260	260	paid units	274	276	253	
Price of 1 unit	1 660	1 695	1 730	1 765		1675	1750	1730	1750
1. Membership Subscription	431 500	440 600	449 700	459 000	1 885 865	438 122	536 479	452 264	459 000
3. Assembly Surcharge				20 000	20 000	0	0	0	20 000
4. Contracts with ICSU					30 000			30 000	
5. Sales of Publications	200	200	200	200	536	153	119	64	200
6. Miscellaneous									
a. Interest					34 416	16 483	5 563	-131	12 500
b. Gain on exchange	12 500	12 500	12 500	12 500	25 311	0	5 168	20 144	
c. Other (net surcharge Perugia 2007)					33 274	33 159	115	0	
c. On behalf of Associations, Perugia 2007					191 753	191 753			
7. Total Receipts	444 200	453 300	462 400	491 700	2 221 155	679 669	547 444	502 341	491 700
8. Balances on 1/1	754 800	686 450	648 800	661 650	747 055	747 055	784 511	883 918	854 089
EXPENDITURES									
11. Administration									
11.1 Personnel	20 000	20 000	20 000	20 000	77 726	29 120	13 779	14 827	20 000
11.2 Equipment	5 000	5 000	5 000	5 000	8 073	1 463	1 610	0	5 000
11.3 Supplies	5 000	5 000	5 000	5 000	12 316	2 904	4 412	0	5 000
11.4 Communications	8 000	8 000	8 000	8 000	13 877	78	0	5 799	8 000
11.5 Travel, Administration only	50 000	60 000	35 000	70 000	201 620	50 556	60 683	20 381	70 000
11.6 Miscellaneous	1 000	1 000	1 000	5 000	75 940	3 282	22 502	45 156	5 000
11.6a Associations, Perugia 2007					191 753	191 753			
11.7 Travel, representation	5 000	5 000	5 000	10 000	33 972	8 570	4 449	10 952	10 000
12. New Initiatives									
12.1 GIA, carried forward from 2006-07	50 000	50 000	25 000	25 000	65 344	10 000	5 418	24 926	25 000
13. General Assemblies									
13.1 Organization				10 000	10 000	0	0	0	10 000
13.2 Travel				30 000	30 000	0	0	0	30 000
14. Symposia	20 000	20 000	20 000	5 000	65 275	19 500	21 001	19 774	5 000
15. Annual allocations									
15.1a Associations	238 600	211 000	215 600	220 200	980 420	223 075	238 761	288 384	220 200
15.1b Inter-Association Science	4 700	4 700	4 700	4 700	22 676	6 190	5 932	5 855	4 700
15.2 Intr. of IACS	20 000	20 000	20 000	20 000	42 980	22 980			20 000
16. Dues and Grants									
16.1 ICSU	17 000	17 000	17 000	17 000	84 429	21 899	25 372	20 157	17 000
17. Union activities									
17.1 GRC, SEDI, CMG, Liaison Officers	28 000	24 000	28 000	24 000	77 874	14 000	10 000	29 874	24 000
17.2 Inter-Union Science (FAG S, ILP)	29 000	29 000	29 000	29 000	99 032	27 000	27 000	16 032	29 000
18. Countries in need									
18.1 Travel grants	0	0	0	60 000	60 000	0	0	0	60 000
19. Miscellaneous									
19.1 Miscellaneous	3 000	3 000	3 000	3 000	11 196	0	0	11 196	
19.2 Professional services	2 000	2 000	2 000	2 000	18 451	4 193	4 437	6 821	3 000
19.3 Fees					10 380	3 662	2 682	2 035	2 000
19.4 Loss on exchange					1 988	1 988	0	0	
20. Contingencies	6 250	6 250	6 250	6 250	6 250				6 250
21. Total Expenditures	512 550	490 950	449 550	579 150	2 201 571	642 213	448 038	532 169	579 150
22. Balances on 31/12	686 450	648 800	661 650	574 200	766 639	784 511	883 918	854 089	766 639

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IUGG Budget 2008 - 11

Attachment 3, FINANCIAL REPORT, MELBOURNE, 2011

Approved, 06.07.07

Totals

All figures, except the value and number of units, are in thousands of US dollars

Year	2007	2008	2009	2010	2011	2008-11
Estimated unit value	\$1.630	\$1.660	\$1.695	\$1.730	\$1.765	\$1.712
Estimated number of units		260	260	260	260	1040
INCOME						
1. MEMBERSHIP DUES	486,6	431,5	440,6	449,7	459,0	1780,8
2. ASSEMBLY SURCHARGE					20,0	20,0
3. SALES OF PUBLICATIONS, ETC		0,2	0,2	0,2	0,2	0,8
4. MISCELLANEOUS (interest)		12,5	12,5	12,5	12,5	50,0
5. TOTAL INCOME		444,2	453,3	462,4	491,7	1851,6
6. BALANCE 1/1		754,8	686,4	648,8	661,6	
EXPENDITURES						
11. ADMINISTRATION		94,0	104,0	79,0	123,0	400,0
11.1 Personnel		20,0	20,0	20,0	20,0	80,0
11.2 Equipment		5,0	5,0	5,0	5,0	20,0
11.3 Supplies		5,0	5,0	5,0	5,0	20,0
11.4 Communication		8,0	8,0	8,0	8,0	32,0
11.5 Travel, organizational		50,0	60,0	35,0	70,0	215,0
11.6 Miscellaneous		1,0	1,0	1,0	5,0	8,0
11.7 Travel, representative		5,0	5,0	5,0	10,0	25,0
12. NEW INITIATIVES		50,0	50,0	25,0	25,0	150,0
12.1 GIA, carried forward from 2006-07						50,0
13. ASSEMBLIES		0,0	0,0	0,0	40,0	40,0
13.1 Organization		0,0	0,0	0,0	10,0	10,0
13.2 Travel Grants		0,0	0,0	0,0	30,0	30,0
14. SYMPOSIA		20,0	20,0	20,0	5,0	65,0
14.1 Symposia		20,0	20,0	20,0	5,0	65,0
15. ASSOCIATIONS		263,3	235,7	240,3	244,9	984,2
15.1 Allocations		243,3	215,7	220,3	224,9	904,2
15.1a Associations		238,6	211,0	215,6	220,2	885,4
15.1b WCRP, EMSEV		4,7	4,7	4,7	4,7	18,8
15.2 Intr. of IACS		20,0	20,0	20,0	20,0	80,0
16. DUES		17,0	17,0	17,0	17,0	68,0
16.1 ICSU		17,0	17,0	17,0	17,0	68,0
17. UNION ACTIVITIES		57,0	53,0	57,0	53,0	220,0
17.1 GeoRisk, Liaison Officers, SEDI, CMC		28,0	24,0	28,0	24,0	104,0
17.2 Inter-Union Science (FAGS, ILP)		29,0	29,0	29,0	29,0	116,0
18. COUNTRIES IN NEED		0,0	0,0	0,0	60,0	60,0
18.1 Travel Grants		0,0	0,0	0,0	60,0	60,0
19. MISCELLANEOUS		5,0	5,0	5,0	5,0	20,0
19.1 Miscellaneous						
19.2 Professional Services		3,0	3,0	3,0	3,0	12,0
19.3 Fees		2,0	2,0	2,0	2,0	8,0
20. CONTINGENCIES		6,25	6,25	6,25	6,25	25,0
21. TOTAL EXPENDITURES		512,6	491,0	449,6	579,1	2032,2
22. BALANCE 12/31		686,4	648,8	661,6	574,2	

Comment

the red lines represent subtotals for each line of expenditures

17.1 GeoRisk		6	6	6	6	changed to 8k/y
Liaison Off.		14	14	14	14	
SEDI		4	4	4	4	
CMG		4	0	4	0	
17.2 FAGS		12	12	12	12	
ILP		17	17	17	17	changed to 15k/

QUADRENNIAL REPORTS OF THE ASSOCIATIONS

QUADRENNIAL REPORT OF THE INTERNATIONAL ASSOCIATION OF CRYOSPHERIC SCIENCES

INTRODUCTION

The International Association for Cryospheric Sciences (IACS) is the eighth and youngest Association of the International Union of Geodesy and Geophysics (IUGG). IACS is concerned with snow and ice science and provides expert advice on cryospheric issues to governmental and non-governmental organisations. Most snow and ice research within IUGG was previously covered within the International Commission on Snow and Ice (ICSI), a commission of the International Association of Hydrological Sciences (IAHS). In 2004 the then ICSI board put forward a proposal to the IUGG board to enhance the study of the Cryosphere within IUGG through the formation of a new independent Association for the Cryospheric Sciences. In response to this proposal, IUGG established an interim commission to replace ICSI called the Union Commission for the Cryospheric Sciences (UCCS), organized directly under IUGG. The IUGG Council voted to establish IACS at the IUGG General Assembly in Perugia, Italy in 2007. This is hence the first Quadrennial report of IACS as an independent Association.

The objectives of IACS are to:

- promote studies of cryospheric subsystems of the Earth solar systems,
- encourage research in the above subjects by members of the cryospheric community, national and international institutions and programmes, and individual countries through collaboration and international co-ordination,
- provide an opportunity on an international basis for discussion and publication of the results of the above research,
- promote education and public awareness on the cryosphere, and
- facilitate the standardisation of measurement or collection of data on cryospheric systems and of the analysis, archiving and publication of such data.

ADMINISTRATION

The business of IACS is managed by a Bureau of elected officers. Membership of the Bureau has remained stable over the first four years, consisting of President (Georg Kaser, Austria – until July 2009 whence he became immediate Past-President), President-Elect (Ian Allison, Australia – until July 2009 whence he became President),

Secretary General (Manfred Lange, Cyprus) three Vice-Presidents (Kumiko Goto-Azuma, Japan; Gino Casassa, Chile; Peter Jansson, Sweden) and the heads of five disciplinary Divisions (Glaciers and Ice Sheets, Julian Dowdeswell, UK; Snow and Avalanches, Charles Fierz, Switzerland; Marine and Freshwater Ice, Claude Duguay, Canada; Planetary and Other Ices of the Solar System, Ralf Greve, Japan; and Cryosphere, Atmosphere and Climate, Valérie Masson-Delmotte, France).

Most internal business of the Association and interaction with other scientific agencies is conducted by email. The Bureau does however meet at least once each year. The First Bureau meeting was held in Perugia, Italy in July 2007 immediately after the Association was formed, and the Second was held in Vienna in April 2008. Two Bureau meetings were held in Montreal in July 2009 in conjunction with the Joint Scientific Assembly of IAMAS/IAPSO/IACS (MOCA09, “Our Warming Planet”). In 2010 a sub-set of the Bureau met in Stockholm University, Sweden on 22-23 November. The main purpose of this meeting was to prepare information on issues related to the funding and profile of the Association that were then decided on at the Fifth formal Bureau meeting held by tele-conference on 21 December. Minutes of these meetings are available on the IACS website, www.cryosphericosciences.org. Plenary Administrative meetings with the IACS stakeholders, the cryospheric science community, were held in Perugia, Italy in July 2007 and in Montréal, Canada, on July 23, 2009.

The President and the Secretary General of IACS participated actively in the IUGG Executive Committee meeting in Karlsruhe, Germany on 5 and 6 August 2008, and the President participated in the IUGG EC meeting in Melbourne, 9-11 October 2009.

The current four-year term of most Bureau members finishes in July 2011, and a “nominating panel” of members independent of the Bureau (Jon-Ove Hagen – Norway; Konrad Steffen – USA; Qin Dahe – China) was established in June 2010 to identify suitable candidates for election to the Bureau. The nominating panel’s role is to ensure that candidates for the IACS Bureau provide a good coverage of world regions and cryospheric disciplines.

IACS facilitates the transfer of research methods and explores new avenues in cryospheric science through Standing Groups and Working Groups devoted to a theme or subject and composed of experts in the particular field of study. The activities of these Groups are given in the next section.

The historical records of the International Commission on Snow and Ice have been catalogued and will be transferred to the National Snow and Ice Data Center, Boulder, for permanent archiving. A new process has been established to formalize requests for financial support from IACS for conferences and other activities.

ACTIVITIES

Publications and WG activities

The work of a former WG of the IACS predecessors, ICSI and UCCS, was published as the book *Snow and Climate: Physical Processes, Surface Energy Exchange and Modeling* by Cambridge University Press. Details of this work, edited by Richard L. Armstrong and Eric Brun, are available from the IACS website

Working Groups of IACS completed two further significant reference publications during 2010. *The International Classification for Seasonal Snow on the Ground*, edited by Charles Fierz and members of a now disbanded WG, was published as Technical Documents in Hydrology 83 (IACS Contribution No. 1) by the International Hydrological Programme of UNESCO. The *Glossary of Glacier and Mass Balance Terms*, edited by Graham Cogley and members of the WG on Glacier Mass Balance Terminology and Methods, was completed and will also be published by IHP/UNESCO as IACS Contribution No. 2.

A number of papers (26 total) presented during the IUGG General Assembly in Perugia, Italy on July 2-14, 2007 were 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*, T.H. Jacka. More details are at: <http://www.ingentaconnect.com/content/igsoc/agl/2008/00000048/00000001>. The proceedings of the workshop on Mass Balance Modelling (see below) were also published as *Annals of Glaciology* Volume 50.

The currently active Working Groups (WG) of IACS are the WG on Glacier Mass Balance Terminology and Methods and the WG on Glacier and Permafrost Hazards in Mountains (GAPHAZ, a joint WG with the International Permafrost Association). The current Standing Groups (SG) are the Joint commission on Volcano-Ice Interactions (with the International Association of

Volcanology and Chemistry of the Earth's Interior - IAVCEI) and a newly formed Standing Group (December 2010) that is the Steering Committee of the Global Terrestrial Network for Glaciers (see below).

Conferences and Symposia

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 the Norwegian Water Resources and Energy Directorate, the International Glaciological Society (IGS) in Cambridge, UK, and the World Glacier Monitoring Service (WGMS) in Zurich, Switzerland. Convenors were Liss Andreasen, Peter Jansson and Jon-Ove Hagen. During the workshop, the IACS Working Group on Mass Balance Terminology commenced its activities.

IACS was a partner with IAMAS and IAPSO in the Joint Assembly MOCA09 "Our Warming Planet" held in Montreal, Canada from July 19 to 29, 2009 (IACS Symposia were limited to July 19 to 24). The topic of the Assembly ("Our Warming Planet") attracted 1339 delegates, of whom 129 were registered as IACS delegates. As somewhat of an innovative element of the Assembly, most of the symposia were organized jointly between the three Associations. A total of 21 joint symposia on topics from embracing "Tropical Cyclones" to "Ice-cores in Paleoclimate" were held. In addition, IACS organized five symposia that were specifically geared towards the Cryospheric community. During the Assembly, 1871 papers were presented of which 1061 (62) were oral presentations, 586 (339) were poster presentations and 221 (25) were invited presentations (numbers in parentheses represent IACS presentations).

During 2010 IACS cosponsored, with funding support from IUGG Small Grants, meetings on *Southern Hemisphere Cryospheric Change*, in Valdivia, Chile and on *Cryospheric Change and its Influences in Regional Sustainable Development* in Lijiang, China and an international summer school/workshop in glaciology at the Wrangell Mountain Center, McCarthy, Alaska. IACS officers also played lead roles in the organization of the *International Polar Year Conference* in Oslo.

All IACS officers, and particularly the Secretary-General and President, have been involved in planning scientific sessions for the IUGG General Assembly in Melbourne in June/July 2011.

Interaction with other scientific organisations

The role of IACS in providing scientific advice and oversight to the World Glacier Monitoring Service

(WGMS) has been further formalised. The WGMS, based in Zurich, collects and publishes standardized information about ongoing glacier changes under the auspices of IACS, the Federation of Astronomical and Geophysical Data Analysis Services (FAGS/ICSU), UNEP, UNESCO and WMO. The Global Terrestrial Network – Glaciers (GTN-G), a component of the Terrestrial Observation Panel for Climate of GCOS/GTOS, links WGMS with other bodies involved with observations of glacier systems and their fluctuations: the US National Snow and Ice Data Center (NSIDC) in Boulder, and the Global Land Ice Measurements from Space (GLIMS) initiative. A GTN-G Steering Group was formed in 2010 and established as a Standing Group of IACS, with the IACS Division Head for Glaciers and Ice Sheets as the chair of its Advisory Board. The WGMS has succeeded in securing long-term funding from the Swiss government, and the IACS Past-President served as a member of the selection committee for a new director of WGMS.

A Memorandum Agreement between IACS and the Scientific Committee on Antarctic Research (SCAR) and the International Arctic Science Council (IACS) was signed on July 8, 2008. This MoU outlines procedures to be followed by IACS, 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...". Georg Kaser (President 2007-2009) attended the SCAR Delegate Meeting in Moscow, Russia, July 2008 as an observer. Ian Allison (President 2009-2011) was subsequently appointed as the formal IUGG Delegate to SCAR and participated in their Delegate Meeting in Buenos Aires, Argentina in July 14-16, 2008.

A number of IACS officers submitted a proposal to the Chairs of Working Group I of the Intergovernmental Panel on Climate Change (IPCC) on the treatment of the cryosphere in the IPCC Fifth Assessment Report: this was welcomed by the chairs. Several IACS officers, and many others from our scientific community, are now active as lead authors in the Fifth Assessment Report.

Georg Kaser (IACS, President 2007-09) was invited to participate in the meeting of the Scientific Steering Group of the Climate and Cryosphere (CliC) project in Geneva, December 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.

Charles Fierz (Division Head) represented IACS at regular telephone conferences among "Cryospheric Managers" in order to coordinate activities among the leading organisations (IACS, CliC, IGS, EGU, AGU) dealing with ice and snow issues and scientific meetings. Although these coordinating meetings have now stopped, there are plans to reinstate them.

Other activities

Georg Kaser (President 2007-2009) participated in an UNESCO led mission to Nepal. This was to commence organization of a glacier mass balance training course in Nepal in the framework of the *Hindu Kush Himalayan - Flow Regimes from International Experimental and Network Data* (HKH-FRIEND) project. IACS offered to coordinate the trainers' group as well as the content and the background material to be used. The latter was based on the 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

Georg Kaser also played the unique role of officially ending the *Expédition Glaciologique Internationale au Groenland* (EGIG), nearly 60 years after it was initiated. EGIG was started in the early 1950s as a pioneering initiative under the auspices of IACS' predecessor ICSI. Its objective was to regain momentum in polar research after World War II. In the course of the 1950s and 1960s, under the leadership of Dr. Paul-Emile Victor, a number of expeditions to the Greenland Ice Sheet were undertaken and provided the foundation for many later investigations. The project had never been formally finished until Kaser wrote to the former members and declared EGIG to be officially ended.

PLANNED FUTURE ACTIVITIES

A new WG on *Flow law for polycrystalline ice* has been approved and will be established in 2011. An improved constitutive relationship for ice is particularly important in developing better models of the response of ice sheet systems to anthropogenic climate change. New WGs on *Quantitative Snow Stratigraphy* and on *Polar Surface Features* are also under consideration. The GAPHAZ WG is to be reconstituted as a Standing Group which will provide liaison to the IUGG Commission on Geophysical Risk and Sustainability (GeoRisk).

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IACS, with its partners the Scientific Committee on Antarctic Research and the International Arctic Science Committee, is planning a two day symposium prior to the ICSU General Assembly in Rome in September 2011. This 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 as a legacy of the International Polar Year 2007-2008.

Planning has also commenced for a Joint IAMAS/IACS Assembly in Davos, Switzerland in 2013 (DACA-13, the Davos Atmosphere and Cryosphere Assembly 2013). The theme of the conference will be *Ice and Air: Process Interactions*. A Swiss National Organizing Committee has been established and a logo and web-site are in preparation and should be ready for release at IUGG 2011 in Melbourne.

Ian Allison, IACS President
Manfred Lange, IACS Secretary General

QUADRENNIAL REPORT OF THE INTERNATIONAL ASSOCIATION OF GEODESY

INTRODUCTION

The main objective of IAG is to study all geodetic problems related to Earth observation and global change. This includes the determination of reference systems, gravity field, Earth rotation, surface positions and crustal deformation, and sea level. To accomplish the objectives, IAG is divided into four Commissions, fifteen Scientific Services, the Global Geodetic Observing System (GGOS), the Communication and Outreach Branch (COB), and the Inter-Commission Committee on Theory (ICCT). 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 IAG Reports (Travaux de l'AIG).

ADMINISTRATION

IAG Council

The Council met twice during the IUGG General Assembly 2007 in Perugia. The list of national correspondents forming the IAG Council was regularly updated in contact with the IUGG Secretary General. Doubtful nominations (double, questionable) were cleared up. The Council was informed by e-mail about activities of the Bureau and the Executive Committee.

IAG Executive Committee (EC)

The Executive Committee is composed by the IAG President, immediate Past-President, Vice-President, Secretary General, the four Commission Presidents, the Chairperson of GGOS, the President of the COB, three representatives of the Services, and two members at large. Seven IAG EC meetings were held during the legislative period from 2007 to 2010: Perugia 2007, San Francisco 2007, Vienna 2008, San Francisco 2008, Buenos Aires 2009, Vienna 2010, and San Francisco 2010. The meeting summaries were published in the IAG Newsletter in the IAG Journal of Geodesy (Springer-Verlag) and are available online in the IAG Homepage (<http://www.iag-aig.org>) and IAG Office Homepage (<http://iag.dgfi.badw.de>).

Main agenda items at the EC meetings were the regular reports of the Commissions, Services, GGOS, ICCT, COB, and the Editor in Chief of the Journal of Geodesy. They were followed by the discussion on specific scientific issues, changes in the structures of GGOS and Services, and IAG publications. Other important topics were the IAG Scientific Assembly 2009 in Buenos Aires, the

preparation of the Symposia with IAG participation during the IUGG General Assembly 2011 in Melbourne, the discussion of the bi-annual IAG Reports (Travaux de l'AIG), sponsoring of symposia, and the links to other organizations, e.g. FIG, GEO, JBGIS, IHO, ISO, and UNOOSA (see below).

IAG Bureau

The IAG Bureau, consisting of the President, the Vice-President and the Secretary General, held regular teleconferences and met in general before each of the IAG Executive Committee meetings. The President and Secretary General participated in the IUGG Executive Committee Meetings in Karlsruhe, 4-6 August 2008 and in Melbourne, 9-11 October 2009. The Bureau members represented IAG at various international scientific meetings and in several anniversaries, e.g. the 50th anniversary of Bundesamt für Geowissenschaften und Rohstoffe, Hannover, Germany, 25 November 2008, the 50th anniversary of the International Cartographic Association, Bern, Switzerland, 9-10 June 2009, the 10th anniversary of the International VLBI Service (IVS), Bordeaux, France, 25-26 March 2009, the Centenary of the International Society of Photogrammetry and Remote Sensing (ISPRS), Vienna, Austria, 4 July 2010.

ACTIVITIES

IAG Office

The former IAG Central Bureau was renamed IAG Office according to the new IAG Bylaws adopted in Perugia 2007. As a result of the election of the new Secretary General, it moved with all the files including budget, homepage and databases from Copenhagen, Denmark, to Munich, Germany in the second half of 2007. The main task of the office is the administrative organization of all IAG business and events. This includes the budget management, the record keeping of the individual IAG memberships, and the preparation and documentation of all Council and Executive Committee meetings with detailed minutes for the EC members and meeting summaries published in the IAG Newsletters and the IAG Homepages.

Specific duties were the preparation and execution of the IAG Scientific Assembly 2009 and the IAG part of the IUGG General Assembly 2011, the edition of the Geodesist's Handbook 2008 as the organizational guide of IAG with the complete description of the IAG structure (reports, terms of reference, documents), and the Mid-Term Reports 2007–2009 (Travaux de l'AIG Vol. 36). Publications of the Journal of Geodesy and the

Proceedings in the IAG Symposia series, both in Springer-Verlag, were supervised. Travel grants were assigned to young scientists for participation in many IAG sponsored symposia.

Communication and Outreach Branch (COB)

The main task of the COB is maintaining the IAG Homepage and publishing the monthly Newsletter online and in the Journal of Geodesy. It also keeps track of all IAG related events by the meetings calendar. Since July 2010 the IAG newsletter is also sent to the Presidents and Secretaries General of the IUGG Associations and JBGIS members. The COB prepared, printed and distributed a new IAG leaflet and a big 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 final reports 2003 – 2007, the new structure descriptions for the period 2007 – 2011, and the mid-term reports 2007 – 2009 for publication in the IAG Reports (Travaux de l'AIG) and the Geodesists Handbook. They are maintaining their individual Homepages. Most of the Commissions held several symposia, workshops and other meetings during the period 2007-2011 (see below). They organized symposia at the IAG Scientific Assembly 2009 and the IUGG General Assembly 2011.

Services

There are fifteen IAG Services which may be split into three general fields: geometry (IERS, IDS, IGS, ILRS, IVS), gravity (IGFS, ICGEM, IDEMS, IGeS, BGI) and combination (IAS, IBS, BIPM, ICET, PSMSL). All of them maintain their own Homepages and data servers and hold their administrative meetings (Directing Board or Governing Board, respectively). They compiled their final reports 2003-2007, the new terms of reference for the period 2007 – 2011, and the mid-term reports 2007-2009 for publication in the IAG Reports (Travaux de l'AIG) and the Geodesists Handbook. Most Services held international meetings (see below).

Global Geodetic Observing System (GGOS)

GGOS became a new component as the "flagship of IAG" in 2007. The mission of GGOS is to advance geodetic observing methods for Earth and planetary system science by defining and advocating for the establishment of the geodetic infrastructure; improving the quality and accessibility of geodetic observations and products; coordinating interaction between the IAG Services, Commissions, and stakeholders; and educating the

scientific community about the benefits of geodetic research and the public about the fundamental role of geodesy in society.

The GGOS Reference Document (330 pages) was published in Springer-Verlag in 2009. It contains many individual articles with a description of all aspects of the Global Geodetic Observing System written by a very large number of authors. A total of 10 GGOS Steering Committee meetings were held in the period 2007 - 2010, and several GGOS Workshops and Retreats were performed. GGOS is representing IAG as a participating organization in the Group on Earth Observation (GEO) and participated in the GEO Plenary Assemblies and other GEO and GEOSS meetings. A GGOS Inter-Agency Committee is being established to support the sustainability of GGOS.

Coordination with other organisations

IAG maintains close cooperation with several organizations outside IUGG. There were meetings on a regular basis with the Advisory Board on the Law of the Sea (ABLOS, together with IHO), Group on Earth Observation (GEO, with IAG as a participating organization), International Standards Organization (ISO, with IAG represented in TC211 Geographic Information / Geomatics), Joint Board of Geospatial Information Societies (JBGIS), United Nations Offices for Outer Space Affairs (UN-OOSA, with participation in Space-based Information for Disaster Management and Emergency Response, UN-SPIDER, and International Committee on Global Navigation Satellite Systems, ICG).

Meetings

Important meetings of IAG components and sponsored IAG meetings were in 2007 – 2010:

- Workshop on Conventions, Sèvres, France, September 17-19, 2007.
- Joint Internat. GRACE Science Team Meeting, Potsdam, Germany, Oct. 15-17, 2007;
- Unified Analysis Workshop, Monterey, CA, USA, December 5-7, 2007;
- 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 Symposium "Measuring the Changes", Lisbon, Portugal, 12-15 May 2008;
- SIRGAS General Meeting 2008, Montevideo, Uruguay, 26-29 May 2008;
- International GNSS Service Workshop, Miami Beach, Florida, USA, 02-06 June 2008;
- 7th International e-VLBI Workshop in Shanghai, China, 16-17 June 2008;

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- 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 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.
- 3rd Workshop Deformation and Gravity, Lanzarote, Spain, February 23–26, 2009;
- Workshop on Radio Frequencies and Feeds, Wettzell, Germany, March 18–21, 2009;
- 10th Anniversary of International VLBI Service, Bordeaux, France, March 25, 2009;
- International VLBI Service (IVS) Workshop, Bordeaux, France, March 26, 2009;
- 5th IVS Technical Operations Workshop, Westford, USA, April 27–30, 2009;
- European Reference Frame (EUREF) Symposium, Florence, Italy, May 27–30, 2009;
- Training School on GIA Modelling. Gävle, Sweden, June 1–5, 2009;
- 8th International Workshop on e-VLBI Science, Madrid, Spain, June 22–26, 2009;
- Global Geodetic Observing System Workshop, Espoo, Finland, June 23–26, 2009;
- VII Hotine-Marussi Symposium Theoretical Geodesy, Rome, Italy, July 6–10, 2009;
- IAG-SIRGAS School on Reference Systems, Bogotá, Colombia, July 13-17, 2009;
- 16th Advisory Board on the Law of the Sea (ABLOS) conference, Nusa Dua Bali, Indonesia, August 4–5, 2009;
- IAG Scientific Assembly 2009, Buenos Aires, Argentina, Aug. 31 – Sept. 4, 2009;
- SIRGAS General Meeting, Buenos Aires, Argentina, August 31 – September 4, 2009;
- International Geoid School, Buenos Aires, Argentina, Sept. 7–11, 2009;
- ILRS Technical Workshop on SLR Tracking, Metsovo, Greece, Sept 14–19, 2009;
- International Earth Rotation and Reference Systems Service (IERS) Workshop on EOP Combination and Prediction, Warsaw, Poland, October 19–21, 2009;
- 2009 Workshop on the North American Geoid, Boulder, USA, October 21–23, 2009;
- GGOS Intergovernmental Committee, Frankfurt, Germany, November 2–3, 2009;
- Second GGOS Unified Analysis Workshop, San Francisco, USA, Dec. 11–12, 2009;
- International VLBI Service for Geodesy and Astrometry (IVS) 2010 General Meeting, Hobart, Australia, February 07-14, 2010;
- V Congreso Internacional de Agrimensura, Havana, Cuba, March 02-05, 2010;
- Geophysics, Geodesy and Tectonics of the North Africa Plate Boundary for Better Earthquake and Tsunami Hazard Assessment, Algiers, Algeria, May 15-21, 2010;
- European Reference Frame (EUREF) Symposium, Gävle, Sweden, June 02-06, 2010;
- Second Workshop on Application of Artificial Intelligence and Innovations in Engineering Geodesy, Braunschweig, Germany, June 16, 2010;
- Beacon Satellite Symposium, Barcelona, Spain, June 07-11, 2010;
- IAG School on Reference Frames, Mytilene, Lesbos, Greece, June 07-12, 2010;
- IAG Symposium on Terrestrial Gravimetry: Static and Mobile Measurements, St. Petersburg, Russia, June 22-25, 2010;
- 10th International Geoid School, St. Petersburg, Russia, June 28 – July 02, 2010.
- IGS Workshop and Special Workshop on Vertical Rates from GPS, Newcastle, UK, June 28 – July 2, 2010;
- 15th General Assembly of WEGENER, Bogazici University, Istanbul, Turkey, September 14-17, 2010;
- 2nd General Assembly of the IGFS - International Gravity Field Service, Fairbanks, Alaska, USA, September 20-22, 2010;
- IAG Commission 1 Symposium 2010. Reference Frames for Applications in Geosciences (REFAG2010), Marne-La-Vallée, France, October 04-08, 2010;
- 9th International e-VLBI Workshop, Perth, Australia, October 10-20, 2010;
- IGCP 565 Workshop 3: Separating Hydrological and Tectonic Signals in Geodetic Observations, Reno, Nevada, USA, October 11-13, 2010;
- International DORIS Service (IDS) Workshop, Lisbon, Portugal, October 21-22, 2010;
- Observing and Understanding Earth Rotation, Shanghai, China, October 25-28, 2010;
- Sixth ABLOS Conference, Monaco, Monaco, October 25-27, 2010;
- Second SIRGAS School on Reference Systems, Lima, Peru, November 08-10, 2010;

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- SIRGAS 2010 General Assembly, Lima, Peru, November 11-12, 2010.

Publications

The Journal of Geodesy, the official IAG scientific periodical with an Editor in Chief approved by the IAG Executive Committee, was continuously published with monthly issues in Springer-Verlag. In the IAG Symposia proceedings Series, the following volumes were published in:

- 132: VI Hotine-Marussi Symposium on Theoretical and Computational Geodesy (2008);
- 133: Observing our Changing Earth, Proceedings of the IAG General Assembly (2009);
- 134: Geodetic Reference Frames, Proceedings of Commission 1 Symposium (2009);
- 135: Gravity, Geoid and Earth Observation, Proc. of Commission 2 Symposium (2010).

The proceedings of the IAG Scientific Assembly in Buenos Aires 2009 were compiled and are in press.

The Reference Book on GGOS was published as a monograph in Springer-Verlag, and the IAG Reports (Travaux de l'AIG) 2007 – 2009 were published by the IAG Office.

Awards, anniversaries, obituaries

The following medals and prices have been awarded:

- Levallois Medal to C.C. Tscherning, Denmark (2007);
- Bomford Prize to M. Furuya, Japan (2007);
- Young Author Award to Steffen Schön, Germany (2007);
- Order of Merit of the Federal Republic of Germany to Hermann Drewes (2008);
- Young Authors Award to Franziska Wild-Pfeiffer, Germany (2009).

The following anniversaries were celebrated with IAG participation:

- 70th Birthday of the former IAG and IUGG President, Helmut Moritz, in Berlin, 15 November 2008;
- 10th Anniversary of the International VLBI Service for Geodesy and Astrometry, Bordeaux, France, 25 March 2009;
- 50th Anniversary of the German IUGG adhering body "Bundesamt für Geowissenschaften und Rohstoffe", Hannover, 25 November 2008.

Obituaries were written for former IAG officers and outstanding geodesists who passed away:

- Carlo Morelli, Trieste, Italy (2008);
- Lubomir Włodzimierz Baran, Poland (2009);
- Kurt Bretterbauer, Austria (2009);
- Werner Gurtner, Switzerland (2009);
- Irene Fischer, USA (2009);
- Leif Svensson, Sweden.

Michael Sideris, IAG President
Hermann Drewes, IAG Secretary General

QUADRENNIAL REPORT OF THE INTERNATIONAL ASSOCIATION OF GEOMAGNETISM AND AERONOMY

ACTIVITIES

Outstanding frontiers of research in geomagnetism and aeronomy in the period 2007-2010 have included a wide range of new results, in a very diverse domains of geomagnetism and aeronomy, as: understanding of solar processes, solar-terrestrial interactions including those that influence climate; space weather and its implications for space-based infrastructure and exploration; coupling processes that link aeronomic and geomagnetic phenomena from the fringe of geospace through many steps to the Earth's core; the success of the "Decade of Geopotential Field Research" in securing continuous satellite mapping of the Earth's magnetic field, culminating with preparation for Swarm mission – to be launched in 2012; geomagnetic precursors and signals associated with earthquakes and volcanoes; contribution in modelling the core field and its secular variation and acceleration at the core-mantle boundary; progress in understanding the origin and behaviour of the main core through numerical dynamo simulations; greatly improved observation, modelling, and mapping of the field at and near the Earth's surface – used for geophysical exploration and direction finding; palaeomagnetic contributions to solving geological and tectonic problems; use of mineral magnetic properties to monitor environmental effects; and major advances in instrumentation, data acquisition, and sharing of information and services, often in real-time or near-real time. These examples of results in different research fields cover much, though not all, of the science of the Association. Important applications will hopefully result in the future in terms of improved risk assessments and predictions of catastrophic events.

ASSEMBLIES

XXIVth IUGG General Assembly

IAGA held its General Assembly during the first week of IUGG 2007 in Perugia, i.e. between July 2 and July 7 in accordance with the decision to reduce the length of the IAGA assemblies from two weeks to one that was taken by the Conference of Delegates in Toulouse. The IAGA-led scientific programme consisted of 56 symposia, of which 3 were Union symposia, 12 joint symposia with other Associations, and 41 were IAGA-only symposia. The number of papers presented at the IAGA symposia was 1327 (1367 were submitted). The number of IAGA registrants in Perugia was 669.

XIth IAGA Scientific Assembly in Sopron

More than 830 people participated in this event. The Scientific Assembly covered all scientific fields of interest in the Association, with 56 sessions and 2 inspiring Association Lectures. The number of contributions was significant, 1250 papers of which 796 were scheduled as oral presentations and 454 as posters. 2009 being the last year of the IGY+50 anniversary years, the Hungarian website of International Year of Planet Earth (IYPE) included brochures about the IYPE themes in the Hungarian language as well as the information about another International Years held in 2007-2009. The role of the Local Organizing Committee (LOC) in outreach and the press program was extremely useful. The Assembly, full of exciting scientific results, was held in a framework of social interaction not only between the scientists, but also with the town inhabitants and its great cultural atmosphere.

ADMINISTRATION

New leadership of IAGA

The Conference of Delegates elected a new Executive Committee for the quadrennium 2007-2011 and new leaders for the Divisions and Commissions and their Working Groups were appointed by the Executive Committee and confirmed by the Conference of Delegates. 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. In August 2009, Mioara Manda, member of EC, has been elected as Secretary General of IAGA. The EC appointed in her place Toshihiko Iyemori, Graduate School of Science, Kyoto University, Japan.

Changes of the composition of the Executive Committee

A proposal to change the composition of the Executive Committee to provide more opportunities for IAGA scientists to serve on the Committee had been proposed by the Australian Delegation and an amendment had been presented by the Executive Committee. The Conference of Delegates decided to eliminate one of the Vice Presidents and the past President position, thereby opening up for two new members of the

Committee, and to shorten the duration of service of persons in the top positions. The necessary modifications of the Statutes and Bylaws that this decision gave rise to were also decided.

ADDITIONAL ASSOCIATION MATTERS

Topical meetings

In the four year period 2007-2010, IAGA sponsored 23 topical meetings covering large parts of the IAGA science. The IAGA financial contributions amounted to a total of USD 35500, directed mainly at helping young and needy scientists attend.

IGY+50 and eGY

The 50year anniversary of IGY has been celebrated by IUGG and IAGA in Perugia. Special attention has been paid to the development and program realization of an integrated intellectual geoinformation for geomagnetic data; the application of modern technologies to the analysis of vast quantities of time series of observations; and the development of databases and scientific knowledge. IAGA has been one of the main sponsors of eGY (the Electronic Geophysical Year) and a strong supporter of IHY (International Heliophysical Year). Much effort has gone into preparations for these projects. IAGA played a lead role in establishing cooperation and articulating mutual support among the four internal science year initiatives: the International Polar Year (IPY), IUGS's International Year of Planet Earth, IHY, and eGY.

Global Science Information Commons

The UN (three World Summits for the Information Society), GEO/GEOSS, ICSU, CODATA, IUGS, AGU, EGU and many other bodies have a shared vision of a global (geo)science commons that will serve our information and service needs for the future. IAGA, largely through eGY, has lent strong support to these efforts and a link between IUGG, CODATA, and GEOSS.

IAGA medals and awards

The IAGA Medal in Recognition of Valued Service to the IAGA Community was awarded by the IAGA Executive Committee in 2007 to Toyohisa Kamei of the World Data Center for Geomagnetism in Kyoto and in 2009 to Ole Rasmussen of the Danish Meteorological Institute.

Dr. Frank Lowes was unanimously elected *Honorary Member of IAGA* by the Conference of Delegates.

The following young scientists received the *Young Scientists Award* over the period 2007-2010: Gilda Currenti, Anna Kanukhina, Zuzana Kratinova, Eva Macusova, Tracy Moffat-Griffin, Klaus Reuter, Joanna Roszkowska-Remin, Annika Seppälä. The award consists of support to participate in the IAGA/IUGG Assembly.

Publications

For the first time, IAGA plans to have the outcome of the Assembly published in cooperation with Springer Science and Business Media B.V. IAGA Special Sopron Book Series reflect the 5 divisions of IAGA in their broadest sense: (I) Internal Magnetic Fields, (II) Aeronomic Phenomena, (III) Magnetospheric Phenomena, (IV) Solar Wind and Interplanetary Field, and (V) Geomagnetic Observatories, Surveys and Analyses. The five book volumes have been developed and planned for 2010/2011 (two being already published in 2010).

IAGA News 4447, containing information about the IAGA activities and the Executive Committee, decisions have been distributed annually, and can be found at the IAGA web site (www.iugg.org/IAGA).

Eigil Friis-Christensen, IAGA President
Mioara Manda, IAGA Secretary General

QUADRENNIAL REPORT OF THE INTERNATIONAL ASSOCIATION OF HYDROLOGICAL SCIENCES

The main activities involving IAHS as a whole have been the IUGG General Assembly (Perugia, Italy, 2007), the IAHS-IAH Joint International Convention (Hyderabad, India, 2009) and preparations for the *Melbourne* IUGG General Assembly.

During the past four years, the IAHS Bureau had met in Perugia/Italy (8 and 14 July 2007), in Paris/France (8 June 2008), in Hyderabad/India (6 and 12 September 2009) and in Paris/France (4 July 2010). The minutes of all these meetings are available on the IAHS Web Site.

The *PUB* (Prediction in Ungauged Basins) Working Group is the major IAHS initiative operating throughout the decade of 2003-2012, established with the primary aim of reducing uncertainty in hydrological predictions. It is a 'grass-roots' movement intended to engage the interest of hydrologists around the world, and has grown to encompass an enormous variety of approaches and settings.

PUB aims to encourage a paradigm shift in the methods used to predict streamflow, sediment and water-quality variables, away from traditional methods reliant on statistical analysis and calibrated models, and towards new techniques which are based primarily on improved understandings and representations of physical processes within and around the hydrological cycle. Specific areas of interest include flood estimation, climate variability and drought, erosion and sedimentation, snow- and ice-melt, nutrient fluxes and eutrophication issues, land-use and salinity.

The *PUB* decade has been divided into five biennia 2003-2013;

- 1st Biennium, 2003-2005 - Initiation:
Chair - Murugesu Sivapalan, now at University of Illinois at Urbana-Champaign
- 2nd Biennium, 2005-2007 - Growth:
Chair - Jeff McDonnell, Oregon State University
- 3rd Biennium, 2007-2009 - Taking Stock:
Chair - Günter Blöschl, Technical University of Vienna
- 4th Biennium, 2009-2011 - Consolidation:
Chair - John Pomeroy, University of Saskatchewan
- 5th Biennium will commence in Melbourne

Goals of the 4th Biennium:

- To enhance communication within the scientific community, and dialogue with the applications community

- To encourage the inclusion and analysis of regional efforts and varying perspectives
- To maximize the predictive value of available data
- To incorporate process structure, variability and emergence into predictive approaches
- To improve realism in conceptual approaches
- To encourage uptake and evaluation of new measurement and information technologies for basin inputs and characterization
- To develop improved models that reflect recently improved hydrological understanding

The International Hydrology Prize, awarded annually on an individual basis in recognition of an outstanding contribution to the science (a joint IAHS-UNESCO-WMO initiative) has been awarded to Prof. Desmond E. Walling (UK) in 2007, to Mr Jean Margat (France) in 2008, to Prof. Keith Beven (UK) in 2009 and to Prof. Murugesu Sivapalan (Australia) in 2010.

The IAHS Tison Award was established in 1982 and aims to promote excellence in research by young hydrologists. The Award is granted for an outstanding paper published by IAHS. In 2007 it has been awarded to Dr C. Cudennec (France) and Ms H. Badhraâ (Tunisia), in 2008 to Dr G. Lahaa (Austria), in 2009 to Y. Hirabayashi, S. Kanae and S. Emori (Japan) and in 2010 to A. Valéry, V. Andréassian and C. Perrin (France)

Publication is an important sector of activity for IAHS. This is undertaken within the framework of IAHS Press, located in Wallingford (UK) with the generous support of the Centre for Ecology and Hydrology and managed by *Cate Gardner*. IAHS Press publishes the *Hydrological Sciences Journal* with 8 issues a year since 2010 (6 before) and about 12 papers per issue. The Journal is directed by *Z.W. Kundzewicz* (IAHS Editor) and *D. Koutsoyannis*. We are pleased to report that the Journal's five year Impact Factor 2009 reached 1.9, on a par with the best water-related journals. A publication contract has been signed with Taylor and Francis who now distribute the Journal both electronically and as hard copies and provided IAHS Press with modern and effective tools for submission, reviewing and editing.

In the 2007-2010 period IAHS Press also published 31 Red Books that give a general and synthetic view of the IAHS' scientific activity:

- *PUB* Kick-Off Meeting, Edited by D. Schertzer, P. Hubert, S. Koide & K. Takeuchi, IAHS Publ. 309 available in Open Access on the IAHS web site.

XXV General Assembly of the International Union of Geodesy and Geophysics
Quadrennial Reports of the IUGG Associations and Union Commissions

- Water in Celtic Countries: Quantity, Quality and Climate variability, Edited by J. P. Lobo Ferreira & José M. P. Viera, IAHS Publication 310.
- Methodology in Hydrology, Edited by Liliang Ren, Qiongfang Li, Danrong Zhang & Jun Xia, IAHS Publ. 311.
- A New Focus on Groundwater–Seawater Interactions, Edited by Ward Sanford, Christian Langevin, Maurizio Polemio & Pavel Povinec, IAHS Publ. 312.
- Quantification and Reduction of Predictive Uncertainty for Sustainable Water Resources Management, Edited by Eva Boegh, Harald Kunstmann, Thorsten Wagener, Alan Hall, Luis Bastidas, Stewart Franks, Hoshin Gupta, Dan Rosbjerg & John Schaake, IAHS Publ. 313.
- Water Quality and Sediment Behaviour of the Future: Predictions for the 21st Century, Edited by Bruce W. Webb & Dirk De Boer, IAHS Publ. 314.
- Changes in Water Resources Systems: Methodologies to Maintain Water Security and Ensure Integrated Management, Edited by Nick van de Giesen, Xia Jun, Dan Rosbjerg & Yoshihiro Fukushima, IAHS Publ. 315.
- Remote sensing for environmental monitoring and change detection, Edited by Manfred Owe & Christopher Neale, IAHS Publ. 316.
- Reducing the Vulnerability of Societies to Water Related Risks at the Basin Scale, Edited by Andreas Schumann & Markus Pahlow, IAHS Publ. 317.
- Glacier Mass Balance Changes and Meltwater Discharge, Edited by P. Ginot & J.E. Sicart, IAHS Publ. 318.
- 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.
- 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.
- Hydrology in Mountain Regions : Observations, Processes and Dynamics, Edited by Danny Marks, Regine Hock, Michael Lehning, Masaki Hayashi and Robert Gurney, Proceedings of a Symposium held in Perugia, Italy, July 2007, IAHS Publ. 326.
- Role of Hydrology in Water Resources Management, Edited by Hans-Jurgen Liebscher, Robin Clarke, John Rodda, Gert Schultz, Andreas Schumann, Lucio Ubertini & Gordon Young, Proceedings of a symposium held in Capri, Italy, October 2008, IAHS Publ. 327.
- Ecohydrology of surface and groundwater dependant systems : Concepts, methods and recent developments, Edited by Martin Thoms, Kate Heal, Eva Bogh, Antonio Chambel and Vladimir Smakthin, Proceedings of symposium JS1 held in Hyderabad, India, September 2009, IAHS Publ. 328.
- Trends and sustainability of groundwater in highly stressed aquifers, Edited by Makoto Taniguchi, Alyssa Dausman, Ken Howard, Maurizio Polemio and Elango, Lakshmanan, Proceedings of symposium JS2 held in Hyderabad, India, September 2009, IAHS Publ. 329.
- Improving integrated surface and groundwater resources management in a vulnerable and changing world, Edited by Günther Blöschl, Nick van de Giesen, D. Muralidharan, Liliang Ren, Frédérique Seyler, Uttam Sharma & Jaroslav Vrba, Proceedings of symposium JS3 held in Hyderabad, India, September 2009, IAHS Publ. 330.
- Hydroinformatics in hydrology, hydrogeology and water resources, Edited by Ian Cluckie, Yangbo Chen, Vladan Babovic, Lenny Konikow, Arthur Mynett, Siegfried Demuth & Dragan A. Savic, Proceedings of symposium JS4 held in Hyderabad, India, September 2009, IAHS Publ. 331.
- New approaches to hydrological prediction in data sparse regions, Edited by Koray Yilmaz, Ismail Yucel, Hoshin V. Gupta, Thorsten Wagener, Dawen Yang, Hubert Savenije, Christopher Neale, Harald Kunstmann and John Pomeroy, Proceedings of symposium HS2 held in Hyderabad, India, September 2009, IAHS Publ. 333.

XXV General Assembly of the International Union of Geodesy and Geophysics
Quadrennial Reports of the IUGG Associations and Union Commissions

- Groundwater and Climate in Africa, Edited by R. Taylor, Callist Tindimugaya, Michael Owor & Mohammad Shamsudduha, Proceedings of a meeting held at Kampala (Uganda), June 2008, IAHS Publ. 334.
- Hydrological Modelling and Integrated Water Resources Management in Ungauged Mountainous Watersheds, Edited by Wei-Lin Xu, Tian-Qi Ao & Xin-Hua Zhang, Proceedings of a meeting held at Chengdu (China), November 2008, IAHS Publ. 335.
- Status and Perspectives of Hydrology in Small Basins, Edited by Andreas Herrmann & Sybille Schumann, Co-edited by Ladislav Holko, Ian Littlewood, Laurent Pfister, Piet Warmerdam & Ulrich Schröder, IAHS Publication 336.
- Sediment Dynamics for a Changing Future, Edited by Kazimierz Banasik, Arthur J. Horowitz, Philip N. Owens, Mike Stone & Des E. Walling, IAHS Publication 337.
- Hydrocomplexity: New Tools for Solving Wicked Water Problems, Proceedings of the Xth Kovacs Colloquium, Edited by Shahbaz Khan, Hubert Savenije, Siegfried Demuth and Pierre Hubert, IAHS Publication 338.
- Land Subsidence, Associated Hazards and the Role of Natural Resources Development, Edited by Dora Carreón-Freyre, Mariano Cerca & Devin I. Galloway, Technical editor: J. Jesús Silva-Corona, IAHS Publication 339.
- Global Change : Facing Risks and Threats to Water Resources, Proceedings of the 6th World FRIEND Conference, Edited by Eric Servat, Siegfried Demuth, Alain Dezetter & Trevor Daniell, Co-edited by: Ennio Ferrari, Mustapha Ijjaali, Raouf Jabrane, Henny Van Lanen & Yan Huang, IAHS Publication 340.
- Groundwater, Selection, Introduction and Commentary by Mary P. Anderson (2008)
- Rainfall-Runoff Modelling, Selection, Introduction and Commentary by Keith Loague (2010)
- Riparian-zone Hydrology and Biogeochemistry, Selection and Commentary by T.P. Burt, G. Pinay & S. Sabater (2010)

An important effort has been undertaken to make freely available on line all “old” IAHS Publications, namely those that are more five years old. This effort reached its goals and 287 Red Books are presently available on line, representing more than 110,000 pages of hydrological literature. The effort has been extended in 2006 to the *Hydrological Sciences Journal*. At the present time 52 volumes (from the beginning in 1956 to 2007) are available on line.

The *IAHS TFDC* (Task Force for Developing Countries) continued its action 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.

Our close and traditional cooperation with agencies of the UN System has been continued during the last four years:

An IAHS representative or delegation has been invited to and attended the various meetings of the *UNESCO International Hydrological Programme*: IHP Bureau meetings and IHP Councils (*Paris*, June 2008 and *Paris*, July 2010). *IAHS* and *UNESCO* also jointly organized two sessions of the traditional Kovacs Colloquium:

- 9th Kovacs Colloquium (*Paris*, 6-7 June 2008) “River Basins – From Hydrological Science to Water Management” (Red Book 323)
- 10th Kovacs Colloquium (*Paris*, 2-3 July 2010) “Hydrocomplexity: New Tools for Solving Wicked Water Problems” (Red Book 338)

An IAHS representative or delegation has also been invited to and attended major *WMO* events such as sessions of WMO Congress, the Commission of Hydrology, the CHy Advisory Working Group and the WMO Executive Council. Our long-standing efforts to organize a joint conference on Hydrometry have been successful and this conference is scheduled to be held in *Manaus* (Brazil) in September 2011.

Information about all IAHS activities is available on the WEB at <http://iahs.info>.

Arthur Askew, IAHS Past President (2007-2009)
Gordon Young, IAHS President
Pierre Hubert, IAHS Secretary General

In addition, IAHS Press regularly compiles and distributes free of charge the IAHS Newsletter (three or four issues per year). Two books have been published in the “Blue Books” Series:

- *Climate and the Hydrological Cycle*, Edited by Marc Bierkens, Han Dolman & Peter Troch, Foreword by Jim Shuttleworth (Special Publication No. 8) in 2008, and
- *Leonardo da Vinci's Water Theory*, by L. Pfister, H.H.G. Savenije & F. Fenicia (Special Publication No. 9) in 2009.

The New Series “*Benchmark Papers in Hydrology*”, launched in 2006 and directed by *Jeff Mc Donnell*, published four new titles during the quadrennium:

- Evaporation, Selection, Introduction and Commentary by John Gash & Jim Shuttleworth (2007)

QUADRENNIAL REPORT OF THE INTERNATIONAL ASSOCIATION OF METEOROLOGY AND ATMOSPHERIC SCIENCES

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 ICs on *Planetary Atmospheres and their Evolution* (ICPAE), on *Polar Meteorology* (ICPM), and the *International Radiation Commission* (IRC). 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.

ADMINISTRATION

The current IAMAS bureau was elected during the IUGG/IAMAS assembly in Perugia in 2007. The bureau members from 2007-2011 are:

Prof. Guoxiong Wu, President
Prof. Anne Thompson, Vice-President
Prof. Maria Assunção Faus Silva Dias, Vice-President
Dr. Hans Volkert, Secretary General
Prof. John Turner, Deputy Secretary General

During the IAMAS-IAPSO-IACS joint assembly in Montreal in 2009 (MOCA-09), the IAMAS Executive Committee (EC) appointed Hugo Berbery as the financial auditor to monitor the IAMAS finances. Hugo will continue to serve this position and report to the EC during IUGG/IAMAS 2011 in Melbourne.

The IAMAS bureau has been working in an open and cooperative fashion since its first day of election. IAMAS Secretary General Hans Volkert advocated a "Co-Co-Co" working motto, i.e. "communication, cooperation & continuity", which is welcomed and accepted by all the IAMAS officers. Besides communication by email, IAMAS bureau members have regular telephone conferences. In this way, the bureau members can quickly process commissions' request, provide necessary support to science activities, and innovate policies, regulations and notice that can promote and coordinate international atmospheric and climate research. IAMAS' ten commissions also report to IAMAS bureau annually. Through

their involvement in the international research, IAMAS/IUGG is well represented.

The IAMAS bureau members also met in person to exchange ideas. The President and the Secretary General took part in the IUGG EC meeting in 2008 in Karlsruhe and the IUGG EC meeting in Melbourne in October 2010 for the initial planning of the IUGG-Assembly there in June/July 2011. The Secretary General also visited the President's base in Beijing on his way back and met with Past President MacCracken there. The Secretary General and his deputy also met in person dealing with plans for the website transfer and revision.

ACTIVITIES

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

IAMAS

IAMAS participated and organized two major assemblies from 2007-2010.

In 2007, IAMAS held 29 Joint symposia and 20 IAMAS-only symposia, at the 24th IUGG Assembly in Perugia, 2-13 July. IAMAS also convened two special evening Union symposia on "the different parts of the recent IPCC report" and on "The Effects of Aerosol Pollution on Precipitation". 1049 scientists had registered via the web, 636 of them arrived in Perugia, including 179 students. The IAMAS also proposed to IUGG two resolutions: "*the effect of aerosol pollution on precipitation*" and "*the urgency of addressing climate change*". Both were endorsed by IUGG.

In 2009, IAMAS had its assembly jointly organized with IAPSO and IACS (MOCA) in Montreal from 19-29 July. About two thirds of the 1400 registered participants came from IAMAS. They contributed to 20 (of 21) joint symposia and to 18 IAMAS-only symposia. The general opinion prevailed that the overall organisation by our Canadian hosts was excellent with a compact, but spacious venue and a carefully designed interlocking schedule comprising two well attended plenary sessions, up to 11 parallel sessions with IAMAS-contributions, and ample time for daily mid-afternoon discussion at posters. The local support by our Canadian colleagues was truly outstanding.

Some other IAMAS activities include:

- The Secretary General joined an initiative of honorary members of IOC and IRC to highlight the catalysing role of IAMAS

commissions for advancing over decades international science programmes (cf. OHRING et al. 2009; <http://ams.allenpress.com/archive/1520-0477/90/11/pdf/i1520-0477-90-11-1669.pdf>), with reference to IAMAS Publ. No. 1 about the IRC-development over 100 years.

- The China National Committee (CNC) for IAMAS/IUGG sponsored and organized an international workshop on “Asian Summer Monsoon and its Role on Global Stratosphere-Troposphere Exchange” in Lhasa, China, on 21-23 July 2010; cf. IUGG e-journal (Volume 11, No. 1).
- IAMAS liaisons to SCOR, SCAR and WCRP all participated in the scientific committee meetings of SCOR, SCAR and WCRP and IAMAS/IUGG is well represented in these organizations through their active involvement.

Highlights of the IAMAS ten commission activities are:

ICACGP participated and organized symposia in the 24th IUGG General Assembly (2007), IGAC conference (2008), and IGBP Congress (2009), and organized the 12th Symposium of CACGP jointly with the 11th Science Conference of the International Global Atmosphere Chemistry (IGAC) Project in 2011. In Europe through the participation of ICACGP members in the EU ACCENT Network of Excellence, ACCENT support ICACGP and IGAC recommendations for students to attend international science meetings and related activities. ICACGP elected a new office in 2010.

ICAE organized its quadrennial international conference, 13th International Conference on Atmospheric Electricity, in China in 2007. ICAE has published 6 issues of its newsletters. The ICAE website has been re-located with its new address www.icae.jp.

The current office of **ICCL** was re-elected in 2007 for the period 2007-2011. Both President (Keith Alverson) and the Executive Secretary (Neil Holbrook) participated in the Global Oceans Conference 2010 (GOC2010) held at UNESCO in Paris from 3-7 May 2010 – this being the Fifth Global Conference on Oceans, Coasts, and Islands [www.globaloceans.org/]. Michael MacCracken, past president of IAMAS and of ICCL, was attended the awarding of the 2007 Nobel Peace Prize to the Intergovernmental Panel on Climate Change and to former US Vice President Al Gore in Oslo, Norway, Dec 10, 2007. He also attended many meetings with geo-engineering sessions.

About 400 scientists including 80 students attended the **ICCP** 2008 Cancun conference with support from the WMO (15000 CHF), IAMAS (\$5000) and

from the IUGG (\$2000). The money was used to support 32 students and young scientists (16 women and 16 men).

The **ICDM** approved its first official set of bylaws during its meeting in Perugia in 2007. After the meeting, the bylaws were approved by the relevant governing bodies and are now in force. The ICDM was sole sponsor of five symposia in MOCA-09 in Montreal, sponsored two jointly with other IAMAS commissions, and was involved with three MOCA-09 joint symposia.

ICMA co-sponsored following activities from 2006-2010: the 37th COSPAR Scientific Assembly in 2008 and MOCA-09 in 2009; the 5th IAGA/ICMA/CAWSES Workshop on Long-Term Changes and Trends in the Atmosphere, in 2008; the 9th ICMA Workshop on Layered Phenomena in the Mesopause Region (LPMR) in Stockholm in 2009; the 6th IAGA/ICMA/CAWSES-II workshop “Long Term Changes and Trends in the Atmosphere” in 2010; ICMA opened its new webpage at the following new URL: <http://www.icma-iamas.org/>

IO3C signed a “Letter of Agreement” with WMO for the establishment of an ad hoc expert team that will assess ozone absorption cross sections used in atmospheric observations. An ozone theme meeting on ozone absorption cross-sections was jointly organized by WMO, IGACO-O3/UV, IO3C and the Network for Detection of Atmospheric Composition Changes (NDACC) at WMO Headquarters in 2009. Publication of the volume “Twenty years of ozone decline”, Springer, includes articles presented by leading scientists in the ozone field at the Symposium for the 20th Anniversary of the Montreal Protocol, jointly organized by the UNEP, IO3C, the Academy of Athens and the Mariolopoulos-Kanaginis Foundation, held in Athens in 2007. IO3C Members were strongly involved in the 2010 WMO Ozone Assessment, which was published on January 2011. The Ozone Assessment is available at http://www.unep.ch/ozone/Assessment_Panels/SAP/index.shtml.

ICPAE has benefited from the extremely successful space missions such as CASSINI-HUYGENS, MARS EXPRESS, and VENUS EXPRESS. ICPAE sponsored two symposia at MOCA-09 and several other meetings from 2007-2010, namely: EGU 2010 (Vienna, Austria, 2-7 May), AOGS 2010 (Hyderabad, India, 5-9 July), COSPAR 2010 (Bremen, 18-25, July), EPSC 2010 (Rome, Italy, 20-25 Sept), DPS (3-8 October, Pasadena), AGU (13-17 Dec 2010). ICPAE co-sponsored the publication of the Planetary and Space Sciences Special issue and contributed to the special section of Journal of Geophysical Research (Planets) “Venus Express: Results of the Nominal

Mission” (2009). ICPAE members played a leading role in putting together and editing of the special issue of Journal Geophysical Research “Venus Express: results of the nominal mission” that included more than 40 original papers and was published in 2010 as a book. Also, ICPAE members are participating in proposals and studies for future space missions to planetary objects from the space agencies (NASA, ESA), such as EJSM-Laplace, TSSM, TAE, Saturn Probes, EVE, etc.

ICPM sponsored two symposia at MOCA-09. The primary activity of ICPM in 2010, in conjunction with other organizations, was to organize the International Workshop on Antarctic Clouds (<http://polarmet.osu.edu/workshops/iwac/>) that was held at the Byrd Polar Research Center of The Ohio State University, July 15-16, 2010. The workshop presentations (online at the above website under Program) are being turned in a review manuscript for the Reviews of Geophysics. ICPM will endorse efforts to develop an Antarctic Reanalysis Project. It is hoped that ICPM can take a lead in coordinating such a project, especially the international data exchange component. It is hoped that in Melbourne 2011 an IUGG resolution supporting this project can be passed.

IRC elected 19 new members in regular elections held during December 2008. Early in 2009 the officers introduced a new IRC website (www.irc-iamas.org) which allows members to login and update their personal and working group information, as well as add items of news and events to share with the community. IRC sponsored 4 symposia at MOCA-09. At present the IRC is composed of 42 members from 18 countries. The Commission has eight active working groups and

three associated groups. At the 2010 Annual Business Meeting held on 22 July 2010 in Bremen, Germany during COSPAR, IRC members voted to hold the 2012 International Radiation Symposium in Berlin, Germany, 5-12 Aug 2012. The IRC submitted five reviewer/author nominations for IPCC AR5. Other Meetings and Activities IRC members co-organized or participated in 2010 include: ITSC-17, 11th BSRN Scientific Review and Workshop, the 11th Biennial HITRAN Conference, AMS, 3rd Asia Pacific Radiation Symposium.

FUTURE ACTIVITIES

IAMAS set up a statutes revision committee and a nomination committee in 2009. Both committees have been working during the past one and a half year and will lead important discussions in the IAMAS EC meetings during IUGG2011. With a complete revision of the statutes and a newly elected bureau, IAMAS will embrace a new era of opportunities and challenges. IAMAS is also intending to set up an award to recognize the achievement of young scientists. The details will be discussed and hopefully approved at the EC meeting and then written into the revised IAMAS statutes and by-laws. The first award would be given at IAMAS-IACS 2013 joint assembly in Davos, Switzerland (DACA-13 in short). Many of IAMAS commissions will also organize workshops in between IUGG2011 and DACA-13.

Guoxiong Wu, IAMAS President
Hans Volkert, IAMAS Secretary General

QUADRENNIAL REPORT OF THE INTERNATIONAL ASSOCIATION FOR THE PHYSICAL SCIENCES OF THE OCEANS

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 works mainly through 1) biennial scientific assemblies; 2) working groups; 3) Commissions; 4) Services and 5) website information. Of special importance to IAPSO is to involve scientists and students from developing countries in the activities.

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://iapso.sweweb.net/db/>

ADMINISTRATION

The IAPSO office has been situated at Gothenburg University, Sweden since July 2007, and the day-to-day business has been managed by SG Johan Rodhe, Sweden. The Bureau of IAPSO comprises of the President, Lawrence Mysak, Canada, the Past President, Shiro Imawaki, Japan, the SG, Johan Rodhe, and the Treasurer, Fred Camfield, USA. The SG has been responsible for the IAPSO website.

In December 2010 the LOC for the Joint (IAPSO, IAHS and IASPEI) Assembly in Gothenburg, Sweden, 22-26 July 2013, was formed. The three Secretaries General of the three Associations visited the venue for the Assembly and had a first meeting with representatives of the LOC.

ACTIVITIES

IAPSO participated in the IUGG General Assembly 2007 in Perugia, Italy. Twelve IAPSO-only symposia and 3 joint symposia were organised by IAPSO. About 300 attendees were registered as IAPSO scientists.

The 2009 assembly, MOCA-09, was arranged jointly with IAMAS and IACS. Ten IAPSO symposia and 21 joint symposia were organised. The total number of attendees was 1338, out of which 337 were registered as IAPSO scientists. IAPSO funded 22 grants to scientists from developing countries.

The IAPSO President and Secretary General participated in one SCOR meeting every year: August 2007 in Bergen, Norway; October 2008 in Woods Hole, USA; October 2009 in Beijing, China; and September 2010 in Toulouse, France. One important task during the SCOR meetings is to decide which of the annually proposed SCOR working groups to fund. A review of current working groups is also undertaken.

In August 2008 an IAPSO Vice President (D. Smythe-Wright) and the Secretary General participated in the IUGG Executive Committee Meeting in Karlsruhe, Germany.

In May 2009 the Secretary General met with the other IUGG Secretaries General in Munich to start the planning of symposia for IUGG2011.

The following SCOR working groups (WGs), which have received funding from IAPSO, have been active during this period and have published important books and/or special journal issues:

- SCOR/LOICZ/IAPSO WG 122 (Co-chaired by G.M.E. Perillo and J. Syvitski): "Mechanisms of Sediment Retention in Estuaries". Publication: Special Issue of *Estuarine, Coastal and Shelf Science*, Volume 87(2), pp. 175-366, 2010.
- SCOR/IAPSO WG 127 (Chaired by T.J. McDougall): "The Thermodynamics and Equation of State of Seawater". This WG has now completed their extensive work, which involved the introduction of the Gibbs potential function for seawater and a new salinity formulation called Reference Salinity (SR), expressed in g/kg. The new formulation for the thermodynamics of sea water is published as: IOC, SCOR and IAPSO, 2010: *The international thermodynamic equation of seawater – 2010: Calculation and use of thermodynamic properties*. Intergovernmental Oceanographic Commission, Manuals and Guides No. 56, UNESCO (English), 196 pp. It is also available electronically from <http://www.TEOS-10.org>.
- SCOR/IAPSO WG 129 (Chaired by John Johnson): "Deep Ocean Exchange with the Shelf". The results of this WG are published in a special issue of *Ocean Science*; see http://www.ocean-sci-discuss.net/special_issue27.html. It is important to note that several early career scientists from Africa participated in some of the meetings of this WG, thanks in part to IUGG support.
- SCOR/IAPSO WG 133 (Co-chaired by T. Rossby and K. Kim): "OceanScope". This

WG held its second meeting in London 12-14 April 2010, and is currently writing up a public document outlining the work plan for this ocean measurement program.

- SCOR/WCRP/IAPSO WG 136 (Co-chaired by L. Beal and A. Biastock): "The Climatic Implications of the Greater Agulhas System". This WG held its first meeting 20-21 February 2010 in Portland Oregon. At a future WG meeting in Mauritius, scientists from a number of African countries are planning to attend, again thanks to IUGG support.
- A SCOPE/SCOR/IAPSO book "Watersheds, Bays, and Bounded Seas" was published in 2009. The former IAPSO President, Paola Malanotte-Rizzoli, was one of the editors.

IAPSO Commissions and Services:

- Commission on Mean Sea Level and Tides, hosted by the Proudman Oceanographic Laboratory, UK. Website: www.pol.ac.uk/psmsl/
- An IAPSO co-sponsored publication related to the above Commission: *Sea-Level Rise and Variability*. Edited by John A. Church, Philip L. Woodworth, Thorkild Aarup & W. Stanley Wilson. 2010. Blackwell Publishing Ltd.
- Tsunami Commission (Joint with IASPEI and IAVCEI). Website: www.iaspei.org/commissions/JCT.html
- GeoRisk Commission (Joint with IAMAS, IAHS, IASPEI and IAVCEI). Website: www.iugg-georisk.org/
- Permanent Service for Mean Sea Level, hosted by Proudman Oceanographic Laboratory, UK. Website: www.pol.ac.uk/psmsl/
- IAPSO Standard Seawater Service, hosted by OSIL, Havant, Hampshire, UK

Prince Albert I Medal

In connection with the assemblies IAPSO selects a winner of the Prince Albert I Medal. Prof. Russ Davies, Scripps Institution of Oceanography, USA, was presented the Medal in Perugia 2007, for "excellence in physical and/or chemical oceanography". Prof Harry Bryden, University of Southampton, UK, was presented the Medal in Montreal 2009 "...in recognition of his fundamental contributions to understanding the ocean's role in

the global climate system." Dr. Trevor McDougall from CSIRO Marine and Atmospheric Research, Hobart, Australia has been selected to receive the medal in Melbourne 2011 for "his outstanding work on (1) important and fundamental problems of ocean fluid dynamics over the full range of ocean scales, and (2) the thermodynamic properties of seawater".

Eugene LaFond Medal

This Medal, created in honour of Eugene LaFond who was a former SG of IAPSO, is awarded to a scientist from a developing world country for a paper presented at an IAPSO Assembly. In 2007, this Medal was awarded to Dr. Catia Motta Domingues from Brazil, for her presentation of the paper entitled "Towards more accurate estimates of the thermosteric sea level rise" at the IUGG General Assembly in Perugia. In 2009, the Medal was awarded to Dr. Bamol Ali Sow from Senegal for his oral presentation "Simulation of the Senegalese and Mauritanian Upwelling: How are the Winds actually Driving SST Variability and Water Mass Renewal?" at MOCA-9 in Montreal.

Members of the IAPSO Executive Committee (EC) for 2007-2011:

President:	Lawrence Mysak, Canada
Secretary General:	Johan Rodhe, Sweden
Past President:	Shiro Imawaki, Japan
Vice Presidents:	Denise Smythe-Wright, UK Eugene Morozov, Russia
Treasurer:	Fred Camfield, USA Isabelle Ansoorge, South Africa
EC Members:	Silvia Blanc, Argentina W. John Gould, UK John Middleton, Australia Temel Oguz, Turkey Stefania Sparnocchia, Italy

Lawrence Mysak, IAPSO President
Johan Rodhe, IAPSO Secretary General
January 2011

QUADRENNIAL REPORT OF THE INTERNATIONAL ASSOCIATION OF SEISMOLOGY AND PHYSICS OF THE EARTH'S INTERIOR

IASPEI promotes the study of problems relating to earthquakes, the propagation of seismic waves, and the internal structure, properties, and processes of the Earth.

Comprehensive minutes of the past Quadrennium and other information are posted on the IASPEI website, <http://www.iaspei.org/>.

IASPEI 2007 General Assembly at Perugia (Italy)

For its 2007 Perugia General Assembly IASPEI arranged 10 IASPEI-related symposia and workshops, 17 Inter-association symposia and workshops - out of which 8 were IASPEI-led - and 2 Union symposia (High-performance computations in geosciences and Early warning of natural hazards). Moreover, 11 official IASPEI meetings were held. Details can be found in the IUGG 2007 Conference Comptes Rendus. IASPEI had almost 1200 abstracts presented, of which 562 oral and 637 posters. At least 458 participants were officially IASPEI affiliated, but the number of IASPEI participants is estimated at more than 700. The adopted resolutions can be viewed on the IASPEI website.

IASPEI 2009 Scientific Assembly at Cape Town (South Africa)

IASPEI organized its 35th Scientific Assembly in Cape Town, South Africa, from January 10 to 16, 2009. It was held in an excellent venue, the centrally located Cape Town Convention Centre. The Local Organizing Committee under the leadership of Gerhard Graham and Michelle Grobbelaar, consisted of members of the Council of Geosciences, University of Witwatersrand and others also from neighboring countries.

There were 347 participants from 60 countries registered for the Assembly. Eighty three of them were students, young researchers and researchers from less-developed countries who were partially sponsored.

Three Keynote lectures were delivered at the Assembly: Tom Jordan talked on "Earthquake Forecasting and Prediction: Progress in Model Development and Evaluation"; Raoul Madariaga discussed "Earthquake Dynamics: from source to radiation"; and Guust Nolet presented "Seismic tomography and the dilemma of the Earth's heat budget".

The 32 symposia of the programme covered the spectrum of research related to IASPEI Commissions and current "hot" topics in seismology, in a total of 335 oral and 106 poster

presentations. These included, a session on "Capacity building and capturing undergraduate students to Geophysics/Seismology", and two well-attended Panel discussions convened by R. Musson on: "Seismic Hazard: Living with Uncertainty" and "Earthquake Prediction: What the Future Holds". Several IASPEI commission and working group meetings were organized during the Assembly.

The Local Organizing Committee, with the determinant support of the South-African Council for Geoscience, did a great job ensuring a smooth management and enjoyable social moments. Several pre- and post-conference fieldtrips were also organized.

A Summer school was organized in conjunction with the IASPEI Scientific Assembly and held during the week after the conference ended, attended by 27 fully sponsored, mostly African participants.

The products of IASPEI Scientific Assembly in South Africa, including adopted resolutions, abstract volumes, keynote lectures, and useful meeting data are available at <http://www.iaspei.org/>.

The next IASPEI Scientific Assembly, after the General Assembly in connection with the IUGG 2011 one in Melbourne, Australia, will be held in Göteborg, Sweden, in July 2013 together with IAPSO and IAHS.

Asian Seismological Commission (ASC) meetings

ASC2008, Tsukuba, Japan

The Asian Seismological Commission (ASC) 2008 7th General Assembly was held, in conjunction with the Seismological Society of Japan (SSJ) 2008 Fall Meeting, from 24 to 27 November 2008 in Tsukuba, Japan, at the Tsukuba International Congress Center.

This was the first joint meeting of ASC with a national seismological society and resulted in a big success, thanks to the joint organization and the efforts of the SSJ to raise the necessary funding. 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 full conference report is available on the ASC website: <http://www.asc1996.com/>

ASC2010, Hanoi, Vietnam

The 8th General Assembly of the Asian Seismological Commission was held during November 8-10, 2010 in Hanoi, Vietnam. 287 from 32 countries participated to the well-organized conference that had its venue at the Vietnam Academy of Science and Technology. 70 Participants received full or partial grants from LOC. 208 abstracts were printed in the *ASC2010 Programme and Abstracts*, 150 posters and 117 reports were scheduled. The gala dinner on the boat cruising the big Hanoi lake was unforgettable.

The conference was preceded by a Pre-Assembly Training Course on Seismic Hazards and Disasters in Asia, attended by 20 participants. Eleven participants took part to the Post-Assembly Field Trip to the Red River Fault Zone. Evidences of seismic activities along the Red River fault zone (its Vietnamese segment) during the late Tertiary-Quaternary period were presented through the tectonic evolution by structural analysis of fractured pebbles in Miocene conglomerates and Morphotectonic study of active faults.

The venue of the next 2012 ASC conference will be: Ulaan Bataar, Mongolia.

European Seismological Commission (ESC) meetings

ESC2008, Hersonissos, Crete Island, Greece

The European Seismological Commission (ESC) held its 31st General Assembly in Hersonissos, Crete Island, Greece. About 450 scientists have participated to the conference, which was structured in 28 sessions organized within 12 thematic areas. The conference organizer was the Institute of Geophysics of the National Observatory of Athens under the leadership of Prof. Gerassimos Papadopoulos.

The conference report is available on the ESC website: <http://www.esc-web.org/>

ESC2010, Montpellier, France

The 32nd General Assembly of the European Seismological Commission was held during September 6-10, 2010 in Montpellier, France.

A record attendance of 739 from 63 countries is a clear evidence of a successful event. The total attendance includes 701 registered participants, 8 master students from Montpellier University who followed keynotes and 29 high-school students and their teachers who presented their experiments in seismology on Friday morning. The gala dinner was attended by 350 people.

From a questionnaire distributed to participants the major highlight of the conference was the scientific program, perceived as attractive. Also the many keynotes given have been appreciated and as well as the extension of the topics beyond core seismological fields. The videos of the keynotes are available online at: <http://www.emsc-csem.org/News/esc2010/>

The Young Seismologist Training Course 2010 followed the conference and took place in the period 13 – 17 September 2010. The venue of the Course was the University Montpellier 2, and the title of the course was **Urban Seismology**. There were 19 participants from 17 countries. IASPEI provided as usual some financial support.

The venue of the next 2012 ESC conference will be: Moscow, Russia.

Other major initiatives with IASPEI Participation

International Scientific Studies conference (ISS-2009), June 2009, Vienna, Austria

IASPEI participated with its President and Secretary General to the International Scientific Studies conference (ISS-2009) organized by the CTBTO in June in Vienna. Peter Suhadolc was one of the panelists. The ISS-2009 evaluated the capability and readiness of the Comprehensive Nuclear-Test-Ban Treaty's (CTBT) verification regime to detect and locate nuclear explosions worldwide and addressed relevant scientific and technical developments since the Treaty opened for signature in 1996, in particular the International Monitoring System and the on-site inspection regime. The conference consisted of plenary sessions, keynote speaking sessions, panel discussion sessions, thematic presentation sessions, poster sessions and exhibitions. It was attended by diplomats, officials, scientists, representatives from non-governmental organizations and the media. The ISS Scientific Panel consisted of Coordinators who were responsible for overseeing the work undertaken within the above topic areas and reviewed the scientific contributions submitted. The Coordinators for Seismology were: Prof. Wu Zhongliang and Prof. Barbara Romanowicz.

AGU Meeting of the Americas, August 2010, Iguassu Falls, Brazil

The AGU Joint Assembly (or "Meeting of the Americas") had a total of 2012 participants. There were 19 two-hour oral sessions and 11 poster sessions in Seismology or co-sponsored by Seismology. All major South American seismology groups were represented in the meeting.

The IASPEI logo was shown in both the AGU and the local webpage. It was also printed in the AGU

program book and in the folder distributed to all participants. Student support IASPEI gave a total of US\$ 6,000.00 to support attendance of Latin American graduate students.

The total number of student applications in the Seismology section was 18. Nine of these applications were from South American students: 3 from Argentina, 4 from Chile, 2 from Brazil. We selected six students: three from Argentina and three from Chile, all of them doing a Ph.D. program.

Global Earthquake Model

The IAEE-IASPEI Joint Working Group on the International Alliance of Seismology and Earthquake Engineering Professional Associations activities were related to one of its missions: the GEM project, a global risk assessment initiative. P Suhadolc has been elected in the Governing Board of the GEM Foundation as IASPEI representative and has attended several meetings in 2009 and 2010, in June at Hohenkammer (Munich), in December in Paris, in June 2010 in Washington, in December 2010 in Singapore. The GEM initiative is progressing extremely well and a number of Projects have been assigned to groups of the seismological worldwide community to study basic seismological input data for seismic hazard assessment.

Other IASPEI-supported meetings

IASPEI has sponsored (on its own or via an IUGG grant) the following workshops/symposiums:

- 10th International Workshop on Modeling of Mantle Convection and Lithospheric Dynamics, September 2-7, 2007, Carry-le-Rouet, France.
- International Trainings Course on Array Seismology, June 30 – July 3, 2007, Arezzo (Italy).
- IRIS Seismological Workshop ‘Managing Waveform Data and Related Metadata for Seismic Networks’, October 21-26, 2007, Kuala Lumpur, Malaysia
- International Scientific Conference to mark the 50th Anniversary of the Founding of the Geophysical Observatory of Addis Abeba University, November 1- 4, 2007, Addis Abeba, Ethiopia.
- 38th European Seismological Commission General Assembly: Young Scientists Training Course, September 2008, Chania, Greece.
- 7th Asian Seismological Commission General Assembly: ASC International Trainings School, November 2008, Tsukuba (Japan).
- WG Subduction Zones in Less-developed Countries, WG meeting at IAVCEI2008 Scientific Assembly, August 17-22, 2008,

Reykjavik, Iceland.

- The Second International Seminar on Prediction of Earthquakes Prediction, Lisbon, Portugal, 29-30 April, 2009.
- 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 Geodynamics meeting at Suzdal, near Moscow, August 2009 with topics ranging from crustal dynamics to core convection.
- IRIS Seismological Workshop ‘Managing Waveform Data and Related Metadata for Seismic Networks’, November 8-16, 2009, Cairo, Egypt.
- The 11th International Workshop on Modeling of Mantle Convection and Lithospheric Dynamics held in Braunwald, Switzerland from June 28 to July 3, 2009.
- The VIII International Workshop “Physics and Forecasting of Rock Destruction”, Saint Petersburg, Russia, from 24 to 29 May 2010.
- The IRIS Workshop on “Managing Waveform Data & Related Metadata for Seismic Networks”, Foz do Iguacu, Brazil, 13-19 August 2010.
- 13th Business Meeting of IASPEI/IAGA/IAVCEI Inter-Association Working Group on Electromagnetic Studies of Earthquakes and Volcanoes (EMSEV), October 6, 2010, Chapman University, California, USA. The deployment of equipment for joint studies of electromagnetic, seismic and deformation of Taal volcano near Manila in the Philippines has been partly supported by IASPEI.

Meetings and activities in 2011

- IUGG2011 General Assembly, Melbourne, Australia. June 28 – July 7, 2011.
- The Fourth International Symposium on the effects of Surface Geology on Seismic Motion will be held in Santa Barbara, California, USA in August 2011.
- Seismotectonics and Seismic Hazards in Africa, a session at the CAG23, 7 - 14 January, 2011, Johannesburg, South Africa.
- Short course on Waveform Inversion for local earthquakes. OVSICORI Institute, Universidad

Nacional de Costa Rica, Heredia, Costa Rica.
Fall 2011.

- International Symposium on Geophysical Imaging with Localized Waves, Sanya, Hainan Island, China. July –August 2011.
- 12th International Workshop on Modeling of Mantle Convection and Lithospheric Dynamics. Groß Dölln, Germany. August 20 to 25 2011

Scientific Programmes and Projects

The IDEA (International Digital Earthquake Archives) project of the Committee for Preservation of WWSSN and Historical Seismograms (also called simply *Seismoarchives: Seismogram Archives of Significant Earthquakes of the World*), is continuing under the guidance of Willie Lee. IRIS is archiving the scanned seismograms.

Several projects have been completed, let us recall a major one: *Collecting and Scanning Seismograms in Support of the USGS/CMG Tsunami Hazard Potential in the Caribbean Project* (August, 2006 to December, 2007)

Recently, an IUGG-funded IASPEI-ISC Project *Networking of world seismologists (Improving Geophysical Science Link to the Society during Natural Extreme Events, Especially in Developing Countries)* has started.

IASPEI and ISC will develop and maintain a worldwide registry of seismologists & geophysicists willing to serve as a point of contact in countries with and without affiliation to IUGG, with a particular focus to developing countries. This registry will be readily available for scientific & research institutions, governmental bodies, charitable and relief organizations and media following natural extreme events such as earthquakes and tsunami.

IASPEI has set up a Scientific Advisory Board (SAB) for the GEM hazard global component project *Global Instrumental Earthquake Catalogue* under the leadership of ISC. IASPEI has received financial support from this grant for this activity. The money is intended mainly for reimbursing the SAB members and for related IASPEI administration.

Publications

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

- *IASPEI: Cooperation for Better Understanding of the Earth* (26-page brochure).
- *International Handbook of Earthquake and Engineering Seismology (Part A and B)*, a two-volume comprehensive review, a state-of-the-art reference for seismologists, earthquake engineers, geologists, and geophysicists. For more information, consult the website, <http://www.academicpress.com/quake>.
- *New Manual of Seismological Observatory Practice* provides the essential scientific and technical fundamentals, reveals their inter-relationships, and motivates observatory personnel to do their jobs as carefully as possible. An electronic version is being prepared.

IASPEI Newsletter

Finally, during the past quadrennium IASPEI has upgraded its old bulk E-Mail System to broadcast timely announcements about forthcoming meetings and other information of interest to IASPEI members. Since a few years it is distributed as *IASPEI Newsletter* in a new vest as a pdf file both by e-mail and posted on the IASPEI website. Past copies can be downloaded from the IASPEI website. In the quadrennium 2007-2010 there were 20 issues distributed worldwide.

IASPEI Website

IASPEI has its own website www.iaspei.org maintained by the webmaster Alice Walker. It is foreseen that in 2011 the domain will move from the USA to a new server at BGS, UK.

Zhongliang Wu, IASPEI President
Peter Suhadolc, IASPEI Secretary General

QUADRENNIAL REPORT OF THE INTERNATIONAL ASSOCIATION OF VOLCANOLOGY AND CHEMISTRY OF THE EARTH'S INTERIOR

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 one of the eight IUGG associations. It is run by an 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*.

Members

The number of IAVCEI paid individual members during the period considered has been 764, and the number of Life Members has increased from 45 to 72.

Administration

The election of the IAVCEI officers for the term July 2007 to July 2011 was held in May 2007 by postal ballot of IAVCEI individual members and national correspondents. The new officers of IAVCEI for 2007-2011 were officially presented during the IAVCEI General Assembly held on July

13th, 2007, coinciding with the IUGG GA in Perugia, Italy. The new officers are:

President:	Setsuya Nakada (Japan)
Vice-Presidents:	Anita Grunder (USA) Hugo Moreno (Chile)
Secretary-General:	Joan Martí (Spain)
Members of Executive Committee:	Piero Dellino (Italy) Juan Manuel Espíndola (México) James White (New Zealand) Marta Calvache (Colombia)
Past President:	Oded Navon (Israel)
Editor Bull Volc:	John Stix (Canada)

One meeting of the IAVCEI Executive Committee was held in 2007, in November in Shimabara, Japan coinciding with the Cities on Volcanoes 5 meeting. The EC met again during the IAVCEI's Scientific Assembly that was held in Reykjavik, Iceland, August 18-22, 2008. 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.

IAVCEI Executive Committee activities during 2009 and 2010 have all been carried out through email exchange among the EC members. These have included:

- Revision of IAVCEI Finances, funding support, and potential funding sources and strategies. The control of IAVCEI finances is now clear and all funds have been transferred to an unique official account in Barcelona (Spain) and the rest of accounts have been closed.
- Revision of the existing commissions, past activities and future plans. Three new commissions have been accepted by the EC during this period: Caldera Volcanism, Volcano-Ice Interaction, and Basaltic Volcanism
- The website has been revised and updated
- A contract has been signed with Volcano Video Productions (USA) and NHK International (Japan) companies in order to transform the IAVCEI videos (Reducing Volcanic Risk and Understanding Volcanic Hazards) into DVDs.

- Negotiations with Elsevier addressed to incorporate the Journal of Volcanology and Geothermal Research as an official Journal of IAVCEI in conjunction with Bulletin of Volcanology (Springer) have been initiated by the SG.
- The President and the SG participated in the IUGG EC meeting held in Melbourne (Australia) in September 2009 where the organisation and scientific program for IUGG 2011 were discussed.
- The IAVCEI scientific program for IUGG GA 2011 has been elaborated in collaboration with Prof. Ray Cas, Local Chairman and member of IAVCEI
- The former editor of Bulletin of Volcanology, Dr. John Stix, decided to leave his position for personal reasons in 2010 and has been replaced by Dr. James White, who is currently working on the reorganisation of the Editorial Board of Bulletin of Volcanology

Foreseen activities for 2011:

- Full revision of the IAVCEI Statutes and By Laws and approval in the General Assembly to be held in Melbourne during the IUGG GA
- Completion of the reorganisation of IAVCEI Commissions.
- Election of the new Executive Committee for the period 2011-2015. The new members will be officially presented during the General Assembly to be held in Melbourne during the IUGG GA.

Webpage

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

IAVCEI Research Grants

As result of an agreement reached by the EC in 2008, a public call for proposals was open in August 2009 in order to receive proposals on research projects addressing topics closely related to the main objectives of IAVCEI. After a process of review among the EC members, two proposals were funded by IAVCEI with a maximum of 20000 € each.

Newsletters

Six issues of the newsletter "IAVCEI News" have been published through the website.

Meetings, workshops and courses

- Cities on Volcanoes 5 (November 2007, Shimabara, Japan)
- International Conference "Commemorating the 25th Anniversary of the 1982, Eruption of El Chichón Volcano, Chiapas, Mexico" (March 2007, Chiapas, México)
- IAVCEI Workshop on Surtseyan Volcanism, Western US (October 2007, Vancouver, USA)
- IAVCEI Scientific Assembly (August 2008, Reykjavik, Iceland).
- 2n Collapse Caldera Workshop (México, October 2008)
- 16th International Field Course of Central Andes (Argentina, November 2008)
- Colima International meeting (Mexico, February 2009)
- Volcanic Gases Commission meeting (Mexico, March 2009)
- 3rd Maar Conference (Argentina, April 2009)
- ICTP Evaluating, Monitoring and Communicating Volcanic and Seismic Hazard in East Africa, Trieste, Italy, August 2009)
- Jorullo International meeting (Mexico, September 2009)
- Advances in studies of volcanic plumes and pyroclastic density currents (Clermont Ferrand, France, October 2009)
- 17th International Field Course of Central Andes (Argentina, November 2009)
- 7th Workshop on Volcanic Lakes, (17-21 March 2010, Costa Rica)
- Cities on Volcanoes 6 (Tenerife, Spain, June 2010)
- State of the Arc (SOTA) 2010 (Santorini, Greece, 19-25 September 2010)
- III International workshop on Caldera Volcanism (La Reunión, France, October 2010)
- 18th International Field Course of Central Andes (Argentina, November 2010)
- Ash Dispersal Forecast and Civil Aviation (Switzerland, October 2010)

Forthcoming meetings, workshops and courses in 2011 are:

- 11th Field Workshop on Volcanic Gases (Kamchatka, Rusia, 5-9 April) (Commission on Volcanic Gases)
- Sufriere Hill Volcano 15+ years on (Montserrat) (Commission on Explosive Volcanism)

XXV General Assembly of the International Union of Geodesy and Geophysics
Quadrennial Reports of the IUGG Associations and Union Commissions

- Analysis of Probabilistic Volcanic Hazards (Buffalo, USA, 16-19 May, Commission on Explosive Volcanism)
- IAVCEI General Assembly (Melbourne, Australia, 27 June-8 July) (IAVCEI)

Setsuya Nakada, IAVCEI President
Joan Martí, IAVCEI Secretary General
31 January 2011

QUADRENNIAL REPORTS OF THE UNION COMMISSIONS

QUADRENNIAL REPORT OF THE IUGG COMMISSION ON DATA AND INFORMATION

Preamble

The International Union of Geodesy and Geophysics (IUGG) through its Union Commission for Data and Information (UCDI) strongly supports the use and development of standards for data, metadata and vocabulary exchange in advancement of IUGG science, education and outreach.

IUGG's eight scientific Association currently have standards activities ranging from digital cartographic data, spatial hydrological data sets, geochemical data, wave data, polar metadata profiles, geomagnetic data exchange, geodetic data, formats for seismic data, and community convention adoption of climate data and metadata formats.

UCDI was formed to allow IUGG to become more cohesive on the topic of data standards, as well as to retain current activities in its Associations, noting that in some cases metadata and vocabulary activities are sub-critical. UCDI activities and outcomes are directed to support and advance data and metadata standards across the Union.

The IUGG UCDI is coordinating IUGG's contribution to this initiative especially during the 2011 IUGG General Assembly in Melbourne, Australia and the 2011 ICSU General Assembly in Rome Italy. IUGG is strongly supporting participation of IUGG experts in this project. IUGG UCDI works closely with CODATA, other International Scientific Unions, and the International Council on Scientific and Technical Information (ICSTI).

IUGG2011 Union Session U05

UCDI is convening a Union session 05 at the IUGG 2011 General Assembly in Melbourne, Australia, entitled: Data science/informatics and data assimilation in geophysical models (climate, oceanography, hydrology, solid Earth).

Session Description: Science has fully entered a new mode of operation. Data science (including e-science) defined as a combination of science, informatics, computer science, cyberinfrastructure and information technology is changing the way all of these disciplines do both their individual and collaborative work. IUGG scientists are facing global problems of a magnitude, complexity and interdisciplinary nature that progress is limited by available knowledge and skills that are required to solve these problems. At the heart of this new way of doing science, especially experimental and

observational science but also increasingly computational science, is the generation of data. As a result, new opportunities exist for the assimilation of data into a variety of geophysical models that span several geoscience disciplines.

The goal of this session is to assess the current state of data science and informatics effort in support of IUGG science and inform IUGG scientists, as well as indicate successful progress made to date and the challenges that presently exist.

Conveners: Peter Fox (RPI), Charles Barton (ANU), Mark Parsons (NSIDC), Adelina Geyer Traver (CIMNE), Roger Proctor (UTas), Richard Swinbank (UK MetOffice). Co-Conveners: Ruth Neilan (JPL/NASA), Alik Ismail-Zadeh (KIT).

While planning for the meeting is still underway, 8 oral talks and 13 posters are under consideration for the programme.

CODATA participation, cooperation

In part due to the history behind the formation of UCDI, there have been very close collaborative ties to CODATA at the Assembly level, at CODATA meetings, in proposal preparation as well as with the CODATA Task and Working Groups. Refer to the Quadrennial CODATA liaison report by Barton & Fox for complete details. The strong participation and cooperation is expected to continue over the next four years.

ICSU proposal preparation (new)

IUGG together with four other scientific unions (IUGS, IAU, IUCr, IUPAC) and the International Council for Scientific and Technical Information (ICSTI) collaboratively prepared a proposal with CODATA entitled: "Making Sense of the ICSU Role in Scientific Data Standards". The proposal for EUR 30,000 was submitted to the ICSU Grants Programme on Dec. 1, 2010.

The project supports the overall ICSU goal related to data and information, i.e., to facilitate a coordinated global approach to scientific data and information that ensures equitable access to quality data and information for research, education and informed decision-making. It also responds to the Strategic Plan's call for the development of new inter-union initiatives and for facilitating interactions between scientists from different disciplines and between developing and developed countries. Specifically, the project will facilitate greater transparency, accessibility, and

interoperability of data standards--and thereby a wide range of data--across the ICSU family.

Proposal objective: Scientific data are being generated at an ever-increasing rate and effective data management, sharing and integration are critical for future scientific progress. Effective management of data and their integration across disciplines requires selection of common appropriate standards.

Several ICSU international scientific unions have recognized their important role in the definition of discipline-specific standards and have created bodies responsible for advising on standards best practices. Some discipline-specific progress has been made, but these activities are not aligned and there is duplication of effort. To this end the goal is to facilitate better integration and awareness of data standards activities among this community.

In order to reach this the Project proposes the implementation of the following objectives:

- (1) Identify data standards and standards activities across the ICSU family.
- (2) Liaise with relevant international standards organizations, ISO, OGC, for example, to establish a stronger relationship and to identify opportunities for alignment with activities within the ICSU community.
- (3) Establish a readily accessible ICSU standards registry with supporting information.
- (4) Bring together standard experts from ICSU bodies to inventory best practice, identify gaps and opportunities and to develop a "roadmap" for harmonizing activities both within and with ISO and other international authorities.

PIC

UCDI is very active in the ICSU funded and CODATA-led Polar Information Commons (PIC) – see the PIC website at <http://polarcommons.org/> for all details on this activity. Mark Parsons (UCDI) attended the PIC workshop entitled: “The Polar Information Commons, Life after Oslo” in Oslo in June 2010. PIC has been active in promoting best practices in data sharing, citation and attribution for geoscience data. Mark Parsons will also present PIC progress at the Union session in Melbourne. PIC’s impact is beginning to be noticed, as Nature has just published a Special on Data Sharing. <http://www.nature.com/news/specials/datasharing/index.html>

eGYAfrica

eGYAfrica is a bottom-up initiative by African geoscientists and others to secure better Internet connectivity in their institutions. IUGG and IAGA are currently the main sponsors. The Association of African Universities and ICSU's Regional Office

for Africa are expanding their commitment to eGYAfrica and serve on the Executive Committee. Communication is through meetings, email services, a website, and an electronic newsletter.

The Executive Committee, appointed in 2010 to serve for 2 years comprises: Victor Chukwuma, Nigeria (Chair), Alem Mebrahtu (Secretary), Charles Barton (Intl liaison), Boubakar Barry (Association of Africa Universities), Daniel Nyanganyura (ICSU-ROA, Editor), Larry Amaeshi, Les Cottrell (PINGER Project), Monique Petitdidier (European Grid Initiative), and Gilbert Rochon (IEEE).

Meetings attended by eGYAfrica members at which papers about eGYAfrica were presented and discussion/planning meetings are:

- Jul 2007. IUGG General Assembly, Perugia, Italy
- Nov 2007. IHY-SCINDA Workshop, Addis Ababa, Ethiopia
- Dec 2007. “Internet & Grids in Africa”, Montpellier, France
- Mar 2008. eGY General Meeting, Boulder, USA
- May 2008. IST-Africa, Windhoek, Namibia
- Nov 2008. IGY+50 meeting, Tsubuka, Japan
- Nov 2008. Africa Regional IHY School, Nsukka, Nigeria, Tsubuka, Japan
- Apr 2009. EGU, Vienna, Austria (Cyber-infrastructure in Africa, a joint eGYAfrica/UCDI session).
- Jun 2009. IHY-SCINDA Workshop, Livingstone, Zambia
- Jun 2009. Intl Conf: Electronic Geophysical Year In Russia: State of the Art and First Results, Pereslavl-Zalessky, Russia
- Jul 2009. IEEE-IGARSS meeting, Cape Town
- Feb 2010. 2nd Euro-Africa Cooperation Forum on ICT Research, Addis Ababa, Ethiopia
- Jun 2010. “Science with Africa” meeting, Addis Ababa, Ethiopia
- Jul 2010. UN SPIDER (Office of Space Applications) Workshop "Building on Regional Space-based solutions for disaster management for Africa", Addis Ababa, Ethiopia
- Nov 2010. IST-Africa, Durban, South Africa. Discussions were held with S. Muhongo and V. Chukwuma about establishing an Africa Geophysical Union as a counterpart to AGU, EGU, AOGS, and JpGU.

At the forthcoming IUGG2011 in Melbourne, Australia, eGYAfrica is organising Union Session U11: Geoscience in Africa.

The foundations of national eGYAfrica action groups are forming in Algeria, Cote d’Ivoire, Ethiopia, Ghana, Kenya, Nigeria, Rwanda, Senegal, and South Africa. At the same time,

reference information and documentation that can be used to make a case for investing in Internet connectivity is being accumulated on the website – e.g., policy statements, case histories, questionnaire results, presentation resources, contact information, and a catalog of other organisations, programs and initiatives that share the aim of reducing the digital divide in Africa.

A key planning workshop funded by an IUGG grant was held in Accra, Ghana 24-25 November 2010. It was attended by a core of 12 persons from 7 countries with the twin objectives of reviewing National Research and Education Network (NREN) developments in Africa and planning the next steps for eGYAfrica. The steps identified are

- (1) raise awareness about the digital divide issue and the cost-benefits of investing in Internet connectivity in higher education and research institutions,
- (2) develop national groups of concerned scientists and others who will engage with decision makers,
- (3) collaborate with other bodies and programs who share the objective of reducing the digital divide, and
- (4) collect information and measurements of Internet performance via the PingER Project to be used as the basis for making the case for better interconnectivity.

A full report about the workshop, which includes an action plan for eGYAfrica is on the eGYAfrica website: www.egy.org/egyafrika.php. An application has been submitted for an ICSU grant for the next eGYAfrica Workshop to be held in Kenya, 2012.

SCID, SCCID and WDS involvement

ICSU's Strategic Committee on Information and Data (SCID; 2006-2008) and Strategic Coordinating Committee on Information and Data (SCCID; 2009-present) have had strong representation from IUGG and UCDI. Fox is a member of both committees, Ruth Neilan served on SCID, Bernd Richter serves on SCCID and Mark Parsons has been strong resource for the committee's deliberations. Bernard Minster also serves as the WDS representative on SCCID. The SCID report led to the reformation of the World Data Centres into the World Data System and prompts nations and international Unions to create or designate high-level organization units focused on issues of data and information. The preliminary SCCID report will be available in early April 2011 and will be reported on at the U05 session at the IUGG General Assembly by Fox.

The ICSU World Data System Scientific Committee (WDS-SC) held its administrative meetings around the 22nd International CODATA

Conference in South Africa in 2010. In addition, the WDS-SC organized three scientific sessions within the framework of the scientific conference on Data Publishing in the context of the World Data System; ICSU World Data System: International Building Blocks; and The ICSU World Data System: a Disciplined or Undisciplined Initiative? A special keynote session on Strategic Planning on Data and Information issues took place within the conference preceded by key note presentations from Bernard Minster, Chair of the WDS-SC and Kari Raivio, Vice-President, ICSU. For information on this and much more see <http://www.codata2010.com/scientific-program.php>. UCDI members, particularly Ruth Neilan, are very active in the WDS-SC representing IUGG Association interests.

Collaboration with IUGS/CGI

UCDI via its chair (Fox) have developed collaborative relations with the International Union for Geological Science's Commission on Geoscience Information (CGI) via their chair (Kristine Asch (BGR)) and CODATA delegate John Broome (NRCAN). Fox was invited and attended a CGI workshop in Berlin in 2010 to represent IUGG/UCDI. Collaborative relations are expected to continue over the next four years, especially in relation to the ICSU proposal noted earlier.

New relations with ICSTI

In part due to activities with ICSU starting with its priority area assessment (PAA on Data and Information), the SCCID, the formation of the World Data System, and CODATA's evolving direction, new collaborative relations have formed with the International Council for Scientific and Technical Information (ICSTI, www.icsti.org), an organization that "offers a unique forum for interaction between organizations that create, disseminate and use scientific and technical information. ICSTI's mission cuts across scientific and technical disciplines, as well as international borders, to give member organizations the benefit of a truly global community." Starting in 2009 with the ICSTI summer meeting in Ottawa which was strongly supported by the Canadian National Committee for CODATA, Fox gave an invited plenary presentation entitled: "Xinformatics, Data Science and the Full Life Cycle of Data, Information and Knowledge in the Earth and Space Sciences", supporting IUGG/UCDI visibility within ICSTI. Subsequently, ICSTI approached IUGG with an invitation to become a member of ICSTI. The acceptance is pending IUGG EC approval. As an additional activity, Fox was invited to the Winter ICSTI workshop in Redmond, WA to speak on visualization. It is expected that

collaborative relations with ICSTI will continue to expand over the next four years.

Web site up

The initial Commission website presence was established in 2008 (www.iugg-ucdi.org reserved) and web hosting secured, and web content early in 2009.

Workshop and outreach

Several European outreach activities for UCDI were held as splinter meetings at the European Geosciences Union meetings in 2009 and 2010. See PIC workshop details above.

Selected Publications linked to UCDI activities

- Baker, D., Barton, C., Peterson, W. and Fox, P. 2008, Informatics and the 2007–2008 Electronic Geophysical Year, EOS Volume 89, number 48, pp. 485–500.
- Baker, D.N. and C.E. Barton (2009). EGY: progress in global Earth and space science informatics. *Data Science Journal*, 8, 226-232.
- Barton C.E., C. Amory-Mazaudier, B. Barry, V. Chukwuma, R. L. Cottrell, U. Kalim, A.

Mebrahtu, M. Petitdidier, B. Rabiou, and C. Reeves (2009). eGY-Africa: Addressing the digital divide for science in Africa. *Russian Journal of Earth Sciences*, vol 11, # 1, 2009, Digital Object Identifier (DOI) 10.2205/2009ES000377

- Barton, C.E., R. Smith, and R. Weaver (2010). Data practices, policy, and rewards in the information era demand a new paradigm. *Data Science Journal*, 9, pages IGY 95 – 99.
- Boubakar, B., C. Barton, V. Chukwuma, L. Cottrell, U. Kalim, M. Petitdidier, and B. Rabiou (in press). eGY-Africa: better Internet connectivity to reduce the digital divide. *Proceedings of the IST-Africa Conference*, Durban, May 2010.
- Peterson W.K., D.N. Baker, C.E. Barton, P. Fox, M. Parsons, and E. CoBabe-Ammann (in press). The Electronic Geophysical Year (eGY). *Encyclopedia of Solid Earth Geophysics*, 2nd Edition, Van Nostrand.

Peter Fox, Chair
Adelina Geyer Traver, Secretary
21 February 2011

QUADRENNIAL REPORT OF THE IUGG COMMISSION ON GEOPHYSICAL RISK AND SUSTAINABILITY

INTRODUCTION

The past four years were characterized by many severe disasters. In 2007 adverse weather caused river flooding with notable adverse effects on 105 million people in China. In 2008 a tropical cyclone hit Myanmar and cost some 140 000 lives. In the same year both, severe winter weather, affecting the livelihoods of more 77 million people, and an earthquake causing material damage of 80 billion \$US hit China. It was only in January 2010 that one of the deadliest natural disasters of the recent time, an earthquake, devastated large parts of Haiti killing more than 230 000 people. Later in the year 2010 large parts of China were afflicted by heavy flooding affecting more than 130 million people. Altogether there is an increase in the occurrence of naturally induced disasters calling for improvements in all fields of science to benefit society.

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Martin Funk (IACS), Switzerland

Business meetings

Three GRC business meetings were held in 2007, 2008, and in 2010.

1. In Perugia in July 2007, the first business meeting was held on occasion of the 24th IUGG General Assembly. The main points of concern were the upcoming International Year of the Planet

Earth and the preparation of the ICSU program IRDR with several GRC commissioners involved.

2. The GeoRisk Commission (GRC) business meeting was held in Oslo on 10 August 2008 on the occasion of the International Geological Congress. The Commission's recommendations on the improvement of the report issued by the ICSU Panel on Natural and Human-induced Environmental Hazards and Disasters were taken into consideration by the ICSU Panel. G. Mulugeta and A. Konare (ICSU Regional Office for Africa) were invited to present the basic ideas related to the natural hazards and disaster risk activities in Africa. Further reports covered the activities and the progress made in the ICSU Regional Office for Asia and Pacific (by H. Gupta), the formation of a comprehensive tsunami data bank (V. Gusiakov), and a project aimed at the quantification of earthquake forecasts (D. Jackson).

3. The third meeting was held in January 2010 at the IASPEI Scientific Assembly in Cape Town, South Africa, and considered several important topics related to the disaster risk reduction in the African continent.

GRC Terms of Reference

The following GRC Terms of Reference were revised and approved by the IUGG Bureau in 2009.

- The IUGG Union Commission on Geophysical Risk and Sustainability (short name: Georisk Commission, and acronym, GRC) was established by decision of the IUGG Executive Committee in August 2000.
- The purpose of the Georisk Commission is to promote scientific studies aimed at reducing risks from natural hazards in an increasingly urbanized world. The GRC shall facilitate communication between scientists through meetings, workshops, publications, websites etc., between scientists and decision makers, and between scientists and the general public.
- The scope of GRC shall include research and knowledge dissemination on all types of geophysical hazards and their mitigation measures. The hazards shall include but not limited to floods and droughts, landslides and debris flow, earthquakes and tsunami, volcanic eruptions, fires, windstorms, magnetic storms and other natural or human induced environmental hazards. The GRC shall also promote and foster research activities on scientific aspects of geophysical hazards and risk minimization as well their societal impacts.
- The GRC shall collaborate with geo-risk

- related research organizations and programs such as of ICSU's and UN's.
- Membership of GRC shall include nominated representatives of IUGG Associations. Each Association may nominate up to 2 members.
 - Term of office of the GRC members shall be 4 years, but may be extended for a further period of not more than 4 years. Replacement of members shall be in a staggered manner in order to ensure efficient and continuous functioning of the Commission.
 - Prior an IUGG General Assembly GRC shall elect from among its members a President, two Vice Presidents (on the basis of geographical location and research expertise), a Secretary and a Treasurer and inform the IUGG President on the results of the election. The list of GRC officers is subject to approval by the IUGG Bureau and their term of office shall start immediately after the IUGG General Assembly.
 - The GRC shall meet during IUGG General Assemblies and at scientific events it organizes.
 - The GRC shall appoint an Advisory Board of no more than five members comprising of experts in the field of natural hazards and risks, past members of the Commission who have had dedicated and exemplary service to the Commission, and representatives from relevant international, regional and national organizations. Their term of office shall be 4 years initially but may be extended for a further period of not more than 4 years. Replacement of members shall be in a staggered manner in order to ensure efficient and continuous functioning of the Board. The Board shall advise on (i) strategy in development of research on natural hazards and risk, and (ii) cooperation between IUGG and other organizations on problems related to natural hazards, risks and sustainability. The Board shall provide guidance and constructive criticisms to help charter the future direction of the commission activities.
 - GRC shall submit annual activity and financial reports to the IUGG Secretary General.
 - GRC shall have access to IUGG fund allocation.
 - GRC shall be reviewed by the Executive Committee of IUGG every 4 years.
 - GRC terminates its activities by the decision of the IUGG Executive Committee.

ACTIVITIES

Scientific meetings

Several scientific meetings were organized by the GRC members.

1. IUGG-ESOF Symposium “The Planet Earth”

The International Mini-Symposium “The Planet Earth” was held on 22 July in Barcelona, Spain on the occasion of the Euroscience Open Forum (ESOF), which provided both the European and the international science and business communities with an open platform for debate and communication. It was an opportunity to discuss and influence the future of research and innovation in Europe and elsewhere by involving all main stakeholders: scientists, business executives and policy-makers. The symposium highlighted the importance of geosciences and celebrated the International Year of Planet Earth (IYPE). V. Kossobokov of the Russian Academy of Sciences, Vice President of the IUGG GeoRisk Commission and co-organizer of the meeting, opened the symposium. E. de Mulder, IYPE Executive Director, E. Banda, ES President, and A. Ismail-Zadeh, IUGG Secretary General, welcomed the meeting participants. Three lectures were presented by distinguished scientists: R. Hemley, Director of Geophysical Laboratory, Carnegie Institution of Washington (USA); V. Mosbrugger, Director of Senckenberg Research Institute, Frankfurt (Germany), and G. Haug, Professor of the ETH Zurich (Switzerland).

2. MegaSymposium “Minimising Risk: Maximising Awareness”

The MegaSymposium “The Hazards Theme of the International Year of Planet Earth (IYPE): Minimising Risk: Maximising Awareness” was held on 7-8 August 2008 in Oslo at the 33rd International Geological Congress and organized by T. Beer (Australia) together with K. Takeuchi (Japan) and R. Chadha (India). The meeting was designed to link the four main research questions of the IYPE Hazards Theme with the five action items of the UN-ISDR Hyogo Framework for Action. This was done at both a disciplinary and a geographic level. As there was general agreement that the time span of the IYPE (either one or three years) was insufficient time, the proposed ICSU programme on Hazards (now known as Integrated Research on Disaster Risk) is seen as the natural continuation of the IYPE research work. In addition to the main invited papers, shorter presentations were also made by scientists working on IYPE Hazards projects related to landslides, seismic faults, and major catastrophes over geological time scales. Springer has agreed to publish the proceedings as part of the IYPE Book Series.

3. Symposium “Disaster Prediction and Management”

The Symposium, co-sponsored by IUGG and EUROSCIENCE and organized by the IUGG

GeoRisk Commission and the Euroscience Working Group “Science and Urgent Problems of Society”, was held on 6 July 2010 in Turin, Italy. The symposium attracted the attention of the mass media and representatives various fields of knowledge. Four speakers gave invited talks. G. Panza (Italy) spoke about new approaches in seismic hazard and risk assessment. J. Zlotnicki (France) spoke about volcano hazards analysis and mitigation using various geophysical techniques. V. Kossobokov (Russia) spoke about the statistical approach to the analysis of extreme natural events and about their predictability. A. Ismail-Zadeh (Germany) emphasized the importance of the research on extreme natural hazards and discussed the societal impact of natural disasters. The German Radio SWR2 broadcast the interview with the participants of the symposium on 11 July.

4. ENHANS symposia on natural hazards and disaster risks in Latin America and the Caribbean

The first ENHANS events took place at the Meeting of the Americas in Iguassu, Brazil on 9–10 August 2010. The project “Extreme Natural Hazards and Societal Implications – ENHANS” is sponsored by ICSU and co-sponsored by several international and intergovernmental organizations (<http://www.enhans.org>). The symposium on Natural Hazards and Disaster Risks in Latin America and the Caribbean was convened by O. Cordona (Colombia), A. Ismail-Zadeh (Germany), and V. Kossobokov (Russia). A. Lavell (Costa Rica) spoke about the new multidisciplinary research programme of ICSU “Integrated Research on Disaster Risk” and discussed the content and significance of the programme when looking at concrete examples of the social construction of risk in the Latin American and Caribbean region. T. Gibbs (Barbados) presented his view on meteorological hazards and associated risks in the Caribbean. The talk was followed by the presentation “A scaling criterion to estimate and compare the volcanic hazard among different volcanoes” by S. De La Cruz-Reyna (Mexico). O. Perez (Venezuela) spoke about earthquake activity and associated hazards in South America and the Caribbean and about the socio-economic impact of severe earthquakes in these regions. I. Alcantara-Ayala (Mexico) discussed the anatomy of landslides disasters and presented case studies from Mexico and other South American countries. A. Soloviev (Russia) discussed problems in seismic hazard assessment and earthquake predictability, and V. Kossobokov continued the discussion on the predictability of extreme events presenting the paper “Natural Hazards At Extreme: Predictive Understanding Versus Complex Reality”. O. Cardona (Colombia) spoke about indicators of

disaster risk and risk management in the Americas. F. Romanelli (Italy) presented scenario-based seismic hazard assessment methodology and its implication to hazard evaluation in Valparaiso. Two oral sessions of the symposium were continued as a poster session of 25 papers.

The symposium was followed by a Town Hall meeting on “Natural Hazards in Latin America and Caribbean (LAC): From Risk to Opportunity by Partnership of Science and Society”. The meeting focused on the following aspects: How can science (both natural and social) and society form a partnership for disaster reduction? How can a science and society partnership convert natural disaster risk to opportunity? What are the urgent issues of disaster risk in LAC cities and regions under intensifying natural and social pressure? A. Lavell (Latin American Social Sciences Faculty – FLACSO and LA RED, Costa Rica; member of the ICSU Scientific Committee “Integrated Research on Disaster Risk” and ICSU Regional Office for LAC), K. Alverson (Director, Global Ocean Observing System, Intergovernmental Oceanographic Commission of UNESCO), and P. Boccoardo (Director, ITHACA, and Professor of Politecnico di Torino, Italy) talks at the Town Hall meeting. J. Urrutia Fucugauchi (AGU International Secretary) and A. Ismail-Zadeh (IUGG Secretary General) moderated the town hall meeting’s discussion. Two panellists, I. Alcantara-Ayala (Vice-President of the International Geographical Union) and M. McPhaden (President of the American Geophysical Union), mentioned how professional societies can assist in mitigation of natural hazards and disasters.

5. ENHANS Symposium “Natural Extreme Events: Modeling, Prediction and Mitigation” and related events

The Symposium was held on 13 December 2010 at the Fall Meeting of the American Geophysical Union (AGU) and was a part of the activity in the framework of the ICSU project “Extreme Natural Hazards and Societal Implications – ENHANS”. The symposium had three scientific sessions and was attended by more than 300 experts in various fields of extreme natural hazards and disaster risk experts. The sessions were chaired by I. Zaliapin (USA) and A. Ismail-Zadeh (Germany). Daniel Baker (Colorado University, Boulder, USA) spoke on the predictability and mitigating impacts of extreme space weather events. Storm surge, as a globally distributed risk, was the topic of the talk by Hans von Storch (University of Hamburg, Germany). Upmanu Lall (Columbia University, New York, USA) explained why flooding was severe in 2010. Thomas Jordan (University of Southern California, Los Angeles, USA) spoke

about new large-scale numerical simulations to forecast extreme earthquake ground motions, whereas Steven Sparks (University of Bristol, UK) gave a talk on extreme volcanic eruptions and discussed their return period, impact and implications. Rowan Douglas (Willis Research Network, London, UK) spoke about how re/insurance and public science interact to manage risk of extreme events for societal benefit. The 2010 AGU Natural Hazards Focus Group Graduate Research Awardee Ning Lin (Massachusetts Institute of Technology, Cambridge, USA) spoke on a hurricane risk assessment related to wind damage and storm surge. Fausto Guzzetti (University of Perugia, Italy) discussed landslide hazard, vulnerability and risk assessment and emphasized importance of methodology for risk assessment, its limits and challenges. Kenji Satake (University of Tokyo, Japan) spoke about tsunami modeling, forecast and warning. The poster session (20 papers) presented a variety of topics related to natural hazards, extreme events, theory, modeling, prediction and mitigation. The culminating event of the symposium was a keynote lecture on “Society’s Growing Vulnerability to Natural Hazards and Implications for Geophysics Research” by Julia Slingo (Met Office, U.K.)

6. ENHANS Workshop in Pretoria, South Africa

The ENHANS International Workshop “Extreme Natural Hazards and Disaster Risk in Africa” provided an opportunity for the research community of the African countries and international experts to discuss and analyze major topics related to extreme natural events and disaster risk. The workshop served as a platform to establish links and networks between African experts with relevant international organizations. The workshop was hosted by the Aon Benfield Natural Hazard Centre, University of Pretoria, and was based on invited presentations by African and foreign experts in natural hazards and disaster risk analysis. The Workshop’s scientific program can be found at the workshop’s web-page: <http://www.technoscene.co.za/hazardsws>. The Workshop’s participants adopted the following recommendations to governments and funding institutions in cooperation with the relevant ICSU bodies, United Nations agencies and other international entities. The full text of the recommendations will be soon available at the ENHANS web-page: <http://www.enhans.org/showcasing/africa.php>. The Pretoria workshop was highlighted in the U.N. SPIDER Newsletter <http://www.un-spider.org/news-en/4847/2011-02-04t123100/un-spider-enhans-international-workshop-%E2%80%9Cextreme-natural-hazards-and>

the Insurance Journal <http://www.insurancejournal.com/news/international/2011/02/03/183169.htm>, and the University of Pretoria <http://web.up.ac.za/default.asp?ipkCategoryID=3523&ArticleID=6252>

GRC commissioners organized sessions and/or presented on the whole spectrum of the risk and disaster on many other scientific meetings.

Projects

The ENHANS is a project of the International Council for Science (ICSU) led by the International Union of Geodesy and Geophysics. ENHANS supporting partners are the American Geophysical Union (AGU), the International Geographical Union (IGU), the International Society for Photogrammetry and Remote Sensing (ISPRS), the International Union of Geological Sciences (IUGS), the International Union of Theoretical and Applied Mechanics (IUTAM), the Scientific Committee of the Program “Integrated Research on Disaster Risk” (IRDR), and the Global Ocean Observing System (GOOS) of IOC-UNESCO. The ICSU Regional Offices for Africa (ROA), Asia & the Pacific (ROAP), and Latin America and the Caribbean (ROLAC) are involved in the relevant parts of the project providing links to the regions.

The principal goals of the ENHANS project are (i) to improve understanding of critical phenomena associated with extreme natural events and to analyze impacts of the natural hazards on sustainable development of society; (ii) to promote studies on the prediction of extreme events reducing predictive uncertainty and on natural hazards mitigation; to bring the issues into political and economical policies; (iii) to disseminate knowledge and data on natural hazards for the advancement of research and education in general and especially in developing countries; and (iv) to establish links and networks with the international organizations involved in research on extreme natural hazards and their societal implications setting up a consortium of experts of ICSU Unions and several major intergovernmental and multi-national organizations involved in the project. The goals of ENHANS will be achieved via scientific meetings and open forums bringing together research experts, decision makers, and disaster management, insurance agency and mass media practitioners. The project will place a special emphasis on the importance of research on extreme natural hazards and disaster risk mitigation in the most vulnerable regions of the world, particularly in Latin America and the Caribbean, in Africa, in the Middle East, in Asia, and the Pacific region.

XXV General Assembly of the International Union of Geodesy and Geophysics
Quadrennial Reports of the IUGG Associations and Union Commissions

The ENHANS Project (<http://www.enhans.org>) started in 2010 with GRC having a leading role therein, with A. Ismail-Zadeh as the project coordinator.

Publications (directly related to the GRC activities)

- Ismail-Zadeh, A. T., and T. Beer (Eds.), 2007. *Georisk: Interactions between Science and Society*, Springer, Heidelberg.
- Tom Beer (Ed.), 2010. *Geophysical Hazards: Minimizing Risk Maximizing Awareness*, Springer, Heidelberg.
- The conference Proceedings “Risk and Planet Earth” edited by Dölemeyer A., Zimmer J., and Tetzlaff G., Schweizerbarth, 2010. There is a wealth of articles in scientific journals addressing all aspects of risk and disasters.

Participations and representations

GRC members contributed to several conferences and events on a broader scale, such as The Global Platform meetings in Geneva in 2007 and 2009, as well as the 3rd World Climate Conference (WCC3) in Geneva in 2010.

GRC-members serve as chairs and members of some most relevant organizations in the risk analysis and risk reduction:

- UNISDR (United Nations International Strategy for Disaster Reduction) with Harsh Gupta a member of the Science Commission;
- International Year of the Planet Earth (2007-2010) with Tom Beer the member responsible for the theme “Hazards”.

- Kuniyoshi Takeuchi serves as a vice chair of the Science Committee of the ICSU program “Integrated Research on Disaster Risk” IRDR.
- Alik Ismail-Zadeh serves as a chair of the Natural Hazards Focus Group of the American Geophysical Union (AGU)

There are many more memberships in national and international organizations and bodies than can be presented here.

PLANNED FUTURE ACTIVITIES

The plans comprise (co-)organizing

- a Special Session on “Natural Hazards and Disaster Risks in the Middle East Region” at the Conference on “GeoInformation for Disaster Management” in Turkey on 03-08 May 2011;
- a Union Symposium “Grand challenges in Natural hazards research and risk analysis” and
- an Open Forum “Natural hazards : from risk to opportunity by partnership of science and society” at the XXV IUGG General Assembly Melbourne.

GRC-members plan to contribute to the 3rd ISDR Global Platform Meeting in Geneva to be held from 08 to 13 May 2010. Furthermore the contacts to the events organized by IRDR will be considered for contributions.

Kuniyoshi Takeuchi, Chair
Gerd Tetzlaff, Secretary
Alik Ismail-Zadeh, Immediate Past Chair

QUADRENNIAL REPORT OF THE IUGG COMMISSION ON MATHEMATICAL GEOPHYSICS

INTRODUCTION

The Committee on Mathematical Geophysics is a Union Commission. Its 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 Committee is sponsored by all IUGG Associations.

The earliest incarnation of the present CMG Committee 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 Committee 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 (Svalbard, Norway, 2008), Pisa (Italy, 2010). The next Conference on Mathematical Geophysics will be held in June 2012 in Edinburgh, Scotland, UK.

ADMINISTRATION

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

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

During the XXIV IUGG General Assembly in Perugia, Italy, 2007, the Committee had a business meeting with participation of CMG officers (Dan Rothman, MIT, Cambridge, USA; Einat Aharonov, Weizmann Institute, Israel), representatives from the Associations (Augusto Neri, INGV, Pisa, Italy; Dick Peltier, Univ. of Toronto, Canada; Paola Malanotte-Rizzoli, MIT, Cambridge, USA; Daniel Schertzer, Univ. Pierre et Marie Curie, Paris,

France), and the IUGG Secretary General, Alik Ismail-Zadeh (Russian Academy of Science, Moscow, Russia). Most of the discussion concerned the scientific organization of 2008 CMG conference. There have also been discussions on involvement of new CMG officers to replace resigning vice-chair Antonello Provenzale (CNR, Torino, Italy).

Another business meeting took place on June 17th, 2008 in Longyearbyen, Norway, during the semiannual 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 latest business meeting was held on June 8th, 2010 in Pisa, Italy, during the 27th Conference on Mathematical Geophysics. Among the participants, CMG officers (Dan Rothman, MIT, Cambridge, USA; Einat Aharonov, Weizmann Institute, Israel; Claudia Pasquero, UCI, Irvine, USA), representatives from the Associations (Yehuda Ben Zion, IASPEI; Mathias Holschneider, IAGA; Augusto Neri, IAVCEI), the IAGA Secretary-General (Mioara Mandea), and the IUGG Secretary General, Alik Ismail-Zadeh, (University of Karlsruhe, Germany). Possible locations and chair of local organizing committee for the next meeting, to be held in 2012, were discussed. It was decided to give preference to people who had previously participated to the CMG Conference, to allow continuity, to contact them and take a final decision before Fall 2010. The possibility of having the next Conference outside Europe and North America was discussed, and Alik Ismail-Zadeh informed about the possibility of receiving extra funding for organizing a conference in Africa. The possibility of having a partial overlap with a SETI (Solid Earth Deep Interior) Conference was also discussed. The issue will be further investigated, considering the positive reaction from CMG. Finally, it was decided to constitute a mailing list for people interested in Mathematical Geophysics. The most updated version of the list will be kept by the CMG Secretary.

The location of the next Conference to be held in June 2012 has later been chosen as Edinburgh, Scotland, UK.

ACTIVITIES

The principal activities of the CMG are to sponsor a biennial conference on theoretical geophysics and to host sessions at the IUGG General Assembly.

1) At the XXIV IUGG General Assembly in Perugia, Italy (2007), the Committee on Mathematical Geophysics co-sponsored a Union Symposium on “Modeling and simulations of geophysical flows: present and future”, convened by Augusto Neri (INGV, Pisa, Italy), Einat Aharonov (Weizmann Institute of Science, Israel), George Bergantz (University of Washington, USA), and Oleg Melnik (Moscow State University, Russia). The program of the session included the following oral contributions:

Einat Aharonov, Weizmann Institute, Israel, *Long runout landslides: the role of frictional heating and hydraulic diffusivity*

Barmin Alexey, Moscow State Univ., Russia, *Cyclic behaviour in lava dome building eruptions*

Piero Dellino, Univ. of Bari, Italy, *Large-scale experiments on the mechanics of pyroclastic flows*

Yosef Dufek, *Modeling the dynamics of turbulent multiphase gravity currents: the importance of geologically diverse boundary condition*

Deniz Ertas, ExxonMobil, Santa Barbara, USA, *Bulk rheology of dense granular flows*

Taras Gerya, ETH, Zurich Switzerland, *Numerical modeling and visualization of subduction processes*

Michael Herzog, LPSY, Lausanne, Switzerland, *Numerical Plume Modeling with ATHAM: Volcanic Eruptions Columns and beyond*

Michael Manga, U. California, Berkeley, USA, *Integrating multi-scale observations with macroscopic models of explosive volcanic eruptions*

Todesco Micol, INGV, Bologna, Italy, *Modeling of hydrothermal fluid circulation in active volcanic areas*

Paolo Papale, INGV, Pisa, Italy, *Modeling the fluid dynamics of multicomponent compressible magma in sub-surface volcanic environment*

Jeremy Phillips, Univ. of Bristol, UK, *Laboratory analogue investigation of the dynamics of vulcanian eruptions*

Daniel Rothman, MIT, Cambridge, MA, USA, *Channelization driven by subsurface flow: models, observations, and experiments*

Andy Woods, BPI, Cambridge, UK, *On In Situ Dissolution of Evaporites.*

2) 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

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- '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

3) The 28th International Conference on Mathematical Geophysics was held in June 7-11, 2010 in Pisa, Italy. The conference theme was "Modeling Earth Dynamics: Complexity, Uncertainty, and Validation". The local organizing committee was chaired by Augusto Neri, Italian Institute for Geology and Vulcanology (INGV) and IAVCEI representative at CMG. Detailed information can be found on the conference website <http://cmg2010.pi.ingv.it>.

The attendance was particularly large: there were 165 participants, including senior scientists, students and young scientists. A special session dedicated to the memory of prof. Alberto Tarantola was able to put together scientists and philosophers to discuss how science in general, and climate change in particular, is communicated to the public.

The program of the conference included the following sessions:

0. Can our models only predict the irrelevant? (Special Session in honor of Prof. Tarantola)
1. Geophysical fluid dynamics I - Volcanoes
2. Geophysical fluid dynamics II - Sub-surface and surface flows
3. Geophysical fluid dynamics III - Atmosphere and ocean
4. Brittle deformation and computational seismology

5. Geodynamics and geomagnetism
6. Environmental systems and climate
7. Quantifying the uncertainty in Earth Systems

Keynote lectures included:

- *Modeling coupled fluid-grain deformation, with implications for landslides, fault-zones, and liquefaction* by David Sparks
- *Multi-scale approach to seismic inverse scattering and applications in Earth's upper mantle transition zone* by Marteen V. de Hoop
- *Settling plankton settling* by Claudia Pasquero
- *The maintenance of stratification in the ocean and atmosphere: from conveyor belts to geostrophic turbulence* by Geoffrey Vallis
- *Confirmation and Testing of Scientific Models, Revisited* by Wendy Parker
- *Predictive Modeling of Processes on the Surface of the Earth Doesn't Work* by Orrin Pilkey
- *Forecasting large earthquakes and eruptions: is it a scientific issue?* By Warner Marzocchi
- *Limitations of global terrestrial biosphere models used for future climate projections* by Victor Brovkin
- *The Risk Management Perspective in Climate Change* by Roger Cooke
- *Extracting Insight from Predictions of the Irrelevant: Can the Diversity in Our Models Inform Our Uncertainty of the Future?* By Leonard Smith.

4) The 29th International Conference on Mathematical Geophysics will be held in June 2012 in Edinburgh, Scotland, UK and the local organizing committee will be chaired by Mark Naylor (University of Edinburgh).

Dan Rothman, Chair
Claudia Pasquero, Secretary

QUADRENNIAL REPORT OF THE IUGG COMMISSION ON THE STUDY OF THE EARTH'S DEEP INTERIOR

INTRODUCTION

SEDI is an international scientific organization dedicated to the Study of the Earth's Deep Interior. The scope of SEDI includes 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: 1) the investigation of the origin, evolution, structure, geochemical and mineralogical composition of the inner core, outer core, mantle and crust (on a planetary scale), 2) the investigation of core magnetohydrodynamics at all-time scales, both from a theoretical point of view (dynamo theory, magnetohydrodynamic waves) and from an observational point of view (as provided by modern, historical, archeomagnetic and paleomagnetic data), and of more general fluid rotational dynamics that can affect the core (such as precessional effects and short time scale instabilities), 3) the investigation of mantle dynamics, both from a theoretical point of view (solid state convection in the presence of complex rheology and phase transitions, role of plumes and descending slabs) and observational point of view (global 3D reconstruction of mantle convection from surface, seismological, geochemical and geodetic observations), 4) the investigation of mechanical, electromagnetic, thermal and chemical interactions between the inner-core, core, mantle, crust and possibly outer layers on a planetary scale, particularly in view of a global understanding of the Earth as a globally interacting system, with special emphasis on investigation of interfaces (nature, shape, role), 5) The thermodynamics of the Earth and the investigation of its long-term thermal evolution.

Since 1987, SEDI has been a Union Committee 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 Officers are traditionally elected during IUGG General Assemblies at a dedicated business meeting. Since the 2007 IUGG General Assembly in Perugia, Italy, SEDI has been 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. Its membership rose from about 550 to about 605, as recorded on the email list used to broadcast information related to SEDI activities, upcoming meetings, funding opportunities, and academic openings.

ACTIVITIES

SEDI's main activity is the organization of a dedicated workshop every even year and two such meetings were organized in 2008 and 2010. One important aspect of these meetings is that they should provide opportunities for students and young scientists from all over the world to attend and contribute to the ongoing debates.

The 11th SEDI Symposium was organized in Kunming, Yunnan Province, China (July 27-31, 2008) by a Local Organizing Committee chaired by Prof. Rongshan Fu from the University of Science and Technology of China, with support from a SEDI international program committee. Funding for the meeting came from IUGG; the US NSF; INSU/CNRS (France); The National Natural Science Foundation of China (NSFC); University of Science and Technology of China (USTC); Earthquake Administration of Yunnan Province, Institute of Geology and Geophysics, Chinese Academy of Science; and Institute of Geodesy and Geophysics, Chinese Academy of Science. 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. 92 scientists participated, including students, and despite the long distance from Europe and North America, the symposium was well attended by the international community who could interact with the Chinese scientific community.

The 12th SEDI Symposium brought the community back to the Americas. It was held in UCSB, California, USA, July 18-23 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. It was very successfully organized by a Local Organizing Committee led by Barbara Romanowicz (UC Berkeley, Chair) and involving Ralph Archuleta (UCSB), Jonathon Aurnou (UCLA), Bruce Buffett (UC Berkeley), Louise Kellogg (UC Davis), Guy Masters (UCSD) and Toshiro Tanimoto (UCSB). Support for the meeting came from several sources including IUGG, the US NSF and INSU/CNRS (France). A website was set up and is still accessible at <http://www.deep-earth.org/2010/sedi2010.html>. As in 2008, the symposium was organized around eight sessions led by discussion leaders. This time each session had one lead review talk and two shorter more focused talks, followed by ample time for discussion of posters and key scientific issues. These eight sessions were: Structure and Chemistry of the Core and Lower Mantle, Seismic Observation of the Earth's Deep Interior, Mantle Convection and Dynamics, Cycling of Volatiles through the Deep Earth, Physical and Chemical Interaction Between the Core and the Mantle, Core Dynamics: short-period waves to long-term evolution, Geodynamo Theory and Observations, and Deep Interiors of Other Planets and Small Bodies. About 135 participants attended, coming from twelve different countries (Bulgaria, Canada, Czech Republic, France, Germany, India, Ireland, Japan, Switzerland, Turkey, UK and USA).

SEDI symposia traditionally include two major highlights: the Zatman Lecture, to be given by a prominent young scientist who has done outstanding work on core dynamics (in memory of Stephen Zatman, a prominent young scientist who studied core dynamics, and whose life was tragically cut short in 2002), and the Doornbos prize, to be presented to a young scientist for outstanding work on the Earth's deep interior (in honor of the Dutch seismologist, Durk Doornbos).

The 2008 and 2010 Zatman Lectures were respectively given by Mathieu Dumberry (University of Alberta, Canada) on "Geodetic constraints on core dynamics and core-mantle interactions" and James Roberts (Johns Hopkins University) on "Effects of giant impacts on the mantles and cores of Mars and Mercury".

In 2008 the Doornbos prize was awarded to Nicolas Gillet (LGIT, France) for his experimental, theoretical and observational modeling work in the field of Geomagnetism; John Hernlund (UBC, Canada) for his major contributions to our understanding of deep mantle processes; and Ligang Li (Chinese Academy of Sciences, at the Shanghai Astronomical Observatory, Shanghai, China) for his work in theoretical modelling of core convection and the geodynamo. In 2010 it was

awarded to Michael Le Bars (IRPHE, France) for pioneering laboratory models of planetary mantle and core fluid dynamics; Sang-Heon Dan Shim (MIT, USA) for systematic studies of mineral phase transformations and thermoelastic properties at high temperatures and pressures, with an emphasis on elucidating the role of the post-perovskite transformation in the deep mantle; and James Wookey (University of Bristol, UK), for innovative analysis of seismic data to reveal seismic anisotropic structure, with a view to constraining physical mechanisms of deformation and fabric formation in the Earth's deep interior.

Another important tradition of SEDI is that proceedings of the symposia be published in a peer-reviewed international journal. A SEDI 2008 Special Issue was already published in *Physics of the Earth and Planetary Interiors* (Volume 178, N°1-2, 2010), and contributions from the SEDI 2010 symposium are now under review. It will also be published in a special issue of *Physics of the Earth and Planetary Interiors*.

The timing and location of the next SEDI Symposium are traditionally finalized during business meetings held at the previous SEDI edition. In 2010, after some presentations, discussions and votes, it was agreed that the next (13th) SEDI workshop would be held in Leeds, UK, July 1-6 2012.

In 2009, SEDI also endorsed a very successful workshop on "Geodynamical Phenomena: From Field, Observational, Computational, Seismological and Rheological Perspectives" (18-23 August, 2009) organized with IUGG support, by Alexander Gliko (IFZ, Institute of Physics of the Earth, Chair of the LOC) and David Yuen (University of Minnesota, USA, Chair of the International Committee), in Suzdal, Russia. It attracted 71 participants with a foreign participation of around 32, which included representatives from U.S.A., China, Japan, Australia, Belarus, Germany, Switzerland, Israel, Ukraine, France, Denmark, Norway and Sweden (see <http://marina.geo.umn.edu/suzdal>).

In addition, between 2007 and 2010, SEDI co-sponsored various scientific sessions at IUGG, the American Geophysical Union and other major meetings, such as the Meeting of the Americas (Foz de Iguassu, Brazil, August 8-13 2010). A Union Session to be held at the forthcoming 2011 IUGG General Assembly has also been organized, entitled "Recent Progress in the Studies of the Earth's Deep Interior" and co-convened by Gauthier Hulot (IPGP, France), Michael Bergman (Simon's Rock College, USA), Greg Houseman (University of Leeds, UK) and Satoru Tanaka (JAMSTEC, Japan).

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ANNOUNCEMENTS

As the 2011 IUGG General Assembly also marks the end of the term of the current SEDI officers, a business meeting will be held to renew this board.

We warmly encourage participants to take part to this important event.

Gauthier Hulot, Chair
Satoru Tanaka, Vice-Chair
Michael Bergman, Secretary

Part II

Statutes and By-Laws of the Union and the Associations

STATUTES AND BY-LAWS OF THE UNION

INTERNATIONAL UNION OF GEODESY AND GEOPHYSICS

STATUTES

(Revised July 2011, XXV IUGG General Assembly, Melbourne, Australia)

I. OBJECTIVES AND COMPOSITION OF THE UNION

1. The objectives of the International Union of Geodesy and Geophysics (IUGG) are:
 - a) to promote the study of all problems relating to the figure of the Earth, and the physics and chemistry of the Earth's interior, surface, fresh waters, cryosphere, oceans and atmosphere, along with relevant studies of other planets;
 - b) to initiate, facilitate and co-ordinate research into, and investigation of those problems of geodesy and geophysics which require international co-operation or which are of international interest;
 - c) to provide, on an international basis, for discussion and publication of the results of the researches indicated in Article 1.b);
 - d) to promote co-ordination worldwide of scientific activities in the disciplines of interest to the Union;
 - e) to assist with scientific advice the study of practical problems of a geodetic or geophysical character when such problems present an international aspect or when they require international co-operation of specialists or facilities;
 - f) to promote and co-ordinate the scientific activities of several Permanent Services whose objectives are, on an international basis, to facilitate the standardization of measurements or to collect, analyze and publish geodetic or geophysical data, taking into account the results of planetary studies.
2. To achieve its scientific aims, the Union consists of a number of International Associations, each of which deals with a discipline of geodesy or geophysics.
3. The Union adheres to the International Council for Science (ICSU).
4.
 - a) Any country in which independent activity in geodesy and geophysics has been developed may adhere to the Union, provided that it takes an adequate share in the maintenance of the Union.

That country shall be represented by a single body, known as the Adhering Body, which may be either its principal scientific Academy, or its National Research Council, or any other institution or association of institutions, whether non-governmental or governmental, representing the geodetic and geophysical activities of the adhering country. Only under extraordinary circumstances, the Council of IUGG (defined in Article 5 of these Statutes) may admit a suitably designated additional Adhering Body for a country, provided a corresponding Adhering Body of that country has already been admitted as a National Member of the International Council for Science. In this case, each Adhering Body shall have a separate Council Delegate and shall be treated separately in questions of Voting and Finances.
 - b) A country in which activity in geodesy and geophysics has been developed but which cannot participate financially in the maintenance of the Union may become Associate. That country shall be represented by a single body, as specified in Article 4.a.
 - c) Hereafter, adhering countries will be referred to as Member Countries.
 - d) There shall be a category of adherence known as Affiliate Membership. Any multi-national or regional geodetic, geophysical or other geosciences organisation shall be eligible for Affiliate Membership. Affiliate Members shall have the same rights, duties and obligations as Associate Members.

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- e) There shall be a category of membership within IUGG known as Honorary Member conferred upon individuals awarded IUGG Fellowship by the IUGG Bureau. Honorary Members shall have no rights to attend meetings of Council or participate in Council business.
5. The General Assembly shall consist of three parts: i) a meeting of the duly accredited Delegates of the Member Countries and guests invited in accordance with the By-Laws (the Council Meeting); ii) business meetings of the Union; iii) an open scientific assembly.

The Council of the Union shall consist of the Delegates known as Council Delegates, designated for each meeting of the Council by the Adhering Bodies of the Member Countries, one Council Delegate for each Adhering Body. Each Council Delegate shall be formally accredited by the Adhering Body in advance of each meeting of Council. Adhering Bodies in Associate status are not entitled to appoint a Council Delegate.

II. ADMINISTRATION

6. Responsibility for the direction of the Union affairs shall be vested in the Council of the Union. Decisions of the Council shall be reported to the General Assembly.
7. Between meetings of the Council, the direction of the affairs of the Union shall be vested in the Bureau and the Executive Committee, of which the respective responsibilities are hereafter defined.
8. The Bureau of the Union shall consist of the President, Vice-President, Secretary General, Treasurer and three additional Members, all of whom shall be elected by the Council.

The duties of the Bureau shall be to administer the affairs of the Union in accordance with these Statutes and By-Laws and the decisions of the Council.

9. The Executive Committee shall consist of the Bureau, the Presidents of the International Associations, and the immediate Past President of the Union. The Secretaries of the Associations shall be invited to attend meetings of the Executive Committee of the Union in an advisory capacity.

The duties of the Executive Committee shall be to further the scientific objectives of the Associations through effective co-ordination and through the formulation of general policies to guide the scientific work of the Union.

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

10. Within the framework of the Statutes of the Union, the International Associations of the Union may make their own Statutes and By-Laws and control their administration and finance.

III. FINANCE

11. During the meeting of a General Assembly the Council shall elect a Finance Committee for the next period, consisting of four members drawn from the previous Finance Committee and accredited Council Delegates as specified by By-Law 10.

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

- 12.
- a) There shall be fourteen categories of membership in the Union, numbered 1 to 14, plus special categories called A and AF.
- b) For categories 1 to 14, each Member Country shall pay annually the number of units of contribution assigned to the category in which it adheres. In each country the Adhering Body shall be responsible for the payment of the contribution. Any member country may additionally donate contributions for travel support of scientists from countries of Category A.
- c) Category A is composed of the Associates. They do not pay an annual contribution to the Union.
- d) Category AF is composed of the Affiliates. They do not pay an annual contribution to the Union.

- 13.

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- a) A country which seeks to adhere to the Union must specify the category in which it proposes to adhere. Its application for admission may be refused if the category proposed is considered inadequate.
 - b) An Associate may enter a paying category, or a paying Member Country may raise its category at any time provided the Council agrees. A paying Member Country may lower its category or become an Associate only with the consent of the Council of the Union.
- 14.
- a) The financial year shall be the calendar year.
 - b) If at the end of any year a paying Member Country has not paid its subscription for that year, the benefits of membership in the Union will be denied to that Member Country until full payment has been made of that year's subscription and of any further subscriptions in arrears. Such Member Countries shall be deemed to be in Observer status.
 - c) A Member Country in Observer status shall continue to accrue annual subscription obligations.
 - d) If at the start of any year a paying Member Country has been in Observer status for four years, that Member Country shall be deemed to have withdrawn from membership unless the Secretary General has received a formal written request from the Member Country to be transferred to Associate membership (category A).
 - e) The Bureau of the Union is authorized to grant requests for transfer temporarily to category A, until the next meeting of the Council, to Member Countries in Observer status that provide evidence that efforts to pay all subscriptions in arrears are likely to be unsuccessful.
 - f) A Member Country which has been denied a transfer to category A by the Bureau may appeal at the next meeting of the Council.
 - g) Any Member Country in Observer status that is denied a transfer to Category A by Council shall cease to be a Member Country at the end of the Council meeting at which its request is considered.
 - h) Every Associate Membership shall be reviewed by the Bureau and the Finance Committee and the results communicated to Council at each General Assembly. Countries in Associate Membership will be asked to consider entering a paying category if it is deemed appropriate. If, following such a request, a Country does not enter a paying Category, Council shall decide at its next meeting whether the Country can continue its membership in the Union.
15. In the event of the dissolution of any Association, its assets shall be ceded to the Union. In the event of the dissolution of the Union, its assets shall be ceded to ICSU.

IV. VOTING

16. Associates have no voting rights.
- 17.
- a) On questions of scientific nature, or of administrative nature, or of a character partly administrative and partly scientific not involving matters of finance, voting shall be in Council by Member Countries, each Council Delegate having one vote, provided that the subscription of the Adhering Body has been paid up to the end of the calendar year preceding the voting.
 - b) On questions involving finance, voting shall be in Council by Member Countries with the provision that a voting country must have paid its subscriptions up to the end of the calendar year preceding voting in Council. The number of votes allotted to each Member Country shall be equal to the number of its category of membership.
18. Questions on admission of new Member Countries and new Affiliate Members and appeals against denial of transfer to Associate membership shall be decided by a two-thirds absolute majority vote of the Council Delegates meeting in Council, each Council Delegate having one vote.
19. A Council Delegate may represent only one Member Country. No member of the Bureau shall serve as a Council Delegate of a country. No Member of the Executive Committee shall vote with the Council unless under exceptional circumstances they are also the Council Delegate of a Member Country.

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A paying Member Country which is not represented at a Council meeting may vote by correspondence on any specific question provided that the matter has been clearly defined on the final agenda distributed in advance to the Member Countries and that the discussion thereon has not produced any new considerations or changed its substance and provided that said vote has been received in writing by the President prior to the voting.

For the validity of the deliberations of the Council, at least one third of the Member Countries eligible to vote must be represented by their Council Delegates.

20. Before a vote in a Council meeting, the President shall decide whether the matter under consideration is scientific, administrative or financial in character and whether the procedure of voting by correspondence applies.
21. Decisions of the Council shall be taken by a simple absolute majority except as otherwise specified in the present Statutes.

If a tie should occur in a Council vote, the decision shall rest with the President.

Simple or two-third absolute majorities are determined by the proportion of affirmative votes to the sum of votes (affirmative, negative, abstention), provided that the total number of delegates voting (affirmative, negative, abstention) is not less than one third of the total membership of the Union eligible to vote. Blank or invalid ballots and votes not cast by Delegates present are counted as abstentions.

V. GENERAL

22. These Statutes or any further modification to them shall come into force at the close of the Council meeting at which they are adopted.
23. The Statutes of the Union may not be modified except with the approval of two thirds of the Delegates meeting in Council.
24. Proposals for changes to any articles of the Statutes and By-Laws of the Union may be made by a Member Country or the IUGG Bureau and must reach the Secretary General at least six months before the date of the Council meeting at which the changes are to be considered. The Secretary General shall notify all Member Countries of any proposed change at least four months before the announced date of the Council meeting.
25. Conduct of IUGG meetings, except as otherwise specified in the Statutes, shall be according to Robert's Rules of Order, Newly Revised. Details of the edition in current use shall be included in the reference document 'Guidelines on IUGG Administration' described in By-Law 13.
26. The official languages of the Union shall be English and French. In case of disparity between the texts, the English text shall be authoritative.

END OF STATUTES

BY-LAWS

(Revised July 2011, XXV IUGG General Assembly, Melbourne, Australia)

I. COMPOSITION

1. The following are the constituent Associations of the Union:
The International Association of Cryospheric Sciences (IACS),
The International Association of Geodesy (IAG),
The International Association of Geomagnetism and Aeronomy (IAGA),
The International Association of Hydrological Sciences (IAHS),
The International Association of Meteorology and Atmospheric Sciences (IAMAS),
The International Association for the Physical Sciences of the Oceans (IAPSO),
The International Association of Seismology and Physics of the Earth's Interior (IASPEI),
The International Association of Volcanology and Chemistry of the Earth's Interior (IAVCEI).
2. The IUGG Executive Committee may establish Union Commissions in order to examine scientific issues of mutual interest to at least four Associations. The Union may also, through the Executive Committee, sponsor jointly with other Unions or for special purposes, specific Programmes or Committees for the conduct of inter-disciplinary science. Such bodies may create subordinate bodies as necessary. In the same way, the Union may sponsor Permanent Services. The list of Union Commissions, Programmes, Committees, and Permanent Services shall be reviewed by the Executive Committee at each General Assembly.

Scientists from all countries may attend scientific meetings of the Union and of the Associations. They may also act as observers in Commissions of the Union and in the Associations.
3. The President will normally represent the Union at the General Assemblies of the International Council for Science but may be represented, if necessary, by the Vice-President or Secretary General.
4. Each Adhering Body shall form a Committee for Geodesy and Geophysics hereafter known as an IUGG National Committee. The function of the National Committee is, under the direction of the Adhering Body, to provide for the participation of the Member Country in the Union's activities.

During the interval between General Assemblies, the Bureau of the Union may directly consult by correspondence the National Committee of each Member Country on any question of scientific character or on administrative matters not involving finance. On matters of finance and on admission of new Member Countries, the Bureau of the Union shall communicate with the Adhering Bodies of paying Members.

II. ADMINISTRATION

5. General Assemblies will normally be held once every four years at the call of the President of the Union. The interval of time between the closure of two successive General Assemblies shall be known as a "period".
6. Notice of the date and of the place of the meeting of the next General Assembly shall be sent by the Secretary General to the Member Countries at least nine months before the Assembly.

Proposals concerning the agenda for meetings of the Council may be presented by the Adhering Bodies or National Committees; they must be received by the Secretary General at least six months before the meeting. Associates may make proposals of a scientific nature only. The Secretary General must place all proposals received on the final agenda for the Council meeting. This final agenda, with explanatory comments, shall be sent to all Member Countries at least four months prior to the meeting. An item which has not been thus placed on the agenda may be discussed at a meeting of the Council if a proposal to that effect is approved by a two-thirds absolute majority vote of the Council Delegates.

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7. The Secretary General may send notice of the date and place of the next General Assembly to individuals or scientific organizations in countries not adhering to the Union, but where there is evidence of activity in Geodesy and Geophysics.

Scientists from these countries will be invited to participate in the scientific programme of the General Assembly, with the status of Guest.

The President of the Union may, on their own initiative or at the request of an Association or Member Country, invite representatives of scientific bodies to attend any General Assembly as Guests provided there is no financial obligation for the Union.

8. A plenary meeting of the participants in the General Assembly shall be held during each General Assembly for discussions of Union activities.
9. The Associations shall hold business meetings and scientific sessions at the General Assemblies of the Union.

The scientific meetings at a General Assembly should include joint sessions of two or more Associations for the discussion of interdisciplinary topics. The programme of the meetings and the selection of these interdisciplinary topics shall be decided by the Executive Committee of the Union, about two years before the time of the General Assembly, on the basis of recommendations made earlier by the Associations.

Provided that the Executive Committee is informed, an Association may also arrange meetings of its own in the interval between the General Assemblies, either singly to deal with topics of specific interest, or jointly with another Association or other Associations.

10.

- a) The President of the Union shall be elected for one period and is not immediately eligible for re-election. The Vice-President and the additional elected Members of the Bureau shall be elected for one period and may be re-elected for not more than one consecutive period in the same function.

The Secretary General shall be elected for two periods initially and should not normally be re-elected for more than two additional single periods.

The Treasurer shall be elected for one period initially and should not normally be re-elected for more than two additional single periods.

The Members of the Finance Committee shall be elected for one period and may be re-elected for two successive periods.

- b) At least eighteen months before a General Assembly, the President shall appoint a Nominating Committee with the advice and approval of the Executive Committee. The Nominating Committee shall consist of a Chairman and three other members, not themselves members of the Executive Committee or of the Finance Committee.

The Nominating Committee, after soliciting nominations from the Adhering Bodies of the Member Countries, and from the officers of the Union and the Associations, shall propose one or two candidates for each position in the Bureau, seeking to achieve a reasonable balance in their geographical and professional distribution. Candidates will be required to signify their acceptance of nomination and to prepare a resumé outlining their position, research interests and activities related to the Union.

The officers of the Union and Associations and the National Committees shall be informed by the Nominating Committee of the list of nominations at least eight months before the General Assembly. They may make further nominations and/or recommendations to the Nominating Committee at least three months before the General Assembly. If new nominations for a given position are supported by at least three Presidents or equivalent officers of National Committees of Member Countries, and if they are accompanied by the written acceptance of possible nomination and resumé outlining the position, research interests and Union related activities of the candidates, they shall be added to the list initially established. The Nominating Committee shall send the final list of nominations to the officers of the Union and Associations and to the National Committees at the latest two months prior to the General Assembly.

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Re-nominations, from those previously nominated for the Bureau may also be made over a period of 48 hours following the close of the first session of the Council meeting at the General Assembly. Such nominations must be submitted in written form to the Secretary General, supported by at least three members of the Council and accompanied by the same documentation as required with the original nominations. The Council Delegates shall be informed of these additional nominations, together with their resumé, at least 24 hours before the elections.

No one can be a candidate for more than one position in the election. Elections shall be by secret ballot.

- c) The Nominating Committee shall, after soliciting nominations from the Adhering Bodies of the Member Countries, and from the officers of the Union and the Associations, propose one or two candidates for each of the four positions on the Finance Committee: two positions from among the current members of the Finance Committee and two positions from among the accredited Council Delegates at the present or any previous General Assembly excluding the current members of the Finance Committee. If there is an insufficient number of candidates from the current Finance Committee, then an additional member or members shall be elected from among the Council Delegates. No member of the Finance Committee may at the same time be a member of the Bureau or the executive body of the Union or of an Association or of a governing body of one of the Permanent Services or programmes supported by the Union. No member may serve for more than three consecutive periods on the Finance Committee.

The officers of the Union and Associations and the National Committees shall be informed by the Nominating Committee of the list of nominations at least three months before the General Assembly. The Council may add to the list of nominations for the Finance Committee during the General Assembly until three days prior to the elections.

Candidates will be required to signify their acceptance of nomination and to provide a resumé outlining their suitability for serving on the Finance Committee.

- d) No one may be at the same time a Member of the Bureau or of the Finance Committee and President or Secretary of an Association.

The Bureau may appoint Assistant Secretaries General and one Assistant Treasurer who may be assigned specific tasks by the Secretary General and the Treasurer with the approval of the Bureau. They may attend meetings of the administrative bodies of the Union in an advisory capacity.

Scientists represented by Adhering Bodies that have Associate membership, or have been in Observer status for two or more years and scientists from countries not represented by an Adhering Body are not eligible to be elected to positions in the Union or in its constituent Associations.

11. The Council is convened by the President of the Union, and shall meet at appropriate times during each Assembly.

The Council may be convened between two General Assemblies when a written request is made by at least a third of the paying Member Countries or by a simple majority of the members of the Executive Committee, with notice of the questions to be placed on the agenda of the meeting.

Council meetings shall be open to Council Delegates, the Executive Committee, and the Finance Committee. One person from each Associate Member may attend any Council meeting, as Listener, without the right to speak. The IUGG President may invite guests to make presentations at Council meetings. Other individuals may, with concurrence of the President, attend Council meetings as Listeners only, except that a simple majority of Council Delegates present may declare part of any meeting closed to Listeners.

The Council shall:

- a) decide upon the admission of new Member Countries and new Affiliate Members;
- b) decide on an appeal against a decision by the Bureau to deny a transfer to Associate membership of a Member Country in Observer Status;
- c) elect the members of the Bureau and of the Finance Committee;

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- d) receive reports from the Secretary General and the Treasurer of the Union and ratify the decisions or actions taken by the Bureau and the Executive Committee since the last Council meeting;
- e) consider the budget submitted by the Treasurer and adopt the final budget;
- f) determine the amount of the unit of contribution for the ensuing period (the unit cannot be changed at a General Assembly unless proposed on the agenda distributed four months in advance to the Member Countries);
- g) review from time to time the categories of Member Countries; review the Associates at each General Assembly;
- h) examine questions of general policy or administration in the business of the Union and appoint such Committees as may from time to time be deemed necessary for this purpose;
- i) consider proposals for changes in the Statutes or By-Laws.

12. The Executive Committee is convened by the President of the Union. It shall meet at each General Assembly, and also at all sessions of the Council with voice but without vote. It will also meet normally at least once between General Assemblies, two years ahead of the next General Assembly, in order to prepare an outline of the interdisciplinary scientific agenda and of the timetables for the Union and for the Associations during the next General Assembly.

At a meeting of the Executive Committee, no member of the Bureau, or the Past President of the Union, may be represented by any other person. The Presidents of the Associations, in case of hindrance, may be represented by a Vice-President or the Secretary of their Association. The Past President has voice but no vote. For the validity of the deliberations of the Executive Committee, at least half of its members must be present or represented.

Proposals concerning the agenda for meetings of the Executive Committee may be submitted by Members of the Committee; they must be received by the Secretary General at least six months before the meeting.

The final agenda shall be sent to the Members of the Executive Committee at least four months prior to the meeting. No question which has not been placed on the agenda may be discussed at a meeting of the Committee unless a proposal to that effect has been approved by a two-thirds absolute majority vote of the Members present.

The Executive Committee shall:

- a) initiate actions, as required, to co-ordinate the common interest of the Associations, such as by meetings between the Secretary General and the Secretaries of the Associations;
 - b) guide the Treasurer regarding the financial needs of the Associations in achieving their objectives;
 - c) fill any vacancy which may occur between General Assemblies among the Members of the Bureau and the Finance Committee (when such appointments are later confirmed by the Council, the period of office will be considered to begin from the date of its confirmation by the Council);
 - d) make recommendations to the Council on matters of general policy of the Union.
13. The Bureau will normally meet once a year, at the call of the President of the Union. In a meeting, no Member of the Bureau may be represented by any other person. For the validity of the deliberations, four Members at least must be present.

Between the meetings of the Council, the Bureau shall initiate procedures to attain the general objectives of the Union; it shall manage the finances, and ensure the adequate administration of the Union, including maintenance of a reference document 'Guidelines on IUGG Administration'. It shall draw up the programmes for the meetings of the Council and of the Executive Committee.

14. Applications for membership of the Union and for transfer to Associate membership shall be referred to the Secretary General who shall report thereon to the Executive Committee, which shall decide on the scientific merits of each application. The Secretary General shall then forward the proposals through the appropriate channels to the Adhering Bodies representing the paying Member Countries; these bodies will vote by correspondence and the results of the ballot shall be communicated to them by the Bureau. Admission or transfer will be determined by a simple majority and is provisional until approved by

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Council. Simple majority is here determined by the proportion of affirmative votes to the sum of votes (affirmative, negative) provided that this sum is not less than one third of the total membership of the Union eligible to vote. Any case of refusal shall be referred to the Council.

15. The President of the Union shall:
- a) be the representative of the Union in its dealing with National or International Organisations or Institutions;
 - b) convene and preside over the General Assembly and over all meetings of the Council, Executive Committee and Bureau;
 - c) submit a report to the General Assembly on the scientific work of the Union during the current period.

In case of absence of the President, the Vice-President shall act. If the President is incapable of remaining in office, the Vice-President shall become President and the Executive Committee shall elect a new Vice-President from the remaining Members of the Bureau.

16. The Secretary General shall:
- a) serve as Secretary of the General Assembly, the Council, the Executive Committee and the Bureau; arrange for meetings of these bodies; prepare and distribute promptly the agenda and the minutes of all their meetings;
 - b) manage the affairs of the Union, informed by the document 'Guidelines on IUGG Administration', attend to correspondence, preserve the records;
 - c) circulate all information related to the Union;
 - d) prepare reports on the Union's activities; at least three months before the General Assembly, forward to all the Member Countries a report on the administration of the Union since the last General Assembly, and present a summary of this to the General Assembly itself;
 - e) Maintain a register of distinguished scientists who have been honoured by the Union as Fellows of IUGG, collectively designated as the College of Fellows.
 - f) perform such other duties as may be assigned by the Bureau.
17. To assist the Secretary General and the Treasurer in the performance of their duties to the Union, they may be authorized by the Bureau to employ administrative and secretariat personnel as may be required to ensure orderly administration.

III. FINANCE

- 18.
- a) The Adhering Bodies to the Union shall pay annually the number of units of contributions assigned to the category in which they adhere, according to the following table

Category	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Units of Contribution	1	2	3	5	7	10	15	20	25	30	35	40	45	50

- b) Associates, in category A, do not pay.
 - c) Affiliate members, in category AF, do not pay.
19. The Finance Committee shall elect a Chair from among its members.
- The Finance Committee shall meet, at the call of its Chair, and at least once during its term of office.
- The Treasurer may be invited by the Chairman to attend a meeting of the Finance Committee. No Member may be represented by any other person at a meeting of the Committee.
- The Finance Committee shall:
- a) advise the Council on all financial matters of the Union;

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- b) receive and review the audits of the accounts;
- c) report to the Council;
- d) advise the Treasurer on preparation of the budget;
- e) advise the Treasurer, the Bureau, and the Executive Committee on financial matters, including raising funds to support Union and Association activities.

The Chair of the Finance Committee will normally be invited to meetings of the Bureau or Executive Committee when financial matters are on the agenda.

20. The Treasurer of the Union shall be responsible for the financial administration of the Union informed by the document 'Guidelines on IUGG Administration' and directions issued by the Bureau.

The Treasurer shall:

- a) in consultation with the Executive Committee and the Finance Committee, prepare a preliminary budget to be sent to the Adhering Bodies at least three months prior to the Assembly together with comments of the Finance Committee, then update it at the General Assembly and submit the budget to the Council for approval;
- b) arrange for an annual audit of the books;
- c) collect the funds of the Union and disburse them in accordance with the approved budget and instructions of the Council and of the Bureau;
- d) maintain records of all financial transactions of the Union and submit annual financial reports thereon to the Bureau and the Finance Committee;
- e) submit such other reports to the Financial Committee and to the Council as may be requested;
- f) assemble, at the end of the calendar year preceding a General Assembly, a report on the complete accounts of the Union (including those of the Associations and of all Union activities) for the previous period, for presentation to the Bureau and to the Finance Committee at least three months prior to the General Assembly, and at the General Assembly to the Council. The report shall be accompanied by statements concerning each account administered by the Union, its Associations, and other financially assisted bodies. Each account shall be audited by a qualified accountant;
- g) prepare a summary report of the Finances of the Union (including those of the Associations and of all Union activities) and arrange for the distribution of copies thereof to the Member Countries not later than three months prior to the General Assembly.

The President, the Treasurer and the Assistant Treasurer have the authority to draw from any bank accounts of the Union, but only as directed by the Bureau.

21. Travelling expenses and per diem subsistence may be paid by the Treasurer in accordance with rates established by the Bureau.

The following conditions must be satisfied:

- a) the meeting must be for specific Union business;
- b) those concerned must represent the Union and not Adhering Bodies;
- c) those concerned must be unable to obtain adequate allowances from sources in their own country.

IV. AWARDS

22. Fellowship of the International Union of Geodesy and Geophysics is a tribute, awarded by the IUGG Bureau, to individuals who have made exceptional contributions to international cooperation in Geodesy or Geophysics and attained eminence in the field of Earth and space sciences.

The nomination and selection procedures and detailed criteria for IUGG Fellowship shall be determined by the IUGG Bureau and published in the document 'Guidelines on IUGG Administration'.

V. CHANGES TO THE BY-LAWS

23. The Council has the power to adopt By-Laws within the framework of the Statutes of the Union. These By-Laws may be modified by a simple majority of votes cast at a Council meeting. These By-Laws, or any further modification of them shall come into force at the close of the Council meeting at which they are adopted.

END OF STATUTES AND BY-LAWS

STATUTS ET REGLEMENTS DE L'UNION

UNION GEODESIQUE ET GEOPHYSIQUE INTERNATIONALE

STATUTS

(Modifiés en juillet 2011, XXVème Assemblée Générale de l'UGGI, Melbourne, Australie)

I. OBJECTIFS ET COMPOSITION DE L'UNION

1. Les buts de l'Union géodésique et géophysique internationale sont les suivants:
 - a) Favoriser l'étude de tous les problèmes concernant la figure de la Terre, la physique et la chimie de son intérieur, de sa surface, de l'eau douce, de la cryosphère, des océans et de l'atmosphère, ainsi que des études pertinentes d'autres planètes ;
 - b) Initier, faciliter et coordonner les recherches et études de géodésie et de géophysique, qui nécessitent une coopération internationale ou qui présentent un intérêt national ;
 - c) Assurer, sur le plan international, la discussion et la publication des résultats des recherches mentionnées à l'article 1.b) ;
 - d) Coordonner les moyens d'action scientifique dans le monde entier, dans les disciplines qui intéressent l'Union ;
 - e) Prêter son concours scientifique à l'étude des problèmes pratiques de nature géodésique ou géophysique, lorsque ces problèmes présentent un aspect international ou lorsqu'ils exigent la coopération internationale de spécialistes ou d'installations ;
 - f) Promouvoir et coordonner les activités scientifiques de plusieurs services permanents chargés, sur le plan international, de favoriser la normalisation des mesures ou de recueillir, d'analyser et de publier des données géodésiques ou géophysiques en tenant compte des résultats des études planétaires ;
2. Pour réaliser ses objectifs scientifiques, l'Union regroupe un certain nombre d'associations internationales, chacune d'elles traitant d'une discipline de la géodésie ou de la géophysique.
3. L'Union adhère au Conseil international des unions scientifiques (CIUS).
4.
 - a) Tout pays dans lequel une activité géodésique ou géophysique indépendante s'est développée, peut adhérer à l'Union à condition de participer convenablement à son entretien.

Ce pays est représenté par un seul organisme, appelé organisme adhérent, qui peut être soit la principale Académie scientifique, ou le Conseil national de la recherche scientifique, soit toute autre institution ou groupement d'institutions, gouvernementales ou non, représentant l'ensemble des activités géodésiques et géophysiques du pays adhérent. Le Conseil de l'UGGI (défini à l'article 5 de ces statuts) peut accepter un nouvel organisme adhérent convenablement désigné pour un pays, uniquement en cas de circonstances exceptionnelles, sous réserve qu'un organisme adhérent de ce pays ait déjà été admis comme membre national du Conseil international des unions scientifiques. Dans ce cas, chaque organisme adhérent aura un délégué au Conseil et sera traité à part en matière d'élections ou de finances.
 - b) Un pays dans lequel une activité en géodésie et géophysique s'est développée, mais qui ne peut pas participer financièrement à l'entretien de l'Union, peut devenir membre associé. Ce pays sera représenté par un seul organisme, comme précisé en 4a.
 - c) Dans ce qui suit, les pays adhérents sont appelés pays membres.
 - d) Il existe une catégorie d'adhésion désignée sous le nom d'affiliation. Toute organisation multinationale ou régionale géodésique, géophysique ou relevant des géosciences est éligible à l'affiliation. Les membres affiliés ont les mêmes droits, devoirs et obligations que les membres associés.

- e) Il existe au sein de l'UGGI une catégorie de membres honoraires à laquelle appartiennent des individus distingués par le Bureau de l'UGGI. Les membres honoraires n'ont pas le droit d'assister aux réunions du Conseil ni de participer aux affaires du Conseil.
5. L'Assemblée générale se compose de trois parties: i) Une réunion des délégués des pays membres, dûment accrédités, et des personnes invitées conformément aux règlements (la réunion du conseil), ii) Les réunions administratives de l'union; iii) Une Assemblée scientifique ouverte.

Le Conseil de l'Union est constitué des délégués appelés délégués au Conseil, désignés à chaque réunion du Conseil par les organismes adhérents des pays membres à raison d'un délégué au Conseil par organisme. Chaque délégué au Conseil est officiellement accrédité par l'organisme adhérent avant chaque réunion du Conseil. Les organismes adhérents ayant le statut d'associé ne sont pas admis à nommer un délégué au Conseil.

II. ADMINISTRATION

6. La responsabilité de la direction des affaires de l'Union est dévolue au Conseil de l'Union. Les décisions prises par le Conseil sont présentées à l'Assemblée générale.
7. Entre les réunions du Conseil, la direction des affaires de l'Union est dévolue au Bureau et au Comité exécutif, dont les attributions respectives sont définies ci-après.
8. Le Bureau de l'Union est constitué par le président, le vice-président, le secrétaire général, le trésorier et trois membres supplémentaires, tous élus par le Conseil.

Le rôle du Bureau est d'administrer l'Union conformément aux présents statuts et règlements, en accord avec les décisions prises par le Conseil.

9. Le Comité exécutif est constitué par le Bureau, les présidents des associations internationales, et le président sortant de l'Union. Les secrétaires des associations seront invités à assister, à titre consultatif, aux réunions du Comité exécutif de l'Union.

Le rôle du Comité exécutif est de faciliter la réalisation des objectifs scientifiques des associations en assurant leur coordination effective et en exprimant les conditions générales nécessaires à la bonne marche des travaux scientifiques de l'Union.

Le Comité exécutif participe, à titre consultatif, aux séances du Conseil.

10. Dans le cadre des statuts de l'Union, les associations internationales composant l'Union peuvent établir leurs propres statuts et règlements et assurer leur administration ainsi que la gestion de leurs finances.

III. FINANCES

11. Lors de l'Assemblée générale, le Conseil élira, pour la période suivante, une commission des finances composée de quatre membres choisis parmi la précédente commission des finances et les membres du Conseil, selon les spécifications du Règlement 10.

La commission des finances participe, à titre consultatif, aux séances du Conseil.

12.

- a) Les pays membres de l'Union se rangent selon quatorze catégories, numérotées de 1 à 14, ou dans des catégories particulières, appelées catégorie A et catégorie AF.
- b) Pour les catégories allant de 1 à 14, chaque pays membre paie annuellement le nombre d'unités de contribution correspondant à sa catégorie. L'organisme adhérent représentant le pays est responsable du paiement de la cotisation. Tout pays membre peut en outre verser des fonds destinés à prendre en charge les frais de voyages de scientifiques de pays en catégorie A.
- c) La catégorie A se compose des membres associés. Ceux-ci n'acquittent pas de cotisation annuelle à l'Union.
- d) La catégorie AF se compose des membres affiliés. Ceux-ci n'acquittent pas de cotisation annuelle à l'Union.

- 13.
- a) Un pays désireux d'adhérer à l'Union doit spécifier la catégorie à laquelle il se propose d'adhérer. Sa demande d'adhésion peut être refusée si la catégorie choisie est jugée inadéquate.
 - b) Un associé peut devenir membre à titre payant, ou un pays membre à titre payant peut à tout moment passer dans une catégorie supérieure moyennant l'accord du Conseil. Un pays membre à titre payant ne peut passer dans une catégorie inférieure ou devenir membre associé qu'avec l'accord du Conseil de l'Union.
- 14.
- a) L'année financière est l'année civile.
 - b) Si en fin d'année, un pays membre à titre payant n'a pas payé sa cotisation de l'année, il perdra les avantages dont jouissent les membres, jusqu'à réception du paiement intégral de cette année et pour tous les arriérés éventuels de cotisation. De tels pays membres auront le statut d'observateur.
 - c) Un pays membre ayant le statut d'observateur restera redevable des cotisations annuelles échues.
 - d) Si, au début de l'année, un pays membre à titre payant a le statut d'observateur depuis quatre ans, il sera considéré comme démissionnaire de l'Union, à moins que le secrétaire général n'ait reçu de ce pays membre une requête écrite en bonne et due forme pour devenir membre associé (Catégorie A).
 - e) Le Bureau de l'Union a l'autorisation d'accorder des demandes de transfert temporaire en catégorie A, jusqu'à la prochaine réunion du Conseil, aux pays membres ayant le statut d'observateur, qui fournissent la preuve que tous les efforts pour payer les cotisations en retard ont peu de chances d'aboutir.
 - f) Un pays membre à qui le transfert en catégorie A a été refusé par le Bureau, peut faire appel lors de la réunion suivante du Conseil.
 - g) Tout pays membre sous le statut d'observateur auquel un transfert en catégorie A est refusé cessera d'être membre à la fin de la réunion du Conseil au cours de laquelle sa demande est examinée.
 - h) Chaque adhésion en tant qu'associé doit faire l'objet d'un examen par le Bureau et la commission des finances. Les résultats doivent être communiqués au Conseil à chaque Assemblée générale. On demande aux pays membres ayant le statut d'associé d'envisager de passer dans une catégorie payante si cela est jugé approprié. Si, suite à une telle demande, un pays n'entre pas dans une catégorie payante, le Conseil décide à sa prochaine réunion si le pays peut continuer son adhésion à l'Union.
15. En cas de dissolution d'une association, ses avoirs seront cédés à l'Union. En cas de dissolution de l'Union, ses avoirs seront cédés au CIUS.

IV. DROIT DE VOTE

16. Les associés n'ont pas le droit de vote.
- 17.
- a) Pour les questions d'ordre scientifique, ou administratif, ou à la fois d'ordre administratif et scientifique, mais sans incidence financière, le vote se fait au Conseil, par pays membre, chaque délégué au Conseil ayant une voix, à condition que l'organisme adhérent ait payé ses cotisations jusqu'à la fin de l'année civile qui précède le vote.
 - b) Pour les questions financières, le vote se fait au Conseil par pays membre, à condition que le pays votant ait payé ses cotisations jusqu'à la fin de l'année calendaire qui précède le vote. Le nombre de voix attribuées à chaque pays membre est égal au numéro de la catégorie à laquelle ce pays appartient.
18. Pour l'admission de nouveaux pays membres et de nouveaux membres affiliés et les appels relatifs à un refus de transfert au statut d'associé, les décisions sont prises au Conseil à la majorité absolue des deux tiers des délégués au Conseil, chaque délégué au Conseil disposant d'une voix.

19. Un délégué au Conseil ne peut représenter qu'un seul pays membre. Aucun membre du Bureau ne peut être délégué au Conseil d'un pays membre. Aucun membre du Comité exécutif ne peut participer aux votes du Conseil, sauf en cas de circonstances exceptionnelles où il serait également le délégué au Conseil d'un pays membre.

Un pays membre à titre payant non représenté à une réunion du Conseil peut voter par correspondance sur toute question particulière, précisée dans l'ordre du jour définitif distribué à l'avance aux pays membres, pourvu que les débats sur cette question n'aient pas fait apparaître de nouveaux éléments, ni modifié la substance, et que le vote en question soit parvenu au Président avant l'ouverture du scrutin.

Pour la validité des délibérations au Conseil, au moins un tiers des pays membres ayant le droit de vote sont représentés par leurs délégués au Conseil.

20. Avant un vote lors d'une réunion du Conseil, il revient au président de décider si la question débattue est d'ordre scientifique, administratif ou financier, et si la procédure du vote par correspondance s'applique.
21. Les décisions du Conseil sont prises à la majorité absolue simple sauf dans les cas spécialement mentionnés dans les présents statuts.

Si, au cours d'un vote au Conseil il y a égalité de voix, la décision appartient au président.

La majorité absolue simple ou des deux tiers est déterminée par la proportion des votes affirmatifs par rapport au total des votes (affirmatifs, négatifs et abstentions) pourvu que le nombre total de délégués votants (affirmatif, négatif, abstention) ne soit pas inférieur à un tiers des pays membres de l'Union ayant droit de vote. Les votes blancs et nuls et les votes non exprimés par les délégués présents sont comptés comme des abstentions.

V. GÉNÉRALITÉS

22. Les présents statuts, ou toute modification ultérieure, prennent effet à la clôture de la réunion du Conseil au cours de laquelle ils ont été adoptés.
23. Les statuts de l'Union ne peuvent être modifiés qu'avec l'assentiment des deux tiers des pays membres réunis en Conseil.
24. Des propositions de modification de tous les articles des statuts et règlements de l'Union peuvent être faites par un pays membre ou par le Bureau de l'UGGI et doivent parvenir au secrétaire général au moins six mois avant la date de la réunion du Conseil au cours de laquelle les modifications doivent être examinées. Le secrétaire général fait connaître à tous les pays membres, au moins quatre mois avant la date fixée pour la réunion du Conseil, toutes les propositions de modification reçues.
25. Dans le cadre des statuts de l'Union, le Conseil peut adopter des règlements qui peuvent être modifiés à la majorité simple des voix exprimées au Conseil. Ces règlements, ou toute modification ultérieure prennent effet à la clôture de la réunion du Conseil au cours de laquelle ils sont adoptés.
26. Sauf mention contraire dans les statuts, le déroulement des réunions de l'UGGI suit l'ordre des règles de Robert, nouvelle version Les détails de la version prise en compte seront inclus dans le document de référence « Guidelines on IUGG Administration » décrit dans le Règlement 13.
27. Les langues officielles de l'Union seront l'anglais et le français. En cas de disparité entre les textes, le texte anglais fait autorité.

FIN DES STATUTS

REGLEMENTS

(Modifiés en juillet 2011, XXVème Assemblée Générale de l'UGGI, Melbourne, Australie)

I. COMPOSITION DE L'UNION

1. L'Union est constituée par les Associations suivantes :
Association internationale des sciences cryosphériques (AISC),
Association internationale de géodésie (AIG),
Association internationale de géomagnétisme et d'aéronomie (AIGA),
Association internationale des sciences hydrologiques (AISH),
Association internationale de météorologie et des sciences de l'atmosphère (AIMSA),
Association internationale des sciences physiques des océans (AISPO).
Association internationale de sismologie et de physique de l'intérieur de la Terre (AISPIT),
Association internationale de volcanologie et de chimie de l'intérieur de la Terre (IAVCIT),
2. Le Comité Exécutif de l'UGGI peut établir des commissions de l'Union dont le but est d'examiner des sujets scientifiques d'intérêt commun à un minimum de quatre associations. A travers le Comité exécutif, l'Union peut également parrainer, en collaboration avec d'autres Unions ou pour des raisons particulières, des programmes ou des comités spécifiques dans une perspective interdisciplinaire. De telles entités peuvent créer des entités subordonnées selon leurs besoins. De la même manière, l'Union peut parrainer des services permanents. La liste des commissions de l'Union, des programmes, des comités, et des services permanents sera révisée par le Comité exécutif lors de chaque Assemblée générale.

Des scientifiques de tout pays peuvent assister aux réunions scientifiques de l'Union et des associations. Il leur est également possible d'être observateurs dans les commissions de l'Union et des associations.
3. Le président représente normalement l'Union aux Assemblées générales du Conseil international des Unions scientifiques. Il peut se faire remplacer par le vice-président ou le secrétaire général, si nécessaire.
4. Chaque organisme adhérent constitue un comité national de géodésie et de géophysique, désigné ci-après Comité national UGGI, chargé d'assurer, sous les directives de l'organisme adhérent, la participation du pays membre aux activités de l'Union.

Dans l'intervalle entre les Assemblées générales, le Bureau de l'Union peut consulter directement, par correspondance, le Comité national de chaque pays membre sur toute question d'ordre scientifique ou administratif, sans incidence financière. Pour les questions financières et l'admission de nouveaux pays membres, le Bureau de l'Union s'adresse aux organismes adhérents des pays membres à titre payant.

II. ADMINISTRATION

5. Les Assemblées générales se réunissent normalement tous les quatre ans, sur convocation du président de l'Union. Le terme "période" désigne le temps écoulé entre la clôture de deux Assemblées générales consécutives.
6. Le secrétaire général transmettra aux pays membres, au moins neuf mois à l'avance, notification de la date et du lieu de réunion de la prochaine Assemblée générale.

Toutes les propositions concernant l'ordre du jour des réunions du Conseil peuvent être formulées par les organismes adhérents ou les comités nationaux ; elles devront parvenir au secrétaire général six mois au moins avant la réunion. Les membres associés ne pourront émettre que des propositions de nature scientifique. Le secrétaire général inscrira obligatoirement toutes les propositions reçues à l'ordre du jour définitif de la réunion du Conseil. Cet ordre du jour, accompagné d'un exposé des motifs, est envoyé au moins quatre mois avant la réunion à tous les pays membres. Un article non-inscrit à cet ordre du jour pourra être soumis à la discussion du Conseil après un vote favorable du Conseil à la majorité absolue des deux tiers des délégués au Conseil.

7. Le secrétaire général peut communiquer la date et le lieu de la prochaine Assemblée générale aux personnes ou organisations scientifiques de pays n'adhérant pas à l'Union, qui témoignent d'une activité en géodésie et en géophysique.

Des scientifiques de ces pays seront conviés à participer au programme scientifique de l'Assemblée générale en tant qu'invités.

Le président de l'Union peut, de sa propre initiative ou à la demande d'une association ou d'un pays membre, convier des représentants d'organisations scientifiques à participer à toute Assemblée générale en tant qu'invités sous réserve qu'il n'y ait aucune obligation financière pour l'Union.

8. Une réunion de travail plénière des participants à l'Assemblée générale se tient pendant chaque Assemblée générale en vue de discuter des activités de l'Union.
9. Les associations tiennent des réunions administratives et des réunions scientifiques pendant les Assemblées générales de l'Union.

Durant une Assemblée générale, les réunions scientifiques devraient comporter des séances conjointes de deux associations ou davantage, en vue de discuter de sujets interdisciplinaires. Le programme des réunions et le choix des sujets interdisciplinaires sont décidés par le Comité exécutif de l'Union environ deux ans avant la date de l'Assemblée générale, sur la base de recommandations faites antérieurement par les Associations.

Sous réserve que le Comité exécutif en soit informé, une association peut organiser elle-même des réunions entre les Assemblées générales de l'Union, soit séparément, pour traiter de sujets d'un intérêt particulier, soit en commun avec une autre association ou plusieurs d'entre elles.

10.

- a) Le président de l'Union est élu pour une période et n'est pas immédiatement rééligible. Le vice-président et les autres membres élus du Bureau sont élus pour une période et ne peuvent être réélus qu'une seule fois, pour une période consécutive, avec les mêmes fonctions.

Le secrétaire général est élu initialement pour deux périodes et ne devrait pas normalement pas être réélu pour plus de deux périodes supplémentaires.

Le trésorier est élu initialement pour une période et ne devrait pas normalement être réélu pour plus de deux périodes supplémentaires.

Les membres de la commission des finances sont élus pour une période et peuvent être réélus pour deux périodes successives.

- b) Au moins dix-huit mois avant une Assemblée générale, le président désigne un comité des candidatures après consultation et approbation du Comité exécutif. Le comité des candidatures se compose d'un président et de trois autres membres, n'appartenant ni au Comité exécutif, ni au Comité des finances.

Le comité des candidatures, après avoir sollicité des candidatures auprès des organismes adhérents des pays membres, et des responsables de l'Union et des associations, propose un ou deux candidats pour chaque poste à pourvoir au Bureau, en recherchant un juste équilibre dans leur répartition géographique et professionnelle. Les candidats seront tenus de manifester leur accord et de préparer un curriculum vitae énonçant les grandes lignes de leur situation, intérêts de recherche et activités concernant l'Union.

Les responsables de l'Union et des associations et les Comités nationaux sont informés par le comité des candidatures des candidatures retenues au moins huit mois avant l'Assemblée générale. Ils peuvent soumettre de nouvelles candidatures ou recommandations au comité des candidatures au moins trois mois avant l'Assemblée générale. Si les nouvelles candidatures à un poste donné sont soutenues par au moins trois présidents, ou dirigeants équivalents des Comités nationaux de pays membres, et si elles sont accompagnées du consentement écrit, et du curriculum vitae des candidats décrivant leur situation, leurs intérêts scientifiques, et leurs activités liées à l'Union, ces candidatures seront ajoutées à la liste initialement établie. Le comité des candidatures enverra la liste finale des candidats aux responsables de l'Union et des associations et aux Comités nationaux, au plus tard deux mois avant l'Assemblée générale.

Des renouvellements de candidatures, tirés de la liste initiale des candidats pour le Bureau, peuvent aussi se faire durant les 48 heures suivant la clôture de la première session de la réunion du Conseil à l'Assemblée générale. De telles candidatures devront être soumises par écrit au secrétaire général, soutenues par au moins 3 membres du Conseil et accompagnées des mêmes documents que ceux requis pour une candidature initiale. Les délégués au Conseil seront informés de ces nouvelles candidatures, accompagnées de leurs curriculum vitae respectifs, au moins 24 heures avant les élections.

Aucun candidat ne pourra postuler à plus d'un poste. Les élections se feront à bulletin secret.

- c) Le comité des candidatures, après avoir sollicité des candidatures auprès des organismes adhérents des pays membres, et des responsables de l'Union et des associations, proposera un ou deux candidats pour chacune des quatre positions de la Commission des finances: deux positions parmi les membres actuels de la Commission des finances et deux positions parmi les délégués accrédités au Conseil de l'Assemblée générale actuelle ou de toutes les Assemblées générales précédentes en excluant les membres actuels de la Commission des finances. S'il y a un nombre insuffisant de candidats de la Commission des finances précédente, un ou plusieurs membres supplémentaires sont élus parmi les délégués au Conseil. Aucun membre de la Commission des finances ne peut être en même temps membre du Bureau ou de l'organisme exécutif de l'Union, d'une association, ou d'un organe directeur de l'un des services permanents ou programmes pris en charge par l'Union. Aucun membre ne peut siéger à la Commission des finances pendant plus de trois périodes consécutives.

Les responsables de l'Union et des associations et les Comités nationaux sont informés par le Comité des candidatures de la liste des candidatures au moins trois mois avant l'Assemblée générale. Le conseil peut ajouter des noms à la liste de candidats à la Commission de finances avant les trois jours précédant les élections.

Les candidats seront tenus de signifier qu'ils acceptent d'être candidats et fournir un curriculum vitae énonçant leurs qualifications pour siéger à la Commission des finances.

- d) Nul ne peut simultanément faire partie du Bureau ou de la Commission des Finances et être président ou secrétaire d'une association.

Le Bureau peut nommer des secrétaires généraux adjoints et un trésorier adjoint auxquels des tâches déterminées seront assignées par le secrétaire général et par le trésorier avec l'approbation du Bureau. Ils peuvent participer aux réunions des organes administratifs de l'Union à titre consultatif.

Des scientifiques représentés par des organismes adhérents qui ont le statut d'associé, ou possèdent le statut d'observateur depuis deux ans ou plus, et des scientifiques de pays non représentés par un organisme adhérent, ne peuvent pas être élus et siéger dans l'Union ou les associations qui la composent.

11. Le Conseil est convoqué par le président de l'Union et se réunit quand il convient, au cours de chaque Assemblée générale.

Le Conseil peut être convoqué entre deux Assemblées générales sur demande écrite formulée par le tiers au moins des pays membres à titre payant, ou une majorité des membres du Comité exécutif, avec indication des questions à mettre à l'ordre du jour de la réunion ; les décisions prises dans ces conditions par le Conseil sont soumises à l'article 5 des statuts.

Les réunions du Conseil sont ouvertes aux délégués au Conseil, au Comité exécutif et à la Commission des finances. Un représentant de chaque membre associé peut assister à n'importe quelle réunion du Conseil en tant qu'auditeur, sans avoir le droit à la parole. Le président de l'UGGI peut inviter des invités à faire des présentations aux réunions du Conseil. D'autres personnes, peuvent, seulement avec l'accord du président, assister aux réunions du Conseil en tant qu'auditeurs, sauf au cas où une majorité simple des délégués au Conseil présents déclarerait une partie de la réunion interdite aux auditeurs.

Le Conseil :

- a) Se prononce sur l'admission de nouveaux pays membres et de nouveaux membres affiliés;

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- b) Statue sur un appel à l'encontre d'une décision prise par le Bureau de refuser le transfert en catégorie associée d'un pays membre au statut d'observateur ;
 - c) Elit les membres du Bureau et de la Commission des Finances ;
 - d) Reçoit les rapports du secrétaire général et du trésorier de l'Union et ratifie les décisions ou les mesures prises par le Comité exécutif et par le Bureau depuis la dernière réunion du Conseil ;
 - e) Etudie le budget présenté par le trésorier et adopte le budget définitif ;
 - f) Détermine le montant de l'unité de contribution pour la période suivante (cette unité ne peut être modifiée lors d'une Assemblée générale à moins d'avoir été inscrite à l'ordre du jour distribué quatre mois auparavant aux pays membres) ;
 - g) Examine de temps en temps les catégories des pays membres ; examine la situation des membres associés à chaque Assemblée générale ;
 - h) Etudie les questions de politique générale ou l'administration des affaires de l'Union et désigne éventuellement les comités qui peuvent être jugés nécessaires à cette fin ;
 - i) Etudie les propositions de modification aux statuts ou règlements.
12. Le Comité exécutif est convoqué par le président de l'Union. Il se réunit à chaque Assemblée générale et participe, à titre consultatif seulement, à toutes les délibérations du Conseil. En principe, il se réunit également au moins une fois au cours de chaque période de deux ans entre les Assemblées générales, pour établir un projet d'ordre du jour pour les activités scientifiques interdisciplinaires et un projet d'emploi du temps de l'Union et des associations pendant l'Assemblée générale suivante.
- Lors d'une réunion du Comité exécutif, aucun membre du Bureau, ni le président sortant de l'Union ne peuvent se faire représenter par quiconque. Les présidents des associations peuvent, en cas d'empêchement, être représentés par un vice-président ou le secrétaire de leur association. Le président sortant a le droit de parole, sans droit de vote. Pour la validité des délibérations du Comité exécutif, la moitié au moins de ses membres doit être présente ou représentée.
- Les propositions concernant l'ordre du jour des réunions du Comité exécutif peuvent être formulées par les membres du Comité ; elles devront parvenir au secrétaire général au moins six mois avant la réunion.
- L'ordre du jour définitif devra être envoyé aux membres du Comité exécutif quatre mois au moins avant la réunion. Une question non inscrite à cet ordre du jour ne pourra être soumise à la discussion du Comité exécutif qu'après un vote favorable du Comité, obtenu à la majorité absolue des deux tiers des membres présents à la réunion.
- Le Comité exécutif :
- a) Prend les mesures nécessaires à la coordination des intérêts communs des associations, telles que les réunions entre le secrétaire général et les secrétaires des associations ;
 - b) Conseille le trésorier au sujet des besoins financiers des différentes associations pour réaliser leurs objectifs ;
 - c) Comble toute vacance qui pourrait survenir entre les Assemblées générales parmi les membres du Bureau ou de la Commission des finances (lorsque de telles nominations sont confirmées ultérieurement par le Conseil, la période d'exercice sera présumée commencer le jour de cette confirmation) ;
 - d) Fait des recommandations au Conseil sur les questions de politique générale de l'Union.
13. Le Bureau se réunit en principe une fois par an sur convocation du président de l'Union. Lors d'une réunion, aucun membre du Bureau ne peut se faire représenter par quiconque. Pour la validité des délibérations, quatre membres au moins doivent être présents.
- Entre les réunions du Conseil, le Bureau prend l'initiative des actions nécessaires pour atteindre les objectifs généraux de l'Union ; il gère les finances et assure l'administration de l'Union y compris la mise à jour d'un document de référence « Lignes directrices de l'administration de l'UGGI ». Il prépare les programmes des réunions du Conseil et du Comité exécutif.

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14. Les demandes d'adhésion à l'Union et de transfert en catégorie associée sont présentées au secrétaire général qui présente un rapport à leur sujet au Comité exécutif qui juge du bien-fondé, sur le plan scientifique, de chaque demande. Il transmet alors la demande, par les voies les plus appropriées, aux organismes adhérents représentant les pays membres à titre payant ; ces organismes votent par correspondance et le résultat du scrutin devra leur être communiqué par le Bureau. L'admission ou le transfert sera déterminé par une majorité simple et est provisoire jusqu'à l'approbation par le Conseil. Toute admission acceptée à la majorité simple reste provisoire jusqu'à approbation par le Conseil. La majorité simple est ici déterminée par la proportion des votes affirmatifs par rapport au total des votes (affirmatifs, négatifs) sous réserve que ce total ne soit pas inférieur au tiers des pays membres de l'Union ayant le droit de vote. Tout refus est déferé au Conseil.

15. Le président :

- a) Représente l'Union dans ses relations avec les institutions et les organisations internationales ou nationales ;
- b) Convoque et préside l'Assemblée générale ainsi que les réunions du Conseil, du Comité exécutif et du Bureau ;
- c) Présente à l'Assemblée générale le rapport sur les activités scientifiques de l'Union pendant la période en cours ;

En l'absence du président, le vice-président le remplace. Si le président est dans l'incapacité de terminer son mandat, le vice-président devient alors Président et le Comité exécutif élit un nouveau vice-président parmi les membres restants du Bureau.

16. Le secrétaire général :

- a) Remplit les fonctions de secrétaire de l'Assemblée générale, du Conseil, du Comité exécutif et du Bureau ; organise les réunions de ces organismes ; établit et diffuse promptement les ordres du jour et les procès-verbaux de toutes leurs réunions ;
- b) Gère les affaires de l'Union, informé par les spécifications du document « Lignes directrices de l'administration de l'UGGI », se charge de la correspondance et assure la conservation des archives ;
- c) Distribue toutes les informations relatives à l'Union ;
- d) Etablit les rapports d'activité de l'Union ; envoie notamment à tous les pays membres, trois mois au plus tard avant chaque Assemblée générale, un rapport sur l'administration de l'Union depuis l'Assemblée générale précédente, et en présente un résumé à l'Assemblée générale elle-même ;
- e) Tient un registre des scientifiques éminents qui ont été distingués par l'Union en tant que membres honoraires de l'UGGI, collectivement désignés comme le Collège des membres honoraires.
- f) Accomplit toutes autres fonctions que pourrait lui confier le Bureau.

17. Pour aider le secrétaire général et le trésorier dans l'accomplissement de leurs tâches, le Bureau peut les autoriser à engager le personnel administratif et le personnel de secrétariat nécessaires au bon fonctionnement de l'Union.

III. FINANCES

18.

- a) Les pays adhérents à l'Union paient annuellement le nombre d'unités de contribution correspondant à leur catégorie de membre selon le tableau suivant :

Catégorie	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Unités de contributions	1	2	3	5	7	10	15	20	25	30	35	40	45	50

- b) Les membres associés, en catégorie A n'acquittent pas de cotisation.

- c) Les membres affiliés, en catégorie AF, n'acquittent pas de cotisation.
19. La Commission des finances élit un président choisi parmi ses membres.
- La Commission des finances se réunit sur convocation de son président, au moins une fois au cours de l'exercice de son mandat.
- Le trésorier peut être invité par le président à assister à une réunion de la Commission des finances. Aucun membre ne peut être représenté par un tiers à une réunion de la Commission.
- La Commission des finances:
- a) Donne son avis au Conseil sur tout ce qui à trait aux questions financières de l'Union ;
 - b) Réceptionne et examine les audits des comptes ;
 - c) Rend compte au Conseil ;
 - d) Donne son avis au trésorier sur la préparation du budget ;
 - e) Donne son avis au trésorier, au Bureau et au Comité exécutif sur les questions financières, y compris la collecte des fonds pour soutenir les activités de l'Union et des associations ;
- Le président de la Commission des finances est généralement invité aux réunions du Bureau ou du Comité exécutif quand des questions financières figurent à l'ordre du jour.
20. Le trésorier de l'Union est responsable de l'administration des finances de l'Union, informé par les spécifications du document « Lignes directrices de l'administration de l'UGGI », conformément aux directives qui lui sont données par le Bureau.
- Le trésorier :
- a) Prépare, en collaboration avec le Comité exécutif et la Commission des finances, un budget préliminaire accompagné des commentaires de la Commission des finances, qui sera envoyé au moins trois mois avant l'Assemblée aux organismes adhérents, puis le met à jour à l'Assemblée générale, et le soumet à l'approbation du Conseil ;
 - b) Prend des dispositions pour un audit annuel des comptes ;
 - c) Réunit les fonds de l'Union et les répartit conformément aux instructions du Conseil et du Bureau ;
 - d) Tient les comptes de toutes les transactions financières de l'Union et présente tous les ans les rapports financiers qui en découlent au Bureau et à la Commission des finances ;
 - e) Présente à la Commission des finances et au Conseil tout autre rapport qui lui serait réclamé ;
 - f) Rassemble, à la fin de l'année qui précède l'Assemblée générale, un rapport sur les comptes complets de l'Union (y compris ceux des associations et de toutes les activités de l'Union) pour la période précédente, pour présentation au Bureau et à la Commission des finances trois mois au moins avant l'Assemblée générale, puis, lors de l'Assemblée générale, au Conseil. Le rapport doit être accompagné d'états relatifs à chacun des comptes gérés par l'Union, ses associations et autres organismes bénéficiant de l'aide financière de l'Union. Chaque compte devra être certifié par un comptable qualifié ;
 - g) Prépare un bref rapport sur les finances de l'Union (y compris celles des associations et de toutes les activités de l'Union) et en assure la diffusion aux pays membres trois mois au plus tard avant chaque Assemblée générale.
- Le président, le trésorier et le trésorier adjoint sont autorisés à retirer des fonds de tous les comptes bancaires de l'Union, mais seulement selon les instructions du Bureau.
21. Les frais de voyage et de séjour peuvent être payés par le trésorier, aux tarifs établis par le Bureau.
- Les conditions suivantes doivent être remplies :
- a) Les réunions concernent spécifiquement les activités de l'Union ;
 - b) Les personnes concernées doivent représenter l'Union et non un organisme adhérent ;

- c) Les personnes concernées ne peuvent pas obtenir d'allocations suffisantes de leur pays d'origine.

IV. DISTINCTIONS

22. L'honorariat de l'Union Géodésique et Géophysique Internationale est un hommage, décerné par le Bureau de l'UGGI, aux individus qui ont apporté une contribution exceptionnelle à la coopération internationale en géodésie ou géophysique et qui ont atteint l'excellence dans le domaine des sciences de la Terre et de l'espace.

Les procédures de nomination et de sélection, et les critères détaillés pour l'honorariat de l'UGGI, doivent être déterminés par le Bureau de l'UGGI et publiés dans le document «Lignes directrices de l'Administration de l'UGGI».

V. MODIFICATIONS AUX RÈGLEMENTS

23. Le Conseil a le pouvoir d'adopter des règlements dans le cadre des statuts de l'Union. Ces règlements peuvent être modifiés par une majorité simple des voix exprimées à une réunion du Conseil. Ces règlements ou toute modification ultérieure de ceux-ci entreront en vigueur à la clôture de la réunion du Conseil à laquelle ils sont adoptés.

FIN DES STATUTS ET RÈGLEMENTS

STATUTES AND BY-LAWS OF THE ASSOCIATIONS

STATUTES AND BY-LAWS OF THE INTERNATIONAL ASSOCIATION OF CRYOSPHERIC SCIENCES

Statutes of the International Association of Cryospheric Sciences

(Adopted July 2007, XXIV IUGG General Assembly, Perugia, Italy)

Statute 1; Objectives of the Association

- a) to promote studies of the cryosphere of Earth and other bodies of the Solar System and related physical processes;
- b) to encourage research on cryospheric sciences through collaboration and co-operation among individuals, institutions, and research programmes, both nationally and internationally;
- c) to provide opportunities for international discussion and publication of the results of research on cryospheric structures and processes;
- d) to promote education and public awareness about the cryosphere;
- e) to facilitate the standardisation of measurements and the collection of data on cryospheric systems and the analysis, archiving and publication of such data;
- f) to promote the scientific activities of any Permanent Service which may fall under IACS responsibility and scientific supervision.

Statute 2; Structure of the Association

- 2.1. The Association shall consist of a Bureau and other component bodies as specified in the By-laws of the Association.
- 2.2. The members of the Association shall be all persons engaged in scientific research on the cryosphere, or otherwise contributing to the objectives of the Association.

Members include:

- a) the elected Officers of the Association (the Bureau);
 - b) Correspondents to the Association that are appointed by the International Union of Geodesy and Geophysics (IUGG) Adhering Body National Committees (hereafter known as IUGG National Committees);
 - c) Delegates that are accredited by the IUGG Adhering Bodies for the purpose of attending Plenary Administrative Sessions (Accredited Delegates);
 - d) Representatives that are designated by the Bureau as liaisons to the cryospheric scientific community in their countries;
 - e) all other persons engaged in cryospheric research or otherwise contributing to the objectives of the Association.
- 2.3. The work of the Association shall be directed by the Plenary Administrative Session, which shall be convened at least once during each General Assembly of IACS and attended by members of the Association. Votes from at least one-third of the delegates representing IUGG Adhering Bodies eligible to vote are required to validate a decision. Delegates not present may forward a vote on any specific question as described in Statute 2.5.
 - 2.4. The work of the Association consists of matters that are scientific, administrative, and financial in character. Prior to a Plenary Administrative Session the President shall decide the character of each agenda item and whether the procedure of voting by correspondence applies.
 - 2.4 a On matters of scientific purpose, all scientific participants have a single vote.
 - 2.4 b On matters of administration, including election of officers, only Accredited Delegates of IUGG Adhering Bodies in regular member status (dues paid) may vote; each delegate has one vote and may represent only one Adhering Body.
 - 2.4 c On matters of finance, only Accredited Delegates of IUGG Adhering Bodies in regular member status (dues paid) may vote; each delegate has the number of votes corresponding to the Category of IUGG membership of the Adhering Body.

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- 2.5 An IUGG Adhering Body eligible to vote that is not represented by a delegate at a Plenary Administrative Session may vote by correspondence, including post, fax, or electronic mail, on any voting matter provided that:
- a) the matter has been clearly defined in the final agenda distributed in advance to the members in accordance with the By-laws,
 - b) the substance of the matter has not been changed, and c) the vote has been received by the Secretary General prior to the meeting.
- 2.6 Decisions on any voting matter, except for the modification of the Statutes, shall be determined by a simple majority of the votes cast. Simple majority shall be determined by the proportion of affirmative votes to the sum of the affirmative and negative votes, including correspondence votes, and excluding abstentions. If a tie should occur, the decision shall rest with the President.
- 2.7 The Plenary Administrative Session has the power to adopt and modify By-laws that include specification of the scientific components of the Association (Divisions).
- 2.8 The Bureau
- 2.8 a The Bureau shall consist of the President, the President-Elect or immediate Past-President, three Vice-Presidents, the Secretary General, and the Heads of the Divisions. The immediate Past-President will remain a Bureau Member during the period between the end of his/her office and the election of a new President-Elect. In order to maintain continuity, the terms of office of the President, the President-Elect and the immediate Past-President are staggered. Thus the four-year term of the President is split, with the first two years in office having the immediate Past-President on the Bureau and with the last two years having the President-Elect on the Bureau. The President-Elect will become President at the IACS Scientific Assembly held approximately mid-period between IUGG General Assemblies.
- 2.8 b Except for the resident President, all members of the Bureau shall be elected by the Plenary Administrative Session during a General Assembly of IUGG in accordance with the Statutes and By-laws.
- 2.8 c In the event of any vacancy occurring in the membership of the Bureau, a person will be appointed to fill the vacancy by the remaining members of the Bureau until the next election. The eligibility for election of a person so appointed shall not be affected by such an appointment. If the vacancy is that of the President, the President-Elect shall assume the office of President. If there is no President-Elect, then the Bureau shall appoint one of the three Vice-Presidents to act as President.
- 2.9 The Bureau may establish Standing Groups with specified terms of reference.
- 2.10 The Bureau may nominate persons who have given outstanding service to IACS, to a Plenary Administrative Session for recognition as "Honorary Members of IACS."
- 2.11 The Association may create Joint Bodies with other IUGG Associations, components of other governmental and international scientific organisations such as the International Council for Science (ICSU) and organizations affiliated with the United Nations, to deal with topics of mutual interest, and may appoint appropriate leaders and representatives of the Association to these organizations. In dealing with other scientific organizations, IACS shall not commit the name of IUGG, or act on behalf of IUGG, unless prior approval has been secured from the IUGG Executive Committee.

Statute 3; Assemblies of IACS

- 3.1 An ordinary General Assembly of IACS shall normally be held in conjunction with each ordinary General Assembly of IUGG.
- 3.2 The interval between the end of one ordinary General Assembly and the end of the next one is, for the purposes of the Statutes, termed one Period.
- 3.3 A Scientific Assembly of IACS may be held between ordinary General Assemblies of IACS, in accordance with the IUGG By-laws.
- 3.4 An extraordinary General Assembly of IACS may be convened by the President with the approval of the Bureau, and must be convened at the request of not less than one-third of IUGG Adhering Bodies eligible to vote. Such an extraordinary General Assembly must be held no later than nine months after the request is received. An extraordinary General Assembly shall have the same powers and be subject to the same rules as an ordinary General Assembly.

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- 3.5 Notice of the date and place of an ordinary General Assembly or a Scientific Assembly shall be sent by the Secretary General to the IACS Correspondents and Representatives at least nine months prior to that Assembly. The notice period for an extraordinary General Assembly shall be four months.
- 3.6 Between Assemblies, responsibility for the direction of the Association shall rest with the Bureau, which shall administer the affairs of the Association in accordance with these Statutes and By-laws and the decisions of the prior Plenary Administrative Session.

Statute 4; Dissolution of the Association

If the Association should be dissolved, its financial assets will revert to the Union to be used for the continuation of scientific and educational activities.

Statute 5; Languages

The present Statutes have been prepared in the official languages of IUGG. The English text shall take precedence if there is a question of interpretation.

Statute 6; Adoption and Modification of the Statutes

- 6.1 The Statutes of the Association must be approved by the IUGG Council at a General Assembly, and shall come into force at the close of the Council Meeting at that General Assembly.
- 6.2 A member of the IACS Bureau, an IACS Correspondent or an Accredited Delegate of an IUGG Adhering Body to a Plenary Administrative Session may propose a change to these Statutes. Any such proposal must reach the Secretary General at least six months prior to the announced date of the General Assembly at which it is to be considered. The Secretary General shall notify all IACS Correspondents and Accredited Delegates of any proposed change at least two months prior to the announced date of the General Assembly.
- 6.3 For adoption, modifications must be agreed by at least a two-thirds' majority of the votes cast by Accredited Delegates at a Plenary Administrative Session held during a General Assembly, and further approved by the IUGG Council. A two-thirds' majority shall be determined by the proportion of affirmative votes to the sum of the affirmative and negative votes, including correspondence votes, and excluding abstentions.
- 6.4 Modifications to these Statutes shall come into force at the close of the General Assembly at which they were adopted.

By-Laws of the International Association of Cryospheric Sciences

(Revised July 2011, XXV IUGG General Assembly, Melbourne, Australia)

By-law 1; Divisions

- 1.1 The scientific components of the Association shall be separated into Divisions as follows:
- Division I: Snow and Avalanches
 - Division II: Glaciers and Ice-sheets
 - Division III: Marine and Freshwater Ice
 - Division IV: Cryosphere, Atmosphere and Climate
 - Division V: Planetary and other Ices of the Solar System
- 1.2 The role of Divisions shall be to further the scientific objectives of the Association through co-ordination of appropriate scientific research, organisation of scientific meetings, and promotion of the exchange of information and data.
- 1.3 Each Division shall be responsible for its role, structure, and mode of operation.
- 1.4 Each Division shall be represented on the IACS Bureau by a person elected to be the Division Head.
- 1.5 Divisions may establish working groups with specified terms of reference.
- 1.6 The role and effectiveness of each Division shall be reviewed periodically by the Bureau.

By-law 2; IACS Administration

- 2.1 The Bureau shall meet at least twice at each Assembly, and must meet at least once more between ordinary General Assemblies.
- 2.2 The Bureau shall meet at the call of the President, who will set the agenda in consultation with the Secretary General.
- 2.3 The quorum needed for an IACS Bureau Meeting shall be a majority of the members but must include the President; the President-Elect or Past-President; the Secretary General; and at least one of the Vice-presidents.
- 2.4 The President may invite representatives of scientific bodies or individuals to attend a Bureau Meeting in an advisory capacity.

By-law 3; Officers

- 3.1 President
 - 3.1 a The President shall be elected for one Period, and may not be re-elected to the same office. In accordance with Statute 2.8a, the term of office begins at the IACS Assembly held approximately mid-period between IUGG General Assemblies.
 - 3.1 b The duties of the President are:
 - i) to represent IACS in the IUGG Executive Committee and at other meetings, conferences, or functions where formal representation is requested or desirable;
 - ii) to convene Plenary Administrative Sessions and meetings of the Bureau and to preside over these meetings;
 - iii) to prepare and distribute the agenda of Bureau Meetings to Bureau members;
 - iv) to submit a report on the work of the Association to a Plenary Administrative Session at each General Assembly;
 - v) to select the Chair of Standing Groups established according to Statute 2.9;
 - vi) to select, on behalf of the Bureau, persons 'ex officio' who maintain liaison between the Bureau and other scientific bodies and programmes according to specified terms of reference.
 - 3.1 c If the President is not available, the President-Elect shall act on behalf of the President in accordance with the Statutes and By-laws. If there is no President-Elect, then the Bureau shall appoint one of the Vice-Presidents to act on behalf of the President in accordance with the Statutes and By-laws.
- 3.2 Vice-Presidents
 - 3.2 a The Vice-Presidents shall be elected for one Period and may be re-elected for one Period.
 - 3.2 b The duties of the Vice-Presidents are:
 - i) to represent the interests of cryospheric scientists at-large;
 - ii) to advise the Bureau on IACS activities;
 - iii) to assist the President in furthering the objectives of the Association within IUGG and the International Scientific Community.
- 3.3 Secretary General
 - 3.3 a The Secretary General shall be elected for one Period and may be re-elected for two successive Periods.
 - 3.3 b The duties of the Secretary General are:
 - i) to assist the Bureau in the management of the administrative and scientific affairs of the Association, to attend to correspondence, and to maintain and preserve the records of the Association;
 - ii) to arrange meetings of the Bureau, to assist the President in the preparation of the agenda for Bureau Meetings, and to prepare and distribute the minutes of these meetings;
 - iii) to organise Assemblies according to the instructions of the Bureau, to prepare and arrange publication of the Programme of each Assembly,
 - iv) to request and receive the names of the Accredited Delegates for each Plenary Administrative Session; to prepare and distribute the agenda; to prepare ballots and arrange for counting of votes; and to prepare and distribute the minutes of each Session;
 - v) to receive and take charge of such funds as may be allocated by IUGG to the Association, or as may be received from any other source; to disburse such funds in accordance with the decisions of Plenary Administrative Sessions or with the instructions of the Bureau; to keep account of all receipts and disbursements and to submit such account, audited by a qualified accountant, for approval by the Bureau and submission to a Plenary Administrative Session at each General Assembly;

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- vi) to maintain lists of IACS members for purposes of communication, including IUGG National Committee Correspondents, and IACS Representatives;
 - vii) to publish an internal Association bulletin (such as IACS News) containing information of general interest to the Association;
 - viii) to perform such other duties as may be assigned by the President or the Bureau.
- 3.3 c The Bureau may, at its discretion, appoint an Assistant Secretary General.
- 3.4 Heads of Divisions
- 3.4 a The Heads of Divisions shall serve for one Period but may be re-elected for two more Periods. The duties of the Heads of Divisions are:
- i) to promote the interests of their respective divisions through participation in symposia, conferences, workshops and other activities, which receive the approbation of the Bureau;
 - ii) to select the Chair of any Working Group established by the Division according to By-law 1.5;
 - iii) to assist the Bureau in furthering the objectives of the Association in accordance with the Statutes and By-laws.
- 3.5 No person who has served on the Bureau for four Periods shall be eligible for further election to any position on the IACS Bureau.

By-law 4; Nominations and Election of the Bureau

- 4.1 The Bureau shall establish a Nomination Panel consisting of a Chair and not less than two other members at least ten months before an IUGG General Assembly. The Panel will receive and consider suggestions and shall prepare a list of candidates for each office, seeking to achieve reasonable balance in their geographical and professional distribution. Members of the Bureau may not be appointed to the Nomination Panel.
- 4.2 At least nine months before an IUGG General Assembly, the Secretary General shall solicit nominations for officers that must be received by the Chair of the Nomination Panel not later than six months before the General Assembly. Nominated persons must be from countries represented by IUGG Adhering Bodies in regular status (dues paid).
- 4.3 Each nomination for office must include a résumé of the candidate's qualifications relevant to the office for which the candidate is nominated. A signed statement of the candidate's willingness to stand for office must also be provided. The nomination shall not be considered without submission of the résumé and consent form.
- 4.4 A person may be a candidate for more than one office except in the case of a candidate for the office of President-Elect who may not be a candidate for any other office of the Association.
- 4.5 The list of candidates shall normally contain more than one name for each office. The Chair of the Nomination Panel shall distribute the list to Accredited Delegates at least three months before the General Assembly at which a Plenary Administrative Session will take place. The list submitted for voting shall contain both the candidates proposed by the Nomination Panel and the names of all other nominees submitted.
- 4.6 Voting for the election of Bureau Officers shall be by secret ballot. The President shall select two electoral officers from among the participants at the Plenary Administrative Session to oversee and compile the votes. The electoral officers shall not be members of the Bureau or members of the Nomination Panel nor candidates for the election.
- 4.7 Candidates who obtain a simple majority of votes shall be elected. If no candidate receives a majority of votes for a specific office, the two candidates receiving the most votes shall be named and a second vote shall be held. In the case of a tie in the second round the President shall decide.

By-law 5; Plenary Administrative Sessions

- 5.1 Attendance
- 5.1 a Plenary Administrative Sessions shall be open to all scientific participants at IACS Assemblies and to the general public.
- 5.1 b Participants who are Accredited Delegates of IUGG Adhering Bodies may vote on administrative and financial issues in accordance with the Statutes and By-laws. All other participants may have voice but may vote only on scientific issues.
- 5.1 c An Accredited Delegate may designate another participant from that country to be his or her representative at all or part of a Plenary Administrative Session provided that the Secretary General is informed in writing prior to the Plenary Administrative Session at which the designated representative is to act.

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- 5.1 d A session attendee who is not a participant at the Assembly shall have voice only with permission of the President.
- 5.1 e The President may, on his or her initiative or at the request of an Accredited Delegate, invite individuals such as representatives of relevant scientific bodies to attend a Plenary Administrative Session in an advisory capacity.
- 5.2 Agendas
- 5.2 a A provisional agenda for a Plenary Administrative Session shall be prepared by the Secretary General and circulated to IACS Accredited Delegates, Correspondents and Representatives at least two months prior to the opening of an Assembly.
- 5.2 b The provisional agenda shall comprise all items submitted by Accredited Delegates for discussion at the Plenary Administrative Session together with questions included by the Bureau. Additional agenda items, for which notice has not thus been given, may only be discussed with the consent of the voting members of the Plenary Administrative Session.

By-law 6; Modifications to the By-laws

The By-laws may be modified by a simple majority of votes cast at a Plenary Administrative Session, held during a General Assembly, according to Statute 6.

STATUTS ET REGLEMENTS DE L'ASSOCIATION INTERNATIONALE DES SCIENCES CRYOSPHERIQUES

Statuts de l'Association Internationale des Sciences Cryosphériques

(Adoptés en juillet 2007, XXIV^{ème} Assemblée Générale de l'UGGI, Pérouse, Italie)

1. Objectifs de l'Association

- a) promouvoir l'étude de la cryosphère de la Terre et des autres corps du système solaire, ainsi que l'étude des processus physiques qui y sont liés;
- b) encourager la recherche en sciences cryosphériques au moyen de la collaboration et de la coopération entre les personnes, les instituts et les programmes de recherche, à la fois sur le plan national et international;
- c) favoriser, à l'échelle internationale, la discussion et la publication des résultats des recherches sur les structures et les processus cryosphériques;
- d) promouvoir la diffusion des connaissances et la sensibilisation de la population relativement à la cryosphère;
- e) faciliter la normalisation des mesures et la cueillette des données relatives aux systèmes cryosphériques, ainsi que l'analyse, l'archivage et la publication de ces données;
- f) promouvoir les activités scientifiques de tout service permanent relevant de l'AISC et soumis à la surveillance scientifique de l'Association.

2. Composition de l'Association

- 2.1 L'Association est constituée d'un Bureau et d'autres groupements constitutifs visés dans les règlements de l'Association.
- 2.2 Les membres de l'Association sont des personnes qui mènent des recherches scientifiques sur la cryosphère ou qui contribuent d'autre façon aux objectifs de l'Association. Sont membres les personnes suivantes :
 - a) les dirigeants élus de l'Association (le Bureau);
 - b) les Correspondants de l'Association nommés par les Comités nationaux des Organismes adhérents de l'Union Géodésique et Géophysique Internationale (UGGI);
 - c) les Délégués accrédités par les Organismes adhérents de l'UGGI appelés à assister aux sessions administratives plénières;
 - d) les Représentants désignés par le Bureau pour maintenir le contact avec la communauté des chercheurs en sciences cryosphériques dans leurs pays;
 - e) toute autre personne engagée dans la recherche cryosphérique ou contribuant d'autre façon aux objectifs de l'Association.
- 2.3 Les travaux de l'Association sont dirigés par la session administrative plénière, qui doit être convoquée au moins une fois lors de chaque Assemblée générale de l'AISC et à laquelle participent les membres de l'Association. Au moins un tiers des voix des Délégués représentant les Organismes adhérents de l'UGGI dotés du droit de vote est requis pour valider une décision. Les Délégués qui ne sont pas présents peuvent, pour toute question mise aux voix, transmettre leur vote de la façon prévue à l'article 2.5 des présents statuts.
- 2.4 Les travaux de l'Association portent sur des questions de nature scientifique, administrative et financière. Avant une session administrative plénière, il revient au Président de déterminer la nature de chaque question à l'ordre du jour et de décider s'il est possible de voter par correspondance.
 - 2.4 a) Pour les questions de nature scientifique, tous les participants scientifiques disposent d'une voix.
 - 2.4 b) Pour les questions administratives, y compris l'élection des membres du Bureau, seuls les

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Délégués accrédités par les Organismes adhérents de l'UGGI qui sont membres en règle (dont la cotisation a été acquittée) ont droit de vote; chaque Délégué dispose d'une voix et ne peut représenter qu'un seul Organisme adhérent.

- 2.4 c) Pour les questions financières, seuls les Délégués accrédités par les Organismes adhérents de l'UGGI qui sont membres en règle (dont la cotisation a été acquittée) ont droit de vote, chaque Délégué disposant du nombre de voix correspondant à celui de la catégorie dont fait partie son Organisme adhérent en tant que membre.
- 2.5 Un Organisme adhérent disposant du droit de vote qui n'est pas représenté par un Délégué à une session administrative plénière peut voter par correspondance sur toute question mise aux voix, au moyen de la poste, du télécopieur ou du courrier électronique, si les conditions suivantes sont respectées :
- la question est clairement définie dans l'ordre du jour définitif communiqué à l'avance aux membres conformément aux règlements;
 - le fond de la question n'a pas été modifié;
 - le vote est parvenu au Secrétaire général avant la réunion.
- 2.6 Les décisions sur les questions mises aux voix, à l'exception des modifications apportées aux statuts, sont prises à la majorité simple. La majorité simple est déterminée par la proportion des votes positifs par rapport à la somme des votes positifs et négatifs, y compris les votes par correspondance et sans prendre en compte les abstentions. En cas d'égalité des voix, le Président a voix prépondérante.
- 2.7 La session administrative plénière peut adopter et modifier les règlements portant sur les composantes scientifiques de l'Association (Divisions).
- 2.8 Le Bureau
- 2.8 a) Le Bureau est constitué par le Président, le Président désigné ou le Président sortant, trois Vice-Présidents, le Secrétaire général et les Responsables de Divisions. Le Président sortant demeure membre du Bureau au cours de la période comprise entre la fin de son mandat et l'élection d'un nouveau Président désigné. Dans le but de maintenir la continuité, les mandats du Président, du Président désigné et du Président sortant sont échelonnés. Ainsi, le mandat du Président, qui est de quatre ans, se partage en deux périodes : durant les deux premières années du mandat du Président en fonction, le Président sortant est membre du Bureau, et durant les deux dernières années de ce mandat, le Président désigné est membre du Bureau. Le Président désigné devient ensuite Président lors de l'Assemblée scientifique de l'AISC, tenue approximativement à mi-chemin entre deux Assemblées générales de l'UGGI.
- 2.8 b) Tous les membres du Bureau, à l'exception du Président en fonction, sont élus par la session administrative plénière d'une Assemblée générale de l'UGGI, conformément aux statuts et règlements.
- 2.8 c) Si une vacance survient parmi les membres du Bureau, une personne est nommée par les membres restants du Bureau pour combler le poste jusqu'aux élections suivantes. L'éligibilité de la personne ainsi mandatée n'est pas modifiée par cette nomination. Si le poste de Président devient vacant, le Président désigné assume la charge de Président. S'il n'y a pas de Président désigné, le Bureau doit nommer l'un des trois Vice-Présidents pour que celui-ci agisse à titre de Président.
- 2.9 Le Bureau peut établir des groupes permanents dotés d'attributions déterminées.
- 2.10 Le Bureau peut proposer à une session administrative plénière de nommer certaines personnes ayant contribué de façon exceptionnelle à l'AISC à titre de « membres honoraires de l'AISC ».
- 2.11 L'Association peut créer des organismes conjoints en collaboration avec d'autres associations de l'UGGI, des composantes d'autres organismes gouvernementaux et organisations scientifiques internationales, comme le Conseil international pour la science (CIUS) et les organisations affiliées aux Nations Unies, pour traiter de sujets d'intérêt commun, et elle peut nommer des responsables et des représentants compétents de l'Association au sein de ces organismes. Dans ses échanges avec d'autres organisations scientifiques, l'AISC n'engage pas l'UGGI, ni n'agit en son nom, à moins d'avoir obtenu au préalable l'autorisation du Comité exécutif de l'UGGI.

3. Assemblées de l'AISC

- 3.1 L'AISC tient normalement une Assemblée générale ordinaire à l'occasion de chaque Assemblée générale de l'UGGI.

- 3.2 Pour l'application des statuts, le temps écoulé entre la clôture de deux Assemblées générales consécutives est désigné sous le terme « Période ».
- 3.3 L'AISC peut tenir une Assemblée scientifique entre deux Assemblées générales ordinaires, conformément aux règlements de l'UGGI.
- 3.4 Une Assemblée générale extraordinaire de l'AISC peut être convoquée par le Président avec l'approbation du Bureau, et elle doit être convoquée lorsque au moins un tiers des Organismes adhérents de l'UGGI ayant le droit de vote en fait la demande. Une telle Assemblée générale extraordinaire doit être tenue au plus tard neuf mois après la réception de la demande. Une Assemblée générale extraordinaire dispose des mêmes pouvoirs qu'une Assemblée générale ordinaire et est soumise aux mêmes règles.
- 3.5 Le Secrétaire général doit transmettre aux Correspondants et aux Représentants de l'AISC, au moins neuf mois à l'avance, un avis précisant la date et le lieu de la prochaine Assemblée générale ordinaire ou Assemblée scientifique. La période de préavis pour une Assemblée générale extraordinaire est de quatre mois.
- 3.6 Entre deux Assemblées, la responsabilité de la direction de l'Association est dévolue au Bureau, qui gère les affaires de l'Association conformément aux présents statuts et règlements et aux décisions de la session administrative plénière précédente.

4. Dissolution de l'Association

En cas de dissolution de l'Association, ses avoirs financiers doivent revenir à l'UGGI pour être utilisés à des fins scientifiques et pédagogiques.

5. Langues

Les présents statuts ont été rédigés dans les langues officielles de l'UGGI. En cas de problème d'interprétation, le texte anglais fait autorité.

6. Adoption et modification des statuts

- 6.1 Les statuts de l'Association doivent être approuvés par le Conseil de l'UGGI lors d'une Assemblée générale et entrent en vigueur à la clôture de la réunion du Conseil de cette Assemblée.
- 6.2 Tout membre du Bureau de l'AISC, Correspondant de l'AISC ou Délégué accrédité d'un Organisme adhérent de l'UGGI auprès d'une session administrative plénière de l'AISC peut proposer une modification aux présents statuts. Toute proposition doit parvenir au Secrétaire général au moins six mois avant la date fixée pour l'Assemblée générale au cours de laquelle elle doit être examinée. Le Secrétaire général doit aviser tous les Correspondants de l'AISC et les Délégués accrédités, au moins deux mois avant la date fixée pour l'Assemblée générale, de toutes les propositions de modifications reçues.
- 6.3 Les modifications ne peuvent être adoptées qu'avec l'assentiment d'au moins la majorité des deux tiers des voix exprimées par les Délégués accrédités à une session administrative plénière réunie lors d'une Assemblée générale, et doivent également être approuvées par le Conseil de l'UGGI. La majorité des deux tiers est déterminée par la proportion des votes positifs par rapport à la somme des votes positifs et négatifs, y compris les votes par correspondance et sans prendre en compte les abstentions.
- 6.4 Les modifications apportées aux présents statuts entrent en vigueur à la clôture de l'Assemblée générale au cours de laquelle elles ont été adoptées.

Règlements de l'Association Internationale des Sciences Cryosphériques

(Modifiées en juillet 2011, XXVème Assemblée Générale de l'UGGI, Melbourne, Australie)

1. Divisions

1.1 Les composantes scientifiques de l'Association sont formées en Divisions, comme suit :

- Division I : Neige et avalanches
- Division II : Glaciers et calottes glaciaires
- Division III : Glace des eaux douces et marines
- Division IV : Cryosphère, atmosphère et climat
- Division V : Glaces planétaires et autres glaces du système solaire

1.2 Le rôle des Divisions est de faciliter la réalisation des objectifs scientifiques de l'Association en assurant la coordination de recherches scientifiques pertinentes, l'organisation de réunions scientifiques et la promotion d'échanges d'informations et de données.

1.3 Chaque Division doit définir son rôle, sa composition et son mode de fonctionnement.

1.4 Chaque Division est représentée au Bureau de l'AISC par une personne élue au poste de Responsable de Division.

1.5 Les Divisions peuvent créer des groupes de travail dotés d'attributions déterminées.

1.6 Le rôle et la portée des activités de chaque Division sont examinés de façon périodique par le Bureau.

2. Administration de l'AISC

2.1 Le Bureau se réunit au moins deux fois lors de chaque Assemblée et tient au moins une réunion supplémentaire entre deux Assemblées générales ordinaires.

2.2 Le Bureau se réunit sur convocation du Président, qui établit l'ordre du jour en collaboration avec le Secrétaire général.

2.3 Le quorum à une réunion du Bureau de l'AISC est constitué de la majorité des membres, dont le Président, et soit le Président désigné ou le Président sortant, le Secrétaire général, et au moins un des Vice-Présidents.

2.4 Le Président peut convier des représentants d'organisations scientifiques ou des personnes individuelles à assister à une réunion du Bureau à titre consultatif.

3. Dirigeants

3.1 Président

3.1 a) Le Président est élu pour une Période et ne peut être réélu à la même fonction. Conformément à l'article 2.8a des présents statuts, le mandat du Président commence à l'Assemblée de l'AISC tenue approximativement à mi-chemin entre deux Assemblées générales de l'UGGI.

3.1 b) Le Président assume les fonctions suivantes :

i) il représente l'AISC au Comité exécutif de l'UGGI et à d'autres réunions, conférences ou événements où une représentation officielle est requise ou indiquée;

ii) il convoque les sessions administratives plénières et les réunions du Bureau, et préside ces réunions;

iii) il établit l'ordre du jour des réunions du Bureau et le diffuse aux membres du Bureau;

iv) il présente un rapport sur les travaux de l'Association à une session administrative plénière lors de chaque Assemblée générale;

v) il choisit le président de chaque groupe permanent établi conformément aux statuts;

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vi) il choisit, au nom du Bureau, les personnes « ès qualités » qui maintiendront le contact entre le Bureau et d'autres organisations et programmes scientifiques suivant des attributions déterminées.

3.1 c) En l'absence du Président, le Président désigné agit à titre de Président, conformément aux statuts et règlements. S'il n'y a pas de Président désigné, le Bureau doit nommer l'un des Vice-Présidents pour que celui-ci agisse à titre de Président, conformément aux statuts et règlements.

3.2 Vice-Présidents

3.2 a) Les Vice-Présidents sont élus pour une Période et peuvent être réélus une fois.

3.2 b) Les Vice-Présidents assument les fonctions suivantes :

- i) ils représentent les intérêts de l'ensemble des chercheurs en sciences cryosphériques;
- ii) ils conseillent le Bureau relativement aux activités de l'AISC;
- iii) ils secondent le Président dans la poursuite des objectifs de l'Association au sein de l'UGGI et de la communauté scientifique internationale.

3.3 Secrétaire général

3.3 a) Le Secrétaire général est élu pour une Période et peut être réélu pour deux Périodes consécutives.

3.3 b) Le Secrétaire général assume les fonctions suivantes :

- i) il seconde le Bureau dans la gestion des affaires administratives et scientifiques de l'Association, s'occupe de la correspondance, tient les archives de l'Association et voit à leur conservation;
- ii) il organise les réunions du Bureau, seconde le Président dans l'établissement de l'ordre du jour des réunions du Bureau, et rédige et diffuse le procès-verbal de ces réunions;
- iii) il organise les Assemblées conformément aux instructions du Bureau, établit le programme de chaque Assemblée et voit à sa publication;
- iv) il sollicite et prend en note le nom des Délégués accrédités qui seront présents à chaque session administrative plénière, établit et diffuse l'ordre du jour, prépare les bulletins de vote et prend les dispositions nécessaires pour le dépouillement des voix, et rédige et diffuse le procès-verbal de chaque session;
- v) il a la responsabilité des fonds alloués à l'Association par l'UGGI ou provenant de toute autre source; il les reçoit et les répartit conformément aux décisions des sessions administratives plénières ou selon les instructions du Bureau; il tient les comptes de tous les reçus et des sorties de fonds, et après leur vérification par un comptable qualifié, soumet ces comptes à l'approbation du Bureau et les présente à une session administrative plénière lors de chaque Assemblée générale;
- vi) à des fins de communication, il tient à jour la liste des membres de l'AISC, dont les Correspondants des Comités nationaux UGGI et les Représentants de l'AISC;
- vii) il publie un bulletin interne de l'Association (*IACS News*, par exemple) contenant des renseignements d'intérêt général pour l'Association;
- viii) il assume toute autre fonction que lui confie le Président ou le Bureau.

3.3 c) Le Bureau peut, à sa discrétion, nommer un Secrétaire général adjoint.

3.4 Responsables de Division

3.4 a) Les Responsables de Division sont nommés pour une Période, mais peuvent être réélus pour deux Périodes supplémentaires.

3.4 b) Les Responsables de Division assument les fonctions suivantes :

- i) ils font la promotion des intérêts de leurs Divisions respectives en participant aux symposiums, conférences, ateliers et autres activités approuvés par le Bureau;
- ii) ils choisissent le président de chaque groupe de travail établi par la Division, conformément aux règlements;

iii) ils prêtent leur assistance au Bureau dans la poursuite des objectifs de l'Association, conformément aux statuts et règlements.

3.5 Nul ne peut être réélu à quelque poste que ce soit au Bureau de l'AISC s'il a été membre du Bureau pendant quatre Périodes.

4. Nominations et élections au Bureau

4.1 Au moins dix mois avant une Assemblée générale de l'UGGI, le Bureau établit un comité des candidatures composé d'un président et d'au moins deux autres membres. Ce comité est chargé de recevoir et d'étudier les propositions de candidatures et de préparer une liste de candidats pour chaque poste à pourvoir en recherchant une représentation géographique et professionnelle équilibrée. Les membres du Bureau ne peuvent être nommés au comité des candidatures.

4.2 Au moins neuf mois avant une Assemblée générale de l'UGGI, le Secrétaire général sollicite les candidatures pour les postes à pourvoir, qui doivent parvenir au président du comité des candidatures au plus tard six mois avant la tenue de l'Assemblée générale. Les candidats doivent venir de pays représentés par un Organisme adhérent de l'UGGI qui est membre en règle (dont la cotisation a été acquittée).

4.3 Chaque candidature à un poste doit être accompagnée d'un curriculum vitae faisant état de la compétence du candidat pour le poste auquel il est présenté. Une déclaration signée témoignant de la volonté de la personne de se porter candidat doit également être fournie. Une candidature n'est recevable que si elle est accompagnée du curriculum vitae et de la déclaration.

4.4 Un candidat peut postuler à plus d'un poste, sauf s'il sollicite le poste de Président désigné, ce dernier ne pouvant prétendre à aucun autre poste au sein de l'Association.

4.5 La liste des candidats doit normalement comprendre plus d'un nom pour chaque poste à pourvoir. Le président du comité des candidatures doit diffuser la liste des candidatures auprès des Délégués accrédités de la session administrative plénière au moins trois mois avant une Assemblée générale de l'UGGI. La liste soumise aux voix doit comprendre le nom des candidats retenus par le comité des candidatures et celui de tous les autres candidats proposés.

4.6 L'élection des dirigeants du Bureau se fait au scrutin secret. Le Président choisit deux scrutateurs parmi les participants à la session administrative plénière, qui seront chargés de la surveillance du scrutin et de la compilation des votes. Les scrutateurs ne doivent pas être membres du Bureau ou du comité des candidatures et ne peuvent pas être candidats aux élections.

4.7 Les candidats ayant obtenu la majorité simple des voix sont élus. Si aucun candidat n'obtient la majorité des voix pour un poste en particulier, les deux candidats ayant obtenu le plus grand nombre de votes sont nommés et un second tour de scrutin est tenu. En cas d'égalité des voix au second tour de scrutin, le Président a voix prépondérante.

5. Sessions administratives plénières

5.1 Participation

5.1 a) Les sessions administratives plénières sont ouvertes à tous les participants scientifiques présents aux Assemblées générales de l'AISC. Elles sont également ouvertes au grand public.

5.1 b) Les participants accrédités par un Organisme adhérent de l'UGGI (Délégués accrédités) peuvent voter sur des questions administratives et financières, conformément aux statuts et règlements. Tous les autres participants peuvent se faire entendre, mais ne peuvent voter que sur les questions de nature scientifique.

5.1 c) Un Délégué accrédité peut désigner un autre participant du même pays pour le représenter à une session administrative plénière, ou à une partie de celle-ci, pourvu que le Secrétaire général en ait été avisé par écrit avant la session administrative plénière à laquelle doit se présenter le représentant désigné.

5.1 d) Une personne qui assiste à une session mais qui n'est pas inscrite comme participant à l'Assemblée ne peut se faire entendre qu'avec la permission du Président.

5.1 e) Le Président peut, de sa propre initiative ou à la demande d'un Délégué accrédité, convier certaines personnes, notamment des représentants d'organisations scientifiques compétentes, à participer à une session administrative plénière à titre consultatif.

5.2 Ordre du jour

- 5.2 a) Le Secrétaire général établit l'ordre du jour provisoire de la session administrative plénière et le diffuse auprès des Délégués accrédités, Correspondants et Représentants de l'AISC au moins deux mois avant l'ouverture d'une Assemblée.
- 5.2 b) L'ordre du jour provisoire doit comprendre tous les articles présentés par les Délégués accrédités de l'AISC pour faire l'objet de débats à la session administrative plénière, ainsi que les questions soumises par le Bureau. Les articles supplémentaires inscrits à l'ordre du jour pour lesquels aucun avis n'a été donné ne peuvent faire l'objet de débats qu'avec l'assentiment des membres votants de la session administrative plénière.

6. Modification des règlements

Les règlements peuvent être modifiés à la majorité simple des voix exprimées à une session administrative plénière tenue lors d'une Assemblée générale, conformément à l'article 6 des présents statuts.

STATUTES AND BY-LAWS OF THE INTERNATIONAL ASSOCIATION OF GEODESY

(Revised July 2007, XXIV IUGG General Assembly, Perugia, Italy)

Statutes of the International Association of Geodesy

1. Definition of Terms

- (a) Geodesy is the discipline that deals with the measurement and representation (geometry, physics, temporal variations) of the Earth and other celestial bodies.
- (b) IUGG means the International Union of Geodesy & Geophysics.
- (c) IAG or Association means the International Association of Geodesy.
- (d) Adhering Body has the same meaning as in the Statutes of the IUGG.
- (e) General Assembly means an assembly for scientific and/or administrative purposes of:
 - (i) the delegates appointed by the adhering bodies; and
 - (ii) individual members as defined by Statute 6(b)
- (f) Period means the interval of time between the closures of two successive ordinary General Assemblies.

2. International Association of Geodesy

- (a) The International Association of Geodesy:
 - (i) is a constituent Association of the IUGG; and
 - (ii) is subject to the Statutes and Bylaws of the IUGG.
- (b) In the event of the dissolution of the IAG, its assets shall be ceded to the IUGG.

3. Mission

The Mission of the Association is the advancement of geodesy. The IAG implements its mission by furthering geodetic theory through research and teaching, by collecting, analyzing, modelling and interpreting observational data, by stimulating technological development and by providing a consistent representation of the figure, rotation, and gravity field of the Earth and planets, and their temporal variations.

4. Objectives

The IAG shall pursue the following objectives to achieve its mission:

- (a) Study, at the highest possible level of accuracy, all geodetic problems related to

Earth observation and global change, including:

- i) Definition, establishment, and maintenance of global and regional reference systems for interdisciplinary use.
 - ii) Rotation of the Earth and planets.
 - iii) Positioning and deformation studies.
 - iv) Gravity field determination.
 - v) Ocean, ice and sea level.
 - vi) Time transfer.
 - vii) Signal propagation through the planets' atmospheres.
- (b) Support the maintenance of geodetic reference systems for continuous, long-term observations and archival of results.
 - (c) Provide observational and processed data, standards, methodologies, and models in a form that ensures the broadest possible range of research and application.
 - (d) Stimulate development and take advantage of emerging space and other technologies to increase the resolution and accuracy of geodetic data and products in order to advance geodetic and interdisciplinary research.
 - (e) Initiate, coordinate, and promote international cooperation and knowledge exchange through symposia, workshops, summer schools, training courses, publications, and other means of communication.
 - (f) Foster the development of geodetic activities and infrastructure in all regions of the world, taking into consideration the specific situation of developing countries.
 - (g) Collaborate with the international science and engineering community in supporting the application of geodetic theory and techniques and the interpretation of results.
 - (h) Cooperate with national and international agencies in establishing research goals, missions, and projects.

5. Structure and Administration

- (a) The Association's structure shall comprise a small number of components: Commissions, Services, the Global Geodetic Observing System (GGOS) and the Communication and Outreach Branch (COB).
- (b) Subcomponents, such as IAG Projects, Sub-commissions, Commission Projects, Inter-commission Committees, and Study and Working Groups, may be formed as provided for in the Bylaws.
- (c) The administration of the IAG is carried out by the General Assembly, the Council, the Bureau and the Executive Committee. The COB is the office responsible for the promotional activities of the IAG and the communication with its members.

6. Membership

The membership of the IAG shall comprise:

- (a) Adhering Bodies; and
- (b) individual members in accordance with the Bylaws.

7. IAG Council

- (a) The Council is responsible for governance, strategic policy and direction.
- (b) The membership of the Council consists of delegates appointed by adhering bodies.
- (c) Each adhering body may appoint one delegate subject to the conditions in (d) (e) and (f) below.
- (d) A delegate may only represent one adhering body.
- (e) The delegate appointed by an adhering body must have previously participated in IAG activities.
- (f) The President, Vice President and Secretary General may not serve as delegates.
- (g) The delegate nominated by the adhering body will also perform the function of correspondent for the adhering body except where the adhering body has expressly advised that the delegate and the correspondent are different people.

8. Bureau

- (a) The Bureau of the Association shall consist of the President, the Vice-President and the Secretary General.

- (b) The duties of the Bureau shall be to administer the affairs of the Association in accordance with these Statutes and Bylaws and with the decisions of the Council and the Executive Committee.

9. President

- (a) The President shall be elected by the Council.
- (b) The President shall provide general leadership for the Association.
- (c) The President presides over the meetings of the General Assembly, the Council, the Executive Committee, and the Bureau, without vote, except in the case of a tie as provided in 14(f).
- (d) The President, on completion of his or her term of office of one period, shall serve for the next period in the position of Immediate Past President.

10. Vice President

- (a) The Vice President shall be elected by the Council.
- (b) The Vice President shall perform such tasks as may be assigned by the President, the Executive Committee or the Council.
- (c) The Vice President assumes the functions, duties and powers of the President when the latter is absent or otherwise unable to assume office.

11. Secretary General

- (a) The Secretary General shall be elected by the Council.
- (b) The Secretary General shall serve as secretary of the General Assembly, the Council, the Executive Committee, and the Bureau and arrange for meetings of these bodies in accordance with the Bylaws.

12. Executive Committee

- (a) The Executive Committee shall consist of the following voting members: the Bureau, the immediate Past President, the Presidents of the Commissions, the Chair of GGOS, the President of the COB, the three representatives of the Services, and two Members-at-Large to improve geographical and organizational balance.
- (b) Presidents of the Inter-commission Committees, Chairs of the IAG Projects, and the Assistant Secretaries shall attend any meeting of the Executive Committee,

with voice but without vote. The Past Presidents, and past Secretaries General may attend any meeting of the Executive Committee, with voice but without vote, (except for the immediate past president, who does have a vote).

- (c) The election of Executive Committee members shall be in accordance with the Bylaws.
- (d) The duties of the Executive Committee shall be to further the objectives of the Association through effective coordination and through the formulation of general policies.

13. Council Meetings

- (a) The Council will meet at the time of a General Assembly.
- (b) The Council may hold extraordinary meetings at times other than a General Assembly. Such meetings must be proposed by the Executive Committee and need the support of one third of the delegates before they can be called.
- (c) The Council may also deliberate and decide matters at other times by correspondence and mail ballot.
- (d) If the delegate and the correspondent are not the same person, the mail ballot must be cast by the correspondent.
- (e) The members of the Executive Committee may attend meetings of the Council, with voice but without vote, except for those who are also delegates.

14. Voting in Council Meeting

Voting in Council shall follow the following rules:

- (a) An Adhering Body which is not represented at a Council meeting may vote by correspondence on any specific question, provided that the matter has been clearly defined on the final agenda distributed in advance, and that the discussion thereon has not produced any significant new considerations or change in its substance, and that the said vote has been received by the President prior to the voting. In such a case the vote will be cast in accordance with 13(d).
- (b) In order that the deliberations of the Council shall be valid, the number of Delegates present must be at least half of the Adhering Bodies represented at the General Assembly of the IUGG. If the

meeting is not held at the same time as an IUGG General Assembly, the number present at the most recent IUGG Assembly is used.

- (c) On questions not involving matters of finance, each delegate from an Adhering Body, with its IUGG subscriptions paid up to the end of the calendar year preceding the voting, shall have one vote.
- (d) On questions involving finance, each delegate from an Adhering Body, which has paid its IUGG subscriptions up to the end of the calendar year preceding the voting, shall have the right to vote. The number of votes allotted to each delegate of an Adhering Body shall then be equal to the number of its category of membership, as defined by IUGG.
- (e) Before a vote in a Council meeting, the President shall decide whether or not the matter under consideration is financial in character and whether the procedure of voting by correspondence applies.
- (f) Decisions of the Council shall be taken by a simple majority, except as otherwise specified in these Statutes. If a tie should occur in a Council vote, the President shall cast the decisive vote. This procedure also applies if the vote is taken by mail ballot. Simple and two-thirds majorities are determined by the proportion of affirmative votes to the sum of all votes (affirmative, negative and abstention). Blank and invalid ballots and votes not cast by delegates present are counted as abstentions.
- (g) Except as otherwise provided in the Statutes or Bylaws, meetings of the Council, as well as those of other IAG administrative bodies, shall be conducted according to Robert's Rules of Order.

15. Decision of Council

- (a) Decisions of the Council shall be reported to the individual membership in a meeting of the IAG General Assembly.
- (b) If the majority of those present at this meeting disagree with the decisions of the Council, the Council shall reconsider the question, and make a decision, which shall be final.

16. Changes to Statutes and Bylaws

Changes in the Statutes and Bylaws shall be made as follows:

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- (a) The Association shall review the Statutes and Bylaws to ensure an up-to-date structure of its scientific organization every eight years. To achieve this goal a Review Committee will be appointed by the Executive Committee at its first meeting after the General Assembly in periods where a review must be performed. Proposals for a change of any article of these Statutes and Bylaws must reach the Secretary General at least six months before the announced date of the Council meeting at which it is to be considered. The Secretary General shall notify all adhering bodies of any proposed change at least four months before the announced date of the Council meeting.
- (b) The Statutes may not be modified except by the approval of a two-thirds majority of votes cast at a Council meeting, and shall come into force at the close of that meeting.
- (c) The Council shall have the power to adopt Bylaws within the framework of the Statutes.
- (d) The Bylaws may be modified by a simple majority of votes cast at a Council meeting, and shall come into force at the close of the meeting.

By-Laws of the International Association of Geodesy

1. Definition of Terms

- (a) **Association Components** or **Components** means Commissions, Services, the Global Geodetic Observing System (GGOS), and the Communication and Outreach Branch (COB).
- (b) **Commissions** represent major fields of activity in the IAG which, together, cover the whole geodesy.
- (c) **Services** collect and analyze observations to generate products relevant to geodesy and other sciences and applications.
- (d) The **Global Geodetic Observing System (GGOS)** works with the IAG Services to provide the geodetic expertise and infrastructure necessary for the monitoring of the Earth system and global change research.
- (e) **Association sub-components** or **sub-components** means long term sub-components and short term sub-components and includes joint sub-components.
- (f) **Long term sub-components** means IAG Projects (broad in scope and of high interest for the entire field of geodesy), Inter-commission Committees, Sub-commissions and Commission Projects which may remain established for several periods.
- (g) **Short term sub-components** means Study Groups and Working Groups which are established for a maximum term of one period
- (h) **Steering Committee** means a group of elected and appointed IAG officers who review the work of Commissions, Inter-commission Committees (see 17), IAG Projects (see 16), and the Communication and Outreach Branch (see 18).
- (i) **Period** means the interval of time (approximately 4 years) between the closure of two successive IAG General Assembly meetings.

2. Responsibilities of Association Components

- (a) The scientific work of the Association is performed by Commissions, Services and the GGOS.
- (b) The responsibilities of the Association components are determined by the Council

on the recommendation of the Executive Committee.

- (c) Components shall interact with each other where their activities are inter-related.
- (d) Each component may set up sub-components and is responsible for the activities of those sub-components.

3. General Responsibilities of Component Presidents or Chairs, and Steering Committees

- (a) Each component shall have a President or Chair who will lead a Steering Committee.
- (b) The component president or chair is responsible for the scientific development within the component's field of interest. The component president or chair shall:
 - (i) coordinate the work of the Sub-components;
 - (ii) keep the officers of the Component as well as the Bureau informed of the component's activities, on an annual basis;
 - (iii) collect reports of the sub-components two months before each IAG General Assembly meeting (except where the IAG Executive has agreed otherwise) for publication in the "Travaux de l'Association Internationale de Géodésie";
 - (iv) receive suggestions for new sub-components, and suggestions for continuation of existing ones; and
 - (v) recommend changes to sub-components to the IAG Executive Committee for approval.
- (c) The component steering committee shall meet at least once per year and at least once during each meeting of the IAG General Assembly.
- (d) The component steering committee shall review at one of its meetings (usually the IAG General Assembly meeting, or the IAG Scientific meeting):
 - (i) the activities of the sub-components over the past period;
 - (ii) the subcomponent structure; and
 - (iii) the programs for the forthcoming period for those sub-components that will be recommended for continuation.

- (e) The component steering committee shall forward copies of all relevant correspondence of components and subcomponents of the Association to the IAG Secretary General.
- (f) The component steering committee may organise scientific and organizational meetings and workshops provided that they are readily distinguished as being of a more limited scope than IAG Scientific symposia or IAG Sponsored Symposia as described in Bylaws 27 and 28.

4. Commission Responsibilities

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

5. Commission Steering Committee

- (a) The Commission Steering Committee shall be set up at each meeting of the IAG General Assembly, following the election of the Association officers
- (b) The Steering Committee shall have the following voting members:
 - i. Commission President.
 - ii. Commission Vice-president.
 - iii. Chairs of the Sub-commissions and Commission Projects.
 - iv. Up to three representatives of the Services relevant to the work of the Commission.
 - v. Up to two Members-at-Large to balance geographical and member country representation.

6. Appointment of Commission Officers

- (a) The Commission President shall be elected by the Council for one period without reappointment except where exceptional circumstances justify reappointment.
- (b) The Commission Vice President shall be appointed by the IAG Executive Committee for one period without reappointment except where exceptional circumstances justify reappointment.
- (c) Chairs of the Sub-commissions and Commission Projects shall be appointed by the Commission President and Vice-

President within two months following the General Assembly.

- (d) The representatives of the Services shall be appointed by the Commission President and Vice-president upon proposal of the Services.
- (e) The Members-at-Large and the chairs of the Sub-commissions and Commission Projects shall be nominated by the Commission President and Vice-President within two months following the IAG General Assembly meeting.
- (f) The appointments of Members at Large and Chairs of Sub-commissions and Commission Projects take effect on approval of the nominations by the IAG Executive Committee.
- (g) Members-at-Large are appointed for one period without reappointment

7. Duties of Commission Steering Committee

The Commission Steering Committee is subject to the general responsibilities of component steering committees in Bylaw 3(c), 3(d), 3(e), and 3(f) above. In particular, its duties are to:

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

8. Current Commissions

On the coming into effect of these bylaws, there shall be four Commissions with areas of scientific responsibility as outlined below:

(1) Commission 1: Reference Frames

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

(2) Commission 2: Gravity Field

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

(3) Commission 3: Earth Rotation and Geodynamics

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

(4) Commission 4: Positioning and Applications

- (a) Terrestrial and satellite-based positioning systems development, including sensor and information fusion.
- (b) Navigation and guidance of platforms.
- (c) Interferometric laser and radar applications (e.g., Synthetic Aperture Radar).

(d) Applications of geodetic positioning using three dimensional geodetic networks (passive and active networks), including monitoring of deformations.

(e) Applications of geodesy to engineering.

(f) Atmospheric investigations using space geodetic techniques.

9. Commission Sub-components and Joint Sub-components

(a) Commission Sub-components are Sub-commissions, Commission Projects, Study Groups, and Working Groups, which all belong to one commission.

(b) If more than one commission is involved in a Sub-component, the term Joint Sub-component will be used, e.g. Joint Sub-commission, Joint Commission Project, Joint Study Group, Joint Working Group.

10. Sub-commissions and Joint Sub-commissions

(a) A Sub-commission may be set up for topics where the Commission plays a leading or coordinating role.

(b) Where a topic relates to the scientific responsibilities of more than one Commission, a Joint Sub-commission shall be established under the lead of one Commission.

(c) A Sub-commission is expected to be established for several periods.

(d) Sub-commissions are established and terminated by the IAG Executive Committee upon recommendation from the Commission President.

(e) A proposal to the Executive Committee for a Joint Sub-commission requires the recommendation of the Presidents of all contributing Components.

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

11. Commission Projects and Joint Projects

(a) A Commission project may be established when a new scientific method or a new technique is being developed, or when it seems appropriate to apply an existing technique to a specific geographic area

where international collaboration is required.

- (b) Where a topic for a Commission Project relates to the scientific responsibilities of more than one Commission, or a Commission and a Service, a Joint Commission Project shall be established under the lead of one Commission.
- (c) A Commission Project is established for one period and may be extended for another period subject to a positive review.
- (d) Commission Projects are established and terminated by the IAG Executive Committee upon recommendation from the Commission President.
- (e) A proposal to the Executive Committee for a Joint Commission Project requires the recommendation of the Presidents of all contributing Components.
- (f) Guidelines for the establishment of Commission Projects are established by the Executive Committee and published in the Geodesist's Handbook.

12. Study Groups, Working Groups, Joint Study Groups and Joint Working Groups

- (a) A Study Group or Working Group may be established at any time to address clearly defined well-focused scientific topics of limited scope within the field of the Commission.
- (b) Where a topic for a Study Group or Working Group relates to the scientific responsibilities of more than one Commission, or a Commission and a Service, a Joint Study Group shall be established under the lead of one Commission.
- (c) A Study Group or Working Group is established for one period or less.
- (d) Study Groups and Working Groups, including the position of Group chair, are established and terminated by the IAG Executive Committee upon recommendation from the Commission President.
- (e) A proposal to the Executive Committee for a Joint Study Group or Joint Working Group requires the recommendation of the Presidents of all contributing Components.
- (f) Guidelines for the establishment of Study Groups and Working Groups are established by the Executive Committee

and published in the Geodesist's Handbook.

- (g) The Chair of a Study Group or Working Group is responsible for initiating and directing its work and appointing its members.
- (h) Study Group and Working Group membership should be balanced so as to reflect international cooperation in its subject.
- (i) A Study Group or Working Group may have not more than 20 full members and an unlimited number of correspondent members.
- (j) The Chair of each Study Group or Working Group shall issue a brief description of the work to be performed and a list of members, to be published in the Geodesist's Handbook after each General Assembly.
- (k) The Chair of each Study Group or Working Group shall report annually to its members and the commission steering committee, on results achieved and outstanding problems.
- (l) Guidelines for proposing candidates for the Study Group Chair or Working Group Chair will be established by the Executive Committee.

13. Services

- (a) IAG Services generate products, using their own observations and/or observations of other services, relevant for geodesy and for other sciences and applications. Accuracy and robustness of products, quality control, timeliness, and state of the art quality are the essential aspects of the Services.
- (b) Each Service shall define its Terms of Reference as appropriate to accomplish its mission and shall submit the Terms of Reference to the IAG Executive Committee for approval.
- (c) Each Service shall have an IAG representative, appointed by the IAG Executive Committee, as a voting member of its directing/governing board.
- (d) Services are linked to at least one of the Commissions and may be also linked to other scientific organizations, such as the International Astronomical Union (IAU) or the Federation of Astronomical and Geophysical data analysis Services (FAGS).

- (e) Services shall collaborate on a scientific basis with the Commissions, establish Joint Commission Projects, and Joint Study Groups and help compile the Commissions' list of themes for Study Groups.
- (f) Three representatives shall be elected in accordance with Bylaw 39 to the IAG Executive Committee to serve the interests of all Services.
- (g) On any matter relating to the products of a Service, the Service shall represent the IAG.

14. Current Services

On the coming into effect of these bylaws, there shall be fifteen Services as outlined below:

- (a) International GNSS Service
- (b) International VLBI Service for Geodesy and Astrometry.
- (c) International Laser Ranging Service
- (d) International Gravimetric Bureau
- (e) International Geoid Service
- (f) International Centre for Earth Tides
- (g) International Earth Rotation and Reference Systems Service
- (h) International DORIS Service
- (i) International Gravity Field Service
- (j) International Centre for Global Earth Models
- (k) International DEM Service – to be confirmed
- (l) Permanent Service for Mean Sea Level
- (m) Time Section of the International Bureau of Weights and Measures
- (n) International Altimetry Service (IAS) – to be confirmed
- (o) IAG Bibliographic Service.

15. The Global Geodetic Observing System (GGOS)

- (a) The GGOS is IAG's observing system to monitor the geodetic and the global geodynamic properties of the Earth as a system.
- (b) GGOS works with other IAG components, such as the IAG Services and the IAG Commissions, as well as the Inter-Commission Committees, to provide unique, mutually consistent, and easily accessible geodetic products (including the geometric reference frames and the gravity field) and the relevant geodetic constants for science and society.
- (c) GGOS operates on its own Terms of Reference, defined by the GGOS Steering Committee and approved by the IAG Executive Committee. GGOS nomination and election procedures are specified in its Terms of Reference. Changes in the GGOS Terms of Reference may be proposed by the GGOS Steering Committee and approved by the IAG Executive Committee.
- (d) The GGOS Chair is appointed by the IAG Executive Committee in consultation with the GGOS Steering Committee for one four-year period, which may be renewed once.

16. IAG Projects

- (a) IAG Projects are flagship projects of a broad scope and of highest interest and importance for the entire field of geodesy and are expected to be established for a decade or longer.
- (b) Planning for the creation of an IAG Project shall be carried out by a planning group established by the Executive Committee.
- (c) The Project Steering Committee shall have the following voting members:
 - (i) The project chair appointed by the IAG Executive Committee
 - (ii) One member from each Commission appointed by the Commissions' Steering Committee
 - (iii) Two Members-at-Large proposed by the members of the Project Steering Committee identified in clause (i) and (ii) above and approved by the IAG Executive Committee.
 - (iv) Chairs of the IAG Project Working Groups (if any).

- (v) Representatives of other IAG components, as appropriate.
- (d) Guidelines for the establishment of Commission Projects are established by the Executive Committee and published in the Geodesist's Handbook.
- (e) IAG Project Sub-components are Working Groups but not Study Groups.

17. Inter-commission Committees

- (a) Inter-Commission Committees shall handle well defined, important and permanent tasks involving all Commissions.
- (b) Each Inter-commission Committee shall have a steering committee, which shall include the following members:
 - (i) President appointed by the IAG Executive Committee.
 - (ii) Vice-president appointed by the IAG Executive Committee on the recommendation of the president.
 - (iii) One representative appointed by each Commission.
- (c) The terms of reference for each Inter-commission Committee shall be developed by a planning group appointed by the IAG Executive Committee for approval by the Executive Committee.
- (d) Inter-Commission Committees will be established for at least 2 periods (eight years) and shall be reviewed by the Executive Committee every eight years.
- (e) The Inter-commission Committees shall report to the IAG Executive Committee.

18. Communication and Outreach Branch (COB)

- (a) The function of the Communication and Outreach Branch is to provide the Association with communication, educational/public information and outreach links to the membership, to other scientific Associations and to the world as a whole.
- (b) The responsibilities of the Communication and Outreach Branch shall include the following tasks:
 - (i) Promote the recognition and usefulness of geodesy in general and IAG in particular.
 - (ii) Publications (newsletters).

- (iii) Membership development.
- (iv) General information service and outreach.
- (c) The Communication and Outreach Branch shall also assist the IAG General Secretary, in the following tasks as required:
 - (i) Maintenance of the IAG Web page.
 - (ii) Setting up Association schools.
 - (iii) Setting up meetings and conferences
 - (iv) Maintaining the Bibliographic Service.
- (d) The IAG Executive Committee establishes the Branch on a long-term basis by issuing a Call for Participation. The responding organization(s) and the IAG Executive Committee shall then negotiate the Terms of Reference and other conditions.
- (e) The President of the Communication and Outreach Branch shall be elected by the Council.
- (f) Major decisions related to the operations of the COB shall be made by a Steering Committee consisting of the following voting members:
 - (i) Communications and Outreach Branch President.
 - (ii) IAG Secretary General.
 - (iii) Editor-in-Chief of the Journal of Geodesy.
 - (iv) Up to 5 other members appointed by the Executive Committee on the recommendation of the President of the Communications and Outreach Branch.

19. Editor-in-Chief and Editorial Board

- (a) There shall be one Editor-in-Chief for the journal, hereinafter referred to as the Editor. An Assistant Editor-in-Chief may assist the Editor. The Editor shall be advised and assisted by a Board of Editors, hereinafter referred to as the Board. To ensure broad expertise, each of the Commissions may nominate up to three members of the journal's editorial board.
- (b) The Editor shall be responsible for the scientific content of the journal. The Editor shall make the final decision on whether a refereed scientific manuscript is accepted for publication. The Editor shall keep the Executive Committee informed of the activities and status of operations of the journal.

- (c) A few months before each meeting of the General Assembly, the current Editor, in consultation with the Bureau, shall recommend a preliminary list of candidates for the new Board of Editors. This list shall be published on the IAG website at least two months in advance of the General Assembly to solicit additional nominations for the Editorial Board from the geodetic community. The additional candidates will be added to the list.
- (d) At the meeting of the General Assembly, the current Board shall appoint the members of the new Board from those recommended. After taking office, the new Board shall nominate the new Editor and the new Assistant Editor for the next period. After approval of these nominations by the Executive Committee, the Editor and the Assistant Editor will be considered as elected. Concurrence with the Publisher will be sought.
- (e) The Editor, the Assistant Editor, and the members of the Editorial Board shall each hold office for one period, but may be eligible to be re-elected for one further period.

20. IAG Publications

- (a) The IAG publications include the Journal of Geodesy, the IAG Newsletter, the Geodesist's Handbook, the "Travaux de l'Association Internationale de Géodésie", IAG Special Publications, and the IAG Symposia series.
- (b) The Association's journal is the Journal of Geodesy, hereinafter referred to as the journal. The journal is published monthly through an agreement between the Association and a publishing company, or by other arrangement approved by the Executive Committee. The terms of any agreement for publication of the journal shall be negotiated by the President of the Communications and Outreach Branch and ratified by the Executive Committee.
- (c) The journal publishes peer-reviewed papers, covering the whole range of geodesy, including geodetic applications.
- (d) The IAG Newsletter is under the editorial responsibility of the Communication and Outreach Branch. It should be published on the IAG web site and distributed to members electronically.
- (e) After each IAG General Assembly meeting, a special issue of the Journal of

Geodesy shall be published under the name of "The Geodesist's Handbook". This issue provides the actual information on the Association, including the reports of the President and Secretary General presented at the previous IAG General Assembly meeting, the resolutions taken at that meeting, and the Association structure listing all components and sub-components for the running period, rules for the IAG Fund, IAG Awards and for the conduct of scientific meetings as well as relevant scientific information.

- (f) After each IAG General Assembly meeting, a collection of the reports by the Association components shall be published in the "Travaux de l'Association Internationale de Géodésie". This publication is supplied free of charge to the officers of the Association and to the adhering body of each member country.
- (g) Proceedings of IAG symposia may be published in the IAG Symposia Series. The series editor is the President of the Association, with the symposia convenors acting as volume editors. All manuscripts are peer reviewed, and the volume editor shall make the final decision on whether a manuscript is accepted for publication.
- (h) At every IAG General Assembly meeting each member country is encouraged to supply either an adequate number of copies of its National Report on geodetic work done since the previous General Assembly meeting in hard copy or a digital copy of its national report to be placed on the IAG web site. These National Reports, as far as available, are distributed by the IAG Office in the same manner as the "Travaux de l'Association Internationale de Géodésie".

21. Individual Membership

- (a) Individuals engaged in geodesy, can become individual members of the Association on application and payment of the membership fee.
- (b) Applications for individual membership are submitted to the Secretary General.
- (c) The decision on the membership application shall be made by the Bureau.
- (d) Benefits of membership include
 - (i) Substantial reduction on the individual subscription rate to the Journal of Geodesy.

- (ii) The right to participate in the IAG election process both as a nominator and a nominee.
- (iii) Upon application, correspondent membership in a sub-commission or study group of choice.
- (iv) Reduction of the registration fee for IAG meetings as set under Bylaws 25(i), 26(d) and 27(c).
- (e) The membership fee per annum is set by the Executive Committee. In setting the fee the Executive Committee will consider a recommendation from the Secretary General.
- (f) In individual cases, the Secretary General may consider a discount or full remission of membership fees on application by the member.
- (g) Where a member provides a donation in excess of the membership fee, the excess shall be assigned to the IAG Fund in support of young scientists.
- (h) Membership is terminated if the membership fee is not paid or if an application for discount or full remission has not been received one year after the fee was due.

22. Fellows

The Executive Committee may invite past officers of the Association to be Fellows. Where the invitation is accepted, the Executive Committee shall confirm the appointment.

23. IAG Fund

The Executive Committee may establish a fund (IAG Fund) for supporting specific IAG activities as defined in the IAG Fund Rules, to be published in the Geodesist's Handbook in accordance with Bylaw 20(e). The fund is under the direct responsibility of the President; the fund's resources are administered by the Secretary General.

24. IAG Awards

The Executive Committee may establish awards for outstanding contributions to geodesy and distinguished service to the Association. The rules for the awards are published in the Geodesist's Handbook in accordance with Bylaw 20(e).

25. Administration of the IAG General Assembly meetings

- (a) The IAG General Assembly shall meet at the same time and the same place as the IUGG General Assembly meeting.
- (b) Before any meeting of the IAG General Assembly, the Bureau of the Association shall prepare detailed agendas for the Council meetings, Executive Committee meetings, the opening and the closing sessions.
- (c) The Executive Committee shall draw up the agenda for the scientific program. Joint Symposia covering topics of interest to two or more Associations within the Union may be arranged.
- (d) The agendas developed according to (b) and (c) above are sent to the member countries and to all the officers of the Association so as to reach them at least two months prior to the IAG General Assembly meeting. In principle, only matters on the agenda may be considered during the sessions, unless a decision to do otherwise is passed by a two-thirds majority in the Council concerning the agenda of the Council meeting, or in the Executive Committee concerning the scientific program.
- (e) At each meeting of the IAG General Assembly, the President shall present a detailed report on the scientific work of the Association during his/her tenure. The Secretary General shall present a detailed report on the administrative work and on the finances of the Association for the same period. The President and Secretary General should include in their reports, proposals for work to be undertaken during the coming period, within the limits of expected resources. These reports shall be published in "The Geodesist's Handbook".
- (f) At each meeting of the IAG General Assembly, the work of each Commission, each Service, the Communication and Outreach Branch, and each IAG Project shall be reported by its President / Chair. IAG Representatives to other scientific bodies report to the Executive Committee.
- (g) Individual authors are responsible for the reproduction of their scientific papers prior to the meeting. Where the IAG office receives sufficient copies of papers at the meeting, it shall distribute these to the delegates.

- (h) Assembly Secretaries shall be appointed by the Council on the recommendation of the adhering body of the country in which the next IAG General Assembly meeting or Scientific Assembly will take place. In cooperation with the Bureau, the Assembly Secretary has responsibility for liaison with the organizers working on the preparation of the Assembly.
- (i) The Executive Committee may set a reduced registration fee for Individual members in accordance with 20(d) (iv).

26. Scientific Meetings

- (a) Scientific meetings of the IAG are:
 - (i) the Scientific Symposia held during a General Assembly;
 - (ii) Scientific Assemblies, including Scientific Symposia; and
 - (iii) IAG sponsored Symposia.
- (b) The IAG Newsletter shall include on a regular basis, a Calendar of IAG Symposia and other scientific meetings organized or sponsored by the IAG or its components.
- (c) The Executive Committee shall appoint an official IAG Scientific Meeting Representative for each of the scientific meetings to be governed by these Bylaws. The representative is obliged to remind the organizers to obey the Bylaws for scientific meetings and to report back to the Executive Committee.
- (d) The Executive Committee may set a reduced registration fee for Individual members in accordance with 21(d) (iv).

27. Scientific Assemblies

- (a) Scientific assemblies are generally held mid-way during the period between two meetings of the IAG General Assembly and shall consist of a group of component meetings and/or a group of Scientific Symposia, held at the same time and place.
- (b) The Executive Committee shall appoint an Assembly Secretary in accordance with Bylaw 25(h).
- (c) The Executive Committee may set a reduced registration fee for Individual members in accordance with 21(d)(iv).

28. Scientific Symposia

- (a) Scientific symposia take place at meetings of the IAG General Assembly and Scientific Assembly. In general, they shall

be organized by Association components and sub-components, and be led by their respective chairs.

- (b) The study of some questions may require joint meetings of several components under a chair, appointed by the Executive Committee. A committee consisting of the component Chairs shall decide on the agenda and on the inclusion of scientific presentations.
- (c) At each meeting of the IUGG General Assembly Joint Scientific Symposia covering topics of interest to two or more Associations within the IUGG and/or other international scientific organizations may be arranged. Though the IAG may be asked to act as convener or co-convener, these symposia shall follow the rules issued by the IUGG. The IAG may participate also in joint symposia at any other time outside of meetings of the IAG General Assembly obeying the same procedures.
- (d) The arrangement of a scientific symposium shall be subject to the usual approval procedure provided by in the Geodesist's Handbook in accordance with Bylaw 20(e).

29. IAG Sponsored Symposia

- (a) The IAG may sponsor a symposium covering broad parts of geodesy and having large attendance at any suitable time outside the IAG General Assembly meeting or Scientific Assemblies, and shall call it an IAG Sponsored Symposium, provided the following conditions are fulfilled:
 - (i) One or more Association component or subcomponent shall sponsor it or at least two Study Groups.
 - (ii) Host organization of the symposium shall accept a Scientific Organizing Committee (SOC) appointed by the IAG Executive Committee.
 - (iii) The symposium shall be open to all bona-fide scientists in accordance with the ICSU rules.
 - (iv) The symposium proceedings shall be published within 6-8 months.
- (b) The SOC appointed under 29(a)(ii) above shall be responsible for the quality of science of the symposium being at a high level. A Local Organizing Committee

(LOC) shall take care of the organization and logistics.

- (c) Applications for approval of an IAG Symposium should be submitted to the Secretary General at least two years before the intended date of the meeting. Detailed guidelines for such applications, and the expectations from the SOC and LOC, may be found in the Geodesist's Handbook in accordance with Bylaw 20(e).

30. International Cooperation

- (a) The Association may participate in joint bodies of the IUGG and other scientific organizations, especially those belonging to the International Council for Science (ICSU). These bodies shall be administered according to their specific rules.
- (b) The Association shall initiate international cooperation in scientific work of international and interdisciplinary character. This includes the adequate participation in international programs and projects and the representation at scientific congresses, symposia etc. of organizations with related activities.
- (c) The President of the Association shall decide on the proper participation or representation. Representatives to international programs and projects shall be appointed by the Executive Committee and shall keep the President informed on the activities, on a biannual basis. The representatives shall also prepare a report to be presented at the IAG General Assembly meeting.

31. Duties of the Council

- (a) In addition to any other functions, powers and duties provided in other Statutes and Bylaws, the Council shall:
 - (i) Examine questions of general scientific policy or administration, and propose actions deemed necessary.
 - (ii) Elect the voting members of the Executive Committee, with exception of the GGOS Chair; see 15(c).
 - (iii) Receive reports from the Secretary General and consider for approval the decisions or actions taken by the Bureau and the Executive Committee since the last Council meeting.
 - (iv) Set up and dissolve Association components.

- (v) Appoint the three members of the ad hoc committee created for examining the finances of the Association, consider its recommendations and adopt the final budget.

- (vi) Consider proposals for changes in the Statutes and Bylaws.

- (vii) Decide on the venue of IAG Scientific Assembly meetings.

- (viii) Approve the establishment of Inter-Commission Committees and IAG Projects.

- (b) Council meetings shall be convened by the President of the Association. It shall meet at least once during each IAG General Assembly meeting, and may be convened at other times, normally coinciding with a meeting of the IAG Scientific Assembly.

32. Duties of the Executive Committee

- (a) In addition to any other functions, powers and duties provided in other Statutes and Bylaws, the Executive Committee shall:

- (i) Initiate actions and issue guidelines, as required, to guide the Association towards the achievement of its scientific objectives.

- (ii) Fill vacancies occurring between IAG General Assembly meetings, in accordance with the present Statutes and Bylaws.

- (iii) Approve the internal structure of Association components.

- (iv) Make recommendations to the Council on matters of general policy of the Association and on the implementation of its objectives.

- (v) Appoint Fellows of the Association, upon the recommendation of the Bureau.

- (vi) Appoint planning groups for Inter-commission Committees and IAG Projects.

- (vii) Establish Inter-commission Committees and IAG Projects.

- (viii) Appoint an IAG Review Committee every eight years.

- (ix) Appoint the Assistant Secretaries of the Association.

- (x) Confirm the links between Commissions and Services.

- (xi) Adopt the suggested membership fee

- (xii) Appoint the Vice-president of Commissions.
- (xiii) Appoint representatives to external bodies.
- (xiv) Establish an IAG Fund.
- (b) Executive Committee meetings shall be convened by the President of the Association. It shall meet at IAG General Assembly meetings and its members are expected to attend the meetings of the Council, with voice but without vote. It shall also meet normally at least once a year, especially one year before the IAG General Assembly meeting, in order to prepare the scientific agenda and the timetable of the next IAG General Assembly meeting.
- (c) At a meeting of the Executive Committee, no member may be represented by any other person, except a President of Commission who may be represented by the Vice-President. In order that the deliberations of the Executive Committee shall be valid, at least half of its members must be present or represented.
- (d) The agenda for each meeting of the Executive Committee shall be prepared by the Bureau and sent to the members at least three months prior to the meeting.

33. Duties of the Bureau

- (a) In addition to any other functions, powers and duties provided in other Statutes and Bylaws, the Bureau shall:
 - (i) Draw up the agenda of the meetings of the Council and Executive Committee and send these to the members at least three months prior to the meeting.
 - (ii) Ensure the adequate administration of the Association.
 - (iii) Receive applications for individual memberships and accept individuals as Members of the Association.
 - (iv) Recommend Fellows to the Executive Committee.
- (b) The Bureau shall normally meet before each meeting of the Executive Committee.

34. Duties of the President

In addition to any other functions, powers and duties provided in other Statutes and Bylaws, the President shall:

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

35. Duties of the Vice President

In addition to any other functions, powers and duties provided in other Statutes and Bylaws, the Vice President shall act as the President whenever the President is not present or is unable to perform any of the President's duties, and shall perform such tasks as may be assigned by the President, the Executive Committee or the Council.

36. Duties of the Secretary General

In addition to any other functions, powers and duties provided in other Statutes and Bylaws, the Secretary General shall:

- (a) Serve as secretary of the General Assembly, the Council, the Executive Committee and the Bureau; arrange for meetings of these bodies, distribute promptly the agenda and prepare and distribute the minutes of all their meetings.
- (b) Act as Director of the IAG Office.
- (c) Manage the affairs of the Association, attend to correspondence, and preserve the records.
- (d) Circulate all appropriate information related to the Association.
- (e) Prepare the reports of the Association's activities.
- (f) Perform such other duties as may be assigned by the Bureau.
- (g) The function of the Secretary General is unpaid and only expenses incurred in connection with the functions and duties are repayable.

37. Assistant Secretaries

- (a) The Secretary General is assisted by a small number of assistant secretaries, one of whom is located in the same office as the Secretary General.
- (b) The position of Assistant Secretary is unpaid and only expenses incurred in connection with the functions and duties are repayable.

38. IAG Office

To assist the Secretary General, the Association establishes the IAG Office in the country in which the Secretary General resides. The Executive Committee negotiates logistical and financial support with the host country.

39. Procedure for Nominations and Elections of Officers

- (a) Elections shall take place by mail vote before each IAG General Assembly meeting and should be completed one month before the assembly.
- (b) The President of the Association, after taking advice from the Executive Committee, shall appoint a Nominating Committee consisting of a Chair and three other members.
- (c) The Nominating Committee, after taking advice from the Delegates of the Adhering Bodies, the officers, fellows, and members of the Association, shall normally propose at least two candidates for each position to be filled by election in the Council. Candidates shall be asked to signify their acceptance of nomination and to prepare a resume, maximum 150 words, outlining their position, research interests and activities relating to the Association.
- (d) The Adhering Bodies and the individual membership (i.e. the General Assembly membership) shall be informed of these nominations three months before the IAG General Assembly meeting.
- (e) During the following month further nominations can be submitted by the Delegates of the Adhering Bodies. Such additional nominations shall be in writing, shall be supported by at least two members of the Council, and shall be submitted with resumes as described above to the Chair of the Nominating Committee.
- (f) Nominations shall be checked against the eligibility criteria in Bylaw 40 by the Nominating Committee. Ineligible

nominations will not be accepted and the members of Council who supported the nomination will be advised of the reason for its rejection.

- (g) Delegates shall be informed of these further eligible nominations and resumes and of their supporters.
- (h) The Chair of the Nominating Committee shall write to all services asking them for one nomination from each service for the Service representatives on the Executive Committee. The Nominating Committee shall recommend normally two nominees for each of the Services' three positions, considering appropriate scientific and national distribution. The procedure for seeking additional nominations in sub clause (e) above does not apply to these positions.
- (i) If candidates have been nominated for more than one position, they will be asked to make a decision for which position they will allow their name to stand.
- (j) Elections shall be by mail ballot and by majority vote. In this case, the delegates of the Adhering Bodies form the Council.

40. Eligibility & Terms of Office

- (a) No person may hold more than one of the following offices at the same time: President of the Association, Vice-President, President of a Commission, President of a Service, Chair of GGOS, President of the Communication and Outreach Branch, Chair of an IAG Project.
- (b) A member of the IUGG Bureau or of the IUGG Finance Committee may not occupy the post of President, of Vice-President or of Secretary General of the Association.
- (c) The President of the Association is elected for one Period and may not be immediately re-elected to the same office.
- (d) The Vice-President is elected for one period and may not be re-elected to the same office.
- (e) The Secretary General is elected for one period initially. He/she may be re-elected for two additional periods.

41. Extraordinary Vacancies

- (a) Should the position of President become vacant during the Period between two IAG General Assembly meetings, his duties devolve to the Vice-President until the closure of the next IAG General Assembly meeting.
- (b) Should the post of Secretary General become vacant, the President shall arrange without delay for the Executive Committee to propose a replacement and for the Council to appoint a new Secretary General so as to ensure the continuity of the work of the IAG Office. This appointment has effect until the closure of the next IAG General Assembly meeting and shall not be counted in the restriction of eligibility for re-election of the Secretary General under Bylaw 40(e).

42. Finance

- (a) The Finances of the Association derive from the following sources:
 - (i) Contributions of IUGG Adhering Bodies of which a portion, determined by the IUGG Council on recommendation of its Finance Committee, is paid to the Association by the Treasurer of the Union.
 - (ii) Sale of publications.
 - (iii) IAG Fund collected from individual contributions for specific purposes.

- (iv) Membership fees.
- (v) A portion of the registration fee charged at IAG symposia.
- (vi) Other sources e.g., grants, interests, and funds remaining after a symposium.
- (b) The Secretary General is responsible to the Bureau and to the Council for managing the funds in accordance with the Statutes and Bylaws, with the decisions of the Council. The Secretary General alone shall be responsible for control of the financial operations of the Association.
- (c) At each IAG General Assembly meeting the budget proposal for the next period shall be presented by the Secretary General and submitted for approval to the Council. The budget as approved by the Council shall be implemented by the Secretary General.
- (d) During each IAG General Assembly meeting, the Council shall examine all expenditures during the preceding period to ensure that they were in accordance with the proposed budget previously approved. The Council shall appoint an ad hoc committee for carrying out this examination in detail.
- (e) In addition, the accounts shall be audited by a qualified accountant and shall then be reported to the IUGG Treasurer, as prescribed in Article 20 of the IUGG Bylaws.

STATUTS ET REGLEMENTS DE L'ASSOCIATION INTERNATIONALE DE GEODESIE

(Modifiés en juillet 2007, XXIV^{ème} Assemblée Générale de l'UGGI, Pérouse, Italie)

Statuts de l'Association Internationale de Géodésie

1. Définition des termes

- a) La Géodésie est la discipline qui traite de la mesure et de la représentation (géométrique, physique, ainsi que de ses variations temporelles) de la Terre et des autres corps célestes.
- b) Le terme **UGGI** désigne l'Union Géodésique et Géophysique Internationale.
- c) Le terme **AIG** ou l'**Association** désigne l'Association Internationale de Géodésie.
- d) Les **organismes membres** ont la même définition que dans les Statuts de l'UGGI.
- e) L'**Assemblée Générale** représente une assemblée qui rassemble, pour des buts scientifiques et - ou administratif
 - (i) les délégués accrédités par les organismes membres.
 - (ii) les membres individuels définis dans les statuts 6b.
- f) La **période** représente l'intervalle de temps compris entre les fins de deux Assemblées Générales ordinaires.

2. Association Internationale de Géodésie

- a) L'Association Internationale de Géodésie
 - (i) est l'une des Associations constituant l'UGGI.
 - (ii) est soumise aux Statuts et au Règlement Intérieur de l'UGGI.
- b) En cas de dissolution de l'AIG, ses actifs seraient reversés à l'UGGI.

3. Mission

La Mission de l'Association est de promouvoir la Géodésie. L'AIG remplit sa mission en favorisant le développement de la théorie en géodésie par la recherche et l'enseignement, en collectant, analysant et interprétant les données observationnelles, en stimulant les développements technologiques et en fournissant une représentation de la forme de la Terre et des planètes, de leur rotation et de leur champ de gravité, ainsi que de leurs variations temporelles.

4. Objectifs

Pour accomplir sa mission, l'AIG poursuit les objectifs suivants:

- a) Etudier, avec le plus grand degré d'exactitude, tous les problèmes géodésiques liés à l'observation de la Terre et du changement climatique global, incluant :
 - (i) la définition, la réalisation et la maintenance de systèmes de référence mondiaux et régionaux pour des usages multidisciplinaires.
 - (ii) la rotation de la Terre et des planètes.
 - (iii) la localisation et l'étude des déformations.
 - (iv) la détermination du champ de gravité.
 - (v) le niveau des océans, des glaces et des mers.
 - (vi) le transfert de temps.
 - (vii) la propagation du signal à travers les atmosphères des planètes.
- b) Soutenir la maintenance des systèmes de référence géodésiques pour l'observation continue et à long terme, ainsi que pour l'archivage des résultats.
- c) Fournir des données d'observations et des données déjà traitées, des standards, des méthodologies, et des modèles, sous une forme qui génère le plus grand nombre possible de recherches et d'applications.
- d) Stimuler le développement et profiter des techniques émergentes et autres technologies nouvelles pour accroître la résolution et l'exactitude des données géodésiques et des produits dérivés pour l'avancement des recherches géodésiques et interdisciplinaires.
- e) Initier, coordonner et promouvoir la coopération internationale et l'échange de connaissances à travers des symposiums, des ateliers de travail, des écoles d'été, des cours de formation, des

publications ou tout autre moyen de communication.

- f) Encourager le développement d'activités géodésiques et d'infrastructures dans toutes les régions du monde, en prenant en considération la situation spécifique des pays en voie de développement.
- g) Collaborer avec la communauté scientifique et technique internationale pour promouvoir les applications de la théorie en géodésie et de ses techniques ainsi que l'interprétation des résultats.
- h) Coopérer avec des organismes nationaux et internationaux pour établir des objectifs de recherche, des missions, et des projets.

5. Structure et Administration

- a) La structure de l'Association est composée de plusieurs entités : Commissions, Services, le Système Global d'Observations Géodésiques (GGOS), et Centre d'information et d'éducation (COB).
- b) Elle comprend également des entités dérivées, telles que les Projets de l'AIG, les Sous-Commissions, les Projets de Commission, les Comités inter-Commissions, les Groupes d'Etudes et de Travail qui peuvent être créés en accord avec le Règlement Intérieur.
- c) L'Administration de l'AIG est assurée par l'Assemblée Générale, le Conseil, le Bureau et le Comité Exécutif. Le Centre d'information et d'éducation (COB) est responsable des activités de promotion de l'AIG ainsi que de la communication avec les membres.

6. Membres

Les membres de l'AIG comprennent :

- a) les Pays Membres.
- b) les membres individuels en accord avec le Règlement Intérieur.

7. Le Conseil de l'AIG

- a) Le Conseil est responsable de la gouvernance, de la stratégie politique et de la direction.
- b) Le Conseil est constitué des délégués dûment accrédités par les Pays Membres.

c) Chaque Pays Membre peut désigner un délégué en respectant les conditions (d), (e) et (f) ci-dessous.

d) Un Délégué ne peut représenter qu'un seul Pays Membre.

e) Le Délégué désigné par un Pays Membre doit avoir participé auparavant à des activités de l'AIG.

f) Le Président, le Vice-Président et le Secrétaire Général ne sont pas éligibles comme délégué.

g) Le Délégué désigné par le Pays Membre remplira aussi les fonctions de Correspondant National, sauf si le Pays Membre a explicitement demandé que le Délégué et le Correspondant National soient deux personnes différentes.

8. Bureau

a) Le Bureau de l'Association est composé par le Président, le Vice-Président et le Secrétaire Général.

b) Le rôle du Bureau est d'administrer l'Association conformément aux Statuts et au Règlement Intérieur et aux décisions du Conseil et du Comité Exécutif.

9. Président

a) Le Président est élu par le Conseil.

b) Le Président assure la direction générale de l'Association.

c) Le Président préside les réunions de l'Assemblée Générale, du Conseil, du Comité Exécutif, et du Bureau sans droit de vote, sauf en cas d'égalité décrit dans le paragraphe 14 (f).

d) Arrivé au terme de son mandat d'une Période, le Président, servira pendant la Période suivante en tant que Ancien Président le plus récent.

10. Vice-Président

a) Le Vice-Président est élu par le Conseil.

b) Le Vice-Président assure toutes les tâches qui pourraient lui être attribuées par le Président, le Comité Exécutif ou le Conseil.

c) En cas d'absence du Président, ou si celui-ci n'est plus apte à accomplir ses fonctions, le Vice-Président assume les

fonctions, les devoirs et les pouvoirs du Président.

11. Secrétaire Général

- a) Le Secrétaire Général est élu par le Conseil.
- b) Le Secrétaire Général assume les fonctions de secrétaire de l'Assemblée Générale, du Conseil, du Comité Exécutif, et du Bureau et organise les réunions de ces entités en accord avec le règlement intérieur.

12. Le Comité Exécutif

- a) Le Comité Exécutif est constitué des membres votants suivants : le Bureau, l'Ancien Président le plus récent, les Présidents de Commission, le Président de GGOS, le Président du COB, trois représentants des Services, et deux membres additionnels permettant d'obtenir un meilleur équilibre entre les différents pays et les différents organismes.
- b) Les Présidents des Comités Inter-Commissions, les Présidents de Projets de l'AIG, et les Secrétaires Adjointes peuvent assister aux réunions du Comité Exécutif, avec un droit de parole mais sans droit de vote. Les Anciens Présidents, les Anciens Secrétaires Généraux peuvent assister aux réunions du Comité Exécutif, avec un droit de parole mais sans droit de vote, (à l'exception de l'Ancien Président le plus récent, qui a le droit de vote).
- c) L'élection des membres du Comité Exécutif se fait en accord avec le Règlement Intérieur.
- d) Les responsabilités du Comité Exécutif sont de promouvoir les objectifs de l'Association par une coordination efficace et par la formulation d'une politique d'ensemble.

13. Réunions du Conseil

- a) Le Conseil se réunit à l'occasion de chaque Assemblée Générale.
- b) Le Conseil peut tenir des Réunions Extraordinaires en dehors des Assemblées Générales. De telles réunions doivent être proposées par le Comité Exécutif qui doit obtenir l'accord d'un tiers des Délégués avant de pouvoir être convoquées.

- c) Le Conseil peut aussi délibérer et décider à d'autres occasions par correspondance ou par vote électronique.
- d) Lorsque le Délégué et le Correspondant National ne sont pas la même personne, le vote électronique est effectué par le Correspondant National.
- e) Les membres du Comité Exécutif peuvent assister aux réunions du Conseil, avec un droit à la parole, mais sans droit de vote, à l'exception de ceux qui seraient aussi Délégués.

14. Vote du Conseil

Le vote du Conseil doit suivre les règles suivantes :

- a) Un Pays Membre qui n'est pas représenté à l'une des réunions du Conseil peut voter par correspondance pour toute question spécifique, à condition que le sujet ait clairement été défini dans l'agenda distribué à l'avance, et que la discussion là-dessus n'a pas généré de nouvelle considération significativement différente, ni de modification de sa substance, et que le vote mentionné ci-dessus a été reçu par le Président avant le vote. Dans ce cas, le vote sera comptabilisé en fonction des règles définies dans le paragraphe 13 (d).
- b) Pour que les délibérations du Conseil soient valables, le nombre de Délégués présents doit être au moins égal à la moitié des Pays Membres représentés à l'Assemblée Générale de l'UGGI. Lorsque la réunion du Conseil ne se tient pas au même moment que l'Assemblée Générale de l'UGGI, on considérera le nombre des Pays Membres représentés lors de la dernière Assemblée Générale de l'UGGI.
- c) Pour toute question sans incidence financière, chaque Délégué d'un Pays Membre, peut voter à condition que la cotisation à l'UGGI de son pays soit à jour jusqu'à la fin de l'année civile précédant le vote. Ce vote sera comptabilisé pour une voix.
- d) Pour toutes les questions ayant une incidence financière, chaque Délégué d'un Pays Membre, dont le pays est à jour de ses cotisations à l'UGGI jusqu'à la fin de l'année civile précédent le vote, peut voter. Le nombre de votes alloué à chaque Délégué correspond à la catégorie de son pays définie par l'UGGI.
- e) Avant chaque vote du Conseil, le Président décide si le sujet comporte des

implications financières ou non et si la procédure du vote par correspondance s'applique.

- f) Les décisions du Conseil sont prises à la majorité simple, sauf si cela est explicitement défini dans les Statuts. En cas d'égalité de vote du Conseil, la décision appartient au Président. Cette procédure s'applique également en cas de vote par correspondance. La majorité simple et la majorité des deux tiers sont déterminées par la proportion de votes positifs par rapport à la somme de tous les votes (positifs, négatifs et abstentions). Les votes blancs, les votes nuls ainsi que les votes non transmis par les Délégués présents sont comptés comme abstentions.
- g) Sauf si cela est explicitement mentionné dans les Statuts ou le Règlement Intérieur, les réunions du Conseil ainsi que toutes celles des entités administratives de l'AIG se font en respectant les Robert's rules of Order.

15. Décisions du Conseil

- a) Les décisions du Conseil sont rapportées aux membres individuels lors d'une réunion au cours de l'Assemblée Générale.
- b) Si la majorité des présents à cette réunion est en désaccord avec les décisions du Conseil, le Conseil doit reconsidérer la question. Sa décision sera alors définitive.

16. Modifications des Statuts et du Règlement Intérieur

Les modifications des Statuts et du Règlement Intérieur doivent respecter les règles suivantes :

- a) L'Association fait un audit des Statuts et du Règlement Intérieur tous les huit ans, afin d'assurer une structure et une organisation scientifique la plus à jour possible. Dans ce but, un Comité d'Audit est désigné par le Comité Exécutif lors de sa première réunion à l'issue de l'Assemblée Générale pendant la Période pour laquelle un tel audit est nécessaire. Pour tout article des Statuts et du Règlement Intérieur, les propositions de modifications doivent parvenir au Secrétaire Général au moins six mois avant la date annoncée de la réunion du Conseil au cours de laquelle ce point sera considéré. Le Secrétaire Général informe tous les Pays Membres de toutes les propositions de modifications au moins quatre mois avant la date annoncée de la réunion du Conseil.
- b) Les Statuts ne peuvent être modifiés qu'avec l'accord d'une majorité des deux tiers des votes du Conseil. Les modifications deviennent effectives à l'issue de cette réunion.
- c) Le Conseil peut modifier le Règlement Intérieur dans les limites du cadre défini dans les Statuts.
- d) Le Règlement Intérieur peut être modifié par une majorité simple lors d'un vote du Conseil. Les modifications deviennent effectives à l'issue de la réunion du Conseil.

Règlement Intérieur de l'Association Internationale de Géodésie

1. Définition des termes

- a) Les Composantes de l'Association ou Composantes désignent les Commissions, les Services, le Système Global d'Observations Géodésiques (GGOS), et le Centre d'information et d'éducation (COB).
- b) Les Commissions représentent les domaines principaux d'activité de l'AIG et recouvrent ensemble la totalité de la Géodésie.
- c) Les Services collectent et analysent les observations afin de générer les produits appropriés à la Géodésie et aux autres sciences et applications.
- d) Le Système Global d'Observations Géodésiques (GGOS) travaille en liaison avec les Services de l'AIG pour fournir l'expertise géodésique et l'infrastructure nécessaires à la surveillance du système Terre et à la recherche liée au changement climatique global.
- e) Les sous-composantes de l'Association ou sous-composantes signifient les sous-structures à court terme ou à long terme et incluent des sous-structures communes.
- f) Les sous-composantes à long terme comprennent les Projets de l'AIG (de portée générale et d'un grand intérêt pour l'ensemble des domaines de la géodésie), les Comités Inter-Commissions, les Sous-Commissions et les Projets de Commission qui sont établis pour plusieurs Périodes.
- g) Les sous-composantes à court terme comprennent les Groupes d'Etudes et les Groupes de Travail qui sont établis pour une durée maximale d'une Période.
- h) Un Groupe de pilotage est constitué d'un groupe d'Officiers élus et désignés par l'AIG qui effectue un audit du travail des Commissions, des Comités Inter-Commissions (voir article 17), des Projets de l'AIG, ainsi que du Centre d'information et d'éducation (COB) (voir article 18).
- i) Une Période est l'intervalle de temps (environ quatre ans) séparant la fin de deux réunions successives de l'Assemblée Générale de l'AIG.

2. Responsabilités des Composantes de l'Association

- a) Le travail scientifique de l'Association est accompli par les Commissions, les Services et le GGOS.
- b) Les responsabilités des Composantes de l'Association sont déterminées par le Conseil sur recommandation du Comité Exécutif.
- c) Les Composantes interagissent entre elles lorsque leurs activités sont reliées.
- d) Chaque Composante peut créer ses propres sous-structures et est responsable des activités de ces sous-structures.

3. Responsabilités principales des Présidents ou Directeurs de Composante, et des Comités de Pilotage

- a) Chaque Composante possède un Directeur ou un Président qui dirige un Comité de Pilotage.
- b) Le Président ou Directeur d'une Composante est responsable des développements scientifiques à l'intérieur du domaine d'intérêt de la Composante. Le Président ou Directeur d'une Composante doit :
 - (i) Coordonner l'activité des Sous-Composantes ;
 - (ii) Tenir informés les Officiers de la Composante ainsi que le Bureau des activités de la Composante, sur une base annuelle ;
 - (iii) Rassembler les rapports des sous-Composantes deux mois avant chaque réunion de l'Assemblée Générale de l'AIG (sauf si le Comité Exécutif en décide autrement) pour publication dans les « Travaux de l'Association de Géodésie » ;
 - (iv) Recevoir des suggestions pour la création de nouvelles sous-Composantes, ou pour la continuation de celles déjà existantes ;
 - (v) Recommander à l'approbation du Comité Exécutif de l'AIG des modifications des sous-Composantes.
- c) Le Comité de Pilotage de la Composante se réunit une fois par an et aux moins une fois au cours de l'Assemblée Générale de l'AIG.

- d) Le Comité de Pilotage de la Composante effectue un audit à l'occasion de l'une de ses réunions (habituellement lors de la réunion de l'Assemblée Générale de l'AIG, ou celle de l'Assemblée Scientifique de l'AIG) :
- (i) Des activités des sous-Composantes durant la Période précédente ;
 - (ii) De la structure des sous-Composantes ; et
 - (iii) Du programme pour la Période suivante des sous-Composantes pour lesquelles une continuation sera recommandée.
- e) Le Comité de Pilotage de la Composante transmet des copies de toute la correspondance appropriée de la Composante et des sous-Composantes de l'Association au Secrétaire Général de l'AIG.
- f) Le Comité de Pilotage de la Composante peut organiser des réunions scientifiques ou des réunions de travail, ainsi que des ateliers, à condition qu'ils soient facilement identifiables et que leur sujet soit d'une portée beaucoup moins étendue que celle des symposiums scientifiques de l'AIG et des symposiums agréés par l'AIG, comme décrit dans les articles 27 et 28 du Règlement Intérieur.

4. Responsabilités des Commissions

Les Commissions assurent la promotion de l'avancement de la science, de la technologie et de la coopération internationale dans leur domaine. Elles établissent les liaisons nécessaires avec les disciplines voisines et les Services appropriés. Les Commissions représentent l'Association dans tous les domaines scientifiques liés à leur activité en géodésie.

5. Comité de Pilotage de Commission

- a) Le Comité de Pilotage de Commission est établi à l'occasion de chaque réunion de l'Assemblée Générale de l'AIG, à la suite des élections des Officiers de l'Association.
- b) Les membres votants du Comité de Pilotage sont :
 - (i) Le Président de la Commission.
 - (ii) Le Vice-Président de la Commission.
 - (iii) Les Directeurs des sous-Commissions et des Projets de Commission.

(iv) Trois représentants (au plus) des Services relevant du travail de la Commission.

(v) Au maximum, deux membres en service extraordinaire afin d'équilibrer la répartition géographique et politique.

6. Désignation des Officiers de Commission

- a) Le Président de Commission est élu par le Conseil pour une Période. Il ne peut être réélu que si des circonstances exceptionnelles le justifient.
- b) Le Vice-Président de Commission est élu par le Comité Exécutif de l'AIG pour une Période. Il ne peut être réélu que si des circonstances exceptionnelles le justifient.
- c) Les Présidents de sous-Commission ou de Projets de Commission sont nommés par le Président de Commission et le Vice-Président dans les deux mois suivant l'Assemblée Générale.
- d) Les représentants des Services sont nommés par le Président de Commission et le Vice-Président sur proposition des Services.
- e) Les membres en service extraordinaire et les Présidents de sous-Commissions ou de Projets de Commission sont nommés par le Président de Commission et le Vice-Président dans les deux mois suivant l'Assemblée Générale.
- f) La nomination des membres en service extraordinaire et des Présidents de sous-Commissions ou de Projets de Commission est effective dès l'approbation de ces nominations par le Comité Exécutif de l'AIG.
- g) Les membres en service extraordinaire sont nommés pour une Période sans possibilité de renouvellement.

7. Responsabilités des Comités de Pilotage des Commissions

Le Comité de Pilotage de Commission est soumis aux mêmes responsabilités générales que celles attribuées aux Comités de Pilotages des Composantes, décrites précédemment dans le Règlement Intérieur dans les articles 3 (c), 3 (d), 3 (e), et 3 (f) ci-dessus. En particulier, ses responsabilités sont de :

- a) Faire un audit des domaines d'intérêt et des objectifs de la Commission.

- b) Servir de liaison avec les autres Commissions de l'AIG, les Comités inter-Commissions, et les organisations de même nature à l'extérieur de l'AIG, comme approprié.
- c) Encourager la participation active des jeunes géodésiens ou des géodésiens venant de pays sous représentés.
- d) Coordonner et faire un audit du travail des Composantes de la Commission et faire un rapport au moment de l'Assemblée Scientifique de l'AIG devant le Comité Exécutif de l'AIG sur les avancées et les performances des Composantes.
- e) Encourager et organiser des symposiums de la Commission ou des symposiums inter-Commissions et/ou des sessions au cours de réunions internationales majeures liées à la géodésie.
- f) Maintenir une page Internet de la Commission ainsi qu'un service de messagerie.
- g) Proposer trois Editeurs (au maximum) pour le Journal of Geodesy.

8. Commissions actuelles

Prenant effet avec ce Règlement Intérieur, il existe quatre Commissions dont les domaines de responsabilité scientifique sont les suivants :

(1) Commission 1 : Systèmes de référence

- a) Etablissement, maintenance, amélioration des systèmes de référence géodésiques.
- b) Développement des techniques avancées terrestres et spatiales pour les buts décrits précédemment.
- c) Coopération internationale pour la définition et la mise en place de réseaux d'observatoires terrestres des techniques spatiales.
- d) Théorie et coordination des observations astrométriques pour les systèmes de référence.
- e) Coopération avec les Services, les organismes ou les organisations liés à la géodésie spatiale ou au système de référence.

(2) Commission 2 : Champ de gravité

- a) Gravimétrie terrestre, maritime ou aéroportée.

- b) Observations satellitaires du champ de gravité.
- c) Modélisation du champ de gravité.
- d) Variations temporelles du champ de gravité.
- e) Détermination du géoïde.
- f) Modélisation et détermination de l'orbite des satellites.

(3) Commission 3 : Rotation terrestre et géodynamique

- a) Orientation de la Terre (rotation de la Terre, mouvement du pôle, nutation et précession).
- b) Marées terrestres.
- c) Tectonique et déformations crustales.
- d) Topographie de la surface des océans et variation du niveau de la mer.
- e) Dynamique de la Lune et des Planètes.
- f) Effets des couches fluides de la Terre (eg. rebond post-glaciaire, surcharge).

(4) Commission 4 : Localisation et applications

- a) Systèmes terrestres ou satellitaires de localisation, y compris les capteurs et la fusion des données.
- b) Navigation et guidage des plateformes.
- c) Applications de l'interférométrie laser ou radar (eg. radar à synthèse d'ouverture).
- d) Applications de la localisation géodésique en utilisant des réseaux géodésiques tridimensionnels (réseaux actifs ou passifs), y compris la surveillance des déformations.
- e) Applications de la géodésie aux sciences de l'ingénieur.
- f) Recherches atmosphériques utilisant des techniques de géodésie spatiale.

9. Sous-structures d'une Commission et sous-structures mixtes

- a) Les sous-structures de Commission sont les sous-Commissions, les Projets de Commission, les Groupes d'Etudes et les Groupes de Travail qui ne dépendent que d'une seule Commission.
- b) Lorsque plus d'une Commission est impliquée dans une sous-structure, le

terme de sous-structure mixte est utilisé, eg. Sous-Commission mixte, Projet mixte de Commission, Groupe d'Etudes mixte, Groupe de travail mixte.

10. Sous-Commissions et sous-Commissions mixtes

- a) Une sous-Commission peut être établie pour des sujets pour lesquels la Commission joue un rôle majeur ou de coordination.
- b) Lorsqu'un sujet relève de la responsabilité scientifique de plus d'une Commission, une sous-Commission mixte peut-être créée sous la direction de l'une des Commissions.
- c) Une sous-Commission doit être mise en place pour plusieurs Périodes.
- d) Les sous-Commissions sont établies et arrêtées par le Comité Exécutif de l'AIG sur recommandation du Président de Commission.
- e) La proposition de créer une sous-Commission mixte au Comité Exécutif nécessite la recommandation de tous les Présidents des Composantes qui y participent.
- f) Un ensemble de règles pour la création de sous-Commissions est établi par le Comité Exécutif et publié dans le Manuel du Géodésien.

11. Projets de Commission et Projets mixtes

- a) Un projet de Commission peut être établi à l'occasion du développement d'une nouvelle méthode scientifique ou d'une nouvelle technique, ou lorsqu'il semble opportun d'appliquer une technique existante à une zone géographique spécifique pour laquelle une coopération internationale est nécessaire.
- b) Lorsque le sujet d'un Projet de Commission dépend de la responsabilité scientifique de plus d'une Commission, ou d'une Commission et d'un Service, un Projet mixte de Commission peut être établi sous la direction d'une Commission.
- c) Un Projet de Commission est établi pour une Période et peut être étendu à une autre Période, en cas d'avis favorable.
- d) Les Projets de Commission sont établis et arrêtés par le Comité Exécutif de l'AIG sur recommandation du Président de Commission.

- e) Une proposition au Comité Exécutif de création d'un Projet mixte de Commission nécessite la recommandation de tous les Présidents des Composantes qui y participent.
- f) Un ensemble de règles pour la création des Projets de Commission est établi par le Comité Exécutif et publié dans le Manuel du Géodésien.

12. Groupes d'Etudes, Groupes de Travail, Groupes d'Etudes mixtes, et Groupes de Travail mixtes

- a) Un Groupe d'Etudes ou un Groupe de Travail peut être mis en place à n'importe quel moment pour étudier des problèmes scientifiques bien définis et parfaitement délimités dans les domaines de la Commission.
- b) Lorsque le sujet d'étude d'un Groupe d'Etudes ou d'un Groupe de Travail dépend de la responsabilité scientifique de plus d'une Commission, ou d'une Commission et d'un Service, un Groupe de Travail mixte peut être établi sous la direction d'une Commission.
- c) Un Groupe d'Etudes ou un Groupe de Travail est établi pour une durée inférieure à une Période.
- d) Les Groupes d'Etudes ou les Groupes de Travail, y compris la fonction de Président du Groupe, sont mis en place et arrêtés par le Comité Exécutif de l'AIG sur recommandation du Président de Commission.
- e) Une proposition au Comité Exécutif de création d'un Groupe d'étude mixte ou d'un Groupe de Travail mixte de Commission nécessite la recommandation de tous les Présidents des Composantes qui y participent.
- f) Un ensemble de règles pour la création des Groupes d'Etudes et des Groupes de Travail est établi par le Comité Exécutif et publié dans le Manuel du Géodésien.
- g) Le Président du Groupe d'Etudes ou du Groupe de Travail a la responsabilité d'initialiser et de diriger le travail et de nommer les membres du groupe.
- h) La composition d'un Groupe d'Etudes ou d'un Groupe de Travail doit être équilibrée afin de refléter une coopération internationale sur ce sujet.
- i) Un Groupe d'Etudes ou du Groupe de Travail ne peut avoir plus de vingt

membres, mais peut avoir un nombre illimité de correspondants.

- j) Le Président de chaque Groupe d'Etudes ou du Groupe de Travail prépare une description succincte du travail à accomplir, ainsi qu'une liste des membres, pour publication dans le Manuel du Géodésien après chaque Assemblée Générale.
- k) Le Président de chaque Groupe d'Etudes ou du Groupe de Travail prépare tous les ans un rapport pour ses membres et pour le Comité de Pilotage de la Commission, décrivant les résultats obtenus ainsi que les problèmes majeurs rencontrés.
- l) Un ensemble de règles pour proposer des candidats en tant que Président d'un Groupe d'Etudes ou d'un Groupe de Travail est établi par le Comité Exécutif.

13. Services

- a) Les Services de l'AIG génèrent des produits, utilisant leurs propres observations ou les observations d'autres Services, appropriés pour la géodésie ou pour d'autres sciences ou applications. L'exactitude et l'intégrité des produits, le contrôle qualité, les délais d'obtention, et la recherche continue de la meilleure qualité sont les aspects essentiels des Services.
- b) Chaque Service définit ses Termes de Référence de manière appropriée pour accomplir sa mission. Il doit soumettre ses Termes de Référence à l'approbation du Comité Exécutif.
- c) Chaque Service doit disposer d'un représentant de l'AIG, nommé par le Comité Exécutif de l'AIG, comme membre votant de son Comité de Pilotage – Direction.
- d) Les Services sont liés à au moins une des Commissions et peuvent aussi être liés à d'autres associations scientifiques, comme l'Union Astronomique Internationale (UAI) ou la Fédération des Services analysant les données Astronomiques et Géophysiques (FAGS).
- e) Les Services coopèrent avec les Commissions sur une base scientifique, mettent en place des Projets de Commission mixtes, des Groupes d'Etudes mixtes et aident les Commissions à compiler la liste de leurs Groupes d'Etudes.

- f) Trois représentants des Services sont élus au Comité Exécutif de l'AIG, en accord avec l'article 39 du Règlement Intérieur, afin de protéger les intérêts de tous les Services.
- g) Pour toute question relative à un produit d'un Service, le Service représente l'AIG.

14. Services actuels

Prenant effet avec ce Règlement Intérieur, il existe quinze Services décrits ci-dessous :

- a) Service international GNSS (IGS).
- b) Service international VLBI pour la Géodésie et l'Astrométrie (IVS).
- c) Service international pour les mesures de distance laser (ILRS).
- d) Bureau Gravimétrique International (BGI).
- e) Service international du Géoïde (IGeS).
- f) Service international des marées terrestres (ICET).
- g) Service international pour la rotation terrestre et les systèmes de référence (IERS).
- h) Service international DORIS (IDS).
- i) Service international pour le champ de gravité (IGFS).
- j) Centre international pour les modèles globaux de la Terre (ICGEM).
- k) Service international pour les modèles numériques de terrain (IDEMS) (à confirmer).
- l) Service permanent du niveau des mers (PSMSL).
- m) Section Temps du Bureau international des Poids et mesures (BIPM).
- n) Service international d'altimétrie (IAS) (à confirmer).
- o) Service bibliographique de l'AIG.

15. Le système global d'observations géodésiques (GGOS)

- a) Le GGOS est le système d'observation de l'AIG dont le rôle est de surveiller les propriétés géométriques et de géodynamique globale de la Terre en tant que système.
- b) Le GGOS travaille avec les autres Composantes de l'AIG, telles que les Services de l'AIG et les Commissions de

l'AIG, ainsi que les Comités inter-Commissions, pour fournir des produits géodésiques uniques, conformes et faciles d'accès (incluant les systèmes de référence terrestre et le champ de gravité) ainsi que les constantes géodésiques pour la science et la société.

- c) Le GGOS fonctionne en accord avec ses propres Termes de Référence, définis par le Comité de Pilotage du GGOS et approuvés par le Comité Exécutif de l'AIG. Les procédures de nomination et d'élection au sein de GGOS sont explicitées dans ses Termes de Référence. Des modifications des Termes de Référence de GGOS peuvent être proposées par le Comité de Pilotage du GGOS et approuvées par le Comité Exécutif de l'AIG.
- d) Le Président de GGOS est nommé par le Comité Exécutif de l'AIG avec consultation du Comité de Pilotage du GGOS pour une période de quatre ans, renouvelable une fois.

16. Les Projets de l'AIG

- a) Les Projets de l'AIG portent l'étendard de l'AIG dans des domaines très étendus et d'un très grand intérêt pour toute la géodésie. Ils sont mis en place pour une durée de dix ans ou plus.
- b) La préparation en vue de la création d'un Projet de l'AIG est conduite par un groupe de planification mis en place par le Comité Exécutif.
- c) Le Comité de Pilotage d'un Projet est constitué des membres votants suivants :
 - (i) Un Président du Projet nommé par le Comité Exécutif de l'AIG.
 - (ii) Un représentant par Commission nommé par le Comité de Pilotage de la Commission.
 - (iii) Deux membres en service extraordinaire proposés par les membres du Comité de Pilotage du Projet identifiés dans les clauses (i) et (ii) ci-dessus et approuvés par le Comité Exécutif de l'AIG.
 - (iv) Les Présidents des Groupes de Travail du Projet AIG (s'il y en a).
 - (v) Des représentants d'autres Composantes de l'AIG, si cela est approprié.

- d) Un Ensemble de règles pour créer des Projets de Commission est préparé par le Comité Exécutif et publié dans le Manuel du Géodésien.
- e) Les sous-structures d'un Projet de l'AIG sont des Groupes de Travail et non des Groupes d'Etudes.

17. a) Comités inter-Commissions

Les Comités inter-Commissions s'occupent de tâches permanentes, bien définies et importantes impliquant toutes les Commissions.

- b) Chaque Comité inter-Commissions possède un Comité de Pilotage, qui inclut les membres suivants :
 - (i) Un Président nommé par le Comité Exécutif de l'AIG.
 - (ii) Un Vice-Président nommé par le Comité Exécutif de l'AIG sur recommandation du Président.
 - (iii) Un représentant nommé par chaque Commission.
- c) Les Termes de Référence de chaque Comité inter-Commissions sont établis par un groupe de planification, nommé par le Comité Exécutif de l'AIG, et doivent être approuvés par le Comité Exécutif.
- d) Les Comités inter-Commissions sont établis pour une durée d'au moins deux Périodes (huit ans) et sont soumis à un audit par le Comité Exécutif de l'AIG tous les huit ans.
- e) Les comités inter-Commissions rendent compte au Comité Exécutif de l'AIG.

18. Service d'information et de communication (COB)

- a) La fonction du Centre d'information et d'éducation (COB) est de prendre en charge pour l'AIG la communication, l'information scolaire, grand public et pour les médias vers ses membres, ainsi que vers d'autres associations scientifiques également vers le monde entier.
- b) Les responsabilités du Centre d'information et d'éducation (COB) incluent les tâches suivantes :
 - (i) Promouvoir la reconnaissance et l'utilité de la géodésie en général et de l'AIG en particulier.
 - (ii) Publier l'IAG Newsletter.
 - (iii) Augmenter l'effectif de l'AIG.

- (iv) Assurer un service d'information général
- c) Le Centre d'information et d'éducation (COB) assiste le Secrétaire Général de l'AIG, de manière appropriée pour les tâches suivantes :
 - (i) Maintenance de la page Internet de l'AIG.
 - (ii) Mise en place d'écoles de l'Association.
 - (iii) Mise en place de réunions et de conférences.
 - (iv) Maintenance du service bibliographique.
- d) Le Comité Exécutif de l'AIG met en place le Centre d'information et d'éducation (COB) pour une longue durée, à la suite d'un Appel à Participation. La ou les organisations qui réponde(nt) à cet Appel à Proposition engage(nt) des négociations avec le Comité Exécutif de l'AIG concernant les Termes de Références et toutes autres conditions.
- e) Le Président du Centre d'information et d'éducation (COB) est élu par le Conseil.
- f) Les décisions majeures liées au fonctionnement du Centre d'information et d'éducation (COB) sont prises par un Comité de Pilotage constitué des membres votants suivants :
 - (i) Le Président du Centre d'information et d'éducation (COB).
 - (ii) Le Secrétaire Général de l'AIG.
 - (iii) L'Editeur-en-Chef du Journal of Geodesy.
 - (iv) Cinq autres membres (maximum) nommés par le Comité Exécutif sur recommandation du Président du Centre d'information et d'éducation (COB).

19. Editeur-en-Chef et Bureau Editorial

- a) Le Journal (Journal of Geodesy) est dirigé par un Editeur-en-chef, ci-après désigné par l'Editeur. Un Editeur-en-chef adjoint peut aider l'Editeur. L'Editeur prend conseil et est aidé par un Bureau Editorial. Afin d'assurer l'expertise la plus large possible, chaque Commission peut nommer jusqu'à trois membres du Bureau éditorial.
- b) L'Editeur est responsable du contenu scientifique du Journal. L'Editeur prend la

décision définitive d'accepter pour publication un manuscrit scientifique après expertise. L'Editeur informe le Comité Exécutif des activités et du niveau des opérations du Journal.

- c) Quelques mois avant chaque réunion de l'Assemblée Générale, l'Editeur en charge, en consultation avec le Bureau propose une liste préliminaire de candidats au prochain Bureau Editorial. Cette liste est publiée sur le site Internet de l'AIG au moins deux mois avant la date de l'Assemblée Générale afin de solliciter des propositions supplémentaires provenant de la communauté géodésique. Ces nouveaux candidats sont ajoutés à la liste.
- d) Au cours de la réunion de l'Assemblée Générale, le Bureau Editorial actuel nomme les membres du futur Bureau Editorial à partir de cette liste. Après avoir pris ses fonctions, le nouveau Bureau Editorial nomme le nouvel Editeur et le nouvel Editeur adjoint pour la Période suivante. Après acceptation de ces nominations par le Comité Exécutif, l'Editeur et l'Editeur adjoint sont considérés élus. La société d'édition du Journal sera choisie parmi la concurrence.
- e) L'Editeur, l'Editeur adjoint, et les membres du Bureau Editorial sont mis en place pour une Période, mais peuvent être réélus pour une Période supplémentaire.

20. Publications de l'AIG

- a) Les publications de l'AIG incluent le Journal of Geodesy, la Newsletter de l'AIG, le Manuel du Géodésien, les Travaux de l'Association Internationale de Géodésie, les publications spéciales de l'AIG, et la série des symposiums de l'AIG.
- b) Le Journal de l'Association est le Journal of Geodesy, ci-après désigné par le Journal. Le Journal est publié tous les mois dans le cadre d'un accord commercial entre l'Association et une compagnie d'édition ou par tout autre arrangement approuvé par le Comité Exécutif. Les termes de l'accord commercial pour la publication du Journal sont négociés par le Président du centre d'information et d'éducation (COB) et ratifiés par le Comité Exécutif.
- c) Le Journal publie des manuscrits expertisés, couvrant tous les domaines de la géodésie, y compris les applications géodésiques.

- d) La Newsletter de l'AIG est sous la responsabilité éditoriale du Centre d'information et d'éducation (COB). Elle est publiée sur le site Internet de l'AIG et est diffusée électroniquement aux membres.
- e) Après chaque réunion de l'Assemblée Générale de l'AIG, un numéro spécial du Journal of Geodesy est publié sous le nom de Manuel du Géodésien. Ce numéro fournit les informations remises à jour de l'Association, y compris les rapports du Président, du Secrétaire Général présentés lors de la réunion précédente de l'Assemblée Générale de l'AIG, les résolutions prises au cours de cette réunion et la structure de l'Association listant toutes ses Composantes et ses sous-structures pour la période en cours, les règles pour le Fond de l'AIG, les Récompenses de l'AIG, l'organisation des réunions scientifiques, ainsi que toutes les informations scientifiques appropriées.
- f) Après chaque réunion de l'Assemblée Générale, un ensemble des rapports des Composantes de l'Association est publié dans Les Travaux de l'Association Internationale de Géodésie. Cette publication est fournie gratuitement aux Officiers de l'Association à tous les représentants de chacun des Pays Membres.
- g) Les actes des symposiums de l'AIG peuvent être publiés dans la Série des Symposiums de l'AIG. L'Editeur de cette série est le Président de l'Association. L'organisateur de la réunion fait fonction d'Editeur pour le volume en question. Tous les manuscrits sont expertisés, et l'Editeur du volume prend la décision définitive d'accepter ou non les manuscrits pour publication.
- h) A chaque réunion de l'Assemblée Générale, chaque pays membre est encouragé à fournir un nombre suffisant de copies de son Rapport National concernant le travail géodésique réalisé depuis la réunion précédente de l'Assemblée Générale sous forme papier, ou une copie numérique de son Rapport National pour être mis sur le site Internet de l'AIG. Ces Rapports Nationaux, lorsqu'ils sont disponibles, sont diffusés par le secrétariat de l'AIG de la même manière que les Travaux de l'Association Internationale de Géodésie.

21. Membres individuels

- a) Les personnes impliquées en géodésie, peuvent devenir membres individuels de l'Association après demande et paiement d'une cotisation.
- b) Les demandes pour devenir membre individuel doivent être soumises au Secrétaire Général.
- c) La décision d'accepter ces demandes est faite par le Bureau.
- d) Les Membres possèdent les avantages suivants :
 - (i) Réduction substantielle sur le prix de la souscription individuelle au Journal of Geodesy.
 - (ii) Droit à participer au processus d'élection de l'AIG en termes de proposition et en termes de nomination, en respectant les règles de l'UGGI.
 - (iii) Dès l'application, le droit de devenir membre correspondant d'une sous-Commission ou d'un Groupe d'Etudes au choix.
 - (iv) Réduction des frais d'inscription aux réunions de l'AIG comme décrit dans les articles 25 (i), 26 (d) et 27 (c) du Règlement Intérieur.
- e) La cotisation annuelle est définie par le Comité Exécutif. Pour définir le montant de cette cotisation, le Comité Exécutif prend en compte la recommandation du Secrétaire Général.
- f) Dans certains cas exceptionnels, le secrétaire Général peut considérer une réduction de cette cotisation ou une exemption des coûts de la cotisation d'un membre.
- g) Lorsqu'un membre fournit un don excédant le montant de la cotisation, cet excédent est attribué au Fond AIG destiné à aider les jeunes scientifiques.
- h) Le statut de membre s'arrête lorsque la cotisation n'est plus payée ou si aucune demande de réduction du prix total de la cotisation n'a été envoyée un an après la date de paiement.

22. Compagnons

Le Comité Exécutif peut inviter d'anciens Officiers de l'Association à devenir Compagnons. Lorsque cette proposition est

acceptée, le Comité Exécutif confirme la nomination.

23. Fond de l'AIG

Le Comité Exécutif peut mettre en place un Fond (Fond de l'AIG) pour aider financièrement certaines activités géodésiques décrites dans les Règles du Fond AIG, publiées dans le Manuel du Géodésien en accord avec l'article 20 (e) du Règlement Intérieur. Ce Fond est sous la responsabilité directe du Président. Les ressources du Fond sont administrées par le Secrétaire Général.

24. Récompenses de l'AIG

Le Comité Exécutif peut mettre en place des récompenses honorant des contributions exceptionnelles à la géodésie ou des services remarquables rendus à l'Association. Les règles concernant les récompenses sont publiées dans le Manuel du Géodésien en accord avec l'article 20 (e) du Règlement Intérieur.

25. Administration des réunions de l'Assemblée Générale de l'AIG

- a) L'Assemblée Générale de l'AIG se réunit au même moment et au même endroit que l'Assemblée Générale de l'UGGI.
- b) Avant chaque réunion de l'Assemblée Générale de l'AIG, le Bureau de l'Association prépare un ordre du jour détaillé pour les réunions du Conseil, du Comité Exécutif, pour les sessions d'ouverture et de clôture.
- c) Le Comité exécutif présente cet ordre du jour au cours du programme scientifique. Des symposiums mixtes sur des sujets intéressants au moins deux Associations de l'Union peuvent être organisés.
- d) Les ordres du jour, établis suivant les articles (b) et (c) ci-dessus sont envoyés aux Pays Membres ainsi qu'à tous les Officiers de l'Association à qui ils doivent parvenir au moins deux mois avant la date de réunion de l'Assemblée générale. En principe, seuls les sujets inscrits sur l'ordre du jour peuvent être considérés durant les réunions, sauf si une décision de faire différemment est prise par une majorité des deux tiers par le Conseil pour l'ordre du jour de la réunion du Conseil, ou par le Comité Exécutif pour le programme scientifique.
- e) A chaque réunion de l'Assemblée Générale de l'AIG, le Président présente un rapport détaillé décrivant le travail

scientifique de l'Association durant son mandat. Le Secrétaire Général présente un rapport détaillé sur le travail administratif et sur l'état des finances durant cette même Période. Le Président et le secrétaire général incluent dans leur rapport des propositions pour le travail à entreprendre pour le mandat suivant, en tenant compte des ressources financières attendues. Ces rapports sont publiés dans le Manuel du Géodésien.

- f) A chaque réunion de l'Assemblée Générale de l'AIG, le travail de chaque Commission, de chaque Service, du Centre d'information et d'éducation (COB), et de chaque Projet de l'AIG est présenté par leur Président. Les représentants de l'AIG aux autres organisations scientifiques rendent compte au Comité Exécutif.
- g) Chaque auteur individuel est responsable de la reproduction de ses rapports scientifiques avant la réunion. Lorsque le Secrétaire Général en reçoit un nombre suffisant, il les distribue aux Délégués.
- h) Les Secrétaires d'Assemblée sont nommés par le Conseil sur recommandation du Pays Membre dans lequel se tiendra la prochaine réunion de l'Assemblée Générale de l'AIG ou de l'Assemblée Scientifique. En collaboration avec le Bureau, le Secrétaire d'Assemblée est responsable de la liaison avec les organisateurs de l'Assemblée.
- i) Le Comité Exécutif peut mettre en place des réductions au prix d'inscription de membres individuels en accord avec l'article 20 (d) (iv).

26. Réunions scientifiques

- a) Les réunions scientifiques de l'AIG sont :
 - (i) Le symposium scientifique tenu durant l'Assemblée Générale ;
 - (ii) Les Assemblées Scientifiques, y compris les symposiums scientifiques ; et
 - (iii) Les symposiums agréés par l'AIG.
- b) La Newsletter de l'AIG inclut, de manière régulière, un calendrier des symposiums de l'AIG et des autres réunions scientifiques organisées ou agréés par l'AIG ou par l'une de ses Composantes.
- c) Le Comité Exécutif nomme un représentant officiel de l'AIG à la réunion

scientifique pour chaque réunion scientifique régie par ce Règlement Intérieur. Ce représentant doit rappeler aux organisateurs de respecter le Règlement Intérieur pour ces réunions scientifiques et doit rendre compte en retour au Comité Exécutif.

- d) Le Comité exécutif peut mettre en place des réductions du prix d'inscription de membres individuels en accord avec l'article 21 (d) (iv).

27. Assemblées scientifiques

- a) Les Assemblées scientifiques se déroulent en général au milieu de la Période séparant deux réunions de l'Assemblée Générale de l'AIG et sont constituées d'un groupe de réunions des Composantes et - ou d'un groupe de symposiums scientifiques qui se tiennent dans un même lieu et à la même époque.
- b) Le Comité Exécutif nomme un Secrétaire d'Assemblée en accord avec l'article 25 (h) du Règlement Intérieur
- c) Le Comité Exécutif peut mettre en place des réductions du prix d'inscription de membres individuels en accord avec l'article 21 (d) (iv).

28. Responsabilités des Composantes de l'Association

- a) Les symposiums scientifiques ont lieu lors des réunions de l'Assemblée Générale de l'AIG et de son Assemblée Scientifique. En général, ils sont organisés par des Composantes ou des sous-structures de l'AIG, sous la direction de leurs Présidents
- b) L'étude de certaines questions peut nécessiter l'organisation par plusieurs Composantes de réunions mixtes sous la direction d'une personne nommée par le Comité Exécutif. Un comité composé des Présidents des Composantes décide de l'ordre du jour et de l'inclusion de présentations scientifiques.
- c) A chaque réunion de l'Assemblée Générale de l'UGGI, des Symposiums Scientifiques mixtes couvrant des centres d'intérêts relatifs à au moins deux Associations à l'intérieur de l'UGGI et - ou d'autres organisations scientifiques internationales peuvent être décidés. Bien que l'AIG puisse être appelé à agir comme organisateur ou co-organisateur, ces symposiums sont soumis aux règles de

l'UGGI. L'AIG peut aussi participer à d'autres symposiums mixtes à tout moment en dehors des réunions de l'Assemblée Générale tout en respectant les mêmes procédures.

- d) L'organisation d'un symposium scientifique est assujettie à la procédure habituelle d'acceptation décrite dans le Manuel du Géodésien conformément à l'article 20 (e) du Règlement Intérieur.

29. Symposiums agréés par l'AIG

- a) L'AIG peut agréer un symposium recouvrant des sujets généraux de géodésie et ayant une affluence importante à tout moment opportun en dehors des réunions de l'Assemblée Générale de l'AIG ou des Assemblées Scientifiques. De tels symposiums seront alors appelés Symposiums agréés par l'AIG lorsque les conditions suivantes sont remplies :
 - (i) Il doit être agréé par au moins une Composante de l'AIG ou une sous-structure ou au moins par deux Groupes d'Etudes.
 - (ii) L'organisation hôte du symposium doit accepter un Comité scientifique d'organisation (SOC) nommé par le Comité Exécutif de l'AIG.
 - (iii) Le symposium doit être ouvert à tous les scientifiques bona fide en accord avec les règles de l'ICSU.
 - (iv) Les actes du symposium doivent être publiés dans un délai de six à huit mois.
- b) Le Comité scientifique d'organisation (SOC) désigné dans l'article 29 (a) (ii) est responsable de la haute qualité scientifique de ce symposium. Un Comité d'organisation local (LOC) prend en charge l'organisation et la logistique.
- c) Les demandes d'accord pour un symposium AIG doivent être soumises au Secrétaire Général au moins deux ans avant la date prévue de cette réunion. Des règles détaillées pour de telles demandes, ainsi que les objectifs du Comité scientifique d'organisation (SOC) et du Comité local d'organisation (LOC) sont décrits dans le Manuel du Géodésien, en accord avec l'article 20 (e) du Règlement Intérieur.

30. Coopération internationale

- a) L'Association peut participer à des entités mixtes de l'UGGI ou à d'autres organisations scientifiques, particulièrement celles dépendantes du Conseil International pour la science (ICSU). Ces entités sont gérées en fonction de leurs règles propres.
- b) L'Association peut initier des coopérations internationales pour des travaux internationaux et de caractère multidisciplinaire. Cela inclut la participation adéquate dans des programmes et projets internationaux et la représentation dans des congrès scientifiques, des symposiums, etc. ou des organisations ayant des activités proches.
- c) Le Président de l'Association décide du niveau approprié de participation ou de représentation. Les représentants à des programmes ou projets internationaux sont nommés par le Comité Exécutif et informent le Président des activités sur une base biannuelle. Les représentants préparent également un rapport, présenté lors de la réunion de l'Assemblée Générale de l'AIG.

31. Rôle du Conseil

- a) En plus de ses autres fonctions, pouvoirs et devoirs définis par ailleurs dans les Statuts et dans le Règlement Intérieur, le Conseil doit :
 - (i) Examiner les questions relatives à la politique scientifique générale ou à l'administration, et proposer les actions qu'il juge nécessaire.
 - (ii) Elire les membres votants du Comité exécutif, à l'exception du Président du GGOS, voir l'article 15 (c).
 - (iii) Recevoir les rapports du Secrétaire Général et considérer pour approbation les décisions et actions prises par le Bureau et le Comité Exécutif depuis la dernière réunion du Conseil.
 - (iv) Mettre en place les Composantes de l'Association ou y mettre un terme.
 - (v) Nommer les trois membres du comité ad hoc créé pour vérifier les finances de l'Association, prendre en compte ses recommandations et adopter le budget final.

(vi) Examiner les propositions de modification des Statuts et du Règlement Intérieur.

(vii) Décider du lieu des réunions des Assemblées scientifiques.

(viii) Approuver la mise en place des Comités inter-Commissions et des Projets de l'AIG.

- b) Les réunions du Conseil sont convoquées par le Président de l'Association. Le Conseil se réunit au moins une fois lors de chaque réunion de l'Assemblée Générale, et peut être convoqué à tout autre moment, en général en coïncidence avec une réunion de l'Assemblée Scientifique de l'AIG.

32. Rôle du Comité Exécutif

- a) En plus de ses autres fonctions, pouvoirs et devoirs définis par ailleurs dans les Statuts et dans le Règlement Intérieur, le Comité Exécutif doit :
 - (i) Entreprendre des actions et produire des spécifications, lorsque de besoin, pour guider l'Association vers la réalisation de ses objectifs scientifiques.
 - (ii) Remédier aux vacances de poste entre les réunions de l'Assemblée générale de l'AIG, en accord avec les Statuts et Règlement Intérieur actuels.
 - (iii) Approuver la structure interne des Composantes de l'Association.
 - (iv) Faire des recommandations au Conseil sur les sujets de politique générale de l'Association ainsi que sur l'implémentation de ces objectifs.
 - (v) Nommer les Compagnons de l'Association, sur proposition du Bureau.
 - (vi) Nommer les groupes de planification pour les comités inter-Commissions et les Projets de l'AIG.
 - (vii) Mettre en place les Comités inter-Commissions et les Projets de l'AIG.
 - (viii) Nommer le comité d'audit de l'AIG tous les huit ans.
 - (ix) Nommer les Secrétaires adjoints de l'Association.
 - (x) Confirmer les liaisons entre les Commissions et les Services.

- (xi) Adopter la cotisation suggérée pour les Membres.
 - (xii) Nommer le Vice-Président des Commissions.
 - (xiii) Nommer les représentants dans les organismes externes.
 - (xiv) Mettre en place le Fond de l'AIG.
- b) Le Comité Exécutif se réunit à la demande du Président de l'Association. Il se réunit à l'occasion de la réunion de l'Assemblée Générale de l'AIG et il est prévu que ses membres assistent aux réunions du Conseil avec droit à la parole, mais sans droit de vote. Il se réunit normalement au moins une fois par an, en particulier l'année qui précède la réunion de l'Assemblée Générale de l'AIG, afin de préparer l'ordre du jour scientifique et le calendrier de la prochaine réunion de l'Assemblée Générale de l'AIG.
- c) Lors d'une réunion du Comité Exécutif, aucun membre ne peut être représenté, à l'exception d'un Président de Commission qui peut être représenté par son vice-Président. Pour que les délibérations du Comité Exécutif soient valides, il faut qu'au minimum, la moitié des Membres soit présente ou représentée.
- d) L'ordre du jour de chaque réunion du Comité Exécutif est préparé par le Bureau et envoyé à ses membres au moins trois mois avant la réunion.

33. Rôle du Bureau

- a) En plus de ses autres fonctions, pouvoirs et devoirs définis par ailleurs dans les Statuts et dans le Règlement Intérieur, le Bureau doit :
- (i) Préparer l'ordre du jour des réunions du Conseil et celui du Comité Exécutif, et les adresser à ses membres au moins trois mois avant ces réunions.
 - (ii) Assurer l'administration appropriée de l'Association.
 - (iii) Recevoir les demandes individuelles d'adhésion et accepter ces personnes comme membres individuels de l'Association.
 - (iv) Proposer les Compagnons au Comité exécutif.
- b) Le Bureau se réunit habituellement avant chaque réunion du Comité Exécutif.

34. Rôle du Président

En plus de ses autres fonctions, pouvoirs et devoirs définis par ailleurs dans les Statuts et dans le Règlement Intérieur, le Président doit :

- a) Assurer la gouvernance générale de l'Association.
- b) Convoquer et présider les réunions de l'Assemblée Générale, ainsi que toutes les réunions du Conseil, du Comité exécutif et du Bureau.
- c) Représenter l'Association dans ses relations avec les organisations et institutions internationales.
- d) Soumettre un rapport à la réunion de l'Assemblée Générale de l'AIG sur le travail scientifique de l'Association durant son mandat.

35. Rôle du Vice-Président

En plus de ses autres fonctions, pouvoirs et devoirs définis par ailleurs dans les Statuts et dans le Règlement Intérieur, le vice-Président doit agir à la place du Président à chaque fois que le Président n'est pas présent ou est incapable d'assurer ses fonctions. Il réalise aussi toutes les tâches qui lui sont attribuées par le Président, le Comité Exécutif ou le Conseil.

36. Rôle du Secrétaire Général

En plus de ses autres fonctions, pouvoirs et devoirs définis par ailleurs dans les Statuts et dans le Règlement Intérieur, le Secrétaire Général doit :

- a) Faire office de secrétaire de l'Assemblée Générale, du Conseil, du Comité Exécutif et du Bureau, organiser les réunions de ces groupes, distribuer rapidement les ordres du jour et préparer les comptes-rendus de leurs réunions.
- b) Faire office de directeur du Bureau central de l'AIG.
- c) Gérer les affaires de l'Association, s'occuper de la correspondance, et conserver les archives.
- d) Faire circuler toute information appropriée relative à l'Association.
- e) Préparer les rapports d'activité de l'Association.
- f) Accomplir toutes les tâches qui lui sont attribuées par le Bureau.
- g) La fonction de Secrétaire Général n'est pas rémunérée. Seules les dépenses

encourues en connexion avec ses fonctions et responsabilités sont remboursables.

37. Secrétaires Adjoints

- a) Le Secrétaire Général est assisté par un petit nombre de secrétaires adjoints, parmi lesquels l'un d'eux travaille au même endroit.
- b) La fonction de Secrétaire Adjoint n'est pas rémunérée. Seules les dépenses encourues en connexion avec ses fonctions et responsabilités sont remboursables.

38. Bureau central de l'AIG

Pour assister le Secrétaire général, l'Association met en place un Bureau central dans le pays dans lequel réside Secrétaire Général. Le Comité Exécutif négocie le soutien logistique et financier avec le pays hôte.

39. Procédures de nomination et d'élection des Officiers

- a) Les élections se font par vote électronique avant chaque réunion de l'Assemblée Générale et doivent être terminées un mois avant l'assemblée.
- b) Le Président de l'Association, après avoir pris l'avis du Comité Exécutif, nomme un Comité de Nomination comportant un Président et trois autres membres.
- c) Le Comité de Nomination, après avoir pris l'avis des Délégués des Pays membres, des Officiers, des Compagnons, et des Membres de l'Association, propose normalement au moins deux candidats pour chaque poste qui sera attribué par le Conseil. Il est demandé aux candidats de confirmer leur accord pour cette proposition et de préparer un curriculum vitae, de 150 mots maximum, précisant leur fonction leurs domaines d'intérêt scientifique et leurs activités liées à l'Association.
- d) Les Pays Membres et les membres individuels (i.e. les Membres de l'Assemblée Générale) sont informés de ces propositions au mois trois mois avant la réunion de l'Assemblée Générale.
- e) Au cours du mois suivant, des propositions nouvelles peuvent être soumises par les Délégués des Pays Membres. Ces propositions doivent être faites par écrit, doivent avoir le soutien

d'au moins deux membres du Conseil et sont soumises avec les curriculum vitae décrits précédemment au Président du Comité de nomination.

- f) La légalité des nominations, conformément à l'article 40 du règlement intérieur, est contrôlée par le Comité de nomination. Toute candidature illégale ne peut être acceptée et, dans ce cas, les membres du Conseil qui la soutenaient sont informés de la cause du rejet.
- g) Les Délégués sont informés des propositions légales de candidature nouvelles et de leurs soutiens.
- h) Le Président du Comité de nomination écrit à tous les services pour leur demander une candidature par service au poste de représentant des services au Comité Exécutif. Le Comité de nomination propose habituellement deux candidatures pour chacun des trois postes, prenant en considération une répartition scientifique et nationale appropriée. La procédure décrite dans le précédent alinéa (e) ne s'applique pas pour ces postes.
- i) Lorsqu'un candidat a été proposé pour plusieurs postes, on lui demande de choisir la candidature du poste qu'il souhaite conserver.
- j) Les élections se font par vote électronique et à majorité simple. A cette occasion, les Délégués des Pays Membres forment le Conseil.

40. Légalité et durée des postes

- a) Personne ne peut occuper simultanément plus d'un des postes suivants : Président de l'Association, Vice-Président, Président d'une Commission, Président d'un Service, Président du GGOS, Président du Centre d'information et d'éducation (COB), Président d'un Projet de l'AIG.
- b) Un membre du Bureau de l'UGGI ou du Comité des finances de l'UGGI ne peut occuper les postes de Président, Vice-Président ou de Secrétaire Général de l'Association.
- c) Le Président de l'Association est élu pour une durée d'une Période et ne peut être immédiatement réélu à ce même poste.
- d) Le Vice-Président est élu pour une Période et ne peut être réélu à ce même poste.
- e) Le Secrétaire Général est élu pour une Période initialement. Il peut être élu pour

deux Périodes supplémentaires au maximum.

41. Vacances de poste extraordinaires

- a) En cas de vacance du poste de Président durant la Période entre deux réunions de l'Assemblée Générale de l'AIG, ses fonctions sont attribuées au Vice-Président jusqu'à la fin de la réunion de la prochaine Assemblée Générale de l'AIG.
- b) En cas de vacance du poste de Secrétaire Général, le Président s'arrangera dans le plus bref délai pour que le Comité Exécutif propose un remplaçant et pour que le Conseil nomme un nouveau Secrétaire Général afin d'assurer la continuité du travail du Bureau central de l'AIG. La nomination est effective jusqu'à la fin de la réunion de la prochaine Assemblée Générale de l'AIG, mais ne peut être comptée dans les restrictions légales d'éligibilité du Secrétaire Général décrites dans l'article 40 (e).

42. Finances

- a) Les finances de l'Association proviennent des sources suivantes :
 - (i) Les contributions des Pays Membres de l'UGGI pour lesquelles une partie, déterminée par le Conseil de l'UGGI sur recommandation de son Comité des finances, est payée à l'Association par le Trésorier de l'Union.
 - (ii) La vente des publications.
 - (iii) Le Fond AIG collecté à partir de contributions individuelles et pour des buts spécifiques.

(iv) Les cotisations des adhérents.

(v) Une partie des frais d'inscription aux Symposiums de l'AIG.

(vi) D'autres sources eg. dons, intérêts, et fonds provenant d'anciens symposiums.

- b) Le Secrétaire Général est responsable devant le Bureau et devant le Conseil de gérer les finances en accord avec les Statuts et le Règlement Intérieur, en fonction des décisions du Conseil. Seul le Secrétaire Général est responsable du contrôle des opérations financières de l'Association.
- c) A chaque réunion de l'Assemblée Générale de l'AIG, la proposition de budget pour la période suivante est présentée par le Secrétaire Général et soumise à l'approbation du Conseil. Le budget ainsi approuvé par le Conseil est mis en place par le Secrétaire Général.
- d) Au cours de chaque réunion de l'Assemblée Générale de l'AIG, le Conseil examine les dépenses effectuées durant le mandat précédent pour s'assurer qu'elles sont bien en accord avec le budget proposé précédemment accepté. Le Conseil nomme un Comité ad hoc pour s'occuper de cette vérification en détail.
- e) De plus, les comptes doivent être soumis à un audit par un comptable certifié, et font l'objet d'un rapport envoyé au Trésorier de l'UGGI, comme indiqué dans l'article 20 du Règlement Intérieur de l'UGGI.

**STATUTES AND BY-LAWS OF THE INTERNATIONAL ASSOCIATION OF GEOMAGNETISM AND
AERONOMY**

(Revised July 2011, XXV IUGG General Assembly, Melbourne, Australia)

GLOSSARY OF TERMS

Terms are defined formally in the Statutes; this glossary is included for convenience only and does not provide the formal definition of terms.

Assembly: an ordinary General Assembly, an extraordinary General Assembly, or a Scientific Assembly of IAGA.

(The) Association: IAGA.

(The) By-Laws: the By-Laws of IAGA.

Chief Delegate: the Delegate appointed by an IAGA National Body for the purpose of casting that country's vote(s) on administrative and financial matters and who has communicated his or her accreditation to the Secretary-General.

Component Bodies of IAGA: the Divisions and Interdivisional Bodies of IAGA.

Conference of Delegates: a formal meeting of Delegates and Chief Delegates of Member Countries, open to the public.

Delegate: a scientist from a Member Country who is registered for an IAGA Assembly as a *bona-fide* scientific participant, or someone who has the agreement of the Secretary-General in consultation with the IAGA Executive Committee to attend and vote as a Delegate at a Conference of Delegates.

Executive Committee: the committee elected by a Conference of Delegates to be responsible for IAGA affairs between Conferences of Delegates.

Extraordinary General Assembly: a General Assembly of IAGA called by the President in accordance with *By-Law 5*.

Finance Committee: the committee appointed by the Executive Committee to examine the accounts and report to a Conference of Delegates.

General Assembly (of IAGA): an ordinary General Assembly or an extraordinary General Assembly of IAGA.

Honorary Member of IAGA: a person who has been voted the status of honorary member of the Association in recognition of outstanding contributions to the work of IAGA.

IAGA: the International Association of Geomagnetism and Aeronomy.

IAGA National Body: the body in a Member Country that is established by the body that adheres to IUGG to represent that country in IAGA activities.

ICSU: the International Council for Science (previously called the International Council of Scientific Unions).

IUGG: the International Union of Geodesy and Geophysics.

Member Country (of IAGA): a country that adheres to IUGG and may, therefore, participate in IAGA activities. Paying Member Countries of IUGG, as defined in the IUGG statutes, are paying Member Countries of IAGA. Countries in Observer status or having Associate Membership of IUGG, as defined in the IUGG statutes, are non-paying Member Countries of IAGA.

National Correspondent (not mentioned in the Statutes): the person to whom correspondence with the IAGA National Body of a Member Country is addressed; generally different from that Country's Chief Delegate to an Assembly.

Nominating Committee: the committee appointed by the Executive Committee to provide to a conference of Delegates nominations for the Executive Committee (Chief Delegates may also make nominations).

Ordinary General Assembly (of IAGA): an Assembly of IAGA normally held in conjunction with an ordinary General Assembly of IUGG (i.e., every 4 years).

Period: the interval between the end of one ordinary General Assembly of IAGA and the end of the next ordinary General Assembly of IAGA.

Scientific Assembly (of IAGA): an Assembly of IAGA normally held between ordinary General Assemblies.

(The) Statutes: the Statutes of IAGA.

Statutes of the International Association of Geomagnetism and Aeronomy

I. Objectives, Structure and Membership of the Association

Statute 1. Objectives of IAGA

The objectives of the International Association of Geomagnetism and Aeronomy (henceforth IAGA) are:

- (a) to promote studies of the magnetism and aeronomy of the Earth and other bodies of the solar system and of the interplanetary medium and its interaction with these bodies where such studies have international interest;
- (b) to encourage research in the above subjects by individual countries, institutions, or persons and to facilitate international co-ordination of such research;
- (c) to provide an opportunity on an international basis for discussion and publication of the results of the research indicated above;
- (d) to promote appropriate standardisations of observational programmes, data acquisition systems, data analysis, and publications.

Statute 2. Establishment of Component Bodies

To achieve its objectives, the Association may establish Component Bodies both within the Association and jointly with other Associations of the International Union of Geodesy and Geophysics (IUGG) or components of other Bodies of the International Council for Science (ICSU).

Statute 3. A Member Country of IAGA

A country that adheres to IUGG, as defined in the IUGG Statutes, is a Member Country of IAGA and may participate in IAGA activities. Paying Member Countries of IUGG, as defined in the IUGG statutes, are paying Member Countries of IAGA. Countries in Observer status or having Associate Membership of IUGG, as defined in the IUGG statutes, are non-paying Member Countries of IAGA.

Statute 4. An IAGA National Body

Each Member Country shall be represented by a single body, henceforth referred to as the IAGA National Body, established in that country by the body that adheres to IUGG.

II. Administration

Statute 5. Assemblies of IAGA

5.1 An ordinary General Assembly of IAGA shall normally be held in conjunction with each ordinary General Assembly of IUGG.

5.2 The interval between the end of one ordinary General Assembly and the end of the next one is, for the purposes of the Statutes, termed one Period.

5.3 A Scientific Assembly of IAGA may be held between ordinary General Assemblies of IAGA, in accordance with IUGG By-Laws.

5.4 An extraordinary General Assembly of IAGA may be convened by the President in accordance with the By-Laws.

Statute 6. Delegates and Conferences of Delegates

6.1 The work of the Association shall be directed by Conferences of Delegates held at Assemblies of IAGA.

6.2 A Delegate is a scientist from a Member Country who is registered for an Assembly as a bona-fide scientific participant, or someone who has the agreement of the Secretary-General in consultation with the IAGA Executive Committee to attend and vote as a Delegate at a Conference of Delegates.

6.3 Among the Delegates from each Member Country, one shall be identified by the respective IAGA National Body as Chief Delegate for the purpose of casting that country's votes on administrative and financial matters as stipulated in *Statutes 12, 13, and 14*. A Chief Delegate may be represented in voting matters by another Delegate appointed in accordance with the By-Laws.

6.4 A Delegate may represent only one Member Country. A member of the Executive Committee (see *Statute 7*) may not be a Chief Delegate, except when that member is the only person in attendance from the country in question.

6.5 A Conference of Delegates shall be convened at least once during each Assembly of IAGA.

Statute 7. The Executive Committee

7.1 Responsibility for the direction of IAGA affairs between Conferences of Delegates shall rest with an Executive Committee of the Association, elected at a Conference of Delegates.

7.2 Decisions of the Executive Committee must be reported to a Conference of Delegates. Any decision or recommendation failing to receive simple majority support from a Conference of Delegates shall be referred to the Executive Committee for further study.

7.3 The duties of the Executive Committee shall be to administer the affairs of the Association in accordance with these Statutes and By-Laws and the decisions of a Conference of Delegates.

7.4 The Executive Committee may create Joint Bodies with other IUGG Associations and components of other ICSU Bodies to deal with topics of mutual interest, and may appoint appropriate leaders and IAGA representatives.

7.5 In its dealings with non-IUGG Bodies, the Executive Committee shall not commit the name of IUGG, or act on behalf of IUGG, unless prior approval has been secured from the IUGG Executive Committee.

7.6 The Executive Committee shall meet at least twice at each Assembly, and must meet at least once more between ordinary General Assemblies.

Statute 8. Membership of the Executive Committee

8.1 The Executive Committee shall consist of the President, Vice-President, Secretary-General, and seven additional Members. All members of the Executive Committee shall be elected by a Conference of Delegates as an administrative matter with voting as stipulated in *Statutes 13 and 14*.

8.2 The President shall be elected for one Period, and may not be re-elected to the same office. No person, other than the Secretary General, may serve in the same position for more than two Periods. A person who has already served for two Periods is not eligible for a lower position.

8.3 The retiring President (*ex-officio*) shall be entitled to attend Executive Committee meetings and participate in Committee business, but shall not vote or draw on IAGA funds to attend such meetings.

8.4 The Secretary-General shall be elected for eight years and may be re-elected for up to two successive four-year terms.

8.5 The election of the Executive Committee shall normally take place at a Conference of Delegates held at an ordinary General Assembly, with the exception of the Secretary-General who shall normally be elected at a Conference of Delegates held at a Scientific Assembly.

8.6 In the event of any vacancy occurring in the membership of the Executive Committee during a Period, the Executive Committee shall appoint a person to fill the vacancy until the next election. The eligibility for election of a person so appointed shall not be affected by such an appointment. If the vacancy is that of the Presidency, the Vice-President shall act as President.

Statute 9. Duties of Component Bodies

9.1 The duties of the Component Bodies within IAGA (see *Statute 2*) shall be to further the scientific objectives of IAGA through:**(a)** co-ordination of appropriate scientific research;

(b) organisation of scientific meetings;

(c) promotion of the exchange of information and data; and

(d) provision of advice to the Executive Committee on the formulation of policies to guide the scientific work of the Association.

9.2 The duties of the Component Bodies established jointly with other Associations of IUGG or other ICSU Bodies (see *Statute 2*) shall be to deal with and co-ordinate those scientific programmes and/or meetings that cover topics of mutual interest.

III. Finance

Statute 10. Adoption of the budget

The Secretary-General shall prepare a budget estimate of receipts and expenditures for each half-Period and present this budget before the Executive Committee and a Conference of Delegates at the time of an Assembly. On receiving the approval of both the Executive Committee and a Conference of Delegates, the Secretary-General shall proceed with the disbursement of funds in accordance with that approved budget.

Statute 11. Finance Committee

11.1 A Finance Committee shall be appointed by the Executive Committee within six months after the opening of each ordinary General Assembly and shall normally serve for one Period.

11.2 No serving Executive Committee Member may be a member of the Finance Committee.

11.3 The Finance Committee shall examine the accounts and report the results of their examination for approval to the Executive Committee and to a Conference of Delegates.

IV. Voting

Statute 12. Categories of Voting Matters

12.1 Prior to a vote by a conference of Delegates, the President shall decide whether the matter under consideration is scientific, administrative, or financial.

12.2 Matters that are partly scientific and partly administrative and do not involve matters of finance shall be classified as administrative matters.

12.3 The President's ruling may be challenged only by the Chief Delegate of a Member Country. In the event of a challenge, the President's ruling can be changed in accordance with a vote passed at the Conference of Delegates by a two-thirds majority of the Chief Delegates of paying Member Countries present.

Statute 13. Voting Rules

13.1 When a vote is taken on a scientific matter, each Delegate present at a conference of Delegates shall have one vote.

13.2 When a vote is taken on an administrative matter, voting shall be by paying Member Countries, each paying Member Country having one vote cast by its Chief Delegate, or that person's representative in accordance with the By-Laws.

13.3 When a vote is taken on a financial matter, voting shall be by paying Member Countries, each paying Member Country having a number of votes equal to the number of its category of membership in IUGG. Such votes shall be cast by the Chief Delegate of each paying Member Country, or that person's representative in accordance with the By-Laws.

13.4 Voting on administrative or financial matters may be conducted by correspondence (in accordance with the By-Laws) as an alternative to a vote taken at a Conference of Delegates.

Statute 14. Voting at Conferences of Delegates

14.1 Decisions taken by a vote at a Conference of Delegates shall be valid only if at least half of the Chief Delegates of paying Member Countries attending the Assembly are present or represented in accordance with the By-Laws.

14.2 Decisions of a Conference of Delegates shall be taken by a simple majority of the votes cast, except as otherwise specified in the Statutes. Simple or two-thirds majority shall be determined by the proportion of affirmative votes to the sum of the affirmative and negative votes, including correspondence votes by paying Member Countries on administrative and financial matters as specified in the By-Laws, and excluding abstentions. If a tie should occur, the decision shall rest with the President.

V. General

Statute 15. Modification of the Statutes

15.1 Modifications to these Statutes shall come into force at the close of the General Assembly at which the modifications are adopted, or as otherwise decided by a Conference of Delegates.

15.2 These Statutes may only be modified with the approval of at least a two-thirds majority of Chief Delegates of paying Member Countries present at a Conference of Delegates held during a General Assembly, in accordance with *Statutes 6, 13, and 14*.

15.3 Only the IAGA National Body of a Member Country may propose a change to these Statutes. Any such proposal must reach the Secretary-General at least four months prior to the announced date of the General Assembly at which it is to be considered. The Secretary-General shall notify all IAGA National Bodies of any proposed change at least two months prior to the announced date of the General Assembly.

Statute 16. Modification of the By-Laws

A Conference of Delegates shall have the power to adopt By-Laws within the framework of the Statutes of the Association. These By-Laws may be adopted or modified by a simple majority vote of Chief Delegates of paying Member Countries present at a General Assembly, in accordance with *Statutes 5, 13, and 14*. Any modification of the By-Laws shall come into force at the close of the General Assembly at which they are approved unless otherwise decided by the Conference of Delegates.

Statute 17. Languages

The present Statutes have been prepared in the official languages of the IUGG. The English text shall take precedence if there is a question of interpretation.

By-Laws of the International Association of Geomagnetism and Aeronomy

I. Composition

By-Law 1. Component Bodies of IAGA

The Components of IAGA shall be called Divisions and Interdivisional Commissions as follows:

Division I: Internal Magnetic Fields

Division II: Aeronomic Phenomena

Division III: Magnetospheric Phenomena

Division IV: Solar Wind and Interplanetary Magnetic Field

Division V: Observatories, Instruments, Surveys and Analyses

Interdivisional Commission: History

Interdivisional Commission: Developing Countries

By-Law 2. Role and Structure of a Component Body

2.1 Each Division or Interdivisional Body shall propose to the Executive Committee its own role, structure, and mode of operation, which must be approved by the Executive Committee.

2.2 The role and the effectiveness of each Division and Interdivisional Body shall be reviewed by the Executive Committee at each ordinary General Assembly.

By-Law 3. Appointment of Leaders of Component Bodies

3.1 The leaders of each Division and Interdivisional Body shall be appointed by the Executive Committee for one Period, subject to ratification by a Conference of Delegates. Vacancies occurring in the interim shall be filled by a person appointed by the Executive Committee.

3.2 In order that their appointments shall become effective, Division and Interdivisional Body leaders must express in writing to the President their willingness to serve.

3.3 The leaders of Divisions and Interdivisional Bodies may appoint, for each Period, Reporters, Working Group leaders, and the leaders of other possible subdivisions.

3.4 While it is recognized that the prime criteria for the appointment of leaders should be the scientific and administrative competence of the candidates, the Executive Committee and Division and Interdivisional Body leaders shall ensure that, wherever possible, these appointments achieve a diversified geographical representation.

By-Law 4. Honorary Membership of IAGA

4.1 A person who has given outstanding service to IAGA may be elected by a Conference of Delegates as an "Honorary Member of IAGA". The Executive Committee shall select persons for this category and shall present their names to a Conference of Delegates for approval.

4.2 The names of Honorary Members of IAGA shall be listed in publications where the structure of IAGA is shown and they shall be entitled to receive free from the Secretary-General, IAGA News, Transactions, and IAGA Programme-Abstract booklets.

II. Administration

By-Law 5. Extraordinary General Assemblies

5.1 The President may at any time, with the approval of the Executive Committee, call an extraordinary General Assembly.

5.2 The President must call an extraordinary General Assembly at the request of not less than twenty-five Member Countries.

5.3 Such an extraordinary General Assembly must be held no later than nine months after the request.

5.4 An extraordinary General Assembly shall have the same powers and be subject to the same rules as an ordinary General Assembly.

By-Law 6. Notice of an Assembly

Notice of the date and place of an ordinary General Assembly or a Scientific Assembly shall be sent by the Secretary-General to the Member Countries at least nine months prior to that Assembly. The notice period for an extraordinary General Assembly shall be four months.

By-Law 7. The Agenda for a Conference of Delegates

7.1 A provisional agenda for a Conference of Delegates shall be prepared by the Secretary-General and circulated to IAGA National Bodies at least two months prior to the opening of an Assembly.

7.2 The provisional agenda shall include all items submitted by IAGA National Bodies for discussion at the Conference of Delegates, together with questions placed on the provisional agenda by the Executive Committee. Additional agenda items, for which notice has not thus been given, may only be discussed with the consent of the Conference of Delegates.

By-Law 8. Attendance at a Conference of Delegates

8.1 Conferences of Delegates shall be open to the public. Any non-delegate shall be heard in a discussion provided that person has the consent of the President.

8.2 The President may, on his or her own initiative or at the request of a National Body, invite representatives of scientific bodies or individuals to attend a Conference of Delegates in an advisory capacity.

By-Law 9. Voting at a Conference of Delegates

9.1 A Member Country not represented at a Conference of Delegates may vote by correspondence on any matter declared to be administrative or financial, with the exception of the election of the Executive Committee, provided that **(i)** the matter has been clearly defined in the final agenda distributed in advance to the Member Countries, **(ii)** the substance of the matter has not been changed, and **(iii)** the said vote has been received by the Secretary-General prior to the meeting.

9.2 Prior to a vote, the President shall decide whether the procedure of voting by correspondence applies. The President's ruling may be challenged as prescribed in *Statute 12*.

By-Law 10. Representation on behalf of a Chief Delegate

A Chief Delegate of a Member Country may designate another Delegate from that country to be his or her representative at all or part of a Conference of Delegates. If the Chief Delegate is unable to do this, the accredited Delegates from that Member Country may designate one of their members to represent the Chief Delegate. In either case, the Secretary-General shall be informed of the designation in writing prior to the Conference of Delegates at which the representative of the Chief Delegate is to act.

By-Law 11. Nominations and Election of the Executive Committee

11.1 At least six months prior to the opening of an ordinary General Assembly, the President, in consultation with the Executive Committee, shall appoint a Nominating Committee consisting of a Chairman and four members. Members of the Executive Committee may not be appointed to the Nominating Committee.

11.2 The Nominating Committee shall nominate at least one candidate for each position on the Executive Committee and notify the Secretary-General so that these nominations are circulated to all IAGA National Bodies at least two months prior to the election.

11.3 The IAGA National Body of any Member Country may make other nominations in writing to the Chairman of the Nominating Committee at least one month prior to the election. To qualify for candidacy, each individual nomination must be supported by at least three Member Countries and must be accompanied by the written agreement of the nominee to stand. The combined list of candidates must be made public at least one day prior to the election.

11.4 The composition of the Executive Committee should reflect diversified geographical and scientific disciplinary representation, and favour short rather than long intervals of service in order to increase opportunities for new members to serve.

11.5 Members of the Executive Committee shall be elected by secret ballot. The President shall select two scrutineers for the election from among the Delegates present. The scrutineers shall not be members of the Executive Committee nor of the Nominating Committee nor candidates for the election.

11.6 Scientists from countries that are not Member Countries of IAGA or are represented by Adhering Bodies that have been in Observer status for more than two years or have Associate Membership (as defined in the IUGG Statutes) are not eligible to hold elected positions in IAGA.

By-Law 12. Meetings of the Executive Committee

12.1 Executive Committee meetings shall be convened by the President, or by the Vice-President when the President is not available. At a meeting of the Executive Committee, no member can be represented by another person. Decisions of the Executive Committee shall be valid only if at least half of its members are present. All decisions of the Executive Committee shall be taken by simple majority of the total number of voting members present. In the case of a tie, the decision shall rest with the President.

12.2 When the importance and urgency of a decision warrant it, a vote by correspondence may be organized by the Secretary-General at the request of the President. Voting rules stipulated in these Statutes and By-Laws shall apply.

12.3 The President may, on his or her own initiative or at the request of another member of the Executive Committee or of an IAGA National Body, invite representatives of scientific bodies or individuals to attend an Executive Committee meeting in an advisory capacity.

12.4 Proposals concerning the agenda for meetings of the Executive Committee may be submitted by members of that Committee, by Division or Interdivisional Body leaders, or by IAGA National Bodies; they must be in the hands of the Secretary-General at least one month prior to the meeting. The final agenda, after its approval by the President, shall be distributed to the members of the Executive Committee at least one week prior to the meeting.

By-Law 13. Duties of the Executive Committee

In addition to the duties specified in *Statutes 7 and 8* and *By-Laws 2, 3, 4, 5, 7, 11, and 12*, and subject to directives of a Conference of Delegates, the Executive Committee shall have the power to:

(a) act as the organizing committee for all IAGA Assemblies, Symposia, and Meetings, or delegate such responsibility to other persons by making the necessary appointments;

(b) entrust to special commissions or to particular individuals the preparation of reports on subjects within the province of the Association;

(c) invite or appoint persons or institutions belonging to countries that are not members of the Association to be local correspondents to the Association.

By-Law 14. Duties of the President

The duties of the President of IAGA are:

(a) to represent IAGA in the IUGG Executive Committee;

(b) to represent IAGA in its dealings with IAGA National Bodies, other IUGG Associations, and other ICSU Bodies;

(c) to represent or to appoint a person to represent IAGA at meetings, conferences, or functions where formal representation is requested or desirable;

(d) to convene Conferences of Delegates and meetings of the Executive Committee and to preside over these meetings;

(e) to submit a report on the scientific work of the Association to a Conference of Delegates at each Assembly.

By-Law 15. Representation on behalf of the President

If the President is not available, the Vice-President shall preside at a Conferences of Delegates or an Executive Committee meeting, and the Vice-President or the Secretary-General shall represent the President at an IUGG Executive Committee Meeting in accordance with IUGG By-Laws. The President may designate the Vice-President to act on his or her behalf in any other function, meeting, or conference in which formal representation of IAGA is requested or desirable.

By-Law 16. Duties of the Secretary-General

The duties of the Secretary-General are:

(a) to serve as secretary of IAGA, to organize Assemblies according to the instructions of the Executive Committee, to arrange meetings of the Executive Committee, and to prepare and distribute promptly the agenda and minutes of Conferences of Delegates and meetings of the Executive Committee;

(b) to manage the administrative and scientific affairs of the Association, to attend to correspondence, and to maintain and preserve the records of the Association;

(c) to inform members of the Executive Committee during the interval between its meetings about any important matter concerning the Association;

(d) to advise the President during the meetings of the IUGG Executive Committee;

(e) to receive and take charge of such funds as may be allocated by IUGG to the Association, or as may be received from any other source; to disburse such funds in accordance with the decisions of Conferences of Delegates or with the instructions of the Executive Committee; to keep account of all receipts and disbursements and to submit such account, audited by a qualified accountant, for examination by the Finance Committee appointed according to *Statute 11*;

(f) to prepare and arrange publication of the Programme of each Assembly, and a report on the outcomes;

(g) to publish an internal Association bulletin (such as IAGA News) containing information of general interest to the Association;

(h) to prepare for each Assembly the list of Chief Delegates;

(i) to perform such other duties as may be assigned by the President or by the Executive Committee.

III. Finances

By-Law 17. Allocation of Funds

In the estimation of expenditures by the Secretary-General and approval thereof by the Executive Committee, as mentioned in Statute 10, provision may be made to allocate the expected funds to:

- operation of the Secretariat of the Association;

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- administrative arrangements in preparation for Assemblies and Executive Committee meetings;
- publication on paper or electronically of IAGA News, IAGA Transactions, series of Geomagnetic Indices for which IAGA has primary responsibility, or special publications;
- assistance for the President to attend IUGG Committee meetings and for IAGA officers to attend functions as the representative of IAGA when such officers are unable to obtain the necessary support from other sources;
- assistance for officers of IAGA, meeting organisers, and scientists to attend official administrative meetings or IAGA-sponsored scientific meetings when participation by such persons is judged by the Executive Committee to be essential for the success of the meeting and those persons have expressed in writing that they are unable to obtain the necessary support from other sources;
- minor administrative expenses requested by leaders of Divisions, Joint Bodies, and Interdivisional Bodies who have expressed in writing that they are unable to obtain the necessary support from other sources,
- any item not mentioned above for which support will contribute to achieving the objectives of the Association.

STATUTS ET REGLEMENT INTERIEUR DE L'ASSOCIATION INTERNATIONALE DE GEOMAGNETISME ET D'AERONOMIE

(Modifiés en juillet 2011, XXVème Assemblée Générale de l'UGGI, Melbourne, Australie)

Glossaire

Ce sont les statuts qui fournissent la définition des termes qui y sont utilisés ; ce glossaire a été établi uniquement pour des raisons pratiques, mais il ne peut en aucun cas servir de référence pour définir les termes qui y figurent.

AIGA : l'Association Internationale de Géomagnétisme et d'Aéronomie.

Assemblée : une Assemblée générale ordinaire, une Assemblée générale extraordinaire ou une Assemblée scientifique de l'AIGA.

Assemblée générale (de l'AIGA) : une Assemblée générale ordinaire ou une Assemblée générale extraordinaire de l'AIGA.

Assemblée générale extraordinaire : une Assemblée générale de l'AIGA convoquée par le président, conformément à l'article RI-5.

Assemblée générale ordinaire (de l'AIGA) : une Assemblée générale de l'AIGA tenue normalement en même temps qu'une Assemblée générale ordinaire de l'UGGI (c'est à dire tous les 4 ans).

Assemblée scientifique (de l'AIGA) : une Assemblée de l'AIGA normalement tenue entre les Assemblées générales ordinaires.

L'Association : l'AIGA.

CIUS : Conseil International pour la Science (auparavant appelé Conseil International des Unions Scientifiques).

Comité de nomination : le comité nommé par le Conseil exécutif pour fournir à une Conférence des délégués des propositions de candidature au Conseil exécutif (les Délégués nationaux peuvent aussi proposer des candidatures).

Commission des finances : la commission nommée par le Conseil exécutif pour examiner les comptes et en présenter le résultat devant une Conférence des délégués.

Conférence des délégués : une réunion formelle, ouverte au public, des Délégués et Délégués nationaux des pays membres.

Conseil exécutif : le conseil élu par une Conférence des délégués pour être responsable des affaires de l'AIGA entre les Conférences des délégués.

Contact national (non mentionné dans les Statuts) : la personne à qui est adressée la correspondance avec le Correspondant national d'un Pays membre ; ce n'est généralement pas la même personne que le Délégué national de ce pays pour une Assemblée.

Correspondant national de l'AIGA : l'organisme d'un Pays membre, nommé par l'organisme adhérent de l'UGGI pour ce pays afin de représenter ce pays dans les activités de l'AIGA.

Délégué : un scientifique d'un Pays membre qui est inscrit pour une Assemblée de l'AIGA en tant que participant scientifique bona fide, ou toute personne que le ou la Secrétaire-général a autorisé, en consultation avec le Conseil exécutif de l'AIGA, à participer et à voter comme Délégué à une Conférence des délégués.

Délégué national : le Délégué accrédité par le Correspondant national de l'AIGA afin de voter au nom de son pays lors de votes de nature administrative et financière, et qui a transmis son accréditation au (à la) Secrétaire général(e).

Groupements constitutifs de l'AIGA : les Divisions et Commissions interdivisions de l'AIGA.

Membre honoraire de l'AIGA : une personne pour a été voté le statut de membre honoraire de l'Association, en reconnaissance pour une contribution remarquable au travail de l'AIGA.

Pays membre (de l'AIGA) : Un pays qui adhère à l'UGGI, et peut donc participer aux activités de l'AIGA. Les Pays membres à titre payant de l'UGGI, ainsi qu'il est défini dans les statuts de l'UGGI, sont Pays membres à titre payant de l'AIGA. Les pays ayant un statut d'Observateur, ou de Membre associé de l'UGGI, ainsi qu'il est défini dans les statuts de l'UGGI, sont Pays membres à titre gracieux de l'AIGA.

Période : l'intervalle entre la fin d'une Assemblée générale ordinaire et la fin de la suivante.

Règlement intérieur : le Règlement intérieur de l'AIGA.

Statuts : les statuts de l'AIGA

UGGI : l'Union Géodésique et Géophysique Internationale

Statuts de l'Association Internationale de Géomagnétisme et d'Aéronomie

I. OBJECTIFS, STRUCTURE ET COMPOSITION DE L'ASSOCIATION

St-1 Objectifs de l'AIGA

L'Association Internationale de Géomagnétisme et d'Aéronomie (ci-après AIGA) a pour objectifs :

- (a) de promouvoir l'étude du magnétisme et de l'aéronomie de la Terre et des autres corps du système solaire, ainsi que celle du milieu interplanétaire et de ses interactions avec ces corps, lorsque ces études ont un intérêt international ;
- (b) d'encourager, dans les domaines mentionnés dans l'alinéa précédent, la recherche par des pays, institutions ou personnes individuels et de faciliter la coordination internationale de ces recherches ;
- (c) de fournir au niveau international un cadre pour la discussion et la publication des résultats des recherches décrites dans les alinéas précédents ;
- (d) de promouvoir les standardisations appropriées en matière de programme d'observation, de systèmes d'acquisition et d'analyse de données, et de publication.

St-2 Création de Groupements constitutifs

Afin d'atteindre ses objectifs, l'Association peut créer des Groupements constitutifs, soit à l'intérieur de l'Association, soit en commun avec d'autres Associations de l'Union Internationale de Géodésie et Géophysique (UGGI) ou avec des composantes d'autres membres du Conseil International pour la Science (CIUS).

St-3 Pays membre de l'AIGA

Un pays qui adhère à l'UGGI, ainsi qu'il est défini dans les statuts de l'UGGI, est un Pays membre de l'AIGA et peut participer aux activités de l'AIGA. Les Pays membres à titre payant de l'UGGI, ainsi qu'il est défini dans les statuts de l'UGGI, sont Pays membres à titre payant de l'AIGA. Les pays ayant un statut d'Observateur, ou de Membre associé de l'UGGI, ainsi qu'il est défini dans les statuts de l'UGGI, sont Pays membres à titre gracieux de l'AIGA.

St-4 Correspondants Nationaux de l'AIGA

Chaque Pays membre est représenté par un seul organisme, appelé dans la suite Correspondant national de l'AIGA. Cet organisme est nommé dans ce pays par l'Organisme adhérent de l'UGGI.

II. ADMINISTRATION

St-5 Assemblées de l'AIGA

5.1 Une Assemblée générale ordinaire de l'AIGA se tient normalement en même temps que chaque Assemblée générale ordinaire de l'UGGI.

5.2 L'intervalle entre la fin d'une Assemblée générale ordinaire et la fin de la suivante est appelée Période pour les besoins des présents Statuts.

5.3 Une Assemblée scientifique de l'AIGA peut se tenir entre deux Assemblées générales ordinaires, conformément au Règlement intérieur de l'UGGI.

5.4 Une Assemblée générale extraordinaire de l'AIGA peut être convoquée par le (la) Président(e) conformément au Règlement intérieur.

St-6 Délégués et Conférences des délégués

6.1 L'activité de l'Association est dirigée par les Conférences des délégués tenues durant les Assemblées de l'AIGA.

6.2 Un Délégué est un scientifique d'un Pays membre qui est inscrit pour une Assemblée en tant que participant scientifique *bona fide*, ou toute personne que le ou la Secrétaire général a autorisé, en consultation avec le Conseil exécutif de l'AIGA, à participer et à voter comme Délégué à une Conférence des délégués.

6.3 Parmi les Délégués de chaque Pays membre, l'un d'entre eux est accrédité en tant que Délégué national par le Correspondant national de l'AIGA pour ce pays, afin de voter au nom de son pays lors de votes de nature administrative et financière, ainsi qu'il est stipulé aux articles **St-12**, **St-13** et **St-14**. Un délégué national peut être représenté lors d'un vote par un autre Délégué désigné conformément au Règlement intérieur.

6.4 Un Délégué ne peut représenter qu'un seul Pays membre. Un membre du Conseil exécutif (voir **St-7**) ne peut être Délégué national, sauf si ce membre est la seule personne du pays en question qui soit présente.

6.5 Une Conférence des délégués est convoquée au moins une fois durant chaque Assemblée de l'AIGA.

St-7 Le Conseil exécutif

7.1 Entre les Conférences de délégués, la responsabilité pour la direction des affaires de l'AIGA est détenue par le Conseil exécutif de l'Association, élu durant une Conférence des délégués.

7.2 Un compte rendu des décisions du Conseil exécutif doit être présentés lors d'une Conférence des délégués. Toute décision ou recommandation qui n'obtient pas un soutien à la majorité simple lors d'une Conférence des délégués est renvoyée au Conseil exécutif pour examen complémentaire.

7.3 La responsabilité du Conseil exécutif est d'administrer les affaires de l'Association conformément aux présents Statuts et Règlement intérieur et aux décisions des Conférences des délégués.

7.4 Le Conseil exécutif peut créer, avec d'autres Associations de l'UGGI ou avec d'autres membres du CIUS, des Groupements constitutifs communs afin de prendre en charge des thèmes d'intérêt commun, et il peut accréditer les responsables et représentants de l'AIGA compétents.

7.5 Dans ses rapports avec des Groupements qui ne font pas partie de l'UGGI, le Conseil exécutif ne peut engager le nom de l'UGGI, ni agir au nom de l'UGGI, sans s'être assuré au préalable de l'accord du Comité exécutif de l'UGGI.

7.6 Le Conseil exécutif se réunit au moins deux fois durant chaque Assemblée, et il doit tenir au moins une réunion supplémentaire entre deux Assemblées générales ordinaires.

St-8 Composition du Conseil exécutif

8.1 Le Conseil exécutif se compose du (de la) Président(e), du (de la) Vice-Président(e), du Secrétaire-général, de sept membres supplémentaires. Tous les membres du Conseil exécutif sont élus par une Conférence des délégués ; l'élection est considérée comme un vote sur une question administrative, conduit conformément aux articles **St-13** et **St-14**.

8.2 Le (la) Président(e) est élu(e) pour une Période, et ne il peut pas être réélu(e) à la même fonction. À l'exception de l'élection du Secrétaire-général, toute personne ayant été membre du Conseil durant deux Périodes ne peut être candidate à une élection pour un des postes du Conseil exécutif de l'AIGA.

8.3 Le (la) Président(e) sortant(e) (ex officio) est invité(e) à participer au Conseil exécutif de l'AIGA, mais sans droit de vote et sans support financier sur les fonds de l'AIGA pour assister à ces réunions.

8.4 Le Secrétaire-général est élu pour huit ans, et peut être réélu pour pour maximum deux mandats successifs de quatre ans.

8.5 L'élection du Conseil exécutif est normalement organisée au cours d'une Conférence des délégués tenue durant un Assemblée générale ordinaire, sauf en ce qui concerne le Secrétaire-général qui est normalement élu au cours d'une Conférence des délégués tenue durant une Assemblée scientifique.

8.6 En cas de vacance de l'un des postes du Conseil exécutif durant une Période, le Conseil exécutif mandate une personne pour pourvoir le poste vacant jusqu'à la prochaine élection. L'éligibilité de la personne ainsi mandatée n'est pas modifiée par cette nomination. Si c'est la Présidence qui est vacante, le Conseil exécutif mandate le (la) Vice-président(e) pour agir en tant que Président(e).

St-9 Responsabilités des Groupements constitutifs

9.1 Les responsabilités à l'intérieur de l'AIGA des Groupements constitutifs (*cf St-2*) sont de servir les objectifs scientifiques de l'AIGA en :

- (a) coordonnant une recherche scientifique appropriée ;
- (b) organisant des réunions scientifiques ;
- (c) promouvant l'échange d'informations et de données ;
- (d) conseillant le Conseil exécutif pour la formulation des principes devant guider le travail scientifique de l'Association.

9.2 Les responsabilités des Groupements constitutifs créés en commun avec d'autres Associations de l'UGGI ou d'autres composantes du CIUS (*cf. St-2*) est de prendre en charge et de coordonner les programmes scientifiques et/ou réunions qui couvrent des thèmes d'intérêt commun.

III. FINANCE

St-10 Adoption du budget

Le Secrétaire-général prépare un budget prévisionnel des dépenses et des recettes pour chaque demi-Période, et présente ce budget devant le Conseil exécutif et une Conférence des délégués durant une Assemblée. Après avoir reçu l'approbation du Conseil exécutif et de la Conférence des délégués, le ou la Secrétaire-général engage les dépenses conformément au budget approuvé.

St-11 Commission des finances

11.1 Une Commission des finances est nommée par le Conseil exécutif dans les six mois qui suivent l'ouverture de chaque Assemblée générale ordinaire et elle reste normalement en fonction pour une Période.

11.2 Aucun membre du Conseil exécutif ne peut être membre de la Commission des finances.

11.3 La Commission des finances examine les comptes et présente pour approbation les résultats de cet examen devant le Conseil exécutif et devant une Conférence des délégués.

IV. VOTE

St-12 Nature des questions soumises au vote

12.1 Avant un vote par une Conférence des délégués, le (la) Président(e) décide si la nature de la question considérée est scientifique, administrative ou financière.

12.2 Des questions qui sont partiellement scientifiques et partiellement administratives et qui n'impliquent aucune question financière sont considérées comme des questions administratives

12.3 La décision du (de la) Président(e) ne peut être contestée que par le Délégué national d'un Pays membre. En cas de contestation, la décision du (de la) Président(e) peut être modifiée conformément à un vote de la Conférence des délégués acquis à la majorité des deux tiers des Délégués nationaux de Pays membres à titre payant qui sont présents.

St-13 Procédures de vote

13.1 Dans le cas d'un vote sur une question scientifique, chaque Délégué présent à la Conférence des Délégués a une voix.

13.2 Dans le cas d'un vote sur une question administrative, les votants sont les Pays membres à titre payant, chaque Pays membre à titre payant disposant d'une voix exprimée par son Délégué national, ou par son représentant désigné conformément au Règlement intérieur.

13.3 Dans le cas d'un vote sur une question financière, les votants sont les Pays membres à titre payant, chaque Pays membre à titre payant disposant d'un nombre de voix correspondant à celui de sa catégorie en tant que membre de l'UGGI. Ces votes seront exprimés par le Délégué national de chaque Pays membre à titre payant, ou par son représentant désigné conformément au Règlement intérieur.

13.4 Les votes sur des questions administratives ou financières peuvent être effectués par correspondance (conformément au Règlement intérieur), à la place d'un vote organisé durant une Conférence des délégués.

St-14 Votes durant les Conférences des délégués

14.1 Les décisions prises à la suite d'un vote durant une Conférence des délégués ne sont valides que si au moins la moitié des Délégués nationaux de Pays membres à titre payant participant à l'Assemblée sont présents ou représentés conformément aux Règlement intérieur.

14.2 Les décisions d'une Conférence des délégués sont acquises à la majorité simple des votes exprimés, sauf indication contraire dans les Statuts. La majorité simple ou des deux tiers est déterminée comme le rapport des votes positifs sur la somme des votes positifs et négatifs, y compris les votes par correspondance de Pays membres à titre payant pour des questions administratives ou financières conformément au Règlement intérieur, et sans prendre en compte les abstentions. En cas d'égalité, la décision appartient au (à la) Président(e).

V. GENERALITES

St-15 Modification des Statuts

15.1 Les modifications des présents Statuts prennent effet à la clôture de l'Assemblée générale durant laquelle ces modifications sont adoptées, ou ainsi qu'il en est décidé autrement par la Conférence des délégués.

15.2 Les présents Statuts ne peuvent être modifiés qu'avec l'approbation d'une majorité d'au moins les deux tiers des Délégués nationaux de Pays membres à titre payant présents à une Conférence des délégués tenue durant une Assemblée générale, conformément aux articles **St-6**, **St-13** et **St-14**.

15.3 Seul le Correspondant national d'un Pays membre de l'AIGA peut proposer une modification des présents statuts. Toute proposition doit être soumise au ou à la Secrétaire-général au moins quatre mois avant la date annoncée pour l'Assemblée générale durant laquelle cette proposition doit être examinée. Le Secrétaire-général notifie à tous les Correspondants nationaux de l'AIGA les modifications proposées au moins deux mois avant la date annoncée pour cette Assemblée générale.

St-16 Modification du Règlement intérieur

Une Conférence des délégués a le pouvoir d'adopter un Règlement intérieur dans le cadre des Statuts de l'Association. Ce Règlement intérieur peut être adopté ou modifié par un vote à la majorité simple des Délégués nationaux de Pays membres à titre payant présents à une Assemblée générale, conformément aux articles **St-5**, **St-13** et **St-14**.

Toutes modifications du Règlement intérieur prend effet à la clôture de l'Assemblée générale durant laquelle ces modifications sont adoptées sauf s'il en est décidé autrement par la Conférence des délégués.

St-17 Langues

Les présents Statuts ont été rédigés dans les langues officielles de l'UGGI. Le texte Anglais servira de référence en cas de problèmes d'interprétation.

Règlement Intérieur de l'Association Internationale de Géomagnétisme et d'Aéronomie

I. COMPOSITION

RI-1 Groupements constitutifs de l'AIGA

Les groupements constitutifs de l'AIGA sont appelés Divisions et Groupements interdivisions, comme suit :

Division I : Champs magnétiques internes

Division II : Phénomènes aéronomiques

Division III : Phénomènes magnétosphériques

Division IV : Vent solaire et champ magnétique interplanétaire

Division V : Observatoires, instrumentation, levés et analyse

Commission interdivision : Histoire

Commission interdivision : Pays en développement

RI-2 Rôle et structure d'un Groupement constitutif

2.1 Chaque Division ou Commission interdivision propose au Conseil exécutif ses propres rôle, structure et mode de fonctionnement, qui doivent être approuvés par le Conseil exécutif.

2.2 Le rôle et l'efficacité de chaque Division et Commission interdivision sont examinés par le Conseil exécutif durant chaque Assemblée générale ordinaire.

RI-3 Désignation des responsables de Groupements constitutifs

3.1 Les responsables de chaque Division et Groupement interdivision sont nommés par le Conseil exécutif pour une Période, sous réserve de ratification par une Conférence des délégués. D'éventuelles vacances survenant dans l'interim sont pourvues par une personne mandatée par le Conseil exécutif.

3.2 Pour que leur nomination devienne effective, les responsables de Division et de Groupements interdivision doivent exprimer par écrit au (à la) Président(e) leur accord.

3.3 Les responsables de Division et de Groupements interdivisions peuvent nommer, pour chaque Période, des Rapporteurs, responsables de Groupes de travail, ainsi que les responsables d'autres éventuelles sous-divisions.

3.4 Bien qu'il soit reconnu que les principaux critères pour la nomination de responsables doivent être les compétences scientifiques et administratives des candidats, le Conseil exécutif et les responsables de Divisions et de Groupements interdivisions doivent s'assurer que, là où c'est possible, ces nominations conduisent à une représentation géographique diversifiée.

RI-4 Membres honoraires de l'AIGA

4.1 Une personne ayant rendu un service remarquable à l'AIGA peut être élue « Membre honoraire de l'AIGA » par une Conférence des délégués. Le Conseil exécutif sélectionne les candidats et présente leurs noms à une Conférence des délégués.

4.2 La liste des noms des Membres honoraires de l'AIGA est publiée dans les publications où figure la structure de l'AIGA et les Membres honoraires de l'AIGA reçoivent à ce titre gratuitement du ou de la Secrétaire-général les 'IAGA News', les Transactions et les brochure publiant programmes et résumés AIGA

II. ADMINISTRATION

RI-5 Assemblées générales extraordinaires

5.1 Le (la) Président(e) peut à tout moment, avec l'approbation du Conseil exécutif, convoquer une Assemblée générale extraordinaire.

5.2 Le (la) Président(e) doit convoquer une Assemblée générale extraordinaire si il en reçoit la demande d'au moins vingt cinq Pays membres

5.3 Une telle Assemblée générale extraordinaire doit se tenir dans les neuf mois suivant la demande.

5.4 Une Assemblée générale extraordinaire a les mêmes pouvoirs et est soumise aux memes règles qu'une Assemblée générale ordinaire.

RI-6 Annonce d'une Assemblée générale

Le ou la Secrétaire-général transmettra aux Pays membres, au moins neuf mois à l'avance, notification de la date et du lieu d'une Assemblée générale ordinaire ou d'une Assemblée scientifique. Le délai est de quatre mois dans le cas d'une Assemblée générale extraordinaire.

RI-7 L'ordre du jour d'une Conférence des délégués

7.1 Un ordre du jour provisoire d'une Conférence des délégués est préparé par le ou la Secrétaire-général et envoyé aux Correspondants nationaux de l'AIGA au moins deux mois avant l'ouverture de l'Assemblée.

7.2 L'ordre du jour provisoire comporte tous les points soumis par les Correspondants nationaux de l'AIGA pour discussion durant la Conférence des délégués, ainsi que les questions inscrites par le Conseil exécutif à l'ordre du jour provisoire. Des points supplémentaires, qui n'ont pas été ainsi notifiés, peuvent uniquement être discutés après approbation par la Conférence des délégués.

RI-8 Participation à une Conférence des délégués

8.1 Les Conférences des délégués sont ouvertes au public. Tout participant qui n'est pas délégué peut participer à une discussion si le (la) Président(e) l'y autorise.

8.2 Le (la) Président(e) peut, à sa propre initiative ou sur demande d'un Correspondant national de l'AIGA, inviter des représentants d'organisations scientifiques ou des personnes individuelles à participer à titre consultatif à une Conférence des délégués.

RI-9 Vote durant une Conférence des délégués

9.1 Un Pays membre qui n'est pas représenté à une Conférence des délégués peut voter par correspondance sur toute question déclarée être de nature administrative ou financière, à l'exception de l'élection du Conseil exécutif, pourvu que (i) la question ait été clairement définie sur l'ordre du jour définitif distribué par avance aux Pays membres, (ii) le contenu de la question n'ait pas été changé et (iii) le vote en question ait été reçu par le ou la Secrétaire-général avant la réunion.

9.2 Avant un vote, le (la) Président(e) décide si le vote par correspondance est possible. La décision du (de la) Président(e) peut être contestée selon les procédures décrites dans l'article **St-12**.

RI-10 Représentation d'un Délégué national

Un délégué national d'un Pays membre peut déléguer un autre Délégué de son pays pour être son représentant ou sa représentante pour tout ou partie d'une Conférence des délégués. Si le délégué national est dans l'incapacité de le faire, les Délégués accrédités de ce Pays membre peuvent désigner un de leurs membres pour représenter le Délégué national. En tout cas, le ou la Secrétaire-général est informé par écrit de cette désignation avant la Conférence des délégués pour laquelle le représentant du Délégué national est mandaté.

RI-11 Propositions de candidature et élection du Conseil exécutif

11.1 Au moins six mois avant le début d'une Assemblée générale ordinaire, le (la) Président(e), en consultation avec le Conseil exécutif, nomme un Comité de nomination composé d'un(e) Président(e) et de quatre membres. Les membres du Conseil exécutif ne peuvent être nommés au Comité de nomination.

11.2 Le Comité de nomination propose au moins un candidat pour chaque poste du Conseil exécutif et avise le ou la Secrétaire-général de telle sorte que ces propositions soient diffusées auprès des Correspondants nationaux de l'AIGA au moins deux mois avant l'élection.

11.3 Le Correspondant national de chaque Pays membre de l'AIGA peut proposer d'autres candidats en écrivant au (à la) Président(e) du Comité de nomination au moins un mois avant l'élection. Pour être recevable en tant que candidature, chaque proposition individuelle doit être soutenue par au moins trois Pays membres et doit être accompagnée de l'accord écrit du candidat proposé. La liste combinée des candidats doit être rendue publique au moins un jour avant l'élection.

11.4 La composition du Conseil exécutif doit refléter une représentation diversifiée du point de vue géographique et des disciplines scientifiques, et doit privilégier des mandats sur des Périodes courtes plutôt que longues, afin d'accroître les possibilités pour des nouveaux membres de servir.

11.5 Les membres du Conseil exécutif sont élus à bulletins secrets. Parmi les Délégués présents, le (la) Président(e) désigne deux scrutateurs pour l'élection. Les scrutateurs ne sont pas membres du conseil exécutif, ni du Comité de nomination, ni candidats à l'élection.

11.6 Les scientifiques de pays qui ne sont pas Pays membres de l'AIGA ou qui sont représentés par des Organismes adhérents qui ont le statut d'Observateur ou qui sont Membres associés depuis plus de deux ans (ainsi qu'il est défini dans les statuts de l'UGGI) n'ont pas le droit d'avoir de mandats électifs au sein de l'AIGA.

RI-12 Réunions du Conseil exécutif

12.1 Les réunions du Conseil exécutif sont convoquées par le (la) Président(e) ou le (la) Vice-président(e) en l'absence du (de la) Président(e). Durant une réunion du Conseil exécutif, aucun membre ne peut se faire représenter. Les décisions du Conseil exécutif sont valides si au moins la moitié de ses membres sont présents. Toutes les décisions du Conseil exécutif sont prises à la majorité simple du nombre total des membres présents ayant pris part au vote. En cas d'égalité, la décision appartient au (à la) Président(e).

12.2 Lorsque l'importance et l'urgence d'une décision le justifient, un vote par correspondance peut être organisé par le ou la Secrétaire-général sur demande du (de la) Président(e). Les règles de vote définies stipulées dans les présents Statuts et Règlement intérieur s'appliquent alors.

12.3 Le (la) Président(e) peut, à sa propre initiative ou sur demande d'un autre membre du Conseil exécutif ou d'un Correspondant national de l'AIGA, inviter des représentants d'organisations scientifiques ou des personnes individuelles à participer à titre consultatif à une réunion du Conseil exécutif.

12.4 Des propositions concernant l'ordre du jour de réunions du Conseil exécutif peuvent être soumises par des membres de ce Conseil, par des responsables de Division ou de Groupements interdivision, ou par des Correspondants nationaux de l'AIGA ; elles doivent être entre les mains du ou de la Secrétaire-général au mois un mois avant la réunion. L'ordre du jour définitif, après approbation par le (la) Président(e), est distribué aux membres du conseil exécutif au moins une semaine avant la réunion.

RI-13 Responsabilités du Conseil exécutif

Outre les responsabilités précisées dans les articles *St-7* et *St-8* et *RI-2*, *RI-3*, *RI-4*, *RI-5*, *RI-7*, *RI-11* et *RI-12*, et sous réserve de directives d'une Conférence des délégués, le Conseil exécutif a le pouvoir de :

- (a) agir en tant que comité d'organisation pour toute assemblée, symposium et réunion de l'AIGA, ou déléguer cette responsabilité à d'autres personnes en procédant aux nominations nécessaires ;
- (b) confier à des commissions spéciales ou à des personnalités la préparation de rapports sur des sujets dans le domaine de compétence de l'Association ;
- (c) inviter à être, ou nommer Correspondant local de l'Association des personnes ou institutions appartenant à des pays qui ne sont pas membres de l'Association.

RI-14 Responsabilités du (de la) Président(e)

Les responsabilités du (de la) Président(e) de l'AIGA sont :

- (a) de représenter l'AIGA au sein du Comité exécutif de l'UGGI ;
- (b) de représenter l'AIGA dans ses relations avec les Correspondants nationaux de l'AIGA, d'autres Associations de l'UGGI, et d'autres membres du CIUS ;
- (c) représenter, ou nommer un représentant de l'AIGA pour des réunions, des conférences ou des fonctions où une représentation formelle est nécessaire ou souhaitable ;
- (d) convoquer les Conférences des délégués et les réunions du Conseil exécutif, et présider ces réunions ;
- (e) présenter à une Conférence des délégués, durant chaque Assemblée, un rapport sur l'activité scientifique de l'Association.

RI-15 Représentation du (de la) Président(e)

Si le (la) Président(e) ou n'est pas disponible, le Conseil exécutif désigne le (la) Vice-président(e) pour présider une Conférence des délégués ou une réunion du Conseil exécutif, et le (la) Vice-président(e) ou le Secrétaire-général pour représenter le (la) Président(e) à une réunion du Comité exécutif de l'UGGI conformément au Règlement intérieur de l'UGGI. Le (la) Président(e) peut désigner le (la) Vice-président(e) pour agir en son nom

pour toute autre fonction, réunion ou conférence où une représentation formelle de l'AIGA est nécessaire ou souhaitable.

RI-16 Responsabilité du (de la) Secrétaire-général

Les responsabilités du ou de la Secrétaire-général sont :

- (a) de servir comme secrétaire de l'AIGA, d'organiser les Assemblées conformément aux instructions du Conseil exécutif, de préparer les réunions du Conseil exécutif, et de préparer et diffuser rapidement les ordres du jour et les minutes des Conférences des délégués et des réunions du Conseil exécutif ;
- (b) de gérer les affaires scientifiques et administratives de l'Association, de se charger de la correspondance, et de mettre à jour et assurer la conservation des archives de l'Association ;
- (c) d'informer les membres du Conseil exécutif durant l'intervalle entre ses réunions de tout sujet important concernant l'Association ;
- (d) de conseiller le (la) Président(e) durant les réunions du Comité exécutif de l'UGGI ;
- (e) d'encaisser et d'être responsable des fonds qui peuvent être alloués à l'Association par l'UGGI, ou reçus de toute autre source ; de répartir ces fonds conformément aux décisions des Conférences des délégués ou aux instructions du Conseil exécutif ; de tenir les comptes de toutes les recettes et dépenses et de soumettre ces comptes, vérifiés par un comptable compétent, pour examen par la Commission des finances nommée conformément aux dispositions de l'article **St-11** ;
- (f) de préparer le Programme de chaque Assemblée ainsi qu'un rapport sur les résultats, et d'en organiser la publication ;
- (g) de publier un journal interne de l'Association (tel que *IAGA News*) contenant les informations d'intérêt général pour l'Association ;
- (h) de préparer pour chaque Assemblée la liste des Délégués nationaux ;
- (i) d'accomplir toutes autres fonctions qui peuvent lui être confiées par le (la) Président(e) ou le Conseil exécutif.

III. FINANCE

RI-17 Affectation budgétaire

Dans le budget prévisionnel préparé par le (la) Secrétaire-général et approuvé par le Conseil exécutif, ainsi qu'il est mentionné dans l'article **St-10**, il est possible d'affecter les fonds attendus à :

- la gestion du secrétariat de l'Association ;
- des dispositions administratives en vue d'Assemblées et de réunions du conseil exécutif ;
- la publication sur support papier ou par voie électronique des *IAGA News*, des *IAGA Transactions*, de bulletins d'indices géomagnétiques pour lesquels l'AIGA a la responsabilité principale, ou de publications spécifiques ;
- le soutien au (à la) Président(e) pour participer aux réunions du Comité exécutif de l'UGGI, et aux responsables de l'AIGA pour exercer des charges comme représentants de l'AIGA lorsque ces responsables ne peuvent obtenir par ailleurs le soutien nécessaire ;
- le soutien aux responsables de l'AIGA, organisateurs de réunions, et scientifiques pour participer à des réunions officielles de l'AIGA ou des réunions scientifiques soutenues par l'AIGA lorsque le Conseil exécutif juge que la participation de ces personnes est essentielle au succès de la réunion et que ces personnes ont attesté par écrit qu'elles ne peuvent obtenir par ailleurs le soutien nécessaire ;
- des dépenses administratives mineures demandées par des responsables de Division, et de Groupements constitutifs associés ou Inter-division qui ont attesté par écrit qu'ils ne peuvent obtenir par ailleurs le soutien nécessaire ;
- toute activité non mentionnée ci-dessus dont le soutien concourt à la réalisation des objectifs de l'Association.

**STATUTES AND BY-LAWS OF THE INTERNATIONAL ASSOCIATION OF HYDROLOGICAL
SCIENCES**

(Revised July 2011, XXV IUGG General Assembly, Melbourne, Australia)

STATUTES

1. THE OBJECTIVES OF THE ASSOCIATION

1.1. To promote the study of Hydrology as an aspect of the earth sciences and of water resources;

_ to study the hydrological cycle on the Earth and the waters of the continents; the surface and groundwaters, snow and ice, including their physical, chemical and biological processes, their relation to climate and to other physical and geographical factors as well as the interrelations between them;

_ to study erosion and sedimentation and their relation to the hydrological cycle;

_ to examine the hydrological aspects of the use and management of water resources and their change under the influence of man's activities;

_ to provide a firm scientific basis for the optimal utilization of water resources systems, including the transfer of knowledge on planning, engineering, management and economic aspects of applied hydrology.

1.2. To provide for discussion, comparison, and publication of research results.

1.3. To initiate, facilitate, and coordinate research into, and investigation of, those hydrological problems which require international cooperation.

2. The Association is a constituent body of the International Union of Geodesy and Geophysics (IUGG). The Association is subject to those Articles of the Statutes and Bye-laws of the Union that apply to associations and also to these Statutes.

3. Any country adhering to the Union also adheres to the Association, and is entitled to send delegates and otherwise to participate in its work. All scientific meetings of the Association or of its components are open to such delegates.

4. The Association performs its activities in the framework of the International Council for Science (ICSU) and IUGG, in cooperation with the United Nations and its specialized agencies and through direct contacts with other international organizations.

5. The Association shall comprise: the Plenary Session, the Bureau of the Association, the Scientific Commissions, the Panels and Working Groups and the International Association of Hydrological Sciences Limited. The Association shall maintain contact with the several adhering countries through their National Representatives or National Committees (often subcommittees or sections of the IUGG National Committees) and Regional Committees.

Scientific Commissions: Units of the Association having defined scientific responsibilities in specific hydrological fields or subjects. Divisions are corresponding units of the Scientific Commissions.

Panels or Working Groups: Ad hoc units to report on specific problems, either scientific or administrative.

National Committees: National Committees of IAHS are administrative bodies for maintaining contacts with the Association. They may include representatives to the Scientific Commissions of IAHS.

National Representatives: Each member country of IUGG shall appoint a National IAHS Representative who is responsible for maintaining contact with the Association, taking part in the work of the National Committee of IAHS, if one such is established.

Regional Committees: Regional Committees are administrative bodies which examine subjects of particular concern within specific regions.

The International Association of Hydrological Sciences Limited: This is a UK Registered Charity having as part of its Memorandum and Articles of Association objects which are identical to those of this Association and coming within the framework of ICSU and IUGG.

Individual Members: Even though membership of IAHS is by country, individuals may request to be registered for so-called individual membership. To qualify for such membership an individual must work in one or more fields of hydrology and endeavour to participate in IAHS activities. The individual members are not permitted to vote on administrative matters.

PLENARY SESSION

6. A Plenary Session of the Association shall be convened in accordance with the Bye-laws of the Union. At least one Plenary Session of the Association shall be held during a General Assembly of the IUGG and during a Scientific Assembly of the Association. Each adhering country may be represented by one or more delegates to the Plenary Session.

6.1. The Plenary Session has final authority on questions of a scientific character.

6.2. The Plenary Session shall consider the state of hydrological sciences, the trends in their development, and questions relating to the organization of symposia on important programmes, taking into consideration the appropriate programmes of other international organizations.

6.3. Each participant present at the Plenary Session shall have one vote on scientific matters.

7. The final authority of the Association in all matters of administration and finance shall be vested in the Plenary Administrative Session of the Association.

7.1. The Plenary Administrative Session shall consist of the President, the President-Elect or immediate Past-President, the Vice-Presidents, the Secretary General, the Treasurer, the Editor, the President or other designee of each Scientific Commission in existence at the time, the Chairman of IAHS Limited and one voting delegate from each adhering country, appointed by that country to vote in the Plenary Administrative Session.

A quorum shall consist of the President (or Vice-President acting as President), the Secretary General, or his deputy, and voting delegates from at least 10 countries.

7.2. Voting in the Plenary Administrative Session shall be by countries, each country having one vote, with the provision that it has voting rights in IUGG at that time. This voting may also be by mail but if the vote has been by mail then the country cannot vote at the Plenary Session again. Only those officers of the Association and its Scientific Commissions who are also voting delegates of their countries may vote.

7.3. The Plenary Administrative Session, during the General Assembly of the IUGG, shall elect for the Association, in accordance with the Bye-laws, the President-Elect, three Vice-Presidents, the Secretary General, the Treasurer, and such other elective officers as may be deemed necessary.

The election shall be held during the IUGG General Assembly, in accordance with Articles 7.1, 7.2 and 7.6.

The period of office for all Association officers except the President, shall be the interval between elections at two successive IUGG General Assemblies.

The President-Elect shall become President, and the President shall become immediate Past-President, two years after the elections at the IUGG General Assembly.

If a Scientific Assembly is held during the second year after the elections, the President-Elect shall become President at the beginning of the Scientific Assembly.

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The term of immediate Past-President shall be from the time the new President takes office to the next election of a President-Elect. At any time there shall be in the Bureau either a President and President-Elect or a President and a Past-President.

The President and Vice-Presidents may not be elected to two successive terms of the same office.

The Secretary General shall be eligible for re-election, but not for more than two additional terms.

The Treasurer shall be appointed by the Bureau, and shall be eligible for re-appointment without limit.

The Editor shall be appointed by the Bureau, and shall be eligible for re-appointment without limit.

The President-Elect shall assume the office of President if this office becomes vacant. If there is no President-Elect the Bureau shall appoint one of the Vice-Presidents to be President.

If the office of the Secretary General or that of the Treasurer or that of the Editor shall become vacant between IUGG General Assemblies, acting officers shall be appointed by the President to serve the remainder part of the term.

7.4. The Plenary Administrative Session has the power to form and discontinue Scientific Commissions. Their terms of reference shall be included in the Bye-laws of the Association.

The Plenary Administrative Session during the IUGG Assembly shall be informed of the President-Elect, three Vice-Presidents and Secretary elected during the Plenary Administrative Session of each of the Scientific Commissions.

The office of President-Elect of each Scientific Commission shall be established under the same terms as outlined in Article 7.3 for the Association.

The Presidents of the Scientific Commissions may not be re-elected to two successive terms of the same office. The Vice-Presidents and the Secretary shall be eligible for re-election but for not more than one additional term.

The Scientific Commissions have the power to fill vacancies that may occur between elections.

7.5. The Plenary Administrative Session has the power to form and discontinue Regional Committees, which may be formed on the initiative of several National Committees or National Representatives. Their Officers shall be elected by those National Committees, or National Representatives. Regional Committees shall examine hydrological subjects of particular concern to a specific region, and may conduct regional meetings on such subjects. Regional meetings shall be open to all adhering countries, and the Scientific Commissions may designate a representative to appear on their behalf at these meetings. Each Regional Committee may propose a set of regulations for its organization and governance for approval by the Plenary Administrative Session of the Association.

7.6. The Plenary Administrative Session may elect an Honorary President, who shall serve life or until such time as he/she resigns from this office. The Honorary President may participate as a non-voting member in any Association meeting, including those of the Bureau, and may be requested by the Bureau to undertake specific tasks in support of the Objectives of the Association.

7.7. In questions involving finance, voting in the Plenary Administrative Session shall be as in Article 7.2, except that upon the request of two voting delegates, the number of votes for each country shall be one greater than the number of its category of membership in the Union as defined in the Statutes of the Union.

7.8. An adhering country not represented at a Plenary Administrative Session may forward its vote on any pertinent item on the agenda, including elections of Association officers, by mail.

7.9. Voting by post on administrative matters between Plenary Sessions of the Association can be authorized by the Bureau.

THE BUREAU

8. The Bureau of the Association shall consist of the President, the President-Elect or immediate Past-President, three Vice-Presidents, the Secretary General, the Treasurer, the Editor and Presidents of the Scientific Commissions in existence at the time and the Chairman of the International Association of Hydrological Sciences Limited. The immediate Past-President shall remain a Bureau member during the period between the end of his/her office and the election of a new President-Elect. The President shall convene the Bureau at least every other year to guide the affairs of the Association.

PRESIDENT, SECRETARY GENERAL, TREASURER AND EDITOR

9. The President shall be the executive officer of the Association and shall direct its affairs in accordance with the decisions of the Plenary Session of the Association. The President shall be assisted by the Vice-Presidents.

10. The Secretary General, in consultation with the President, shall manage the business of the Association, conduct the correspondence, preserve the official documents and administrative records. The Bureau may authorize the Secretary General to employ administrative and secretarial personnel to assist him/her in the performance of his/her duties to the Association. The Secretary General shall also take any action necessary to ensure that the Objectives of the Association are fulfilled in a manner which complies with the relevant Law governing administration, taxation, Contract and Tort or their equivalent in any country where the Association is operational including the appointment of a person or corporation if required to protect and represent the Association in any such matters and he/she shall be indemnified by the Association in respect of the costs of any such action.

11. The Treasurer, or acting Treasurer, shall collect the funds of the Association and disburse them in accordance with the decisions of the Plenary Session of the Association and the Bureau. He shall maintain records of all financial transactions of the Association and submit annual reports thereon to the Bureau as required by the Statutes and Bye-laws of IUGG. In agreement with the Secretary General he shall arrange for the subscriptions, sales, and storage of the publications of the Association.

11.1. The funds of the Association shall be invested in accounts of the Association. They shall be at the disposal of the Treasurer and the Secretary General as may be deemed necessary and as specified in Article 11, but provisions shall be made to enable the President to transfer the funds or part of them to an acting Treasurer appointed according to Article 7.3.

12. The Editor shall prepare for publication by the Association original papers, reviews and other material in a form in accordance with the decisions of the Plenary Session and the Bureau.

COMMISSIONS

13. The following provisions shall govern Scientific Commissions that are created under Article 7.4.

13.1. The Scientific Commissions shall keep abreast of their fields of hydrology and determine the trends in research on the most urgent problems of hydrology that are of common interest to many countries. The Scientific Commissions shall study the questions voted by their Plenary Session.

13.2. The Scientific Commissions shall participate actively in the preparation of symposia on appropriate scientific problems.

13.3. The Scientific Commissions shall be styled "International Commission on ...".

13.4. The National Committee (or National Representative) for IAHS of each adhering country may designate one representative on each Scientific Commission and on each Regional Committee with which it desires to affiliate. Such representatives may vote on all administrative and scientific matters before the Scientific Commission or Regional Committee and may correspond directly with the Officers of a Commission or such Committee on all matters of concern to that Commission or such Committee. All participants present at a meeting of a Commission or such Committee may vote on scientific matters.

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13.5. While the regulations for all scientific commissions should be as similar as possible, each Scientific Commission may propose a set of regulations for its organization and governance for approval by the Plenary Administrative Session of the Association.

13.6 The Scientific Commissions may establish Divisions and ad hoc working groups to report on specific problems.

PANELS, WORKING GROUPS AND RAPORTEURS

14. The Plenary Session or the Bureau may create panels or working groups and appoint rapporteurs to undertake either:

- (a) ad hoc scientific programmes; or
- (b) activities of a pro tempore regional nature; or
- (c) specific administrative or organizational tasks.

The Chairman and members of all such groups shall be appointed by the President, to whom they shall report. Such groups shall exist only during the term between two successive IUGG General Assemblies.

IAHS LIMITED

15. The International Association of Hydrological Sciences Limited.

15.1. The International Association of Hydrological Sciences Limited shall deal with those matters set out in its Memorandum and Articles of Association (a copy of which shall be held by the Secretary General) and is a registered Charity in the United Kingdom.

15.2. Membership of the Limited Company is restricted to Individual Members of the Association. The Limited Company will deal inter alia with the IAHS publishing programme including the arrangements for the Hydrological Sciences Journal.

15.3. The International Association of Hydrological Sciences Limited shall have as its Board the Secretary General and those persons appointed by the President. The Chairman of the Limited Company will report to the President. Because of requirements under English Law, at least half the Board of the Limited Company, who shall also be Directors, must be ordinarily resident in the United Kingdom.

15.4. For the purpose of continuity of administration of the Limited Company, the President shall have absolute discretion regarding the appointment of the Chairman and the Board.

BYE-LAWS: AMENDMENTS

16. Within the framework of these Statutes, the Plenary Administrative Session of the Association shall have the power to adopt or amend Bye-laws by a simple majority.

17. Proposals by adhering countries for a change of any Article of the Statutes must reach the Secretary General at least six months before the date of the meeting at which they are considered by the Plenary Administrative Session of the Association. The Secretary General shall notify all adhering countries of any proposed changes at least four months before the named date.

18. The Articles of these Statutes may be changed only by a majority of two-thirds of the votes cast at a meeting of the Plenary Administrative Session of the Association by voting members who are present or who vote by post, provided that the total number of favourable votes is not less than one-half the number of the members of the Plenary Administrative Session of the Association eligible to vote.

19. The Statutes are prepared in English and French, and the English text shall be considered the authoritative text. Questions of interpretation as between the texts shall be decided by the President.

BY-LAWS

1. The following Scientific Commissions have been established in accord with Article 7.4 of the Statutes:

International Commission on Surface Water;

International Commission on Groundwater;

International Commission on Continental Erosion;

International Commission on Snow and Ice Hydrology;

International Commission on Water Quality;

International Commission on Water Resources Systems;

International Commission on Remote Sensing;

International Commission on the Coupled Land-Atmosphere System;

International Commission on Tracers.

International Commission on Statistical Hydrology.

The Commissions shall follow the Regulations of the Scientific Commissions. Commission-specific modifications of these regulations are subject to approval by the Plenary Administrative Session of the Association and shall become part of the Bye-laws.

All Commissions will be concerned with natural processes and these processes as modified by human activities or with processes, technologies and applications. Relations to the environment will be considered as appropriate.

Whenever Scientific Commissions are referred to in the Bye-laws, it implies "International Commissions".

2. The several Scientific Commissions shall prepare scientific reviews of the state of research in their respective fields of hydrology, noting achievements and trends, with particular emphasis on significant problems for attack. The reports should be submitted in English or in French and include a summary in the other language. The report shall reach the Secretary General at least four months before the Plenary Session of the Association, for distribution among the officers of the Association including those of the several Scientific Commissions and among the National Committees, and for publication in the reports of the Plenary Session of the Association. The President of the Association shall introduce these reviews in his address to the Plenary Session of the Association, together with his recommendations as to the course of research.

3. The Scientific Commissions shall meet at the IUGG General Assemblies and Scientific Assemblies of the Association unless authorized otherwise by the Bureau. A Scientific Commission may also schedule other meetings under the regulations it adopts according to Statutes Article 13.6.

4. The Scientific Commissions may invite advisors from non-adhering countries to participate in the work of the Scientific Commissions. These advisors may not vote.

5. Each Scientific Commission shall show on its stationery or other formal documents its identification with the International Association of Hydrological Sciences.

NOMINATIONS AND VOTING FOR OFFICE

6. The Bureau shall establish a Nomination Panel of not less than three members at least 10 months before an IUGG General Assembly to receive and consider suggestions and prepare nominations for the President-Elect, the three Vice-Presidents and the Secretary General.

At least nine months before an IUGG General Assembly the Secretary General shall inform all National Committees of the membership of the Nomination Panel, asking them to send their nominations to its Chairman not later than six months before the General Assembly in order to be considered by the Panel. On the basis of available nominations from the National Committees, the IAHS Bureau and from the Scientific Commissions, the Panel shall prepare a list of candidates, seeking to achieve a reasonable balance in their geographical and professional distribution.

Each nomination for office must include a résumé of the candidate's qualifications relevant to the office for which the candidate is nominated. A signed statement of the candidate's willingness to stand for office must also be provided. The nomination shall not be considered without submission of the résumé and consent form.

A person may be a candidate for more than one office except the candidate for President-Elect who may not be a candidate for any other office of the Association. No one may hold more than one office at the same time.

The list submitted for voting shall contain the candidates proposed by the Nomination Panel and mention the names of all other nominees submitted.

The voting on the list shall be by the Plenary Administrative Session of the Association or by mail according to Article 7.2 of the Statutes.

6.1. Each of the Scientific Commissions shall establish a Nomination Group of not less than three members at least 10 months before an IUGG General Assembly to prepare nominations of Commission officers. At least nine months before an IUGG General Assembly the Secretary General shall inform all National Committees of the membership of these groups, asking them to send nominations to the Chairman of the Nomination Panel not later than six months before the General Assembly. The Chairman of the Panel shall furnish each Nomination Group with the names of candidates appropriate to each Scientific Commission. On the basis of available nominations from the National Committees and respective Scientific Commissions each Nomination Group shall then prepare a list of candidates for Scientific Commission officers. The preparation of the list shall be done in consultation with the Panel Chairman.

The nominations for Commission officers shall follow the same procedure as that for the Bureau officers (Article 6) except that the nominee for President-Elect may be a candidate for more than one office.

The voting on this list shall be by the Plenary Administrative Session of the Scientific Commissions or by mail according to Article 7.2 of the Statutes. The results shall be given to the Chairman of the Nomination Panel who shall draw up a list of Scientific Commission Officers to be announced at a Plenary Session of the Association in Administrative Session.

6.2. The list of candidates for Association and Commission Officers shall normally contain more than one name for each office. The Chairman of the Nomination Panel shall distribute the list to the National Committees at least three months before an IUGG General Assembly.

The list submitted for voting shall include both the candidates proposed and the names of all the other nominees submitted.

6.3. Voting on the list of candidates for both Association and Scientific Commission officers shall be done by secret ballot. To be elected, each candidate must obtain a simple majority of votes. For those offices not filled in the first round of voting, a second round shall be held on the two highest ranking candidates of the first round. In the case of a draw in the second round, the President shall decide

NATIONAL COMMITTEES

7. The National Committees or the National Representatives shall disseminate information on the Association within their countries and shall solicit papers for symposia or for publication in the Hydrological Sciences Journal.

8. National Committees shall be invited to present their views on hydrological and water resources research and on matters relating to the management of the Association to the Bureau and the Plenary Sessions, as a contribution to the discussion on future activities of the Association.

9. Where the National Committee for IAHS has not appointed or designated a person or persons to cast its vote as specified by the Statutes in the Plenary Session or at a meeting of a Scientific Commission or other committee, the delegates present are invited to select one of their number for this purpose.

10. The Association should encourage the formation of National Committees for hydrology in all countries that adhere to the Union. Where such National Committees do not exist, de facto or de jure delegates who have attended General Assemblies and symposia of IAHS are invited to petition the National Committee for IUGG to form a national group for discussion of questions before IAHS or its Scientific Commissions or to designate delegations to a General Assembly.

11. National Committees shall designate a delegate to the Plenary Sessions of the Association and each of the Scientific Commissions. The names of such delegates should be given to the Secretary of the pertinent body at least one day in advance of any Administrative Session.

AGENDA, SYMPOSIA AND PUBLICATIONS

12. The Bureau of the Association shall organize the agenda for the Plenary Sessions of the Association.

13. Suggestions for the agenda of the Plenary Session of the Association must reach the Secretary General at least three months before the date of the meeting. However, a question which has not been placed on the agenda may be discussed if a proposal to that effect be approved by two-thirds of the votes of the delegates to the Plenary Session.

14. A Scientific Assembly may be held once during the four-year period between the General Assemblies of IUGG.

Guidelines for organizing symposia

15. Symposia for which the Association has primary responsibility (referred to as IAHS symposia in this By-law) should meet the following conditions and be accepted by the Bureau:

- (i) a subject having an important role in the development of hydrology;
- (ii) proposed by a National Committee or by officers of the Association or of its Scientific Commissions;
- (iii) a member country expressing readiness to serve as host and presenting evidence of adequate support.

15.1. IAHS symposia (with subject outline) should be announced by the Secretary General not later than 18 months before the date of the symposium, by post to each National Committee and published in the Journal of the Association.

15.2. IAHS symposia are organized jointly with a relevant organization of the host country and may be supported by or organized in collaboration with other international organizations. Preference shall be given to those symposia where there is evidence of adequate national support.

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15.3. The Association may support or take partial responsibility in symposia of other international organizations according to arrangements formulated through exchange of correspondence and approved by the Bureau.

16. The Editor is authorized to arrange for the publication of a periodic Journal to provide a line of communication with the National Committees and with the world hydrological community.

GENERAL

17. Scientific Commissions, Panels, Working Groups and the International Association of Hydrological Sciences Limited shall account to the Treasurer in January of each year on all funds received from the Association and from other sources for their activities and disbursed by them during the preceding year.

18. Corporate Subscribers: The Bureau of the Association is authorized to accept institutions with an interest in hydrology as Corporate Subscribers who, for an annual fee established by the Bureau, shall be entitled to receive a copy of each Journal published by the Association, a 20% discount on any IAHS publication other than the Journal, copies of all notices and information circulars, and to a listing in the Journal.

19. The President may invite representatives of the UN specialized agencies or other observers, advisors or consultants to attend Plenary Sessions or meetings of the Bureau, with voice but without vote.

20. The legal domicile of the Association shall be established by the Bureau.

21. The Secretary General shall publish the Statutes and Bye-laws at least once in each period between General Assemblies of the IUGG.

22. The Secretary General keeps a list of hydrologists who are willing and qualified to participate actively in the work of the Association. These hydrologists are designated as Individual Members of IAHS. The Secretary General will notify the Secretaries of the Scientific Commissions of the Individual Members interested in their respective Commission.

STATUTS ET REGLEMENTS DE L'ASSOCIATION INTERNATIONALE DES SCIENCES HYDROLOGIQUES

(Modifiés en juillet 2011, XXVème Assemblée Générale de l'UGGI, Melbourne, Australie)

STATUTS

1. Les buts de l'association.

1.1. Promouvoir l'étude de l'hydrologie en tant que partie intégrante des sciences de la terre et des ressources en eau;

- Etudier le cycle hydrologique sur la Terre et les eaux des continents; les eaux superficielles et souterraines, les neiges et les glaces, de même que les processus physiques, chimiques et biologiques les concernant, leurs rapports avec le climat et avec d'autres facteurs physiques et géographiques de même que les interrelations existant entre elles;

- Etudier l'érosion et la sédimentation et leurs relations avec le cycle de l'eau;

- Examiner les aspects hydrologiques de l'utilisation et de la gestion des eaux ainsi que les modifications affectant les ressources en eau sous l'influence des activités de l'homme;

- Fournir une base scientifique solide à l'utilisation optimale des systèmes de ressources en eau, comprenant le transfert de connaissances concernant la planification, l'ingénierie, la gestion et les aspects économiques de l'hydrologie appliquée.

1.2. D'offrir toutes facilités pour la discussion, la comparaison et la publication des résultats de la recherche.

1.3. De provoquer, de faciliter et de coordonner les recherches et études concernant des problèmes hydrologiques qui nécessitent une coopération internationale.

2. L'association est un des corps constituants de l'Union Géodésique et Géophysique Internationale (UGGI). Elle est régie par les articles des statuts et du règlement intérieur de l'union applicable aux diverses associations, ainsi que par les présents statuts.

3. Tout pays adhérent à l'union est aussi adhérent à l'association et est appelé à envoyer des délégués et à participer par tout autre moyen à ses travaux. Toutes les réunions scientifiques de l'association et de ses composantes sont ouvertes à ces délégués.

4. L'association exerce ses activités dans le cadre du Conseil International pour la Science (ICSU) et de l'UGGI, en coopération avec les Nations Unies et ses agences spécialisées et par contacts directs avec les autres organisations internationales.

5. L'association comporte : la session plénière, le bureau de l'association, les commissions scientifiques, les groupes d'experts et les groupes de travail et "The International Association of Hydrological Sciences Limited". L'association maintient le contact avec les divers pays adhérents par l'intermédiaire de leurs représentants nationaux ou de leurs comités nationaux (souvent sous-comités ou sections des comités nationaux de l'UGGI) et des comités régionaux.

Commissions scientifiques : Unités constitutives de l'association ayant des responsabilités scientifiques bien définies correspondant à des objets ou domaines hydrologiques spécifiques. Les divisions sont à leur tour des unités constitutives pour les commissions.

Groupes d'experts ou groupes de travail: Unités constitutives de l'association créées à titre transitoire (ad hoc), en vue de soumettre un rapport sur des problèmes spécifiques, qu'ils soient scientifiques ou administratifs.

Comités nationaux: Les comités nationaux de l'AISH sont les organes administratifs permettant de maintenir le contact avec l'association. Ils peuvent inclure des membres des commissions scientifiques de l'AISH.

Représentants nationaux : chaque pays membre de l'UGGI nomme un représentant national à l'AISH. Ce représentant national a pour rôle de maintenir le contact avec l'association et de prendre part au travail du comité national de l'AISH quand il existe.

Comités régionaux : Les comités régionaux sont des organes administratifs qui examinent des sujets particuliers concernant des régions spécifiques.

"The International Association of Hydrological Sciences Limited": Son statut juridique est celui d'une "Charity" déclarée au Royaume-Uni dont l'objet, exposé dans le sommaire et les articles de ses statuts, est identique à celui de la présente association et qui se situe dans le cadre du CIUS et de l'UGGI.

Membres individuels : bien que l'adhésion à l'AISH soit par pays, les individus eux-mêmes peuvent demander à être enregistrés comme membre individuel. Pour être candidat un individu doit travailler dans un ou plusieurs domaines de l'hydrologie et s'efforcer de participer aux activités de l'AISH. Les membres individuels n'ont pas droit au vote sur les questions administratives.

Session plénière

6. Une session plénière de l'association doit être convoquée en accord avec le règlement intérieur de l'union. Au moins une session plénière doit être tenue lors d'une assemblée générale de l'UGGI ou d'une assemblée scientifique de l'association. Chaque pays adhérent peut être représenté par un ou plusieurs délégués lors d'une session plénière.

6.1. La session plénière détient l'autorité suprême en matière de questions à caractère scientifique.

6.2. La session plénière doit considérer la situation des sciences hydrologiques au moment de la réunion, les tendances de leur développement et les questions relatives à l'organisation des symposiums sur d'importants problèmes hydrologiques, en tenant compte des programmes appropriés des autres organisations internationales.

6.3. Chaque participant présent lors d'une session plénière dispose d'une voix pour les questions scientifiques.

7. L'autorité suprême de l'association pour toutes les questions administratives ou financières est conférée à la session administrative plénière de l'association.

7.1. La session administrative plénière se compose du président, du président-élu ou du président sortant, des vice-présidents, du secrétaire général, du trésorier, de l'éditeur, du président ou d'un autre représentant désigné de chaque commission scientifique en activité au moment de la session, du président de "The IASH Limited" et d'un délégué de chaque pays adhérent, mandat, par ce pays pour voter en son nom lors de la session administrative plénière.

Pour qu'il y ait quorum, il est nécessaire que le président (ou le vice-président faisant fonction de président), le secrétaire général ou son suppléant et les délégués dotés du droit de vote d'au moins dix pays soient présents.

7.2. Le vote en session administrative plénière a lieu par pays, chaque pays disposant d'une voix à la condition qu'il ait ses droits de vote à l'UGGI au moment du vote. Le vote peut aussi se faire par correspondance mais si le vote a été fait par correspondance le pays ne peut pas alors voter à nouveau lors de la session plénière. Seuls les titulaires de postes de responsabilité de l'association et de ses commissions scientifiques ayant été autorisés à voter par leur pays peuvent participer au vote.

7.3. La session administrative plénière, réunie durant l'assemblée générale de l'UGGI, élit pour l'association, selon le règlement intérieur, le président-élu, trois vice-présidents, le secrétaire général et tout autre titulaire de poste électif qui pourrait paraître nécessaire.

L'élection doit avoir lieu pendant l'assemblée générale de l'UGGI, selon les articles 7.1, 7.2 et 7.6.

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La période de fonction de tout titulaire de poste de responsabilité, de l'association, à l'exception du président, couvre l'intervalle séparant les élections de deux assemblées générales successives de l'UGGI.

Le président-élu devient président et le président devient président sortant deux ans après les élections organisées lors de l'assemblée générale de l'UGGI.

Si une assemblée scientifique a lieu durant la seconde année suivant les élections, le président-élu devient président au début de l'assemblée scientifique.

La durée de la fonction de président sortant va du moment où le nouveau président occupe son poste jusqu'à la nouvelle élection d'un président-élu. A n'importe quel moment le bureau doit comporter soit un président et un président-élu soit un président et un président sortant.

Le président et les vice-présidents ne peuvent pas être élus pour deux mandats successifs au même poste.

Le secrétaire général est rééligible, le nombre de mandats supplémentaires étant limité à deux.

Le trésorier et l'éditeur doivent être désignés par le bureau et leur mandat peut être prolongé sans aucune limitation de durée.

Le président-élu assume la charge de président si cette charge devient vacante. S'il n'y a pas de président-élu, le bureau doit désigner l'un des vice-présidents comme président.

Si les charges de secrétaire général, de trésorier ou d'éditeur deviennent vacantes entre deux assemblées générales de l'UGGI, des responsables de remplacement doivent être désignés par le président pour remplir leurs fonctions jusqu'à la fin du mandat.

7.4. La session administrative plénière a le pouvoir de créer et de dissoudre les commissions scientifiques. Leurs attributions doivent être incluses dans le règlement intérieur de l'association.

La session administrative plénière réunie lors de l'assemblée de l'UGGI doit être informée de l'élection du président-élu, des trois vice-présidents et du secrétaire par la session administrative plénière de chaque commission scientifique.

La charge de président-élu de chaque commission scientifique doit être attribuée selon la même procédure que celle décrite à l'article 7.3 pour l'association.

Les présidents des commissions scientifiques ne peuvent pas être réélus pour deux mandats consécutifs à la même charge. Les vice-présidents et le secrétaire sont rééligibles mais seulement pour un mandat supplémentaire.

Les commissions scientifiques ont le pouvoir de combler les vacances qui peuvent survenir entre les élections.

Cet article autorise également la création de comités régionaux qui peuvent être créés à l'initiative de plusieurs comités ou représentants nationaux. Les membres de leur bureau doivent être élus par ces comités ou représentants nationaux.

7.5. La session administrative plénière peut élire un président honoraire qui exerce ses fonctions à vie ou jusqu'à ce qu'il ou elle démissionne de son poste. Le président honoraire peut participer en tant que membre sans droit de vote à n'importe quelle réunion de l'association incluant celle du bureau et peut être sollicitée par le bureau pour entreprendre des tâches spécifiques destinées à appuyer les buts de l'association.

7.6. Pour toutes les questions impliquant des problèmes financiers, le vote en session administrative plénière doit avoir lieu comme il est indiqué à l'article 7.2 sauf que sur la demande de deux délégués ayant capacité de vote, le nombre de voix pour chaque pays doit être égal à la valeur du numéro de sa catégorie de membre, tel que cela est défini dans les statuts de l'union, augmenté d'une unité.

7.7. Un pays adhérent, non représenté à une session administrative plénière, peut voter par correspondance sur tout point de l'ordre du jour, incluant l'élection des membres du bureau de l'association.

7.8. Le bureau peut autoriser le vote par correspondance sur des questions administratives entre les sessions plénières de l'association.

Le bureau

8. Le bureau de l'association se compose du président, du président-élu ou du président sortant, des trois vice-présidents, du secrétaire général, du trésorier, de l'éditeur et des présidents des commissions scientifiques en activité et du président de "The International Association of Hydrological Sciences Limited". Le président sortant reste membre du bureau durant la période allant de la fin de sa fonction à l'élection du nouveau président-élu. Le président doit convoquer le bureau au moins une fois par an pour conduire les affaires de l'association.

Président, secrétaire général, trésorier et éditeur.

9. Le président est l'agent exécutif de l'association et il dirige les affaires selon les décisions de la session plénière de l'association. Le président doit être assisté des vice-présidents.

10. Le secrétaire général, en accord avec le président, gère les affaires de l'association, s'occupe de la correspondance, conserve les documents officiels et les archives administratives. Le bureau peut autoriser le secrétaire général à employer du personnel administratif et du personnel de secrétariat pour l'assister dans l'exécution de ses obligations vis-à-vis de l'association. Le secrétaire général doit aussi prendre toute disposition nécessaire à assurer que les objectifs de l'association sont réalisés en conformité avec les lois régissant l'administration, la fiscalité, les contrats et actes juridiques ou leur équivalent dans tout pays où l'association est en activité, ceci incluant la désignation d'un individu ou d'une personne morale, si nécessaire, pour protéger et représenter l'association dans ces domaines et son indemnisation par l'association eu égard au coût d'une telle action.

11. Le trésorier, ou le responsable de l'association faisant fonction de trésorier, doit rassembler les fonds de l'association et les répartir en accord avec les décisions de la session plénière de l'association et du bureau. Il doit conserver les relevés de toutes les transactions financières de l'association et soumettre des rapports annuels s'y référant au bureau, ainsi que cela est exigé par les statuts et le règlement intérieur de l'UGGI. En accord avec le secrétaire général, il doit prendre toutes dispositions utiles pour assurer les souscriptions, la vente et la mise en réserve des publications de l'association.

11.1. Les fonds de l'association doivent être placés sur les comptes de l'association. Ils doivent être à la disposition du trésorier et du secrétaire général si cela est jugé nécessaire et ainsi qu'il est spécifié à l'article 11, mais des dispositions doivent être prises pour permettre au président de transférer les fonds ou une partie de ceux-ci à un trésorier suppléant désigné selon l'article 7.3.

12. L'éditeur mettra au point, en vue de leur publication par l'association, les textes des documents originaux, des revues sur un sujet scientifique et d'autres matériaux, sous une forme qui soit en accord avec les décisions de la session plénière et du bureau.

Commissions

13. Les dispositions suivantes s'appliquent aux commissions scientifiques créées en vertu de l'article 7.4.

13.1. Les commissions scientifiques doivent se tenir au courant des derniers progrès de la recherche dans les domaines de l'hydrologie qui les concernent et dégager les tendances de la recherche sur les problèmes les plus urgents en hydrologie dont l'intérêt est commun à plusieurs pays. Les commissions scientifiques doivent étudier les questions votées par leur session plénière.

13.2. Les commissions scientifiques doivent participer activement à la préparation de symposiums sur des problèmes scientifiques appropriés.

13.3. Les commissions scientifiques seront désignées sous le nom de "Commission internationale de..."

13.4. Le comité national (ou le représentant national) pour l'AISH de chaque pays adhérent peut désigner un représentant pour chaque commission scientifique et comité régional auquel il désire s'affilier. De tels représentants peuvent voter sur toutes questions administratives et scientifiques étudiées par la commission scientifique ou le comité régional, et peuvent correspondre directement avec les titulaires de postes de responsabilité de cette commission ou de ce comité à propos de toute question intéressant cette commission ou ce comité. Tous les participants présents à une réunion d'une commission peuvent voter sur des matières scientifiques.

13.6. Chaque commission scientifique peut proposer à l'approbation de la session administrative plénière de l'association une série de réglementations pour sa propre organisation et son administration.

13.6 Chaque commission scientifique peut avoir des sous-commissions et des groupes de travail sur des sujets spécifiques.

Groupes d'experts, groupes de travail et rapporteurs.

14. La session plénière ou le bureau peut créer des groupes d'experts et des groupes de travail pour entreprendre:

- (a) la réalisation d'un programme scientifique ad hoc; ou,
- (b) une tâche temporaire de coopération de nature régionale; ou,
- (c) des tâches organisationnelles ou administratives spécifiques.

Le président et les membres de tels groupes doivent être nommés par le président auquel ils rendent compte de leurs activités. De tels groupes ne doivent exister que dans l'intervalle de temps entre deux assemblées générales successives de l'UGGI.

"The IAHS Limited"

15. "The International Association of Hydrological Sciences Limited".

15.1. "The International Association of Hydrological Sciences Limited" doit s'occuper des questions exposées dans le sommaire et les articles de ses statuts de société (dont une copie doit être conservée par le secrétaire général). Son statut juridique est celui d'une "Charity" déclarée au Royaume-Uni.

15.2. La participation à la société est réservée à des membres individuels de l'association. La société s'occupera du programme de publication de l'AISH incluant les arrangements concernant le "Journal des sciences hydrologiques".

15.3. "The International Association of Hydrological Sciences Limited" doit comprendre parmi ses membres le secrétaire général ainsi que les personnes que nommera le président. Le président de la société doit rendre compte de ses activités au président de l'association. En raison des exigences de la loi anglaise, au moins la moitié des membres de la société, qui doivent en être administrateurs, doivent résider au Royaume-Uni.

15.4. Pour assurer la continuité de gestion de la société, le président aura totale latitude en ce qui concerne la nomination du président de la société et des membres.

Règlement intérieur - Amendements.

16. Dans le cadre des présents statuts, la session administrative plénière de l'association a le pouvoir d'adopter ou d'amender le règlement intérieur à la majorité simple.

17. Les propositions formulées par les pays adhérents en vue de la modification d'un article quelconque des statuts doivent parvenir au secrétaire général au moins six mois avant la date de la réunion au cours de laquelle elles seront considérées par la session administrative plénière de l'association. Le secrétaire général doit, au moins quatre mois avant la date fixée, notifier à tous les pays adhérents toutes les propositions de modifications qu'il aura alors reçues.

18. Les articles de ces statuts ne peuvent être modifiés qu'à la majorité des deux tiers des voix exprimées lors d'une réunion de la session administrative plénière de l'association par les délégués ayant droit de vote, présents à cette réunion ou votant par correspondance, à la condition que le nombre total de voix favorables ne soit pas inférieur à la moitié du nombre de membres de la session administrative plénière de l'association ayant la capacité de vote.

19. Les statuts sont rédigés en anglais et en français, et le texte anglais fera autorité. Les problèmes d'interprétation qui peuvent intervenir entre les deux textes devront être réglés par le président.

REGLEMENT INTERIEUR

1. Les commissions scientifiques suivantes ont été créées, conformément à l'article 7.4 des statuts.

Commission internationale des eaux de surface,

Commission internationale des eaux souterraines,

Commission internationale d'érosion continentale,

Commission internationale de l'hydrologie des neiges et glaces,

Commission internationale de la qualité des eaux,

Commission internationale des systèmes de ressources en eau

Commission internationale de télédétection et télétransmission,

Commission internationale du système couplé sol-atmosphère,

Commission internationale des traceurs.

Commission internationale de statistique hydrologique.

Chaque commission devra suivre ses attributions. Les modifications des attributions de chaque commission doivent être approuvées par la session administrative plénière de l'association et doivent être jointes au règlement intérieur.

Toutes les commissions s'intéresseront aux processus naturels et aux modifications apportées à ces processus par l'action de l'homme et par l'application de technologies. Les relations avec l'environnement seront examinées dans chaque cas où il conviendra de le faire.

1.1. Chaque fois qu'il sera fait mention de commissions scientifiques dans le règlement intérieur il faudra comprendre "Commissions internationales".

2. Les diverses commissions scientifiques ont pour tâche de préparer des rapports scientifiques faisant le point sur l'état de la recherche dans les domaines de l'hydrologie qui leur sont propres; ils noteront les résultats obtenus et les tendances actuelles en insistant sur les points significatifs concernant l'approche des problèmes. Les rapports seront fournis en anglais ou en français et comporteront un sommaire dans l'autre langue officielle. Le rapport doit parvenir au secrétaire général au moins quatre mois avant la session plénière de l'association, pour distribution aux responsables de l'association, y compris ceux des différentes commissions scientifiques,

ainsi qu'aux comités nationaux, et pour publication dans les rapports de la session plénière de l'association. Le président de l'association inclut ces rapports scientifiques dans sa communication à la session plénière de l'association, de même que ses recommandations concernant le développement de la recherche.

3. Les commissions scientifiques se réunissent lors des assemblées générales de l'UGGI et lors des assemblées scientifiques de l'association, à moins que le bureau ne les ait autorisés à se réunir dans d'autres circonstances. Une commission scientifique peut aussi prévoir d'autres réunions suivant le règlement qu'ils peuvent adopter, conformément à l'article 13.6 des statuts.

4. Les commissions scientifiques peuvent inviter des conseillers provenant de pays non adhérents à participer à leurs travaux. Ces conseillers ne peuvent pas voter.

5. Chaque commission scientifique doit faire figurer dans l'en-tête de ses imprimés et autres formes de documents son appartenance à l'association internationale des sciences hydrologiques.

Sélection des candidatures et élections aux postes de direction de l'association

6. Le bureau doit établir au moins dix mois avant l'assemblée générale de l'UGGI un comité de sélection des candidatures d'au moins trois membres, chargé de recevoir et d'étudier les suggestions et de sélectionner des candidatures pour le poste de président-élu, pour les trois postes de vice-président ainsi que pour le poste de secrétaire général.

Au moins neuf mois avant l'assemblée générale de l'UGGI le secrétaire général doit informer les comités nationaux de la composition du comité de sélection des candidatures et leur demander d'adresser leurs propositions à son président au plus tard six mois avant l'assemblée générale de telle sorte qu'elles soient recevables. Sur la base des propositions des comités nationaux, du bureau de l'AISH et des commissions scientifiques, le comité de sélection préparera une liste de candidats où il s'efforcera de réaliser un équilibre géographique et professionnel satisfaisant.

Chaque candidature à un poste de direction doit être accompagnée d'une notice illustrant la compétence du candidat pour le poste de direction auquel il est présenté. Une déclaration signée prouvant la volonté du candidat d'assumer cette fonction doit également être fournie. Une candidature ne sera recevable qu'accompagnée de la notice et de la déclaration.

Un individu peut être candidat à plus d'un poste de direction, à l'exception d'un candidat au poste de président-élu qui ne peut prétendre à aucun autre poste au sein de l'association.

La liste soumise au vote comprendra les noms des candidats sélectionnés par le comité de sélection des candidatures et mentionnera les noms de tous les autres candidats proposés.

Le vote aura lieu en session administrative plénière de l'association ou par correspondance selon l'article 7.2 des statuts.

6.1. Chaque commission scientifique doit établir un groupe de sélection des candidatures d'au moins trois membres au moins dix mois avant une assemblée générale de l'UGGI pour sélectionner les candidatures aux postes de responsabilité des commissions. Neuf mois au moins avant une assemblée générale de l'UGGI le secrétaire général doit informer tous les comités nationaux de la composition de ces groupes et leur demander d'adresser des propositions de candidatures au président du comité de sélection des candidatures six mois au moins avant l'assemblée générale. Le président du comité de sélection des candidatures fournira à chaque groupe de sélection des candidatures la liste des propositions concernant chaque commission scientifique. Sur la base des propositions fournies par les comités nationaux et les diverses commissions scientifiques, chaque groupe de sélection des candidatures devra alors préparer une liste de candidats pour les postes de responsabilités des commissions scientifiques. La constitution de ces listes sera faite en concertation avec le président du comité de sélection des candidatures.

Les propositions pour les postes de responsabilité des commissions se feront selon la même procédure que celle concernant les postes de responsabilité du bureau (article 6) à l'exception du fait que les candidats au poste de président-élu peuvent être candidats à plus d'un poste de responsabilité.

Le vote sur ces listes sera réalisé dans le cadre des sessions administratives plénières des commissions scientifiques ou par correspondance selon l'article 7.2 des statuts. Les résultats seront communiqués au président du comité de sélection des candidatures qui dressera la liste d'attribution des postes de responsabilité des commissions scientifiques qui sera proclamée en session administrative plénière de l'association.

6.2. La liste des candidats aux postes de responsabilité de l'association et des commissions devrait en principe comprendre plus d'un candidat par poste à pourvoir. Le président du comité de sélection des candidatures devra diffuser la liste des candidatures au moins trois mois avant l'assemblée générale de l'UGGI.

La liste soumise au vote comprendra les noms des candidats sélectionnés par le comité de sélection des candidatures et mentionnera les noms de tous les autres candidats proposés.

6.3. Les votes sur les listes concernant tant l'association que les commissions scientifiques auront lieu au scrutin secret. Pour être élu un candidat doit obtenir la majorité simple. Pour les postes non pourvus au premier tour de scrutin, un second tour de scrutin sera organisé pour départager les deux candidats ayant obtenu le plus de suffrages au premier tour. En cas d'égalité au second tour le président tranchera.

Comités nationaux

7. Les comités nationaux et représentants nationaux doivent diffuser les informations concernant l'association dans leur pays et solliciter des articles pour les symposiums et pour le "Journal des sciences hydrologiques".

8. Les comités nationaux sont invités à présenter au bureau et aux sessions plénières leur point de vue sur la recherche hydrologique et sur les ressources en eau comme sur les affaires relatives à la gestion de l'association, en tant que contribution aux discussions concernant les futures activités de l'association.

9. Lorsqu'un comité national de l'AISH n'a pas nommé ou désigné une ou plusieurs personnes pour voter en son nom, dans les conditions spécifiées dans les statuts, soit lors d'une session plénière, soit lors d'une réunion d'une commission scientifique ou d'un comité, les délégués présents sont invités à choisir l'un des leurs pour remplir cette fonction.

10. L'association devrait encourager la création de comités nationaux dans tous les pays qui adhèrent à l'union. Lorsque de tels comités n'existent pas, de facto ou de jure, les délégués qui ont assisté aux assemblées générales et aux symposiums de l'AISH sont invités à présenter une demande au comité national de l'UGGI pour former un groupe national en vue de discuter tout problème devant l'AISH ou ses commissions scientifiques et de désigner une délégation à l'assemblée générale.

11. Les comités nationaux doivent désigner un délégué aux sessions plénières de l'association et pour chaque commission scientifique. Les noms de ces délégués doivent être communiqués au secrétaire du groupe intéressé au moins un jour avant toute session administrative.

Ordre du jour, symposiums et publications

12. Le bureau de l'association doit préparer l'ordre du jour des sessions plénières de l'association.

13. Les propositions concernant l'ordre du jour de la session plénière de l'association doivent parvenir au secrétaire général au moins trois mois avant la date de la réunion. Cependant, une question qui n'a pas été spécifiée à l'ordre du jour peut être débattue si une proposition à cet effet a été approuvée par les deux tiers des votes des délégués à la session plénière.

14. Une assemblée scientifique peut-être tenue une fois durant la période de quatre ans séparant deux assemblées générales de l'UGGI.

Directives pour l'organisation des symposiums

15. Un symposium pour lequel l'association a la responsabilité principale (il est désigné sous le nom de symposium AISH dans ce règlement intérieur), devrait être accepté par le bureau et satisfaire les conditions suivantes:

- (i) Son sujet joue un rôle important dans le développement de l'hydrologie.
- (ii) Il est proposé par un comité national ou par un responsable de l'association ou de ses commissions scientifiques.
- (iii) Un pays membre se déclare prêt à le recevoir et présente des possibilités évidentes d'assister l'association pour accueillir la réunion dans de bonnes conditions.

15.1. Les symposiums de l'AISH doivent être annoncés (avec un résumé du sujet) par le secrétaire général, dix huit mois au moins avant la date fixée pour le symposium. Un avis doit être envoyé par la poste à chaque comité national et publié dans le bulletin de l'association.

15.2. Les symposiums de l'AISH sont organisés conjointement avec un organisme approprié du pays hôte et peuvent bénéficier de l'appui d'autres organisations internationales, ou être organisés en collaboration avec ces organisations internationales. La préférence doit être donnée aux symposiums pour lesquels il existe des possibilités évidentes d'un appui national approprié.

15.3. L'association peut apporter son appui ou prendre des responsabilités partielles pour des symposiums d'autres organisations internationales, suivant des dispositions fixées par ,change de correspondance et approuvées par le bureau.

16. L'éditeur est autorisé à prendre toutes dispositions utiles pour la publication d'un bulletin périodique en vue d'assurer la liaison avec les comités nationaux et avec la communauté mondiale des hydrologues.

Genéralités

17. Les commissions scientifiques, les groupes d'experts, les groupes de travail et "The International Association of Hydrological Sciences Limited" doivent rendre compte au trésorier tous les ans, en janvier, de l'usage de tous les fonds reçus de l'association ou d'ailleurs pour le financement de leurs activités et dépensés par eux pendant l'année précédente.

18. Membres souscripteurs: Le bureau de l'association est autorisé à accepter les institutions intéressées par l'hydrologie en tant que membres souscripteurs. Moyennant un versement annuel, dont le montant est fixé, par le bureau, de tels membres reçoivent de droit un exemplaire du " Journal ", bénéficient d'une réduction de 20% sur toutes les publications de l'AISH autres que le "Journal", reçoivent des exemplaires de toute note ou circulaire d'information et sont abonnés au bulletin.

19. Le président peut inviter des représentants des agences spécialisées des Nations Unies ou d'autres observateurs, conseillers et consultants, à assister aux réunions des sessions plénières ou du bureau avec possibilité de prendre la parole, mais sans droit de vote.

20. Le siège légal de l'association doit être fixé par le bureau.

21. Le secrétaire général publie les statuts et le règlement intérieur au moins une fois durant la période séparant deux assemblées générales de l'UGGI.

22. Le secrétaire général tient à jour une liste d'hydrologues qualifiés désireux de participer activement aux travaux de l'association. Ces hydrologues seront désignés comme individus membres de l'AISH. Le secrétaire général signalera aux secrétaires de commission scientifique les individus membres s'intéressant à leur commission.

**STATUTES AND BY-LAWS OF THE INTERNATIONAL ASSOCIATION OF METEOROLOGY AND
ATMOSPHERIC SCIENCES**

(Revised July 2011, XXV IUGG General Assembly, Melbourne, Australia)

STATUTES

Statute I - Objectives of the Association

1. The objectives of the International Association of Meteorology and Atmospheric Sciences (IAMAS), hereafter the Association, are:

- 1.1. To promote study of the sciences of the atmospheres of the Earth and other celestial bodies, and of the interactions of the Earth's atmosphere with society and with other components of the Earth system.
- 1.2. To initiate, encourage, facilitate, and coordinate international cooperation in scientific research.
- 1.3. To stimulate discussion, presentation and publication of scientific results.
- 1.4. To facilitate the education, development, and participation of early career scientists and atmospheric scientists from countries with low per-capita GDP (hereafter referred to as resource-limited countries) in international scientific assemblies and conferences.
- 1.5. To recognize leading scientific accomplishments and scientists.
- 1.6. To promote communication about the atmospheric sciences within and across the international scientific community.
- 1.7. To convey the collective views of the atmospheric science community to other organizations.
- 1.8. To promote public education and awareness of the role and importance of the atmosphere and atmospheric sciences.

In pursuit of all of its activities, the aim of the Association is to further the advancement of atmospheric sciences in a strictly non-partisan and non-profit manner.

Statute II - Membership in the Association

2. Membership in the Association is of three forms: (1) National Members, (2) Individual Members, and Affiliate Members.

- 2.1. National (or Adhering) Members of the Association are the Member Countries of the International Union of Geodesy and Geophysics (IUGG), hereafter referred to as the Union. All countries that adhere to the Union are National (Adhering) Members of the Association and are qualified to appoint delegates to the Association's General Assemblies.
 - 2.1.1. Consistent with the Statutes of the Union, a nation's Adhering Body may be either its principal scientific Academy, its National Research Council, or any other institution or association of institutions, whether non-governmental or governmental, that can represent the geodetic and geophysical activities of the adhering country.
 - 2.1.2. Both Adhering (or Member) Countries of the Union and Countries in Associate status with the Union (i.e., countries not participating financially with the Union) are qualified to appoint delegates to the General Assemblies (see Statute IV) of the Association. However, consistent with Union, National Members in Associate status with the Union have restricted rights of participation in some of the Association's activities (e.g., see Statute XI, Article 26.1, and By-Law I, Paragraph 2).

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- 2.1.3. National Members of the Association may participate in the governance and activities of the Association through a number of mechanisms, including directly through their National Committee for the Union, through a National Committee (or Sub-Committee) for the Association, or by appointing a National Delegate to (or National Correspondent with) the Association.
- 2.1.4. The general duties and responsibilities of the National Members include: selection of a Delegate to represent their nation at General Assemblies of the Association; participation in the nomination and election of capable and effective officers of the Association; oversight and promotion of the interests and success of the Association; approval of the financing of the Association; and, along with the officers and members of the Association and its Commissions, promotion of the advancement of meteorology and atmospheric sciences in their country and throughout the world.
- 2.1.5. National Members have the opportunity and responsibility to present proposals to host General and Scientific Assemblies and other meetings associated with the Association and its Commissions.
- 2.1.6. The Secretary General (see Statute IX) shall be the primary contact point with the Association's National Members, including communicating with them about the upcoming meetings and activities of the Association, and responding to their requests and queries.
- 2.2. Scientific Members of the Association are individual scientists with primary interests in meteorology and atmospheric sciences who are or have been an officer of the Association, a National Delegate attending a General Assembly of the Association, an officer or member of a Scientific Commission or other scientific entity sponsored by IAMAS, awarded honorary membership, or whose application to the Secretary General to be included as a Scientific Member of IAMAS has been approved by the Bureau of the Association.
 - 2.2.1. Applications for admission as Scientific Members should include a brief summary of the applicant's education, scientific research, and publications in the field of atmospheric sciences and a statement indicating the interest in and efforts to promote the objectives of the Association. Approval should be granted based on an indication that the applicant is of the caliber of those who would be approved to present a paper at a Scientific Assembly of the Association.
 - 2.2.2. The Secretary General shall keep a listing of the Scientific Members of the Association. The initial list of members shall be created from the listing of past officers of the Association, of the officers and members of the Scientific Commissions, and National Delegates that have attended the General Assemblies of the Association.
 - 2.2.3. There is no fee for being a Scientific Member of the Association. Membership shall be for life unless a resignation from the Scientific Member is received or membership is revoked by a two-thirds vote of those present at a regular meeting of the Executive Committee or of all Executive Committee members if the vote is taken by electronic means.
 - 2.2.4. Scientific Members are able to participate in the Association through a number of mechanisms, including participation in the Scientific Assemblies (see Statute V), serving as officers of the Association (see Statute VI), serving as members and officers of the Scientific Commissions and Joint Scientific Committees, voting on resolutions of the Association dealing with scientific matters, submitting nominations for officers of the Association, and otherwise contributing to the objectives of the Association.
 - 2.2.5. Scientific Members of the Association and activities in which they participate may be recognized by the Association for their contributions and accomplishments, as provided for in By-Law IV.
- 2.3. Affiliate Members are other scientific or professional organizations at the international, regional, or national level that are involved in study of the atmosphere, helping to educate the public about

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the atmosphere, or otherwise promoting the objectives of IAMAS, and that have been admitted to Affiliate membership by the General Assembly of the Association.

- 2.3.1. Affiliate Members are not permitted to vote on administrative or scientific matters coming before the Association, but may join with the Association in activities to promote the objectives of the Association and may be invited to make presentations before bodies of the Association, including the General Assembly.

Statute III - Time Schedule of the Association

3. The fundamental time interval for the Association is a 'period,' which is defined as the interval elapsing between the conclusion of the final Plenary Session of the Association at one Ordinary General Assembly (see Statute IV) and the conclusion of the final Plenary Session of the Association at the succeeding Ordinary General Assembly. This interval is generally four years.

Statute IV - General Assemblies of the Association

4. Representatives of the National Members of the Association will meet regularly to conduct the business of the Association in Ordinary General Assembly. The Association's Ordinary General Assembly will normally be at the time and place of the Ordinary General Assembly of the Union.

- 4.1. The General Assembly of the Association will be composed of Delegates appointed by the National Committees of the National Member countries (see Statute II). These appointments will be brought to the notice of the Bureau officially before the opening of the first Plenary Session of the General Assembly. The National Committees will designate the particular National Delegate who, in case of voting by countries, will hold the right to vote for their country. A quorum shall be considered present with the attendance, in person or by proxy, of at least three of the elected officers and Delegates from a minimum of at least 10% of the Member Countries of the Union (excluding members in Associate status).
- 4.2. The agenda of a Plenary Session of a General Assembly of the Association will be determined by the Bureau (see Statute VIII), which will have previously invited the National Committees of the IUGG Adhering Countries to submit proposed topics for consideration. This agenda will be communicated to the Committees at least four months before the opening of the General Assembly. Questions not contained in the agenda may be considered during the sessions only with the agreement of at least half of the countries represented, or of the Delegates present at the General Assembly, accordingly, as the question is administrative (including financial) or scientific.
- 4.3. The Bureau will have the responsibility for preparing the schedule of business for the General Assembly. In general, an opening Plenary Session will be held near the start of the General Assembly to cover business matters of the Association including: to hear the reports of the President and Secretary General, to consider for approval the decisions and actions of the officers and committees of the Association, to receive nominations for Officers and Members of the Executive Committee, to agree on appointment of appropriate committees to function during the General Assembly, to hear proposals from Delegates of Member Countries to host upcoming Scientific Assemblies (see Statute V), and to hear presentations of reports from at least some of the Scientific Commissions, as may be appropriate at the first plenary. A second plenary session will be held towards the close of the General Assembly, during which financial reports will be made, remaining reports of the Scientific Commissions will be heard, resolutions or recommendations will be decided (see By-Law V for the procedure for considering and approving resolutions), elections will be held, and other appropriate business conducted.
- 4.4. The General Assembly is responsible for hearing a report from the Executive Committee on the status of the Scientific Commissions, and for, if necessary, amending and/or acting on any recommendations, including changes in the objectives and continuation, establishment, or termination of any of the Scientific Commissions. The General Assembly will also consider the establishment, continuation and termination of any Joint Scientific Committees that have been established.

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- 4.5. By vote of the National Delegates, the General Assembly may, at its discretion, propose, enact, modify, and/or amend By-Laws defining Association procedures. This responsibility includes consideration of any amendments or new By-Laws proposed or approved on an interim basis by the Executive Committee over the preceding period.
 - 4.6. At the General Assembly, both National Delegates and Individual Members that are present will have the right to vote on resolutions and issues of scientific interest. Voting is expected to be on the basis of each individual's scientific knowledge and understanding.
 - 4.7. In the election of Officers of the Association and on administration matters without financial implications, voting by National Delegates at the General Assembly will be by country and each country will have one vote, subject to the condition that the country will have paid its subscription to the Union up to the end of the year preceding the voting.
 - 4.8. On financial questions, and particularly with respect to the budget of the Association for the period from the January 1 following the General Assembly to the December 31 following the next General Assembly, voting at the General Assembly will be by country, provided that the country will have paid its subscription up to the end of the year preceding the voting. The number of votes assigned to each country will be one greater than the number of its category of membership in the Union. In case of doubt as to which class a question belongs, and in all cases of equality of votes on a question, the decision will rest with the President or Presiding Officer.
 - 4.9. In the event that a designated National Delegate from a country cannot be present for voting, the National Delegate from that nation may in writing designate a Delegate from another country to cast the vote(s) on behalf of the country of the aforementioned National Delegate. No designated Delegate may represent more than two countries in addition to their own.
 - 4.10. A National Member country not represented by a National Delegate may, by post or in a printable electronic form, forward its vote on any specific agenda question that has been distributed in advance. The postal or electronically provided ballot must be received by the Bureau in advance of the Plenary Session in which the voting takes place.
 - 4.11. The decision on all voting matters will be by simple majority of those Delegates or those countries present, including votes received by post or in a printable electronic form, counting for the purpose of determining a majority only those votes cast for or against a particular matter. In case of a tie vote, that of the President or Presiding Officer will decide.
 - 4.12. Except as indicated in the Statutes and By-Laws, conduct of IAMAS meetings shall be conducted according to Robert's Rules of Order, Newly Revised.
5. If the need should arise, the President of the Association, with the concurrence of the Executive Committee, may convene an Extraordinary General Assembly of the Association, during the interval between two Ordinary General Assemblies of the Union. Delegates to an Extraordinary General Assembly will have the same powers and be subject to the same rules as the Ordinary General Assemblies.
- 5.1. An Extraordinary General Assembly must also be convened by the President upon the request of at least half of the National Members.
 - 5.2. If the date and place of such an Extraordinary General Assembly have not been agreed upon during the preceding Extraordinary or Ordinary General Assembly, that will be determined by the Executive Committee of the Association and communicated to the National Member countries at least six months in advance. The date and time will at the same time be communicated to the bureaus of the Union and its constituent Associations.
6. Ordinary and Extraordinary General Assemblies will be open to the public. All interested scientists may participate in the discussions, and may take the floor after being recognized by the President or Presiding Officer, whether those scientists be formally accredited Delegates or not, and whether they are from National Member countries or not. However, voting will be conducted according to the procedures outlined in Article 4 above.

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Statute V - Scientific Assemblies of the Association

7. The Association may, upon decision taken at an Ordinary or Extraordinary General Assembly, organize and conduct Scientific Assemblies.

- 7.1. The Association will organize Scientific Assemblies in cooperation with other associations of the Union to coincide with the Ordinary General Assemblies of the Union and the Association.
- 7.2. The Association may organize and conduct Scientific Assemblies at times other than the General Assemblies of the Union. These Scientific Assemblies may be arranged by the Association alone, or they may be held jointly with other Associations of the Union, with other bodies of the International Council of Science, or in cooperation with international organizations or research programmes.
- 7.3. Plans for such Scientific Assemblies will be communicated to the National and Scientific Members of the Association and to the bureaus of the Union and its constituent Associations at least six months in advance.
- 7.4. Proposals of National Members to host a Scientific Assembly will normally be made to the Executive Committee at least four years prior to the intended Assembly, where a proposal may receive preliminary approval. Formal approval to hold a Scientific Assembly separate from the Union's General Assembly would normally be at the Ordinary General Assembly prior to the Scientific Assembly.
- 7.5. Financial responsibility for Scientific Assemblies held separately from the Union General Assembly must be accepted by the proposing National Member Country. The host country has responsibility for preparing the budget for the Scientific Assembly, the solicitation of supporting funds, and for any shortfall or surplus resulting from the conduct of the Scientific Assembly. The host Country also has authority to set the registration fee for the Assembly (including provisions for reduced rates for students or other special categories), subject to approval of the Bureau and the addition of any IAMAS fee (e.g., head tax).
- 7.6. IAMAS will participate in overall support for the Assembly by contributing to the costs for travel, lodging, and/or registration for selected early career scientists and atmospheric scientists from resource-limited countries who have applied for support by the announced procedure to the Association. The Association may also advance funds to cover organizing and preparatory costs for the Scientific Assembly, with reimbursement made following the Scientific Assembly. In the event that the Scientific Assembly generates a surplus, any contribution to the Association (e.g., by rebating all or part of the contribution to the support for participation of qualifying scientists) will be used to augment support for qualifying scientists to participate in following Scientific Assemblies.
- 7.7. Preparation of the scientific programme is the responsibility of the Executive Committee, assisted by a representative of the host country (see Statute X).
- 7.8. The Association may set a fee (head tax) for participation of scientists at Scientific Assemblies. The funds collected are to be deposited in the general bank account of the Association and used in support of the conduct of the Assembly, including especially the enhancement of participation by scientists from resource-limited countries.

Statute VI – Officers of the Association

8. The Officers of the Association will include a President, two Vice-Presidents, a Secretary General, and five Members-at-Large. By the Statutes of the Union, the elected Officers of the Association must be from National Member countries (i.e., Adhering Countries that are up-to-date on their dues). Officers of the Association will be chosen, as far as is possible, on the basis of competence, experience, scientific specialty, gender, and geographical coverage. No elected officer of IAMAS may simultaneously serve as an officer of the Scientific Commissions.

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- 8.1. The President will be elected at the final Plenary Session of each Ordinary General Assembly (see Statute IV). The term of office for the position of President will be for one period (see Statute III), and the individual serving will not be eligible for re-election.
 - 8.1.1. If the office of the President becomes vacant between two Ordinary General Assemblies, the senior Vice-President will become President. In the event that the two Vice-Presidents are equal in seniority (i.e., each having been elected for the first time at the same Ordinary General Assembly), the Executive Committee will decide which Vice-President will become President.
- 8.2. Two Vice-Presidents will be elected at the final Plenary Session of each Ordinary General Assembly. Their terms of office will be for one period. They will be eligible for immediate re-election, but only for one additional period.
 - 8.2.1. If one or both offices of the Vice President become vacant between two Ordinary General Assemblies, the Executive Committee may decide to elevate a Member-at-Large to the Office of Vice President.
- 8.3. The Secretary General, who also serves as the Treasurer, will be elected at the final Plenary Session of each Ordinary General Assembly except when the office holder is completing their first period of service. The initial term of office of the Secretary General will be for two periods. A Secretary General completing their first term will be eligible for immediate re-election, but only for one additional period.
 - 8.3.1. If the office of the Secretary General becomes vacant between two Ordinary General Assemblies, a Secretary General will be nominated by the President to occupy the office until the next Ordinary or Extra-ordinary General Assembly. In the event of election at an Extraordinary General Assembly, the initial term of the office will consequently be somewhat shorter than two full periods.
 - 8.3.2. At the conclusion of the service of a Secretary General, the Bureau may appoint the individual for a term of no more than nine months as a special Deputy Secretary General in order to assist the incoming Secretary General in completing the financial matters pertaining to: (a) the General and Scientific Assemblies at which the term of the Secretary General ended, (b) the full calendar year of the assemblies, and (c) transfer of the location of the Secretariat.
- 8.4. Five Members-at-Large, each from a different National Member country (see By-Law I for an interpretation of this provision), will also be elected as officers of the Association. Their term of office will be for two periods, with their terms of office staggered so that at least two positions are up for election at the final Plenary Session of each Ordinary General Assembly. Members-at-Large will not be eligible for immediate re-election.
 - 8.4.1. If a vacancy occurs among the Members-at-Large, a replacement will be chosen by the General Assembly in the course of the next appropriate Plenary Session, for a period which will expire at the time when the member Member-at-Large so replaced would have terminated his/her office.

Statute VII - Components of the Association

9. The internal organization of the Association shall consist of the following organs, each defined in succeeding Statutes:

- 9.1. The Bureau (see Statute VIII).
- 9.2. The Secretariat and Seat of the Association (see Statute IX).
- 9.3. The Executive Committee (see Statute X).
- 9.4. The Scientific Commissions (see Statute XI).

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9.5. The Joint Scientific Committees (see Statute XII).

10. All officers and members of the Bureau, the Secretariat, the Executive Committee, the Scientific Commissions, and the Joint Scientific Committees serve on a voluntary basis without receiving a salary or honorarium from the Association.

Statute VIII - The Bureau

11. The Bureau is chaired by the President, and also includes the two Vice-Presidents and the Secretary General. The Bureau of the Association will, on a continuing basis and as necessary, direct and coordinate all scientific and related activities of the Association in the interval between Ordinary General Assemblies. Critical responsibilities include:

- 11.1. Preparation of the agendas for General Assemblies of the Association, as indicated in Article 4.2.
- 11.2. Promoting understanding of meteorology and atmospheric sciences in accord with the objectives of the Association.
- 11.3. Promoting the development of the theme and the scientific programme of the Scientific Assemblies convened by the Association.
- 11.4. Encouraging the development of proposals for the convening of future Scientific Assemblies.
- 11.5. Promoting the recognition of leading scientists and leading scientific accomplishments within the scope of the Association's activities. Awards and other recognitions may be made pursuant to the procedures described in By-Law IV.
- 11.6. In the event of significant disagreements or of concerns about possible malfeasance in the conduct of the Association's affairs among members of the Bureau, the matters shall be referred to the Executive Committee, which shall have authority for determining appropriate actions, up to and including reassigning responsibilities for the financial and other actions of the Association and referral to the General Assembly of a recommendation for removal of any of the officers of the Association.

12. The President, with input from and, as necessary, assisted by the other members of the Bureau, has responsibility for the following:

- 12.1. Presiding at General Assemblies of the Association.
- 12.2. Serving as Chair of the Executive Committee.
- 12.3. Serving as the IAMAS representative on the Executive Committee of the Union.
- 12.4. With concurrence of the Executive Committee, appointing atmospheric scientists to serve as the scientific liaisons from IAMAS to Joint Scientific Committees and appropriate international scientific and governmental organizations. Normally those appointed will be members of the Executive Committee or the Scientific Commissions. Organizations to which IAMAS officers and Scientific Members currently make appointments are listed in By-Law VI.
- 12.5. Working with the Secretary General to expedite the activities and operations of the Association.

13. The Vice-Presidents of the Association, with input from and, as necessary, assisted by other officers of the Association and Scientific Commissions, have lead responsibility for:

- 13.1. The Vice Presidents, in priority senior to junior in terms of date of election, shall act in place of the President whenever the President is not present or is unable to perform the duties of the President.

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- 13.2. The Vice Presidents, consistent with their capabilities and interests, shall carry out activities assigned to them by the President and the Bureau. Among those meriting their specific participation, as appropriate with other members of the Bureau, are:
 - 13.2.1. Development, organization, and implementation of education and outreach activities of the Association.
 - 13.2.2. Monitoring and reporting to the Bureau on the activities of the Scientific Commissions and Joint Scientific Committees.
 - 13.3.3. Annual or more frequent reviews of the finances of the Association.
 - 13.3.4. Other activities as assigned by the President, Bureau, or Executive Committee.

Statute IX – Secretariat and Seat of the Organization

14. The Secretary General establishes the Secretariat and the legal seat of the Association, which shall normally coincide with the location of employment and/or residence of the Secretary General.

14.1. To the extent possible, support for the direct and indirect costs of the Secretary General and of the office for the Secretariat are expected to be covered by the hosting nation.

15. The Secretary General is responsible for expediting the current business of the Association in cooperation with the President of the Association. The Secretary General has primary responsibility for:

- 15.1. Management of the affairs of the Association, including responsibility for the official communications of the Association with the Union, with Members of the Association, and with other scientific bodies.
- 15.2. Management of the financial resources of the Association in accord with best practices for non-profit organizations. Management of the financial resources will be understood to include:
 - 15.2.1. The right to open both checking and savings accounts in the name of the Association. Both the President and Secretary General shall have individual signing authority.
 - 15.2.2. Subject to the Association's budget, the authority to accept and disperse funds in the conduct of the Association's business.
 - 15.2.3. Based on decisions of the Association, the responsibility for awarding funding for expenses (but not salaries or other personal remuneration) to the Scientific Commissions and Joint Scientific Committees and monitoring their expenditures based on procedures recommended by the Secretary General and approved by the Executive Committee.
 - 15.2.4. The costs of operating the office, including consumables, costs of publications, purchase and maintenance of office equipment, expenses of correspondence, postage and shipping, incidental expenses, and, with the approval of the Bureau, costs of necessary computational and office equipment and, with approval of the Executive Committee, rental for the office of the Secretariat if not provided by the host organization or nation. Borrowing, purchase, and disposal of Association equipment should be carried through for the benefit of the Association.
 - 15.2.5. The responsibility for sustaining a Contingency Fund to be used to ensure the continuity of IAMAS through at least one period at a restricted funding level in the event of high-consequence financial contingencies that might arise and seriously impact the income of the Association. The amount to maintain shall be approved as a component of the draft budget, and the distribution of a contingency expenditure should be considered by the Executive Committee upon recommendation of the Bureau.
 - 15.2.6. Responsibility for soliciting applications and making awards for travel, lodging, and/or registration to Scientific Assemblies of the Association to deserving early career scientists and atmospheric scientists from resource-limited countries.
 - 15.2.7. To the extent not covered by their home countries or other organizations and within the limits of the approved budget, authority to cover the travel, lodging, meal, and communication expenses that are necessary for the President and the Secretary General to conduct the official business of the Association. Travel and lodging costs for other members

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of the Executive Committee may be paid provided that: (a) participation is in connection with meetings or other events on specific Association business; (b) when those concerned represent the Association and not National Member countries or other organizations; and (c) in special cases where those concerned cannot draw proper allocations from their own national sources and it is especially important for the Association to be represented. Such payments may cover traveling costs and a reasonable contribution to other expenses.

- 15.2.8. The responsibility to report on the income, expenses, and financial condition of the Association to the Ordinary General Assembly of the Association and the Union, comprising in particular, a statement of receipts, expenditures assets, and liabilities of the Association for the period from the first of the January prior to the preceding Ordinary General Assembly, to the thirty-first of the December prior to the current General Assembly (i.e., the financial year being from January 1 through December 31).
 - 15.2.9. Preparation of a draft budget (estimate of expected income and expenses) for the Association for the financial years up to that of the next Ordinary General Assembly.
 - 15.2.10. To seek approval of the Bureau and Members-at-Large for any expenditure that would lead to a significant exceedance (i.e., by more than 20% or \$5000, whichever is less) of the approved budget of the Association. On the initiative of any two of the members of the Bureau and the Members-at-Large, the decision may be appealed to the Executive Committee.
- 15.3. Administrative, financial, and logistical support of the General and Scientific Assemblies of the Association, including maintaining the roster of National, Scientific, and Affiliate Members of the Association, and acceptance of and action on letters of application to become Scientific and Affiliate Members of the Association.
 - 15.4. Administrative, financial and logistical support and arrangements for General and Scientific Assemblies, including fulfillment of the decisions of the Association at General Assemblies. In addition, the Secretary General, in support of the Executive Committee, shall coordinate organization of the scientific programme for the Scientific Assemblies (see Statute V).
 - 15.5. Administrative, financial, and logistical support, as necessary, for the Bureau, the Commissions, and the Joint Scientific Committees.
 - 15.6. Preparation, printing, and distribution of publications of the Association, including newsletters, reports and other documentation.
 - 15.7 Maintenance of the presence of the Association on the Web and other electronic media.
 - 15.8. Maintaining the financial and historical records of the Association.
 - 15.9. Undertaking other activities in support of the objectives of the Association as they may be assigned by the Bureau or Executive Committee and that are within the budget of the Association.
16. The Bureau together with the Members-at-Large may, at their discretion, appoint a Deputy Secretary General, who would be assigned specific functions of the Secretariat and also share duties with the Secretary General. The term of the appointment would be for the same interval as for the Secretary General. The Deputy Secretary General would report to the Secretary General and be an ex officio member of the Bureau. Normally the Deputy Secretary General will be from an area of science complementary to that of the Secretary General.
 17. The Secretary General may, with the approval of the Bureau, appoint an Assistant Secretary General, normally resident in the same general geographical area as the Secretary General. The period of the appointment would be at the discretion of the Secretary General, but not to exceed the term of the Secretary General. The Assistant Secretary General would be expected to:
 - 17.1. Become familiar with the routine operations of the Secretariat.
 - 17.2. Have signing authority (together with the President and Secretary General) for cheques on the Association bank account, only to be used on written instruction from the President or Secretary General.

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17.3. Assist the Secretary General as appropriate.

Statute X – Executive Committee

18. The Executive Committee will be composed of the members of the Bureau, the five elected Members-at-Large, the Presidents of the Commissions, and the Past President of the Association.

18.1. The Executive Committee will be chaired by the President of the Association.

19. The President of a Commission may delegate to the Vice President or the Secretary of that Commission the right to participate in a meeting of the Executive Committee if the President cannot do so.

20. The Executive Committee will normally meet at General Assemblies. Meetings of the Executive Committee may also be convened by the Bureau in the interval between two General Assemblies (particularly at Scientific and Extraordinary Assemblies).

20.1. The Executive Committee is responsible for reviewing the objectives of the Scientific Commissions every four years, and making recommendations to the General Assembly for determination of adjustments and status of the Scientific Commissions.

20.2. The Executive Committee may develop, enact, and, without contravening specific changes of the General Assembly, amend or add to the By-Laws establishing procedures of the Association. New and modified By-Laws will come into effect immediately or as provided in their approval; they will also be explicitly considered by the National Members at the succeeding General Assembly.

20.3. The Executive Committee may appoint subcommittees to prepare materials for consideration by the full Executive Committee.

21. The Executive Committee will be consulted by the Bureau, by postal or electronic correspondence, on questions of importance, administrative or scientific, that arise between General Assemblies. With one week's notice by electronic means, meetings of the Executive Committee may be convened between assemblies by electronic means.

22. The Executive Committee has responsibility for appointing a Nominating Committee. The governing procedures for the Nominating Committee are presented in By-Law I.

23. With the organizing support and overall coordination of the Secretary General, the Executive Committee, working also with representatives of the host Country of the Scientific Assembly, is responsible for development of the scientific programme, including IAMAS symposia led by its Scientific Commissions and, as appropriate, joint symposia held with other Associations and Union symposia held in conjunction with General Assemblies of the Union.

24. All decisions of the Executive Committee will be taken by a simple majority vote of those voting. If the votes are equally divided, that of the President will decide.

Statute XI – Scientific Commissions

25. Scientific Commissions for the study of particular aspects of meteorology and atmospheric sciences may be constituted by the General Assembly. The list of approved Scientific Commissions and their scientific scope is maintained in By-Law II.

25.1 The scopes of the Scientific Commissions approved by the General Assembly will be reviewed every four years by the Executive Committee. Recommendations, as appropriate, for changes in the scope or status of a Scientific Commission will be presented at a Plenary Session of each Ordinary General Assembly, which will decide on the continuation of the research and works of each Scientific Commission or on its termination.

25.2 To better fulfill their scope and objectives, each Scientific Commission may formulate and approve their own set of Statutes and/or By-Laws and control their own administration and finances, all subject to the provisions provided in the Statutes, By-Laws, and positions of the

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Association, and as appropriate, of the Union and ICSU. Review of proposed changes by the Bureau of the Association is encouraged.

26. The members of the Scientific Commissions will be scientists with expertise in or closely related to the subject area of the Commission (i.e., Scientific Members of the Association).

26.1 The Scientific Commissions may elect new members by a simple majority vote of the members voting in the election. These members must be from IUGG (i.e., National Member) Adhering Countries. Members may also be appointed from IUGG non-Adhering Countries by the President of a Commission, after consultation with members of the Commission. Due regard should be paid to geographical representation in the composition of the Commissions. The terms of Commission members will normally be for two full periods. The results of membership elections and appointments will be promptly reported to the Secretary General, who will convey the results to the General Assembly.

27. Each Commission will elect a President and a Secretary from among their membership. A Vice President may also be elected if the Commission desires. Their terms of office will normally be for one four year term. They will be eligible for re-election for one additional term. Officers will be from National Member countries, except IUGG Associate Countries.

28. When a new Scientific Commission is constituted, the first President will be appointed by the Executive Committee. The Commission President will invite appropriate scientists to be on the Commission. These appointments will be voted upon by the Commission at its first meeting.

29. The Scientific Commissions should, in general, conduct their elections of officers and members at the times of the Ordinary General Assemblies of the Association. In this case these elections should be held prior to the final Plenary Session of the General Assembly so that the results, along with other business conducted by the Commissions, may be reported to the General Assembly. Alternatively, Commissions may decide to elect their officers at a Commission meeting/symposium that is independent of the Ordinary General Assembly, or by postal or electronic correspondence. The General Assembly will have the right to comment on the work of the Commissions, which the Commissions may wish to consider at subsequent business sessions.

30. The Scientific Commissions may meet, organize conferences, and have symposia when convened by their President outside the meetings of the General and Scientific Assemblies of the Association. Such activities may be arranged jointly between interested Commissions, or jointly with other appropriate bodies of the IUGG or International Council of Science (ICSU), or with other relevant organizations (e.g., the World Meteorological Organization).

31. A Scientific Commission may, at the discretion of its President and, as appropriate, in cooperation with other scientific bodies, appoint Sub-Commissions, Committees, Working Groups, Scientific Steering Committees or other similar panels to undertake planning and conduct of research activities or programmes designed to enhance scientific understanding of relevant aspects of meteorology and atmospheric and related sciences. The members of such sub-bodies need not be members of the Commission. They should be appointed by the President of the Commission, after due consultation with members of the Commission. Findings or recommendations of such sub-bodies must be approved by the parent Commission or an equivalent independent body or process before promulgation. In addition to reporting on their own activities, Commissions have an obligation to periodically report to the Association on the arrangements and findings from cooperative activities with other organizations.

32. All decisions of Commissions will be taken by a simple majority of votes of the members voting (individual votes). In case of equal votes for and against, that of the President will decide.

33. Each Scientific Commission should have an officer responsible for its financial affairs. The Association may make financial awards to Scientific Commissions in support of their activities and symposia. In accepting funds from the Association or any other source, the Scientific Commissions agree to provide financial statements to the Association no less often than every two years, at the direction of the Secretary General. In addition, the Scientific Commissions agree that, by vote of the Executive Committee, they will cooperate with the Secretary General or an individual or committee appointed by the Secretary General in review and examination of their finances.

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- 33.1. In the event of the termination of a Scientific Commission, any assets and balances in its account(s) will be turned over to the Association.

Statute XII – Joint Scientific Committees

34. Joint Scientific Committees (which also include entities that may be named Joint or Inter-Association Commissions or Working Groups, etc.) between the Association and other Associations on scientific questions of mutual interest may be constituted by the Associations concerned, acting directly in cooperation with the other Associations or through the Union. In the case of IAMAS, formal approval of Joint Scientific Committees or similarly named entities will be confirmed by a General Assembly, although approval in principle may be granted at an earlier date by the Executive Committee. The list of approved Joint Scientific Committees and their scientific scope is maintained in By-Law III.

- 34.1. With the concurrence of the Executive Committee, adjustments in the policies and rules governing the operation of Joint Scientific Committees may be made to ensure concurrence with the policies and rules of other organizations that are co-sponsoring the Joint Scientific Committee.

35. The members of Joint Scientific Committees will be expert scientists nominated by the respective Associations, each of which will normally nominate the same number of members.

36. The Joint Scientific Committees may propose new members whose nomination must be ratified by the respective Associations at the occasion of their General Assembly. The term of office of members will be for one period. They will be eligible for re-appointment.

37. Each Joint Scientific Committee will elect a President and Secretary who will not both have been appointed by the same Association, and whose term of office will be for one period. They will be eligible for re-election for one additional period.

38. The Joint Scientific Committees will formulate their programme of work and will organize their meetings, insofar as possible, during the course of the sessions of the General Assembly of the Union. The proceedings of the Joint Scientific Committees will be appended to the minutes of the Associations concerned.

- 38.1. The Joint Scientific Committees may meet when convened by their President outside the meetings of the General or Scientific Assemblies, on condition that the bureaus of the respective Associations are advised beforehand. They may meet at the same time as related Commissions or Joint Scientific Committees constituted by other Associations of the Union or by other Unions, in order to study and resolve together problems which interest more than one Association of the Union or more than one Union.

39. Requests from a Joint Scientific Committee for financial support must be presented and supported by the Associations concerned.

40. Every Joint Scientific Committee may refer in a consultative capacity to experts who are not members of the Joint Scientific Committee.

41. All decisions of Joint Scientific Committees will be taken by a simple majority of votes of the members present (individual votes). In case of equal votes for and against, that of the President will decide.

42. The IAMAS Executive Committee will review the continued participation of IAMAS in each Joint Scientific Committee at each Ordinary General Assembly.

Statute XIII – Financial Arrangements

43. The Secretary General is responsible for the financial operations of the Association (see Statute IX, Article 15.2).

- 43.1 The financial year of the Association is the calendar year, and the budget period is four calendar years.

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44. At least two months prior to the General Assembly, the President shall appoint a Finance Committee consisting of up to three members, not more than one of which is on the Executive Committee and at least one of which will be a Delegate from a National Member country. Prior to the first Plenary Session of the upcoming General Assembly, the Finance Committee, with the cooperation of the Secretary General, shall examine the budget and the accounts for the years since the prior General Assembly (including a provisional estimate of income and expenditures for the current year). The Committee will also examine and offer comments on the draft financial summaries and the draft budget for the ensuing period that the Secretary General is called upon to prepare for consideration at the General Assembly. At the first plenary session General Assembly, the Finance Committee will offer its findings and recommendations. The General Assembly and/or the Finance Committee may request that further examination of the accounts be conducted and/or that the accounts be audited by a qualified accountant, with follow-up to be carried through by the Executive Committee.

45. The Association will draw its resources from several sources, including that part of the subscriptions of the National Member countries that is allotted to the Association by the Union. To this income may be added other receipts from, for example, the sale of publications, interest on bank accounts, contributions made by other interested organizations to support symposia or other meetings, and a share of the registration fees at Assemblies (e.g., head tax).

46. The income will be assigned in the first place for the payment of the expenses of the Secretariat, the maintenance of the Contingency Fund, and support for the conduct of scientific meetings, as enumerated in Article 15.2.

47. Upon application to the Secretariat and approval of the Bureau, the balance of receipts will be devoted primarily to grants to support the success of scientific symposia or special meetings. As far as possible, funds are expected to be used to contribute to the participation of early career scientists and atmospheric scientists from resource-limited countries who cannot obtain adequate travel allocations from other sources and who desire to come to General or Scientific Assemblies of the Association and/or its Scientific Commissions and Joint Scientific Committees. In general, it will be expected that such participants will obtain partial support from the Association's funds with the balance coming from national or other sources.

48. Unless provided for specifically by the General Assembly, Association resources are not to be used to fund honoraria for speakers at symposia and other events.

Statute XIV – Dissolution of the Association

49. If the Association should be dissolved, its financial assets will fully revert to a non-profit association for the atmospheric sciences (e.g., a national meteorological society) or the appropriate national adhering body of the Union of the country where the current Secretary General resides. The receiving national association shall pass the financial assets on to the Union to be used exclusively for the continuation of scientific and educational activities, such as the organization of scientific meetings and symposia, the dissemination of scientific information, and the coordination of international research activities.

Statute XV – Changes in the Statutes of the Association

50. Only National Member countries, members of the Executive Committee, including ex officio members, and officers of the Scientific Commissions may propose changes to any article in these Statutes and By-Laws. These changes must reach the Secretary General at least six months before the announced date of the General Assembly at which it is to be considered. The Secretary General will notify National Member countries and Executive Committee members of proposed changes at least four months before the General Assembly meeting. Adjustments to the proposed amendments may be announced at the General Assembly before the voting.

51. The Statutes and By-Laws can be modified by a two-thirds vote of the National Delegates present or represented by designation (see Article 4.9) or proxy (see Article 4.10) at a Plenary Session of the General Assembly. Such changes will come into effect at the close of the General Assembly at which they are approved.

Statute XVI – Official Languages of the Association

52. The Association will observe the official languages recognized by the Union, namely English and French. Documents, reports, and abstracts of presentations may be submitted for presentation or publication in either of these languages.

53. For the interpretation of the Statutes, the English text shall be considered authoritative.

BY-LAWS

By-Law I – Governing Procedures of the Nominating Committee

1. The Executive Committee will appoint a Nominating Committee at the Scientific Assembly two years before a General Assembly. This committee will be responsible for nominating candidates for President, two Vice Presidents, elected members of the Executive Committee, and a Secretary General, when required. The Nominating Committee will consist of a chairperson (the Past-President, if available) and at least two other members plus the President as an ex-officio member, each of whom should be Individual Members of the Association.
2. The Nominating Committee will contact the adhering body of the National Member countries of the Association and the Executive Committee at least six months before the General Assembly and request nominations for the positions indicated above to reach them at least four months before the General Assembly. Individual Members of the Association will also be invited through a Web site posting that they may also submit nominations; any such nomination should be seconded by two additional Individual Members.
3. The Nominating Committee will consider nominees from National Member countries, from Commissions and from Individual Members and may also consider nominations from other sources. The Nominating Committee will prepare a list of nominations for consideration at the General Assembly, and may propose a single slate of candidates. The nominees must be from National Member countries, except Associate Countries (see paragraph 4 for interpretation of this provision). The slate of candidates for office will be communicated to National Member countries and the Executive Committee at least two months before the General Assembly.
4. Recognizing the internationalization of science and the intent of the Statutes to encourage widespread participation in the governance of the Association, this By-Law is included to provide guidelines for the interpretation of the first sentence of Statute 8.4, which states that “Five Members-at-Large, each from a different National Member country, will also be elected as officers of the Association” and Paragraph 3 of By-law I:
 - 4.1. The nation of affiliation of a scientist shall be defined as the nation where the scientist has been and is expected to be primarily based for the greatest number of years over the period from 5 years before the election to 5 years after the election, assuming that a scientist’s affiliation will remain the same unless a prior arrangement is in place.
 - 4.2. In the event that paragraph 4.1 leads to a scientist being affiliated with a nation that is not an Adhering Member of the IUGG in paying status, the basis for national affiliation may be determined by considering the years spent in a member nation where the scientist has held a formal appointment in the 20 years prior to the present appointment.
 - 4.3. In the event that a scientist’s primary affiliation is with an international organization or program office other than in the nation of the scientist’s citizenship or previous research position, the national affiliation may be either the nation where the position is or has been located or the nation of citizenship.
 - 4.4. To the extent possible, not more than two of the members-at-large shall be from the same continent, excluding any scientist primarily affiliated with an international organization.
 - 4.5. In considering the national affiliations of the President, Past President, Secretary General, two Vice-Presidents, and five Members-at-Large, the Nominating Committee should endeavor to ensure that at least four of the world’s continents are represented.
5. Any nominations for President or Secretary General should be accompanied by an indication of available resources for the operation of the respective offices.
6. At the first Plenary Session of the General Assembly the Nominating Committee will, if one is prepared, formally table its slate of candidates. Nominations from the floor for all positions except Secretary General can

be made at that time. All nominations require the agreement of the individual to serve if elected. The election will take place during the final Plenary Session of the General Assembly.

By-Law II -- Approved Scientific Commissions

1. The General Assembly approves Scientific Commissions to carry through the Objectives of the Association in specific scientific areas. As described in Statute XI, the continuation and scope of each of these Commissions is to be reviewed at each General Assembly.

2. The following Scientific Commissions have been either accepted (in the case that their formation predates formation of the Association) or established by the General Assembly:

- 2.1. The International Radiation Commission (IRC). The scope of the IRC encompasses atmospheric radiation and related disciplines. The IRC was founded in 1896 and accepted into IAMAS in 1948.
- 2.2. The International Ozone Commission (IOC). The scope of the IOC encompasses the amounts, characteristics and processes of ozone in the atmosphere. IOC was originally approved in 1948.
- 2.3. The International Commission on Clouds and Precipitation (ICCP). The scientific scope of ICCP encompasses the characteristics and processes governing clouds and precipitation in the atmosphere. ICCP was originally approved in 1956.
 - 2.3.1. The Committee on Nucleation and Atmospheric Aerosols is a subcommittee of the ICCP formed in 1966 to bring together scientists covering the following subject areas: nucleation theory and experiment, tropospheric and stratospheric aerosols, cloud drop and ice nucleation, and aerosol-climate interactions.
- 2.4. The International Commission on Atmospheric Chemistry and Global Pollution (ICACGP). The scientific scope of ICACGP encompasses the chemistry and composition of the atmosphere, especially aspects that contribute to solving the basic societal issues of water supply, food production and human/ecosystem health. ICACGP was originally approved in 1957 as the International Commission on Atmospheric Chemistry and Radioactivity, and renamed in 1971.
- 2.5. The International Commission on Dynamical Meteorology (ICDM). The scope of the ICDM encompasses dynamical meteorology. ICDM was originally approved in 1967.
- 2.6. The International Commission on Climate (ICCL). The scientific scope of ICCL encompasses the characteristics, fluctuations, and changes of climate on all time scales, covering the past, present and future. ICCL was originally approved in 1977.
- 2.7. The International Commission on Planetary Atmospheres and their Evolution (ICPAE). The scope of ICPAE encompasses planetary, cometary and satellite atmospheres and their evolution (including the Earth, when considered as a member of the Solar System). The ICPAE was originally approved in 1977.
- 2.8. The International Commission on the Middle Atmosphere (ICMA). The scientific scope of ICMA encompasses the middle atmosphere, defined loosely as stretching from the tropopause into the lower thermosphere. The ICMA was originally approved as the International Commission on Meteorology of the Upper in Atmosphere in 1979, and renamed in 1987.
- 2.9. The International Commission on Atmospheric Electricity (ICAE). The scientific scope of ICAE encompasses electrical phenomena in the atmosphere. ICAE was originally approved in 1989.
- 2.10. The International Commission on Polar Meteorology (ICPM). The scope of the ICPM encompasses the meteorology and climatology of the Arctic and Antarctic. The ICPM was originally approved in [year to be inserted].

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By-Law III -- Approved Joint Scientific Committees

1. IAMAS approves Joint Scientific Committees to carry through the Objectives of IAMAS in cooperation with other Associations. As described in Statute XII, the continuation and scope of each of these Committees is to be reviewed at each General Assembly.
2. Participation in the following Joint Scientific Committees (names of which can vary based on IUGG conventions) has been concurred in by the Executive Committee and, if so indicated, approved by the IAMAS General Assembly:
 - 2.1. The Committee on Mathematical Geophysics (CMG). The CMG is formally an IUGG Union Commission. The aims of CMG are 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. CMG was formed as a Working Group in 1964 and reconstituted as the CMG in 1971.
 - 2.2. The Union Commission on Geophysical Risk and Sustainability (GeoRisk). The scope of GeoRisk encompasses the interaction between hazards, their likelihood and their wider social consequences as a result of the vulnerability of societies. GeoRisk was formed by IUGG in 2000 and approved by IAMAS in 2003.
 - 2.3. The Union Commission for Data and Information (UCDI). The scope of UCDI is to provide a focused and sustainable organizational structure that supports and strengthens IUGG science through integrated scientific information activities. UCDI was established by IUGG in 2008 with Executive Committee concurrence in 2009 (formal IAMAS General Assembly approval pending).
3. The President, with the approval of the Executive Committee, is responsible (as indicated in Statute 12.5) for appointment of members of Joint Scientific Committees who serve on behalf of IAMAS to represent its objectives.

By-Law IV -- Procedures for the Recognition of
Scientific Expertise and Accomplishments

1. The General Assembly has established the following types of recognition of individual scientists (i.e., Scientific Members) and scientific accomplishments. Implementation of these types of awards, including protocols and criteria, is assigned to the Executive Committee, upon recommendation by the Bureau:
 - 1.1. Recognition of an individual scientist whose career has contributed to the advancement of international research in meteorology and atmospheric sciences through appointment as an honorary member, which will be recognized by a suitable memorial the Association.
 - 1.2. Recognition of an individual scientist for significant scientific accomplishments over a career or prolonged research programme through a suitable memorial and passage of a resolution of the Association calling special attention to the accomplishment.
 - 1.3. Recognition of one or more early career scientists at a Scientific Assembly through award of a certificate or other suitable reward.
 - 1.4. Other awards or recognition as determined by the Executive Committee or General Assembly.
2. The Executive Committee may choose to implement this By-Law at its discretion, choosing to offer or not offer any of the recognitions at any of the General or Scientific Assemblies.

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By-Law V -- Procedures for Proposing and Approving Resolutions

1. Resolutions expressing the views of IAMAS must be approved by the General Assembly. Between General Assemblies, the Executive Committee may express its views in the form of a resolution of that body.
2. Resolutions of IAMAS will normally be addressed to scientific bodies, to organizations responsible for the conduct and governing of scientific research, and/or to the public. Through the president, IAMAS may join with IUGG or other Associations in resolutions that reflect the views as expressed by the IAMAS General Assembly and/or Executive Committee.
3. The content of resolutions must be in furtherance of the objectives of the Association and not for partisan purpose. The General Assembly or Executive Committee may amend or modify a draft of the resolution before considering it for final approval. When developing joint resolutions with other bodies, the President and/or Secretary General or their designees may revise draft resolutions in the interests of IAMAS.
4. For consideration at the final Plenary Session of a General Assembly of the Association, a draft of the resolution must be provided to the Secretary General in time for consideration by the IAMAS General Assembly by the close of its first Plenary Session.
5. The Secretary General is responsible for the official transmittal of resolutions of the Association to those to the entities to whom the resolution is addressed.
6. The Secretary General shall maintain a cumulative record of the resolutions of the Association and of the resolutions made in partnership with other Associations and the IUGG.

By-Law VI -- Liaison Appointments of the Association

1. As a constituent association of the Union, officers of the Association and its Scientific Commissions, upon nomination and approval of the Union, serve as the Union's liaison to and/or ex officio members of the following scientific organizations:
 - 1.1. Executive Committee of ICSU's Scientific Committee on Oceanic Research (SCOR).
 - 1.2. The World Meteorological Organization (WMO).
 - 1.3. The Joint Scientific Committee of the World Climate Research Programme (WCRP).
2. Acting in partnership with other IUGG associations, IAMAS makes appointments to Joint Scientific Committees, Inter-Association Commissions, Union Commissions, and Working Groups. These presently include:
 - 2.1. The Committee on Mathematical Geophysics (CMG).
 - 2.2. The Union Commission on Geophysical Risk and Sustainability (GeoRisk).
 - 2.3. The Union Commission for Data and Information (UCDI).
3. In representing the interests of the Association in other international bodies, the Association may, in cooperation with the relevant Scientific Commission, make additional liaison appointments.

**STATUTES AND BY-LAWS OF THE INTERNATIONAL ASSOCIATION FOR THE PHYSICAL
SCIENCES OF THE OCEANS**

STATUTES

(Adopted October 1967, Berne, Switzerland, revised December 1979, Canberra, Australia, revised by mail ballot 1998, and revised July 2007, XXIV IUGG General Assembly, Perugia, Italy)

I. Objects, Composition and Membership of the Association

1) The International Association for the Physical Sciences of the Oceans (IAPSO) hereafter referred to as the Association is a constituent of the International Union of Geodesy and Geophysics hereafter referred to as the Union. The Association is subject to those articles of the Statutes and By-Laws of the Union which apply to Associations, and also to these Statutes.

2) The objects of the Association are:

(a) to promote the study of scientific problems relating to the ocean and interactions taking place at its boundaries, chiefly insofar as such study may be carried out by the aid of mathematics, physics and chemistry;

(b) to initiate, facilitate and coordinate research into and investigations of those problems of the ocean which require international cooperation;

(c) to provide for discussion, comparison and publications; and

(d) to organize Assemblies, which include symposia on the most interesting and up-to-date problems of physical and chemical oceanography.

3) Those Adhering Bodies that adhere to the Union are Members of the Association, and are hereafter referred to as "Members".

By resolution of an Association Assembly, other international organizations that are concerned with the study of physical sciences of the oceans may be admitted to Membership, with the status of guests.

II. Administration

4) The Authority of the Association shall be vested in the Members, and exercised collectively by their accredited delegates. The Association will hold a meeting of delegates at General Assemblies of the Union and at Association Assemblies occurring during interim periods between General Assemblies.

5) The Association shall convene scientific symposia and/or workshops and hold business meetings of the Members' delegates at the General Assemblies of the Union, to be held normally once every four years. The Association may recommend to the Executive Committee of the Union, at a General Assembly of the Union, arrangement of joint sessions of two or more Associations or of joint meetings of two or more Committees or Commissions for the discussion of topics of an interdisciplinary character. With the concurrence of the Executive Committee of the Union, the Association may arrange General Assemblies and other meetings of its own in the interval between the General Assemblies of the Union, either singly to deal with topics of specific interest, or jointly with another Association or other Associations.

(a) Meetings of Members' delegates are restricted to the delegates, members of the Association Executive Committee, and persons invited by the Association President when their attendance is deemed necessary to make reports or presentations to the delegates.

(b) Meetings of the Association Executive Committee are restricted to members of the Executive Committee and persons invited by the Association President when their attendance is deemed necessary to make reports or presentations to the Executive Committee.

6) The President, the two Vice Presidents, the Secretary General, and the Treasurer of the Association shall be elected by delegates to the Association in accordance with Section III.

7) The Bureau of the Association shall consist of the President, Past President, the Secretary General and the Treasurer. Its duties shall be to conduct the affairs of the Association in accordance with the decisions of the foregoing meetings of the delegates. It shall prepare the Agenda for meetings of delegates. With the advice of the Association Executive Committee, it shall prepare the scientific program for Assemblies.

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8) In accordance with Section III, the delegates from countries having Members shall elect six persons who, together with the President, immediate Past President, Vice Presidents, Secretary General, and Treasurer, shall constitute the Executive Committee of the Association.

9) The Executive Committee may establish Association Commissions, Working Groups or Services to address particular scientific areas of oceanography, and may abolish such Commissions, Working Groups and Services by a majority vote of the Executive Committee members. The Executive Committee may also approve Association participation in joint Commissions, Working Groups and Services with other Associations or scientific bodies, and may withdraw Association participation by a majority vote of the Association Executive Committee members.

10) A Nominations Committee of four persons from countries having Members will be appointed by the Executive Committee. The Nominations Committee will normally include the immediate Past President as its Chairperson. Its function will be to scrutinize nominations received for positions on the Executive Committee which become vacant, to seek additional nominations where appropriate, to ensure disciplinary and geographical distribution, and to prepare a final slate of candidates for election at the General Assembly.

11) The Executive Committee of the Association may establish medals and awards to recognize individuals for their accomplishments in advancing the knowledge of the physical and chemical sciences of the oceans.

III. Voting

12) On scientific matters, each delegate present shall have one vote.

13) In questions of administration or of mixed, administrative and scientific character not involving questions of finance, voting shall be by Members, each Member having one vote with the provision that its subscription shall have been paid up to the end of the year preceding the voting.

14) In questions involving finance, voting shall be by Member delegates, with the same provision as for administrative questions. The number of votes for each Member delegate shall be equal to the number of its category of membership to the Union.

15) In case of doubt as to which class a question belongs, and in all cases of equality of votes, the chairman shall decide.

16) A delegate shall represent only one Member. An adhering Member not represented by a delegate may forward by post its vote on any specific question of an agenda.

17) Guests will not vote.

IV. General

18) These Statutes shall be changed only by a majority of two thirds of the votes cast by delegates at an Association Assembly or by post in accordance with Section III. In cases where voting is by post, the changes must be endorsed by the delegates at the next Association Assembly.

19) The Association may make By-Laws which may be changed by a simple majority of the votes cast by delegates at an Association Assembly or by post in accordance with Section III. In cases where voting is by post, the changes must be endorsed by the delegates at the next Association Assembly.

20) This English text shall be the authoritative text of the Statutes of the Association.

BY-LAWS

(Adopted October 1967, Berne, Switzerland, modified December 1979, Canberra, Australia, modified August 1995, Honolulu, USA, modified 1998, and modified July 2007, XXIV IUGG General Assembly, Perugia.)

I. Membership of the Association

1) It is recommended that each adhering Member shall form a National Sub-Committee for the Physical Sciences of the Oceans, to which correspondence may be addressed.

2) Each adhering Member and each international member may contribute to the Agenda of Association Assemblies.

II. Administration

3)

(a) The President and the Vice Presidents shall be elected for one four-year term. Their terms shall be the interval between the ends of two successive General Assemblies of the Union. A Vice President may be elected for one additional four-year term.

(b) The term of the immediate Past President shall run from the end of the General Assembly at which the new President is elected until the end of the next General Assembly.

(c) The Secretary General and the Treasurer shall be elected for two periods, and may be re-elected for the subsequent single period.

4) The President shall:

(a) provide general leadership for the Association in all matters;

(b) represent the Association on the Union Executive Committee;

(c) serve as chairperson of those meetings of Members' delegates and the Association Executive Committee held at Association Assemblies;

(d) represent the Association in communications with the International Association for Biological Oceanography (IABO) either directly or through scientific committees of the International Council for Science (ICSU);

(e) appoint qualified ocean scientists to serve as liaisons between the Association and other scientific organizations as appropriate; and

(f) prepare Association responses on inquiries of a scientific nature received from other organizations.

5) The Vice Presidents shall:

(a) perform such tasks as may be assigned by the President or the Association Executive Committee; and

(b) act as the President whenever the President is not present or is unable to perform any of the President's duties. The acting President shall perform such tasks as required by the President.

6) The Secretary General shall:

(a) serve as Secretary of the Association Assemblies, the Member meetings, the Executive Committee and the Bureau; arrange for meetings of these Bodies; prepare and distribute promptly the agenda and the minutes of all their meetings;

(b) manage the affairs of the Association, attend to correspondence, preserve the records;

(c) maintain an Association web page on the World Wide Web, either as part of or linked to the Union web page. The web page shall include all general details of the Association; its activities; abstract books of Association Assemblies when available; and other information of use to Members and associated scientists;

(d) at least three months before the General Assembly of the Union, forward to all the Members a report on the administration of the Association since the last General Assembly, and present a summary of this to the delegates meeting at General Assembly itself; and

(e) perform such other duties as may be assigned by the Association Bureau.

7) The Treasurer of the Association shall be responsible for the financial administration of the Association in accordance with directions issued by the Association Bureau. The Treasurer shall:

(a) prepare the yearly budget of the Association and distribute to the Association Bureau for approval;

(b) collect the funds of the Association and disburse them in accordance with the approved budget;

(c) maintain records of all the financial transactions of the Association and submit annual financial reports thereon to the Association Bureau and to the Treasurer of the Union;

(d) assemble, at the end of the calendar year preceding a General Assembly, the complete accounts of the Association for the past period for presentation to the Association Bureau and the Treasurer of the Union at least three months prior to the General Assembly and at the Member meeting at the Assembly; and

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(e) pay traveling expenses and per diem subsistence to members of the Executive Committee attending Association Assemblies and meetings with Association support, where those concerned cannot draw proper allocations from their national sources (see By-Law 18).

8) Of the six persons referred to in Article 8 of the Statutes, not more than three may be elected to an additional term.

9) The Executive Committee shall:

(a) prepare for the Executive Committee of the Union recommendations concerning the arrangement, at a General Assembly of the Union, of scientific meetings to be confined to joint sessions of two or more Associations or of Joint meetings of two or more Committees or Commissions, for the discussion of topics of an interdisciplinary character;

(b) at its meetings during an Assembly, select the themes of Association symposia for the next Assembly, and recommend conveners for the symposia;

(c) seek for the concurrence of the Executive Committee of the Union for the arrangement of General Assemblies and other meetings of the Association in the intervals between the General Assemblies of the Union, either singly to deal with topics of specific interest, or jointly with another Association or other Associations;

(d) fill any vacancy which may occur among the officers of the Association between General Assemblies. Such appointments shall be subject to the subsequent approval of the next General Assembly. Tenure of office for part of a period shall not be counted as a period for the purpose of these By-Laws;

(e) consider matters of general administration and finance, and report thereon to the General Assembly;

(f) make recommendations on matters of policy;

(g) frame the budget for the ensuing period and report to the General Assembly of the Association and to the Secretary General of the Union. The budget period of the Association coincides with the budget period of the Union;

(h) advise upon the distribution of funds; and

(i) consider proposals for changes in the Statutes and By-Laws, and report thereon to the General Assembly.

10) Officers designated by these By-Laws for special duties or for special committees may appoint substitutes in their stead. Notice of the intention to do so must be sent in writing to the President or Secretary General. No substitute shall represent more than one officer.

11) Decisions and actions of the Officers and Committees of the Association, taken during and between Association Assemblies, shall be reported to the delegates' business meeting at the Assembly.

12) Proposals for the Agenda of the meeting of delegates at General Assemblies of the Union and Association Assemblies shall reach the Secretary General six months before the meetings. The Secretary General shall send the Agenda to the Members and their accredited delegates, through the National Sub-Committees where such exist, at least four months before the meeting. No question not previously placed on the Agenda shall be discussed unless approved by two thirds of the votes of the Members represented at the Assembly.

13) Medals and Awards

(a) The Executive Committee shall establish protocols for awarding medals or other awards established by the Association.

(b) The Prince Albert I Medal shall be awarded at each Association Assembly to a distinguished ocean scientist for career achievements in advancing the knowledge of the physical and/or chemical sciences of the oceans.

(c) The Eugene LaFond Medal will be awarded at Association Assemblies to a student or scientist from a developing country in recognition of the student's or scientist's presentation of an outstanding paper. Not more than one Medal will be awarded at any Assembly. The Executive Committee may decline to present the Medal at a particular Assembly.

14) Nominations Committee

(a) The terms of members of the Nominations Committee referred to in Article 10 of the Statutes will expire at the end of the General Assembly following their appointment.

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- (b) A call for nominations for candidates for positions on the Executive Committee will be issued by the Secretary General of the Association at least six months prior to a General Assembly where an election is to take place.
- (c) Nominations must be accompanied by a brief Curriculum Vitae, and will not be accepted later than three months prior to the General Assembly, except for additional candidates identified by the Nominations Committee in accordance with Article 10 of the Statutes.
- (d) The Nominations Committee will prepare a slate of candidates one month prior to the General Assembly, and will confirm that the members of this slate are prepared to serve if elected.
- (e) In the event of a vacancy occurring on the Executive Committee during its term of office as a result of the resignation or demise of a member, the Nominations Committee will assist the Executive Committee in finding a suitable replacement.

III. Finance

- 15) The President and Treasurer shall individually have power to sign documents on behalf of the Association.
- 16) All disbursements of Association funds shall be made by the Treasurer in consultation with the Association Bureau.
- 17) The Treasurer shall receive the allocation of funds from the Union, maintain financial accounts, obtain receipts for disbursement of funds and maintain financial records.
- 18) Traveling expenses may be paid by the Treasurer, but only
 - (a) in connection with meetings on specific Association or Union business; when the travelers represent the Association and not the Members or other organizations; and where those concerned cannot draw proper allocations from their national sources; and
 - (b) to cover the traveling costs of a person receiving an award from the Association.
 - (c) Such payments may cover traveling costs at economy rates and a reasonable contribution to other expenses when attending such meetings.

**STATUTES AND BY-LAWS OF THE INTERNATIONAL ASSOCIATION OF SEISMOLOGY AND
PHYSICS OF THE EARTH'S INTERIOR**

Statutes

(Adopted 1975, Grenoble, France, and amended July 2011, XXV IUGG General Assembly, Melbourne, Australia)

I. Objects of the Association

1. The purpose of the International Association of Seismology and Physics of the Earth's Interior is:
 - a. To promote the study of problems relating to earthquakes, to the propagation of seismic waves, and to the internal structure, properties and processes of the Earth
 - b. To initiate and co-ordinate the conduct and communication of research which depends on co-operation between different countries
 - c. To facilitate research on theoretical, observational and applied seismology, such as the comparison of instruments used in different countries, the adoption of standards for observatory practice and data storage, and generally all matters related to seismology

II. Members of the Association:

Each country having adhered to the International Union of Geodesy and Geophysics (IUGG) is a member.

III. National Committees

1. Each National Committee for the IUGG (or national organisation adhering to IUGG) where possible should nominate a section, or sub-committee, for Seismology and Physics of the Earth's Interior. The functions of this section or sub-committee are to facilitate and co-ordinate in their respective countries the study and practice of Seismology and Physics of the Earth's Interior, in accordance with the objects of the Association. Each National Committee and the Section or Sub-Committee shall be empowered to refer to the Association matters for discussion falling within the competence of the Association.
2. The National Committee (or adhering organization) names in each country a correspondent, whose duty is to provide liaison between the IASPEI executive and the Section in each country.
3. The National Committee, on the recommendation of the Section or Sub-Committee, nominates the delegate or delegates who shall represent it at the General Meeting of the Association. One of these delegates shall be designated as the principal delegate of the country and shall cast the vote of that country whenever a "national vote" is required (refer section VIII.2).
4. Official communications sent by the International Association of Seismology and Physics of the Earth's Interior to an adhering country shall be addressed to that country's IASPEI National Correspondent or, in default, to its National Committee for the IUGG.

IV. Administration of the Association

1. The work of the Association shall be directed by the Association Plenary Meeting of the delegates of the Member countries of IUGG.
2. The Plenary Meeting of the Association shall elect the following: a President, a First and Second Vice-President, a Secretary General, a Treasurer and four additional persons. These, plus the immediate past President shall constitute the voting members of the Executive Committee of the Association.
3. A single person may, with the approval of the Executive Committee, be elected both Secretary General and Treasurer.
4. The President, the Vice-Presidents, the Secretary General and the Treasurer shall constitute the Bureau of the Association.
5. Elections shall be held at an Association Plenary Meeting held in conjunction with the quadrennial General Assembly of the International Union of Geodesy and Geophysics. The President may not be re-elected to the same office, and no person may hold any one office for more than twelve consecutive years.
6. The elections of the Bureau and of the Executive Committee are to be decided on the basis of one vote per country represented at the Association Plenary Meeting.
7. Should a vacancy occur among the elected offices, the Bureau shall fill the position provisionally by nomination, and an election shall be held for this office at the next Assembly of the Association.
8. The transfer of duties takes place at the close of the Association Plenary Meeting at which the election occurs. The interval between successive elections (normally 4 years) is called a period.
9. The President, in consultation with the Executive Committee, may appoint individuals to committees as may be needed, and may approve the terms of reference of such committees.

10. Urgent matters arising in the interval between Association Assemblies shall be referred by the Bureau to the Executive Committee.
11. The Executive Committee may appoint an Associate Secretary who will be an ex-officio member of the Executive Committee, but without vote.
12. The Executive Committee may appoint an Association Webmaster who will be responsible for maintaining the website of the Association.

V. Secretariat

A Secretariat placed under the direction of the Secretary General shall conduct the correspondence, preserve the administrative archives, arrange the Scientific Assemblies and other meetings, and ensure the records of the Assemblies and Commission reports are preserved in an accessible web location.

VI. Budget and Finance

1. The financial resources of the Association are derived from: The allocation by the Union; The sales of publications, subscriptions, advertisements, etc.; Grants.
2. The Treasurer shall administer and disburse these resources under the direction of the Executive Committee. The administration of resources shall include the permanent delegation of authority to manage any bank accounts or investments held in the name of the Association.
3. The Treasurer shall alone retain responsibility toward the Association for all banking operations. As a precaution, however, the right to sign as an authorized agent for any account opened in the name of the Association shall be extended to at least one other Member of the Executive.
4. The Treasurer shall provide annual financial reports as required by IUGG
5. The Treasurer shall arrange for independent external audit of, and prepare and submit to the Association Plenary, the Accounts of Receipts and Expenditures for the preceding period, together with an estimated budget for the following financial year.
6. An audit committee, authorised by the Plenary Meeting shall examine the accounts prepared by the Treasurer and submitted to the Plenary Meeting for the preceding period, and give discharge to the Treasurer for those accounts.

VII. General Meetings of the Association

1. Scientific Assemblies of the Association shall be held in conjunction with General Assemblies of the International Union of Geodesy and Geophysics, and normally at least once between successive IUGG meetings. At least one Plenary Meeting of the Association shall be held at each Scientific Assembly.
2. In the intervals between the Scientific Assemblies the Association may, either separately or jointly with other Associations, hold or sponsor additional scientific meetings.
3. The Bureau of the Association, on the request of the majority of the members of the Executive Committee may conduct an extraordinary meeting of the National delegates using e-mail or web-based tools, in order to resolve an urgent question. National delegates shall have at least one week notice of any resolution that requires a national vote.
4. The agenda to be transacted at an Association Plenary Meeting held in conjunction with a Scientific Assembly is to be prepared by the Bureau and posted at least two working days before the Plenary Meeting.
5. The agenda may only be modified with the consent of the majority of the votes of the countries represented at the Plenary Meeting.
6. The Executive Committee is responsible for appointing a Local Organising Committee for the Scientific Assemblies conducted between General Assemblies of IUGG.
7. The Scientific Programme for a Scientific Assembly is the responsibility of the Secretary General, who will approve symposia and appoint convenors, in consultation with the Executive and the Commission chairs.
8. Registration and abstract submission to the Scientific Assembly are open to all members of the international scientific community.

VIII. Voting

1. In a Plenary Meeting of the Association, two types of resolution may be put to the meeting: A. Procedural, and B. Scientific
2. Elections to office and Procedural resolutions shall be decided on the basis of one vote per country present at the Association Plenary. That vote is to be exercised by the principal delegate of each country (refer paragraph III.2) and is referred to here as a "national vote". In any vote a delegate may represent only one country.
3. A country that is not represented at the Association Plenary Meeting may appoint a proxy, or forward its vote, by notifying the Secretary General in writing before the election.
4. Scientific resolutions shall be decided by a majority of the votes cast by all registered scientists present at the Association Plenary.

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5. The Resolutions Committee will decide which category any specific resolution falls into, before it is presented to the Association Plenary. If any national delegate objects to that classification, the delegate may request that a national vote be used to decide which category a specific resolution falls into, before the resolution is voted on.
6. When there is an equal division of votes, the President shall have a deciding vote.

IX. Validity of Statutes

1. These statutes may be revised by a two-thirds majority vote of the member countries represented at an Association Plenary Meeting.
2. The proposed revision must be posted at least one month in advance of the vote.
3. The English text shall be used exclusively in interpreting these statutes.

X. Commissions and Working Groups

1. The Association, on the recommendation of the Executive, may establish Commissions to study scientific topics and to stimulate and coordinate research on specific topics or research related to a specific region.
2. The Association may also establish joint Commissions or Working Groups with other organizations.
3. Commission chairs (or co-chairs) will be nominated by the President.
4. Working Groups may be established or disbanded by the Commission chair, who will appoint the chair of the Working Group.
5. Commission and Working Group members will be invited to participate by the respective chair.
6. Commission or Working Group chairs shall not hold the same office for more than two periods.
7. Commission chairs will provide annual reports to the Secretary General (including reports on their Working Groups) prior to the Annual Bureau Meeting.
8. A Commission may be disbanded by decision of the Executive Committee if in the view of that Committee the Commission is no longer needed.

By-Laws

(Adopted 1975, Grenoble, France, and amended 1981, London, Canada, and July 2011, XXV IUGG General Assembly, Melbourne, Australia)

The following by-laws are established in order to provide for continuing guidance in conducting the affairs of the Association. The by-laws may be amended by majority decision of the Executive Committee.

XI. Definitions

In the context of the Statutes and By-laws, the term "posted" will be taken to indicate an e-mail sent to a prepared list of the Association National Correspondents. The term "mail" will be taken to include e-mail. The term "period" indicates the period between elections of the Association Officers, normally four years.

XII. Resolutions

1. At least one year before the General Assembly, the President shall appoint a Resolutions Committee consisting of one officer of the Association and two other persons.
2. All resolutions to be presented at the Plenary Meeting of the Association must be transmitted in writing to the Resolutions Committee at least two days before the said meeting. It is the responsibility of the Resolutions Committee to word the resolutions consistently with the terminology of the Association and of the Union.
3. The Resolutions Committee shall post all Resolutions at least one day before the Association Plenary Meeting.

XIII. Nominations

1. At least two years before an election, the President shall appoint a Nominating Committee whose charge is to bring before the Plenary Meeting of the Association at the quadrennial General Assembly a slate of candidates for election to the Association Offices and the Executive Committee. The candidates for election shall be announced at *least 4 days in advance of the Plenary Meeting*.
2. The Nominating Committee should keep in mind the need for persons of executive ability, comprehensive scientific interests, and broad geographical representation and should consult, where possible, with former Presidents of the Association.
3. At the Plenary Meeting, additional nominations for each office may be made from the floor.
4. If no-one objects, the election may be conducted by acclamation. Otherwise, the election should be by written ballot, one ballot passed out to the principal delegate of each member country or to an official proxy.

XIV. Meetings of the Bureau and of the Executive Committee

1. The Bureau of the Association should meet at least every year. The Executive Committee should meet as often as necessary and at least once during each Association Assembly. If necessary and practicable, such meetings may be held using web-based communications, recognising that face-to-face meetings are preferable for most purposes.
2. The Association will normally cover Bureau travel expenses incurred for such meetings.

XV. Conduct of Meetings

Except if otherwise provided in the Statutes and By-laws, meetings shall be conducted according to Robert's Rules of Order

**STATUTES AND BY-LAWS OF THE INTERNATIONAL ASSOCIATION OF VOLCANOLOGY AND
CHEMISTRY OF THE EARTH'S INTERIOR**

(Revised July 2011, XXV IUGG General Assembly, Melbourne, Australia)

STATUTES

I. Objectives

1. The objectives of the International Association of Volcanology and Chemistry of the Earth's Interior (hereafter referred to as the Association) are:

- a. to promote the study of volcanoes and volcanic processes, past and present, and of the chemistry of the Earth's interior;
- b. to encourage, initiate, and coordinate research and to promote international cooperation in these studies;
- c. to arrange for the discussion and publication of the results of scientific research on volcanology and on the chemistry of the Earth's interior;
- d. to encourage volcanologists to alert appropriate authorities to the importance of adequate surveillance of active and potentially active volcanoes and of volcanic risk assessment.

II. Membership

2. The Association is a constituent association of the International Union of Geodesy and Geophysics (hereafter referred to as the Union), and is subject to the Statutes and By-Laws of the Union as well as to these Statutes.
3. Any Member Country of the Union shall be regarded as a Member of the Association and may, through its Adhering Body, appoint a National Correspondent to represent it in the Association.
4. Individuals professionally engaged in, or associated with, volcanology and studies of the chemistry of the Earth's interior, can apply to become Individual Affiliates of the Association. Individual Affiliates may contribute to support IAVCEI activities by voluntary donations, becoming then Donating Affiliates.

III. Administration

5. The authority of the Association shall be vested in the General Assembly which is formed by (1) Individual Affiliates of the Association, and (2) National Correspondents of Member Countries of the Union. National Correspondents from member countries and Individual Affiliates who are residing and working in any Member Country of the Union are eligible to hold office. All Individual Affiliates and National Correspondents will receive publications and other materials which by decision of the Executive Committee are considered appropriate. Only National Correspondents from member countries have the right to vote on Union matters.
6. National Correspondents will represent the member countries of the Union in the Association. They are responsible for forwarding any official information concerning IAVCEI to individual scientists and adhering bodies of their respective countries and to further the aims of the Association within their own country
7. General Assemblies of the Association will be held in conjunction with General Assemblies of the Union. Scientific Assemblies can also be held between successive General Assemblies of the Union at the discretion of the Association's Executive Committee.

8. The business of the Association during and between General Assemblies shall be carried on by the Executive Committee of the Association.

9. The Executive Committee of the Association shall consist of eight members (President, Secretary General, two Vice-Presidents, and four ordinary members), plus the past-President. All eight members shall be elected by vote of the current Individual Affiliates and National Correspondents. Secretary General is elected for two periods while the rest of the Executive Committee are elected for only one period of four years. The Past President shall be the ex-officio member of the Executive Committee. No more than two officers from the same country can be elected. No member of the Executive Committee may be elected for more than two successive periods. A Deputy Secretary may be appointed by the Secretary General. Also, a webmaster, who will be in charge of the Association website, may be appointed by the Secretary General. Deputy Secretary and webmaster may be the same person.

10. The Executive Committee shall have the power to fill any vacancy that arises on the Executive Committee during the interval between successive periods of voting. The Executive Committee shall have the power to appoint the Executive Editor of the *Bulletin of Volcanology* and other publications of the Association. The Executive Committee shall have the power to create and disband Commissions and Task Groups of the Association.

IV. Voting

11. Individual Affiliates residing and working in a member country and National Correspondents shall receive authorisation to vote for new office-bearers and for any proposed changes to the Association's Statutes and By-Laws.

12. National Correspondents who are also Individual Affiliates of the Association will have one vote

13. The voting process will be anonymous and conducted electronically through the IAVCEI web site and will be initiated at least three months before, and must close no later than one month before, IUGG General Assemblies.

14. Any Individual Affiliate or National Correspondent may nominate in writing any other current Individual Affiliate or National Correspondent as an office-bearer of the Association, provided (1) the nomination is seconded by three other current Individual Affiliates or National Correspondents each from countries other than that of the nominee and (2) the nominee, nominator, and seconders all reside and work in a country belonging to the Union. All nominations must be received no later than six months before the General Assemblies of the Union.

15. All nominations shall be considered by a Nominating Committee which will produce a shortlist of at least one, but no more than three, candidates for each of the positions on the new Executive Committee. No more than two candidates from the same country can be proposed by the Nominating Committee for all of the positions. The Nominating Committee will be appointed by the Executive Committee no later than nine months before the General Assemblies of the Union. It will consist of no less than five current Individual Affiliates or National Correspondents, one of whom will be nominated by the Executive Committee to be responsible for controlling the voting process. The outgoing Executive Committee has the power to appoint candidates of its own where only one, or no, candidates are nominated by Individual Affiliates and National Correspondents.

16. The Nominating Committee is also responsible for collecting and scrutinising the votes and reporting the results to the Secretary General within a month following the close of voting.

17. Voters shall be required to indicate the candidates of their preference to occupy the corresponding vacancies. The candidate(s) with the largest number of votes will be elected. In case of tie a second voting round will be required. If the tie persists, the Executive Committee will elect the candidate from among those with the same number of votes.

18. The Secretary General will communicate through the website to all IAVCEI members the results of the elections before the General Assembly and the new officers of the Executive Committee will be officially appointed during the General Assembly.

V. Alteration and Interpretation of Statutes

19. These statutes shall be changed only by a majority of at least two thirds of votes by members of the General Assembly. Two-thirds absolute majority is determined by the proportion of affirmative votes to the sum of votes (affirmative, negative, abstention) of the total number of Individual Affiliates and National Correspondents attending the General Assembly.

20. The English text of the present Statutes shall be regarded as the authoritative version.

21. If these Statutes are found to be in conflict with those of the Union, the latter shall have priority.

BY-LAWS

I. Membership

1. Individual countries, where appropriate, should establish Sub-committees of their National Committee for the Union. The functions of each of the Sub-committees for Volcanology and Chemistry of the Earth's Interior shall be as follows:

- a. to further the aims of the Association within their own country;
- b. to nominate through the National Committee a National Correspondent who will have the power to vote on behalf of the Sub-committee and who may be designated as the Chief Delegate for that country at Union General Assemblies;
- c. to submit topics for discussion at the General Assemblies of the Association -subjects so submitted should be notified to the Secretary General of the Association at least three months before the General Assembly;
- d. to facilitate and coordinate, as appropriate and necessary, the dissemination of correspondence and other information relating to the affairs of the Association.

II. Duties of Officers of the Association

2. The function of the Executive Committee is to exercise general oversight with respect to the affairs of the Association. It should meet at least twice during each General Assembly and when possible during other IAVCEI meetings. Between General Assemblies the Executive Committee will conduct the affairs of the Association by email exchange among its members. Its duties include the following: to consider proposals for changes to the Statutes and By-Laws; to fill office-bearing vacancies arising between successive periods of voting; to assist in preparing agenda and making arrangements for General Assemblies and other meetings; to

appoint a Nominating Committee for the short-listing of candidates for election as new office-bearers; to appoint the Executive Editor and Associate Editors of the *Bulletin of Volcanology* and other publications; to appoint Commissions and Task Groups; and generally to promote the interests of the Association.

3. The Executive Committee will also carry on the business of the Association between General Assemblies and take on the particular responsibility of pro-actively fostering the objectives and interests of the Association and the effectiveness of the Commissions and Task Groups. The Executive Committee is responsible also for establishing Sub-committees to deal with specific aspects of the work of the Association.

4. The duties of the President are to preside at General Assemblies and Scientific Assemblies of the Association and, in consultation with the Secretary General, to regulate the business of the Association. The President and Secretary General have the power to sign documents on behalf of the Association. The President will chair the Awards Sub-committee. The President is also responsible for all protocol aspects related to the Association.

5. The duties of the Vice-Presidents are to preside at General Assemblies and Scientific Assemblies in the absence of the President. In the event of the position of President becoming vacant between General Assemblies, the Executive Committee shall appoint one of the Vice Presidents to act as President until the next General Assembly. As members of the Executive Committee, they must foster pro-actively the objectives and interests of the Association, and the effectiveness of the Commissions and Task Groups.

6. The duties of the Secretary-General of the Association are (1) to carry on all correspondence relating to the affairs of the Association; (2) to maintain and preserve the records of the Association; (3) to maintain a mailing list of members of the Association, and to receive and process Individual Affiliate applications; (4) to administer the funds of the Association, to prepare at the end of the calendar year preceding a General Assembly the accounts of the Association, and to arrange that they shall be properly audited and sent to the Secretary-General of the Union; (5) in consultation with the President and members of the Executive Committee, to prepare the agenda and make arrangements for the next General Assembly, and to cooperate with the other Associations of the Union in arranging joint sessions; (6) to ensure that the annual reports of the Association are published and distributed; (7) to prepare a budget for the ensuing four-year term.

7. The duties of the Deputy Secretary, in the case where one has been appointed, are to assist the Secretary-General in carrying out the duties of the Secretary General. The Deputy Secretary normally would be appointed Secretary-General in the event of that position becoming vacant between General Assemblies.

8. The duties of the webmaster, in case of having been appointed, are to assist the Secretary-General in managing the website of the Association.

9. The Executive Editor of the *Bulletin of Volcanology* shall administer the process of receipt of manuscripts and their distribution to the Associate Editors for review and acceptance (or otherwise). The Executive Editor and Associate Editors shall be responsible for maintaining high standards of content and presentation of the *Bulletin of Volcanology*. The tenure of the Executive Editor normally would not exceed four years. The Executive Editor is empowered to sign documents on behalf of the Association that are pertinent to the *Bulletin of Volcanology*. The Executive Editor and the Executive Committee jointly will appoint Associate Editors who will serve for periods not exceeding four years.

III. Commissions, Task Groups, and Sub-committees

10. The Executive Committee may establish any Commission devoted to the international promotion of research in any speciality of volcanology and chemistry of the Earth's interior. It will appoint a scientist to lead each Commission. This leader will present proposals for the objectives, program, and membership of the Commission for approval by the Executive Committee. Leaders normally will serve for periods not exceeding four years.

11. The Executive Committee may establish Task Groups devoted to the short-term completion of specific scientific tasks. This will include the preparation, by any interested group, of the objectives, program, and proposed membership of a future Commission, for consideration by the Executive Committee.

12. The Executive Committee may establish Sub-committees devoted to the completion of specific administrative tasks. These will include the Awards Sub-committee whose responsibility, under the chairmanship of the President, is to prepare recommendations for the award of the Thorarinsson Medal and Wager Medal at the time of the Association's General Assemblies or Scientific Assemblies.

IV. Alteration and Interpretation of By-Laws

13. These By-Laws shall be changed only by a simple majority of votes by current Individual Affiliates and National Correspondents. Simple majority is determined by the proportion of affirmative votes (affirmative, negative, abstention), provided that the total number of members voting (affirmative, negative, abstention) is not less than one-quarter of the total number of current Individual Affiliates and National Correspondents of the Association. Any Individual Affiliate or National Correspondent may propose in writing alteration, or alterations, to these By-Laws, provided the proposal is seconded (in writing) by three other current Individual Affiliates or National Delegates. The Executive Committee shall have the power to decide whether the proposal will be distributed to members as a vote. As the Statutes, the By-Laws can only be changed at a General Assembly.

**STATUTS ET REGLEMENT INTERIEUR DE L'ASSOCIATION INTERNATIONALE DE CHIMIE ET
DE LA VOLCANOLOGIE**

(Modifiés en juillet 2011, XXVème Assemblée Générale de l'UGGI, Melbourne, Australie)

STATUTS

I - Buts

1. Les buts de l'Association Internationale de Volcanologie et de Chimie de l'Intérieur de la Terre (ci-après désignée: l'Association) sont:

- (a) de promouvoir l'étude des volcans et des processus volcaniques, anciens et actuels, ainsi que de la chimie de l'intérieur de la Terre.
- (b) d'encourager, initier et coordonner les recherches et de promouvoir une collaboration internationale dans ces domaines d'étude,
- (c) d'organiser des réunions et des conférences, et de publier les résultats des recherches scientifiques en volcanologie ainsi qu'en chimie de l'intérieur de la Terre,
- (d) d'encourager les volcanologues à éveiller l'attention des autorités compétentes sur l'importance d'une surveillance adéquate à l'égard des volcans actifs, ou potentiellement actifs, et sur l'évaluation du risque volcanique.

II - Membres de l'Association

2. L'Association est une association constituante de l'Union Géodésique et Géophysique Internationale (ci-après désignée: l'Union) ; elle est soumise aux Statuts et Règlement de l'Union ainsi qu'à ses propres Statuts.

3. Les Pays Membres de l'Union seront considérés comme membres de l'Association et peuvent, par l'intermédiaire de leur Organisme Adhérent, désigner un Correspondant National pour les représenter au sein de l'Association.

4. Des personnes professionnellement impliquées dans ou associées à des études de volcanologie ou de chimie de l'intérieur de la Terre, peuvent devenir Affiliés à l'Association. Les Affiliés peuvent soutenir les activités de la IAVCEI par des donations volontaires, devenant alors des Affiliés Donateurs.

III - Administration

5. L'autorité de l'Association est dévolue à l'Assemblée Générale qui est constituée: (1) des Affiliés de l'Association, et (2) des Correspondants Nationaux des Pays Membres de l'Union. Les Correspondants Nationaux des pays membres et les Affiliés résidents et travaillant dans un Pays Membre de l'Union sont éligibles à des positions électives. Tous les Affiliés et Correspondants Nationaux reçoivent les publications et autres documents jugés appropriés par décision du Comité Exécutif. Seuls les Correspondants Nationaux des pays membres ont le droit de vote sur les questions de l'Union.

6. Les correspondants nationaux représentent les Pays Membres de l'Union dans l'Association. Ils sont responsables de relayer toute information officielle concernant la IAVCEI aux scientifiques et entités adhérents de leurs pays respectifs et de promouvoir les objectifs de l'association dans leur propre pays.

7. Les Assemblées Générales de l'Association se tiendront à l'occasion des Assemblées Générales de l'Union. Elles peuvent aussi avoir lieu dans la période entre deux Assemblées Générales de l'Union et à la discrétion du Comité Exécutif de l'Association.

8. Entre et pendant les Assemblées Générales, l'administration de l'Association sera assurée par le Comité Exécutif de l'Association.

9. Le Comité Exécutif de l'Association comprendra huit membres (un Président, un Secrétaire Général, deux Vice-Présidents et quatre membres ordinaires) plus le Président sortant. Ces huit membres seront élus par les Affiliés et Correspondants Nationaux en exercice. Le Secrétaire Général est élu pour deux périodes tandis que le reste du Comité Exécutif est élu pour une période de quatre ans. Le Président sortant est membre de droit du Comité Exécutif. Au maximum deux personnes d'un même pays peuvent être élues. Aucun membre du Comité Exécutif ne pourra être élu pour plus de deux périodes consécutives. Un Secrétaire Adjoint sera nommé par le

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Secrétaire Général. En outre, un webmaster, en charge du site web de l'Association, sera nommé par le Secrétaire Général. Le secrétaire adjoint et le webmaster peuvent être une même personne.

10. En cas de vacance au Comité Exécutif au cours de la période comprise entre deux votes, le Comité Exécutif aura le droit de pourvoir au remplacement du poste vacant. Le Comité Exécutif désignera le Rédacteur-en-Chef du *Bulletin of Volcanology* et des autres publications de l'Association. Le Comité Exécutif aura la prérogative de créer et de dissoudre des Commissions et des Groupes de Travail de l'Association.

IV - Elections

11. Les Affiliés résidant et travaillant dans un pays membre et les Correspondants Nationaux recevront l'autorisation de voter pour les sièges à pourvoir à l'Association, ainsi que pour toute proposition de changement des Statuts et du Règlement Intérieur.

12. Les correspondants Nationaux également Affiliés de l'Association auront un vote.

13. La procédure de vote sera anonyme et effectuée électroniquement au travers du site de la IAVCEI et devra être ouvert au moins trois mois avant et fermé un mois avant l'Assemblée Générale de l'IUGG.

14. Tout Affilié ou Correspondant National peut, par écrit, proposer tout autre Affilié ou Correspondant National en exercice à un poste à pourvoir à l'Association à condition que: (1) cette nomination soit appuyée par trois autres Affiliés ou Correspondants Nationaux en exercice, tous de pays autres que celui de la personne proposée ; (2) la personne proposée, le proposant et les personnes appuyant la nomination résident et travaillent tous dans un Pays Membre de l'Union. Toute nomination doit être reçue au plus tard six mois avant l'Assemblée Générale de l'Union.

15. Toutes les nominations seront examinées par un Comité des Nominations qui établira une liste comportant au moins un, mais pas plus de trois, candidats pour chaque poste du nouveau Comité Exécutif. Pas plus de deux candidats du même pays ne pourront être proposés par le Comité des Nominations à l'ensemble des postes à pourvoir. Le Comité des Nominations sera créé par le Comité Exécutif au plus tard neuf mois avant l'Assemblée Générale de l'Union. Il comprendra au moins cinq Affiliés ou Correspondants Nationaux en exercice, l'un d'entre eux étant désigné par le Comité Exécutif comme étant celui qui contrôlera le processus de vote. Le Comité Exécutif sortant a la latitude de désigner lui-même des candidats à des postes pour lesquels une seule ou aucune nomination n'a été proposée par les Affiliés et Correspondants Nationaux.

16. Le Comité des Nominations est également responsable de collecter et examiner les votes et de rendre compte des résultats au Secrétaire Général dans le mois suivant la fermeture des votes.

17. Il sera demandé aux votants d'indiquer leurs préférences quand aux candidats susceptibles d'occuper les postes vacants. Le(s) candidat(s) recevant le plus grand nombre de votes sera(ont) élu(s). En cas d'égalité un second tour de vote sera nécessaire. Si l'égalité persiste, le Comité Exécutif élira le candidat parmi ceux ayant le même nombre de votes.

18. Le Secrétaire Général communiquera les résultats des élections à tous les membres de la IAVCEI via le site web, avant l'Assemblée Générale et les membres entrants du Comité Exécutif seront nommés officiellement au cours de l'Assemblée Générale.

V - Modifications et Interprétation des Statuts

19. Toute modification à ces Statuts ne pourra être adoptée que par une majorité des deux tiers au moins des votes des membres de l'Assemblée Générale. La majorité absolue des deux tiers est déterminée par le rapport des voix affirmatives au total des votes (affirmatives, négatives, abstentions), du nombre total d'Affiliés et de Correspondants Nationaux présents à l'Assemblée Générale.

20. Le texte anglais des présents Statuts fera foi.

21. Si ces Statuts se révèlent incompatibles avec ceux de l'Union, ceux de cette dernière seront prioritaires.

REGLEMENT INTERIEUR

I - Membres

1. Où il convient, chaque pays devrait établir un Sous-Comité de son Comité National pour l'Union. Les fonctions de ces Sous-Comités de Volcanologie et de Chimie de l'Intérieur de la Terre sont:

(a) de promouvoir les buts de l'Association dans leur pays;

- (b) de nommer, au niveau du Comité National, un Correspondant National qui aura pouvoir de voter pour le Sous-Comité, et qui pourra être désigné comme le Délégué principal du pays aux Assemblées Générales de l'Union;
- (c) de proposer les sujets à débattre aux Assemblées Générales de l'Association; ces sujets seront communiqués au Secrétaire Général de l'Association au moins trois mois avant l'Assemblée Générale en question;
- (d) d'assurer la correspondance relative aux questions qui intéressent l'Association, ainsi que la circulation de toute information appropriée.

II - Rôle des Officiels de l'Association

2. Le rôle du Comité Exécutif est d'exercer un droit de regard sur les affaires de l'Association. Il devrait se réunir au moins deux fois pendant chaque Assemblée Générale et, si cela est possible, au cours d'autres meetings de la IAVCEI. Entre les Assemblées Générales le Comité Exécutif dirigera les affaires de l'Association par échanges d'emails entre ses membres. Son rôle comprend : l'examen des propositions de modifications des Statuts et du Règlement Intérieur; pourvoir les postes restant vacants entre les périodes de vote successives ; l'aide à la préparation des programmes et la prise de dispositions requises en vue des Assemblées Générales et autres réunions; la désignation d'un Comité des Nominations pour l'établissement de la liste des candidats à élire; la désignation du Rédacteur-en-Chef et des Rédacteurs-Adjoints du *Bulletin of Volcanology* et autres publications ; la création des Commissions et Groupes de Travail: et d'une façon générale, la défense des intérêts de l'Association.

3. Le rôle du Comité Exécutif est d'assurer l'administration de l'Association entre les Assemblées Générales ainsi que d'assurer la responsabilité de la promotion active des objectifs et des intérêts de l'Association, et de l'efficacité des Commissions et Groupes de Travail. Le Comité Exécutif est également responsable de la création de Sous-Comités pour certains aspects spécifiques des activités de l'Association.

4. Le rôle du Président de l'Association est de présider les Assemblées Générales et les Assemblées Scientifiques de l'Association et d'assurer, en accord avec le Secrétaire Général, la gestion courante de l'Association. Le Président et le Secrétaire Général ont pouvoir de signer les documents officiels de l'Association. Le Président préside le Sous-comité des récompenses. Le Président est également responsable des aspects protocolaires liés à l'Association.

5. Le rôle des Vice-Présidents est de présider les Assemblées Générales et les Assemblées Scientifiques en l'absence du Président. Au cas où le siège du Président deviendrait vacant entre les Assemblées Générales, le Comité Exécutif désignera l'un des Vice-Présidents pour remplir le rôle de Président jusqu'à l'Assemblée Générale suivante. En tant que membres du Comité Exécutif, ils doivent promouvoir activement les objectifs et intérêts de l'Association et s'assurer de l'efficacité des Commissions et Groupes de Travail.

6. Le rôle du Secrétaire Général de l'Association est: (1) d'assurer toute correspondance relative aux affaires de l'Association; (2) de rassembler et de préserver les archives de l'Association; (3) de tenir à jour la liste d'adresses des membres de l'Association et de recevoir et gérer les demandes d'affiliation; (4) de gérer les fonds de l'Association, de préparer à la fin de chaque année précédant une Assemblée Générale les comptes de l'Association et de veiller à ce qu'ils soient correctement vérifiés et adressés au Secrétaire Général de l'Union; (5) en accord avec le Président et les membres du Comité Exécutif, de préparer le programme et de prendre toutes dispositions en vue de l'Assemblée Générale, ainsi que de collaborer avec les autres Associations de l'Union pour l'organisation des séances communes; (6) d'assurer la publication et la distribution des comptes-rendus annuels des travaux de l'Association; (7) de préparer le budget pour la période suivante de quatre années.

7. Le rôle du Secrétaire Adjoint, dans le cas où un tel poste a été pourvu, est d'aider le Secrétaire Général à s'acquitter de sa charge. Au cas où le poste de Secrétaire Général deviendrait vacant entre deux Assemblées Générales, le Secrétaire-Adjoint serait normalement désigné comme Secrétaire Général jusqu'à l'Assemblée Générale suivante.

8. Le rôle du webmaster, dans le cas où un tel poste a été pourvu, est d'assister le Secrétaire Général dans la gestion le site web de l'Association.

9. Le Rédacteur-en-Chef du *Bulletin of Volcanology* gèrera la réception des articles proposés et leur envoi aux Rédacteurs-Adjoints pour examen, acceptation ou autres. Le Rédacteur-en-Chef et les Rédacteurs-Adjoints seront responsables du maintien d'un niveau scientifique élevé et de la qualité de présentation du *Bulletin de Volcanologie*. Le mandat du Rédacteur-en-Chef ne devra pas excéder quatre ans. Le Rédacteur-en-Chef a pouvoir de signer au nom de l'Association tout document qui se rapporte au *Bulletin of Volcanology*. Le Rédacteur-en-Chef et le Comité Exécutif désigneront ensemble les Rédacteurs-Adjoints dont le mandat ne pourra excéder quatre ans.

III - Commissions, Groupes de Travail et Sous-Comités

10. Le Comité Exécutif peut créer toute Commission destinée à promouvoir internationalement des recherches dans tout domaine de la Volcanologie et de la Chimie de l'Intérieur de la Terre. Il désignera un scientifique responsable pour diriger chaque Commission. Ce responsable devra proposer des objectifs, un programme et des membres de la Commission, au Comité Exécutif pour approbation. Le mandat d'un responsable de Commission n'excédera pas quatre ans.

11. Le Comité Exécutif peut créer des Groupes de Travail dédiés à l'accomplissement rapide de tâches scientifiques particulières. L'activité d'un tel Groupe inclura la préparation, par tout ensemble de personnes intéressées, des objectifs, du programme et de la composition d'une future Commission, pour être examinée par le Comité Exécutif.

12. Le Comité Exécutif peut créer des Sous-Comités dédiés à l'accomplissement des tâches administratives spécifiques. Parmi eux existera un Sous-comité des Récompenses dont la responsabilité, sous la direction du Président, sera de recommander des scientifiques pour l'attribution de la Médaille Thorarinsson et de la Médaille Wager, récompenses qui sont remises au moment des Assemblées Générales ou des Assemblées Scientifiques de l'Association.

IV- Modifications et Interprétation du Règlement Intérieur

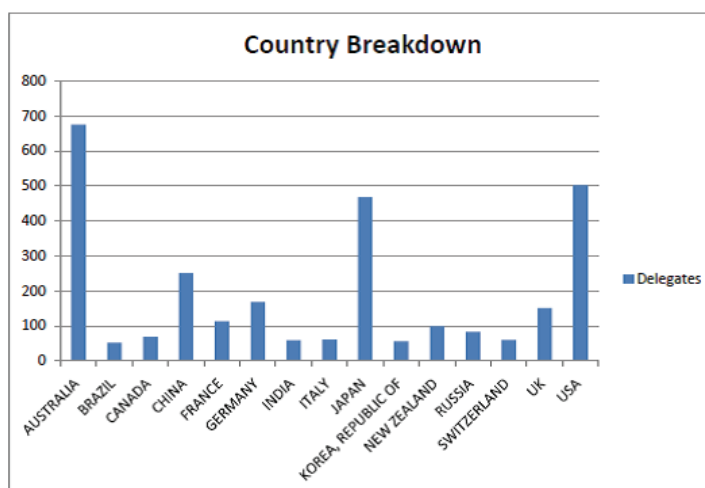
13. Ce Règlement Intérieur ne peut être modifié que par un vote à la majorité simple, par les Affiliés et les Correspondants Nationaux en exercice. La majorité simple est déterminée par le rapport des voix affirmatives au total des votes (affirmatives, négatives, abstentions), à condition que le nombre total de membres ayant voté (pour l'affirmative, la négative ou l'abstention) ne soit pas inférieur au quart du nombre total d'Affiliés et de Correspondants Nationaux de l'Association. Tout Affilié ou Correspondant National peut, par écrit, proposer une ou plusieurs modifications au Règlement Intérieur, à condition que cette proposition soit appuyée (par écrit) par trois autres Affiliés ou Correspondants Nationaux en exercice. Le Comité Exécutif sera maître de décider s'il doit soumettre cette proposition au vote des membres. Comme pour les Statuts, le Règlement Intérieur ne peut être modifié que lors de l'Assemblée Générale.

Part III

Assembly Statistics

ASSEMBLY REGISTRATION BY COUNTRY
IUGG 2011 Melbourne

Country	Delegates	Country	Delegates	Country	Delegates
ALGERIA	2	GREECE	5	PERU	3
ARGENTINA	10	HUNGARY	10	POLAND	22
AUSTRALIA	675	ICELAND	7	PORTUGAL	6
AUSTRIA	30	INDIA	59	ROMANIA	5
AZERBAIJAN	2	INDONESIA	29	RUSSIA	83
BANGLADESH	1	IRAN	13	SAUDI ARABIA	1
BELARUS	1	IRAQ	1	SERBIA	1
BELGIUM	9	IRELAND	1	SINGAPORE	13
BRAZIL	52	ISRAEL	8	SLOVAKIA	4
BULGARIA	6	ITALY	61	SLOVENIA	4
CANADA	69	JAPAN	468	SOUTH AFRICA	26
CHILE	7	KOREA, REPUBLIC OF	56	SPAIN	24
CHINA	255	KYRGYZSTAN	2	SRI LANKA	5
CHINA-TAIPEI	36	LATVIA	1	SWEDEN	18
COLOMBIA	1	LEBANON	2	SWITZERLAND	60
COSTA RICA	2	LUXEMBOURG	3	THAILAND	11
CROATIA	3	MACEDONIA	1	TRINIDAD AND TOBAGO	3
CYPRUS	1	MALAYSIA	4	TUNISIA	1
CZECH REPUBLIC	33	MAURITIUS	1	TURKEY	8
DENMARK	25	MEXICO	11	UGANDA	1
EGYPT	6	MOROCCO	1	UK	151
ESTONIA	2	NEPAL	3	UKRAINE	1
ETHIOPIA	1	NETHERLANDS	32	USA	502
FIJI	1	NEW CALEDONIA	1	VANUATU	1
FINLAND	14	NEW ZEALAND	99	VIETNAM	3
FRANCE	114	NIGERIA	6	Grand	3392
FRENCH POLYNESIA	2	NORWAY	19		
GERMANY	168	PAKISTAN	3		



NOTE: Above chart shows countries that had 50 or more delegates in attendance

ASSEMBLY REGISTRATION BY ASSOCIATION

Association	Number of Registered Delegates
IACS	120
IAG	370
IAGA	536
IAHS	423
IAMAS	607
IAPSO	323
IASPEI	395
IAVCEI	337
IUGG	98
OTHER	183
Total	3392

