

Perugia, Italy July 2-13, 2007



COMPTES RENDUS

**PART I:
PROCEEDINGS OF
THE GENERAL ASSEMBLY**



UNION GEODESIQUE ET GEOPHYSIQUE INTERNATIONALE
INTERNATIONAL UNION OF GEODESY AND GEOPHYSICS

XXIV GENERAL ASSEMBLY
2-13 JULY 2007
PERUGIA, ITALY

COMPTES RENDUS

**IUGG XXIV GENERAL ASSEMBLY
2 – 13 JULY 2007 PERUGIA, ITALY**

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PART I

PROCEEDINGS OF THE GENERAL ASSEMBLY

OFFICERS OF THE UNION, ASSOCIATIONS, AND COMMISSIONS
OFFICERS OF THE UNION FOR 2004-2007

Bureau of the Union

<i>President:</i>	Uri Shamir	ISRAEL
<i>Vice-President:</i>	Tom Beer	AUSTRALIA
<i>Secretary General:</i>	Jo Ann Joselyn	USA
<i>Treasurer:</i>	Aksel W. Hansen	DENMARK
<i>Members:</i>	Yun-tai Chen	CHINA
	Harsh Gupta	INDIA
	Ali A.A. Tealeb	EGYPT

The following Officers are not voting Members of the Bureau:

<i>Assistant Secretary General:</i>	Katina Rogers	USA
<i>Assistant Treasurer:</i>	Anders Svensson	DENMARK

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, M. Kono (JAPAN)
- the Presidents of the International Associations:

<i>IAG:</i>	Gerhard Beutler	SWITZERLAND
<i>IAGA:</i>	Charles Barton	AUSTRALIA
<i>IAHS:</i>	Arthur Askew	AUSTRALIA/UK
<i>IAMAS:</i>	Michael C. MacCracken	USA
<i>IAPSO:</i>	Shiro Imawaki	JAPAN
<i>IASPEI:</i>	E. Robert Engdahl	USA
<i>IAVCEI:</i>	Oded Navon	ISRAEL

Finance Committee of the Union

<i>Chair:</i>	Michael J. Hamlin	UNITED KINGDOM
<i>Members:</i>	David D. Jackson	USA
	Kiyoshi Suyehiro	JAPAN
	Juan Francisco Vilas	ARGENTINA

Secretaries General of the International Associations

<i>IAG:</i>	Christian Tscherning	DENMARK
<i>IAGA:</i>	Bengt Hultqvist	SWEDEN
<i>IAHS:</i>	Pierre Hubert	FRANCE
<i>IAMAS:</i>	Roland List	CANADA
<i>IAPSO:</i>	Fred Camfield	USA
<i>IASPEI:</i>	Peter Suhadolc	ITALY
<i>IAVCEI:</i>	Steve McNutt	USA

Union Commissions

Union Commission on Mathematical Geophysics:

<i>Chair:</i>	Daniel H. Rothman	USA
<i>Secretary General:</i>	Claudia Pasquero	USA
<i>Vice-Chair:</i>	Einat Aharonov	ISRAEL
<i>Vice-Chair:</i>	Ray Pierrehumbert	USA
<i>Vice-Chair:</i>	Antonello Provenzale	ITALY
<i>Vice-Chair:</i>	Eli Tziperman	USA

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

www.sedigroup.org

<i>Chair:</i>	Bruce Buffett	CANADA/USA
<i>Vice-Chair:</i>	Gauthier Hulot	FRANCE
<i>Secretary General:</i>	Mike Bergman	USA

Union Commission on Geophysical Risk and Sustainability (GeoRisk):

www.iugg-georisk.org

<i>Chair:</i>	Alik Ismail-Zadeh	GERMANY
<i>Vice-Chair:</i>	Ramesh Singh	INDIA
<i>Vice-Chair:</i>	Kuniyoshi Takeuchi	JAPAN
<i>Secretary General:</i>	Gerd Tetzlaff	GERMANY
<i>Treasurer:</i>	Paula Dunbar	USA

Union Commission on Cryospheric Sciences (CCS):

www.glaciology.su.se/ICSI/

<i>President:</i>	Georg Kaser	CANADA
<i>Past President:</i>	Gerry Jones	AUSTRIA
<i>Secretary/Treasurer:</i>	Peter Jansson	SWEDEN
<i>Vice President:</i>	Jon Ove Hagen	NORWAY
<i>Vice President:</i>	Koni Steffen	USA
<i>Vice President:</i>	Kumiko Goto-Azuma	JAPAN

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

www.scl-ilp.org

Officers Appointed for the Term 2006-2010

<i>President:</i>	Sierd Cloetingh	NETHERLANDS
<i>Secretary General:</i>	Jørg Negendank (until mid 2008)	GERMANY
<i>Bureau Members:</i>	IUGG: E. R. Engdahl	USA
	IUGG: K.C. Sain	INDIA
	IUGS: Y. Tatsumi	JAPAN
	IUGS: J.-P. Cadet	FRANCE
	IUGS and IUGG: A. Green	

<i>Chair of National Members:</i>	Soren Gregersen	DENMARK
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IUGG Liaison Officers with Intergovernmental Organizations

<i>Cartographic Office of the United Nations:</i>	Hermann Drewes	GERMANY
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United Nations Educational, Scientific and Cultural Organization (UNESCO):

<i>International Hydrological Programme:</i>	Pierre Hubert	FRANCE
<i>International Oceanographic Commission (IOC):</i>	Paola Rizzoli	ITALY/USA

<i>World Meteorological Organization (WMO):</i>	Roland List	CANADA
	Pierre Hubert	FRANCE

XXIV General Assembly of the International Union of Geodesy and Geophysics
Organizing Committees for the 24th IUGG General Assembly

IUGG Representatives on ICSU Committees

<i>Committee on Space Research (COSPAR):</i>	Eigil Friis-Christensen	DENMARK
<i>Committee on Science and Technology in Developing Countries - incorporating International Biosciences and other Scientific Networks (COSTED/IBN):</i>	Harsh Gupta	INDIA
<i>Federation of Astronomical and Geophysical Data Analysis Services (FAGS):</i>	David T. Pugh	UNITED KINGDOM
	Ruth Neilan	USA
<i>Scientific Committee for the International Geosphere-Biosphere Programme (IGBP):</i>	Tom Beer	AUSTRALIA
<i>Scientific Committee on Antarctic Research (SCAR):</i>	Roland Schlich	FRANCE
<i>Scientific Committee on the Problems of the Environment (SCOPE):</i>	Norman Jake Peters	USA
<i>Scientific Committee on Oceanic Research (SCOR):</i>		
<i>President IAMAS:</i>	Michael C. MacCracken	USA
<i>President IAPSO:</i>	Shiro Imawaki	JAPAN
<i>Scientific Committee on Solar-Terrestrial Physics (SCOSTEP):</i>	Wolfgang Baumjohann	AUSTRIA
<i>World Climate Research Programme (WCRP):</i>	Roland List	CANADA

IUGG Representatives on Other Bodies

<i>International Civil Aviation Organization (ICAO):</i>	William I. Rose	USA
<i>Instituto Panamericano de Geografía e Historia (IPGH):</i>	Hermann Drewes	GERMANY

IUGG 2007 LOCAL ORGANIZING COMMITTEE

IUGG National Committee for Italy

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IUGG Local Organizing Committee

Lucio Ubertini
Piergiorgio Manciola
Arnaldo Pierleoni
Salvatore Grimaldi
Michela Mala

**REPORT OF THE CHAIR OF THE LOCAL ORGANIZING COMMITTEE
PROF. LUCIO UBERTINI**

Report of the Chair of the Local Organising Committee

The XXIV^o General Assembly of the International Union of Geodesy and Geophysics (IUGG) was held in Perugia (Italy) from July 2 to July 13, 2007. It is the first time for such a major scientific event that the hosting town itself, with its all resources and those of many other cities all over the Umbria Region, becomes the venue of the Assembly.

This Assembly registered the presence of more than 4'500 participants coming from 91 countries. Scientists and researchers from all over the world contributed with their works submitting more than 7200 abstracts. These works were presented during the 14 days in which the 240 scheduled symposia and workshops were held.

This edition of the IUGG General Assembly has also a particular meaning for the Union itself; in fact, we witnessed the birth of a new Association amongst the existing seven. The UCCS changing its name into IACS is now the eighth Association therefore this event can be considered historic and it also brings up the high relevance that the issues connected to the Cryosphere have among the Geosciences.

It is also a great pleasure for the LOC to announce that in this occasion, the Union, the Associations and the LOC itself through many initiatives such as "Adotta un ricercatore" were able to grant the possibility to attend the Assembly to 550 young scientists mainly from countries in need.

The title and main theme of the XXIV^o General Assembly "Earth: Our Changing Planet" has provided a major platform for discussion at the numerous sessions that took into consideration the following overarching issues: forecast of catastrophes, global climate changes, the solar radiation and its influence on the planetary ecosystem. Many were also the works highlighting the importance of a new comparative geology. All these studies together with those about scale invariability for the dynamics of natural phenomena are aimed towards providing models of our planet that are more and more accurate and reliable.

The magnificent "IV November" square in the center of Perugia has offered to the participants an amazing setting for the Welcome Ceremony held on July 2. Messages from many local and national authorities, the President and Secretary General of the Union were delivered. In this occasion we also assisted to the traditional performance of the Gubbio Color Guard followed by the mythological exhibition of the Sun and the Moon.

The outreach program for the people of Perugia, the many interested in the field of Geosciences and even just curious was prepared and offered in close collaboration with many partners and media networks. We also thank the many initiatives that participants, research centers, institutions and the Associations proposed and set up in order to highlight to the populace the urgency of several planetary issues. Amongst those we have to remember the: eGY, the IGY.

A varied social program has been made available and enjoyed by many accompanying persons. It included city sightseeing Italian culture experience, such as courses of typical cuisine, ceramic craftsmanship, medieval handy crafts.

The successful organization and holding of the General Assembly owes much to the scientific leadership of the IUGG Bureau, its seven Associations and the Scientific Program Committee in co-operation the National Research Council of Italy and the University of Perugia. On the other hand, we also have to mention the efforts made by USMA (Umbrian Scientific Meeting Association) in order to gather all the local logistic resources toward the organization of the event and successfully combine the well known historical Etruscan and Roman heritage with a modern flair. We have also to thank all the police forces that with their silent but attentive presence, granted a serene atmosphere during the conferences.

We wish to express our warm compliments to all the people and institutions who were involved in hosting the General Assembly, but most of all to the many participants who with their works contributed to make this event a successful and historic one.

The next IUGG General Assembly will be held in Melbourne (Australia). We would like to express our best wishes to the Melbourne LOC for a successful event and gladly share our experience with them in the common effort of offering science itself always the best.

IUGG SCIENTIFIC PROGRAM COMMITTEE FOR 2007

<i>Chair:</i>	Paola Malanotte-Rizzoli, IAPSO	rizzoli@mit.edu
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	Bengt Hultqvist, IAGA	hultqv@irf.se
	Pierre Hubert, IAHS	hubert@cig.ensmp.fr
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	Fred Camfield, IAPSO	camfield@vicksburg.com
	Peter Suhadolc, IASPEI	suhadolc@dst.units.it
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**LIST OF LECTURES AND SYMPOSIA HELD AT THE 24TH GENERAL ASSEMBLY
OF THE INTERNATIONAL UNION OF GEODESY AND GEOPHYSICS**

Union Lectures

- UL001 Our Changing Climate: A Global Policy Issue (Robert W. Corell, USA)
- UL002 Inside the terrestrial planets (Maria Zuber, USA)
- UL003 Subduction and Mantle Convection in the Mediterranean (Claudio Faccenna, Italy)
- UL004 Lessons from the 2004 Sumatra-Andaman earthquake and the Asian tsunami (Kenji Satake, Japan)

Union Symposia

- US001 Our Changing Planet (Part 1)
- US002 IGY+50 and I*Y: The International Geophysical Year 1957/58 and the international years of 2007/08
- US003 Global Earth Observing Systems
- US004 Digital geophysical data exchange: remote access, virtual observatories, GEOSS, and eGY
- US005 Solar and planetary geophysics
- US006 Challenges and Advances in Nonlinear Geophysics
- US007 High-Performance Computations in Geosciences
- US008 Our Changing Planet (Part 2)
- US010 Earth System Interactions
- US011 Modelling and simulation of geophysical flows: present and future
- US012 Early Warning of Natural Hazards
- USSE013 Our Understanding of Climate Change
- USSE014 The WMO/IUGG Assessment of the Effect of Pollution on Precipitation
- USX015 The electronic Geophysical Year 2007 - 2008
- USX016 Geo-Sciences in Africa

Inter-Association Symposia and Workshops

- JGS001 Ocean Circulation and contributions from new satellite missions (IAG, IAPSO)
- JGS002 Global sea-level change: Altimetry, GNSS and tide gauge measurements (IAG, IAPSO)
- JGS003 Earthquake and Volcano Geodesy (IAG, IASPEI, IAVCEI)
- JGS005 Observations of the Cryosphere from Space (IAG and UCCS Symposium hosted by IAG - merged with JGS004) (IAG, IAHS, IAMAS, IAPSO, UCCS, CliC)

- JAS001 Planetary cores: physics, chemistry and dynamics (IAGA, IAG, IASPEI, IAVCEI, SEDI)
- JAS002 Large scale imaging of the continental and oceanic lithosphere (IAGA, IASPEI)
- JAS003 Distribution of water and heat in the crust: Indication from EM studies (IAGA, IAHS, IAPSO, IASPEI)
- JAS004 Methodology in EM studies: Theory, modelling and inversion (IAGA, IASPEI)
- JAS005 The role of aerosols and dust in the middle atmosphere (IAGA, ICMA)
- JAS006 Electrodynamical and chemical effects in the middle and upper atmosphere generated by thunderstorms (IAGA, IAMAS)
- JAS007 Response of the atmosphere/ionosphere coupling system to forcing from the Sun and the lower atmosphere (IAGA, ICMA)
- JAS008 Long-term trends and changes in the atmosphere-ionosphere system (IAGA, ICMA)
- JAS009 Equatorial atmosphere-ionosphere coupling processes: responses to forcing from lower atmosphere and magnetosphere (IAGA, IAMAS)
- JAS010 Magnetic field forcing of the thermosphere (IAGA, IAG, IAMAS)
- JAS011 The Sound of Physics: Advances in coronal, helio-, astero- and terrestrial seismology (IAGA, IAMAS, IASPEI)
- JAS012 Seismological, geological and tectonic interpretation of geomagnetic anomalies on continents and oceans (IAGA, IASPEI)

- JHS001 Debris Transport in Glaciers (UCCS Symposium hosted by IAHS) (IAHS, UCCS, INQUA and IGS)
- JHS002 Natural Ice Microstructures (UCCS Symposium hosted by IAHS) (IAHS, UCCS, IAMAS, IGS)
- JHW001 Interactions between snow, vegetation and the atmosphere (UCCS Symposium hosted by IAHS) (IAHS, UCCS, ICSIH, IAMAS-ICPM, iLEAPS and IGS)
- JHW002 Climate-Permafrost-Hydrology Interactions: The Impact of Changing Climate on Cold Regions Hydrology (UCCS Symposium hosted by IAHS) (IAHS, UCCS and ICSIH)

- JMS001 Our Changing Planet (IAMAS, IAHS, IAPSO)

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

- JMS002 Earth System Interactions (IAMAS)
JMS003 Satellite Observations: Products and Applications (IAMAS, IAGA, IAG, IAHS, IAPSO, UCCS)
JMS004 Intercontinental Transport of Substances and its Consequences (IAMAS, IAHS, IAPSO)
JMS005 Aerosols, Biomass Burning and Precipitation (IAMAS, IAHS, IGAC)
JMS006 Glacial-Interglacial Cycles: New Records, Analyses, and Modelling (IAMAS, IAHS, IAPSO, UCCS)
JMS007 Stable Water Isotopes: from Basin to Global Scale (IAMAS, IAHS)
JMS008 Clouds and Radiation and Air-Sea-Ice Interactions (IAMAS, IAPSO, SCAR)
JMS009 Hydrological Cycle, Precipitation and Precipitation Systems (IAMAS, IAG, IAHS, IAPSO, UCCS)
JMS010 Tropical Cyclones (IAMAS, IAHS, IAPSO)
JMS011 Monsoon Systems (IAMAS, IAHS, IAPSO, THORPEX)
JMS012 Planetary Atmospheres and Their Evolution (IAMAS, (ICPAE), IAGA)
JMS013 Aeronomy of Planetary Atmospheres: Comparative Planetology (IAMAS, (ICPAE, ICMA), IAGA)
JMS014 Ocean-Atmosphere Coupling (IAMAS, IAPSO)
JMS015 Mid-latitude Droughts in a Changing Climate (IAMAS, IAHS)
JMS016 Cryospheric Change and Sea Level (IAMAS, IAHS, UCCS (plus SCAR and CliC))
JMS017 The Holocene-Anthropocene Transition: From Natural to Human-Dominance of the Earth System (IAMAS, IAPSO)
JMS018 High Latitude Modes of Climate Variability (IAMAS, (ICPM, ICDM), SCAR, IAHS, IAPSO, UCCS)
JMS019 Toward Bridging the Gap Between Weather and Inter-Annual Climate Variability: Processes, Phenomena and Prediction (IAMAS, IAHS, IAPSO)
JMS020 Assessing & Exploiting Re-analysis Data Sets (IAMAS, IAHS, IAPSO)
JMS021 Energetic Particles and Geomagnetic Storm Influence on Chemical and Dynamical Processes in the Polar Stratosphere and Mesosphere (IAMAS, (ICMA), IAGA Div. II)
JMS022 Solar Impact on the Mesosphere-Stratosphere-Troposphere System (IAMAS, (ICMA), IAGA)
JMS023 Instabilities in the Neutral Atmosphere, Ionosphere and Magnetosphere (IAMAS, (ICMA), IAGA, Div II)
JMS024 Data Assimilation for the Atmosphere, Ocean and Land Surface (IAMAS, IAHS, IAPSO)
JMS025 3D Radiative Transfer in Complex Geophysical Media Including Clouds, Vegetation, Ice and Snow (IAMAS, IAHS, UCCS)
JMS026 Ice Cores and Climate (UCCS Symposium hosted by IAMAS) (IAMAS, UCCS, IGS)
JMS027 Glacier Fluctuations in the Asian High Mountains (UCCS Symposium hosted by IAMAS) (IAMAS, UCCS, IAHS, CGI, Ev-K2-CRN, ICIMOD, HKH-FRIEND, IG)
JMS028 Consequences of Large Scale Circulation Variability on Snow and Ice Extent (UCCS Symposia hosted by IAMAS) (IAMAS, UCCS, IAHS-ICSIH, GEWEX, IGS)
JMS029 Snow Avalanches Field Observations and Modelling (UCCS Symposium hosted by IAMAS) (IAMAS, UCCS, IGS)
JMS030 Extraterrestrial Ice (UCCS Symposium hosted by IAMAS) (IAMAS, UCCS, IAG, IGS)
- JPS001 Interannual and Interdecadal Climate Variability (IAPSO, IAMAS, UCCS)
JPS002 Abrupt Climate Change (IAPSO, IAMAS, UCCS)
JPS003 Environmental Controls on Marine Biota (IAPSO, ISPSO, IABO)
- JSS001 Physics and Chemistry of Earth Materials (IASPEI, IAGA, IAVCEI, SEDI)
JSS002 Tsunami: generation and hazard (IASPEI, IAPSO, IAVCEI)
JSS003 Early-Warning Systems (IASPEI, IAGA, IAMAS, IAPSO, IAVCEI, UCCS)
JSS004 Non-instrumental seismometry - Quantification of past and future earthquakes: balancing the geological, historical and contemporary strain records (IASPEI, IAGA, ILP)
JSS005 Non-instrumental seismometry - Global and regional parameters of paleoseismology; implications for fault scaling and future earthquake hazard (IASPEI, IAGA, ILP)
JSS006 Non-instrumental seismometry - New Approaches to Paleoseismology and Earthquake Recurrence in the 21st Century (IASPEI, IAGA, ILP)
JSS007 Progress in electromagnetic studies on earthquakes and volcanoes - Volcanic structure and activities (same as JVS002) (IASPEI, IAGA, IAVCEI)
JSS008 Progress in electromagnetic studies on earthquakes and volcanoes - Electromagnetic fields associated with earthquakes and active faulting (IASPEI, IAGA, IAVCEI)
JSS009 Progress in electromagnetic studies on earthquakes and volcanoes - Crustal instabilities and earthquake precursors (IASPEI, IAGA, IAVCEI)
JSS010 Progress in electromagnetic studies on earthquakes and volcanoes - Seismo-electromagnetic studies using space technology (IASPEI, IAGA, IAVCEI)
JSS011 Earth Structure and Geodynamics (IASPEI, IAGA, IAG, IAVCEI, ILP, SEDI)

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

- JSS012 Earth Structure and Geodynamics - Dynamics of Deep Mantle Slabs (IASPEI, IAGA, IAVCEI, ILP, SEDI)
JSS013 The lithosphere (IASPEI, IAGA, IAVCEI, ILP)
JSS014 Crustal structure and Tectonophysics - Crustal and lithospheric structure in active continental blocks and their boundaries (IASPEI, IAGA)
JSS015 Crustal structure and Tectonophysics - Large-scale multi-disciplinary programs for continental imaging (IASPEI, IAGA)
JSS016 Underwater observatories (IASPEI, IAGA, IAPSO, IAVCEI, ION)
JSS017 Lithosphere thermal state and geodynamic processes: from measurements to models (IASPEI, IAGA)
JSW001 Subduction zone related volcanism and hazard mitigation (IASPEI, IAVCEI)
- JVS001 Large-volume eruptions, including environmental effects (IAVCEI, IAMAS)
JVS003 Ice Volcano Interactions (IAVCEI, IAHS, UCCS, IGS)
JVS004 Volcano seismology (IAVCEI, IASPEI)
JVS005 The 25 Anniversary of the El Chichn Eruption (IAVCEI, IAMAS)

Association Symposia and Workshops

IAG

- GS001 Reference Frames
GS002 Gravity Field
GS003 Earth Rotation and Geodynamics
GS004 Positioning and Applications
GS005 The Global Geodetic Observation System (GGOS)

IAGA

- ASI001 Planetary Dynamos: theory, models, observation and experiment
ASI002 Paleomagnetism and geodynamics neotectonics, continental reconstruction, reference frames
ASI003 Magnetic dating on all time scales
ASI004 Palaeointensity studies progress and challenges
ASI005 Magnetic anisotropy different scales, different parameters, different stories?
ASI006 Acquisition and stability of natural and laboratory-produced remanence
ASI007 Magnetic signature of past and present environmental changes
ASI008 Magnetism of extraterrestrial materials and bodies
ASI009 Progress in palaeo- and rock-magnetic methodologies
ASI010 Open Poster Session
ASI011 Environmental studies
ASII012 Small- and meso-scale structure in the thermosphere and ionosphere: observations and modeling
ASII013 Response of the ionosphere-thermosphere to large geomagnetic storms: data availability and modeling
ASII015 Conjugate and interhemispheric polar studies (Division II and III)
ASII016 Data assimilation and space weather (Division II, III and IV)
ASII017 Sun-Earth system: science and impacts (Divisions II, III and IV)
ASIII018 Magnetopause and magnetosheath processes: reconnection, diffusion and boundary dynamics (Divisions III and IV)
ASIII019 Progressing to closure in magnetotail plasma sheet and substorm processes
ASIII020 Magnetosphere-ionosphere interactions and auroral processes (Divisions III and II)
ASIII021 Geomagnetic storms: toward a coupled system level understanding (Divisions III and II)
ASIII022 Perspectives from global models and synoptic observations (Divisions III and II)
ASIII023 Causes and evolution of plasma pressure distributions
ASIII025 Techniques and instrumentation in space plasma physics
ASIII026 Wave and particle dynamics in the ring current and radiation belts
ASIII027 Other magnetospheric worlds and planetary ionospheres and thermospheres (ASII014 merged with this symposium)
ASIII028 Reporter reviews
ASIV029 The International Geophysical Year and its impact on space science (Division IV and IDCH, Divisions II, III and V)
ASIV030 New results from solar and heliospheric missions
ASIV031 From micro- to macro-scales in the heliosphere and magnetospheres (Divisions IV, II, and III)
ASIV032 IHY and universal processes (Divisions IV, II, and III)
ASIV033 Neutral-plasma interactions for planets, moons, asteroids, and comets
ASIV034 Reporter Reviews

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List of Lectures and Symposia

- ASV035 The role of magnetic observatories in monitoring and modeling Earth's magnetic field
ASV036 Geomagnetic measurements in remote regions (Division V and ICDC)
ASV037 International Decade of Geopotential Field Research: Current achievements and expected impact of Swarm (Divisions V, and I, II, III)
ASV038 World Digital Magnetic Anomaly Map
ASV039 Use of geomagnetic data and indices in space weather and space climatology
ASV040 Division V Reporter Reviews
ASICDC041 The investigation of low-latitude and equatorial geomagnetic variations since the International Geophysical Year 1957
ASICDC042 Advances in the investigation of equatorial aeronomical processes since the International Geophysical Year 1957
ASIDCH043 The International Geophysical Year: A 50-yr Retrospective

IAHS

- HS1001 A New Focus on Groundwater-Seawater Interactions (Sponsors ICGW and IAPSO)
HS1002 A New Focus on Integrated Analysis of Groundwater/Surface-Water Systems: Process Understanding, Conceptualisation and Modelling. (Sponsors ICGW, ICSW and ICCLAS)
HS1003 Hydrology in Mountain Regions: Observations, Processes and Dynamics (Sponsor ICSIH with co-sponsorship of UCCS, ICRS, ICSW, ICCLAS, ICGW, PUB)
HS2004 Quantification and Reduction of Predictive Uncertainty for Sustainable Water Resources Management (Sponsors ICCLAS, IAHS/WMO Working Group on GEWEX, ICWRS, ICRS, IAMAS-ICCL and PUB)
HS2005 Water Quality and Sediment Behaviour of the Future: Predictions for the 21st Century (Sponsor ICWQ, ICCE, ICGW, PUB and ICT)
HS3006 Changes in Water Resources Systems - Methodologies to Maintain Water Security and Ensure Integrated Management (Sponsor ICWRS)
HS3007 Remote Sensing for Environmental Monitoring and Change Detection (Sponsor ICRS)
HW1001 Isotope Tracing of Water Balance, Hydrodynamics and Hydrological Processes (Sponsor ICT)
HW1002 Patterns, thresholds and non-linearities: Towards a new theory of catchment hydrology (Sponsor PUB)
HW2003 Analysis of Variability in Hydrological Data Series
HW2004 Towards Improved Evaluation of Hydrological Models: The Need to Understand and Characterize Uncertainties in the Modelling Process (Sponsor ICCLAS, PUB)
HW2005 From Measurements and Calibration to Understanding and Predictions (Sponsor PUB with the support of ICWRS and ICGW)
HW2006 New Avenues for Contemporary Water Resources Management (Sponsor ICWRS)
HW3007 The Impact of Environmental Change on Sediment Sources and Sediment Delivery (Sponsor ICCE)
HW3008 Changes to Hydrological Extremes and Water Quality (Sponsors ICWQ and ICSW)
HW3009 Loss of Knowledge (with support of WMO and UNITAR)
HW1011 Cryosphere: Observations, processes, and future evolution (UCCS and IGS Workshop hosted by IAHS) (Merges JPSCCS004 and JPSCCS005)

IAMAS

- MS002 Global Observing Systems, Past, Present and Future (ICCL)
MS003 Aerosols, Radiation and Clouds (IRC, ICCP, ICACGP)
MS004 Mineral Dust Cycle and its Impact on Clouds and Radiation (ICCP)
MS005 Biological Ice Nucleators in the Atmosphere at the Crossroads of Physics and Biology (IAMAS/ICCP)
MS006 Ice Microphysics: Theory and Measurement (ICCP) merged with MW001
MS007 Theoretical advances in atmospheric dynamics (ICDM)
MS008 Ensembles and Probabilistic Forecasting (ICDM)
MS009 Dynamics and Predictability of Severe Weather Events (ICDM)
MS010 Dynamics of Convectively-Coupled Equatorial Waves and the Madden-Julian Oscillation (ICDM)
MS011 The Dynamics of Eastern Tropical Oceans and Subtropical Highs (ICDM)
MS012 Impacts of Biosphere-Atmosphere Interaction on Atmospheric Composition from Synoptic to Annual and Decadal Timescales
MS013 Topographic Effects on Weather and Climate (ICDM)
MS014 Interactions of Land Cover and Climate (ICCL)
MS015 Extreme Weather and Climate Events: Past Occurrences and Future Likelihoods (ICCL)
MS016 Downscaling to Local and Regional Scales (ICCL)
MS017 Climate Sensitivity and Climate Feedbacks: Progress and Remaining Questions (ICCL)
MS018 The Role of the Stratosphere in the Climate System (ICMA, IRC, ICCL)

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- MS019 Middle Atmosphere Science (ICMA)
MS020 Solar Activity and its Influences on the Earth's Weather and Climate (IRC)

IAPSO

- PS001 Biogeochemical Budget and Cycles in the Mediterranean Sea
PS002 Variability of the Antarctic Circulation and Water Masses and Their Sensitivity to Climate Change
PS003 Mediterranean Circulation and Climate: Their Variability and Sensitivity to Future Emission Scenarios
PS004 Ocean Mixing (co-sponsored by SCOR)
PS005 Flows and Waves in Straits
PS006 Arctic Ocean Processes
PS007 Biogeochemical Fluxes Between the Shelf and Open Seas
PS008 Processes in Oceanic Fronts
PS009 Impact of CO₂ Changes on Biogeochemical Processes and Ecosystem Functioning
PS010 New Insights into the Ocean and Its Circulation from Argo and GODAE
PS011 Fundamental Physical and Chemical Principles Underpinning Ocean Science
PS012 The Oceans - Their Past and Present; Considerations on their Future Behaviour (invited abstracts only)

IASPEI

- SS001 Seismic Observations And Interpretation
SS002 Earthquake Hazard, Risk, and Strong Ground Motion
SS003 Earthquake Hazard, Risk, and Strong Ground Motion - Site effects (and their dependence on source and propagation-path)
SS004 Earthquake Hazard, Risk, and Strong Ground Motion - Estimation of strong ground motion
SS005 Earthquake Sources - Modelling and Prediction
SS006 Education and Outreach
SW001 Earthquake data in archaeological and historical studies
SW002 Geophysical studies of active faults
SW003 Seismogenic zones: emergence of in situ fault zone observations to the understanding of earthquake physics
SW004 Modernizing ISC procedures: model evaluation and magnitudes
SW005 Reference Events for Improved Locations
SW006 Induced seismicity

IAVCEI

- VS001 Sediment-laden gravity flows in volcanic settings: generation, sedimentation, prediction and hazard assessment
VS002 Submarine volcanism: eruption processes, transport mechanisms and links with hydrothermal systems
VS003 Volcanic Flows: Observation, Experiment, and Theory
VS004 Intraplate monogenetic basaltic and kimberlite volcanic provinces and processes
VS005 The Magma Feeding System of Persistently Active Basaltic Volcanoes: Mount Etna and Others
VS006 Calderas I - Calderas and resurgent calderas
VS007 Calderas II: Calderas and caldera forming eruptions
VS008 Volcanic hazard evaluation: methodologies and applications
VS009 Models and products of mafic explosive activity
VS010 Modeling the plumbing system of active volcanoes by integrated petrological, geophysical and fluid inclusion studies
VS011 Modeling and simulation of volcanic related phenomena for hazard mitigation
VS012 Cities on Volcanoes: looking at the links between volcanology and communities issues around volcanoes (merged with VS020)
VS013 Quantifying and expressing volcanic risk: a challenge for the Millennium
VS015 New Techniques using Remote Sensing Data for Volcano Monitoring and Analysis: Observations, Integration, Hazard Assessments and Modeling
VS016 Volcanic-plutonic provinces: a tool to understand magma genesis and geodynamics
VS017 Pedagogical and didactical methods in earth science education and geopark concepts in demonstrating volcanic processes
VS018 New advances in understanding phreatomagmatism: from experiments to volcanic facies analyses
VS019 Large Igneous Provinces
VS021 Eruptions of Stromboli Volcano, Italy, March 2007
VS022 Mt Ruapehu (NZ) breakout lahar, 18 March 2007

**XXIV IUGG GENERAL ASSEMBLY OPENING CEREMONY
24TH GENERAL ASSEMBLY, PERUGIA, ITALY, 2-13 JULY 2007**

PROGRAMME

Monday July 2nd, 2007

OPENING CEREMONY OF THE XXIV IUGG GENERAL ASSEMBLY

“Earth: our changing planet”

Perugia – Piazza IV Novembre

Paola PIGNI

Lucio UBERTINI

Lamberto BOTTINI

Giulio COZZARI

Renato LOCCHI

Thomas ROSSWALL

Piergiorgio MANCIOLA

Stefania GIANNINI

Giuseppe CAVARRETTA

Paola MALANOTTE RIZZOLI

Jo Ann JOSELYN

Uri SHAMIR

Coordinator

President of the Local Organizing Committee of the
IUGG XXIV General Assembly

Councillor for the Environment and Sustainable
Development of Umbria Region

President of the Province of Perugia

Mayor of the city of Perugia

Executive Director of ICSU International Council for
Science

Professor at the University of Perugia

Rector of the University for Foreigners of Perugia

Director of the Department of Earth and Environment of
the Italian National Research Council

President of the Scientific Program Committee of the
IUGG XXIV General Assembly

Secretary General of IUGG

President of IUGG

PAOLA PIGNI RESUMÉ

Paola Pigni is the first Italian marathoner in long and short distance race. She set the world record in different sports and won the bronze medal for the 1500 meters at the European championship in 1969 during which women were admitted for the first time. She repeated her performance at the Munich Olympics just 1 second 5 hundredth behind the Soviet winner Ljudmila Bragina. She then came in fifth in the 3000 meters at the European Championships in 1974. Other than on the track, Ms Pigni has won many competitions in cross, a very difficult, and both physically and psychologically demanding track and field specialty: it is run for 10 km on unpaved roads or on grass. She won world titles in 1970, 1973, and 1974 nationally she has won 13 Italian absolute titles.

These are her titles:

3 world records 1500 metres, the mile, and 3000 meters;
23 individual Italian titles;
7 Italian relay records;
Gold medals at the University of Munich, at the Universiades of Moscow in 1973 for 1500 metres;
Gold medal at the Games of Mediterranean in Algeri in 1975 for 1500 metres and for 800 metres;
Gold medal at the world Cross competition for the following editions:
-Vichy Francia 1970
-Waregrem (Belgio) 1973
-Monza (Italia) 1975;
Bronze medal at the Olympics in Munich in 1972 (1500 metres);
Bronze medal at the European Championship in Athens 1969 (1500 metres);
Winner of 23 Italian competitions;
She has participated on the Italian National team 33 times.

She has been appointed Cavaliere della Repubblica for her sports merits and Official Cavaliere for equality between man and woman.

Paola Pigni è la prima maratona italiana, atleta di fondo e mezzofondo. Ha conquistato il record del mondo in diverse specialità e si è aggiudicata la medaglia di bronzo nei 1500 metri ai campionati europei di Atene del 1969, nei quali la specialità, in campo femminile, era stata inserita per la prima volta. Ha bissato il piazzamento alle Olimpiadi di Monaco chiudendo ad 1 secondo e 5 centesimi dalla sovietica Ljudmila Bragina, vincitrice della gara. Successivamente si è classificata quinta nei 3000 m. agli europei del 1974. Oltre che in pista le Pigni ha ottenuto grandi risultati anche nel cross, specialità di atletica leggera, molto impegnativa dal punto di vista fisico e psicologico, che si corre su fondo sterrato o erboso e su distanze entro i 10 km. Si è aggiudicata i titoli mondiali nel 1970, 1973 e 1974. Nelle gare nazionali ha vinto 13 titoli italiani assoluti.

I numeri parlano per lei :

3 primati mondiali 1500 metri, miglio e 3000 metri;
23 primati italiani individuali;
7 primati italiani di staffette;
Medaglia d'oro alle Universiadi di Mosca del 1973 nei 1500 metri ;
Medaglia d'oro ai Giochi del Mediterraneo di Algeri del 1975 nei 1500 metri e negli 800 metri;
Medaglia d'oro al Campionato del Mondo di Corsa Campestre (Cross delle Nazioni) nelle seguenti edizioni:
-Vichy Francia 1970
-Waregrem (Belgio) 1973
-Monza (Italia) 1975;
Medaglia di bronzo alle Olimpiadi di Monaco del 1972 (1500 metri);
Medaglia di bronzo ai Campionati Europei di Atene 1969 (1500 metri);
Vincitrice di 23 titoli italiani;
Ha indossato 33 volte la maglia azzurra.

È stata nominata Cavaliere della Repubblica per meriti sportivi e Cavaliere Ufficiale per la parità uomo donna.

**ADDRESS BY LUCIO UBERTINI
PRESIDENT, LOCAL ORGANIZING COMMITTEE**

Esteemed Invited Guests, Honourable Ministers, Authorities, Fellow Colleagues, Ladies and Gentlemen, after more than half a century ago, when the first IUGG General Assembly was held in Rome, we are here again on the soil of Italy but this time in Umbria, the green heart of our dear country. Of course, green is a symbol of a healthy environment and this is tied to also historical development of the sciences of geodesy and geophysics at its very embryonic stages. First and foremost, allow me on behalf of the Local Organising Committee, to express our most profound and sincerest gratitude and thanks to the IUGG for the confidence reposed in us to host and organise the XXIV General Assembly of this august body in Perugia. This is really “a Dream come True” for us in these four years after Sapporo. In a relatively small city, as compared to some of the mega cities from which thousands of delegates and participants have converged: we are proud to say WELCOME to you all, representatives of about 130 countries from all the five continents of the world to Perugia, Umbria Region and for that matter to Italy. Now, I would like to share with you all some startling contributions of Umbria region to the development of Geodesy and Geophysics.

This region can boast of many monumental and epochal scientific and technological inventions which decisively contributed to the development of earth sciences such as the rain gauge, pendulum-type seismic gauge, cartography and engineering structures for land reclamation, dating as far back as the Etruscan Age, some 1000 years B.C. through to the Roman times to the epoch of Universal Knowledge. The presence of various geophysical processes like the Tiber river, Trasimeno Lake and frequent earthquakes all contributed to ingenious observations dating as far back as the times of Galileo Galilei. I believe most of you are aware that the first attempt at the quantification of rainfall in a given time interval was carried out by Castelli, observing the rain water over the Trasimeno Lake. This led him to invent the rain gauge in the year 1639. It is important to emphasise that the rain measuring device which is still extremely useful in Meteorology was actually designed in the Saint Peter’s Monastery here in Perugia. In a letter to his mentor and friend Galileo, dated June 18th 1639, Castelli described his invention, inter alia, as follows:

In order to satisfy my past promises to you, I would like to share with you my certain consideration made over the Trasimeno Lake which had suffered

from long severe droughts. In my recent visit to Perugia, I decided to go and see things for myself. The level of the lake has gone down so much that it was affecting agricultural production and the operation of water mills situated along the banks of the lake. Back to Perugia, I witnessed and followed a not too intensive rainfall but quite continuous and uniform which lasted about 8 hours and I had a thought of examining it, far away from the lake in Perugia, how much the level of the lake would rise assuming the rainfall in Perugia was universal and uniform over the lake surface. So, I took a glass vessel of cylindrical form, height of a roman palm and half palm wide, and put some water, as much as to cover the bottom of the mentioned vessel, exposed it outside, to receive the water of the rain for about an hour, having diligently made a mark of the water level. Having observed that the water level had risen by 9mm in a period of one hour, considering that if I had exposed to the same rainfall other similar and equal vessels the water level would rise by the same measure and therefore concluded that it was necessary that the water level over the entire surface of the lake would rise in a period of one hour by the same measure.

Having considered doubts about his observations and discussed with others in the monastery, Castelli continued his thinking and postulated that: *it has become obvious that the quantity of fallen water is proportional to the intensity of the rainfall.*

In conclusion he wrote: *I can therefore conclude that if the rain could be universal and uniform above the lake, the same lake would be increased again, always in the time interval of an hour, by the same measure of the vessel; for every time of rain in more, the correlative increase is had. Similarly we should have had the same result if the rain were to fall on the whole globe (this explanation is appropriated also to the case of the Universal Flood of the Holy Scriptures).*

Still on Trasimeno Lake, I would also like to share with you another historical feat, this time in Geodesy. The illustrious son of Italy, the Genius of the Renaissance, Leonardo da Vinci mostly known as a painter, sculptor, engineer, architect, and scientist was also a brilliant cartographer. Having studied the Euclid Geometry from 1496 to 1504, knew that transferring a spherical surface onto a plane, at that time, could not be done without errors and he therefore took recourse to graphite shading in order to make visible different orographic levels. Combining arts and science and admiring the immense beauty of the panoramic valleys of Valdichiana and Valdarno Leonardo da Vinci, produced the much celebrated maps of the two

valleys which are presently conserved in the famous Royal Library of Windsor.

It is impossible to talk about geophysical processes in Umbria without mentioning the frequent occurrences of earthquakes which laid a solid foundation for seismic monitoring in Perugia. The first pendulum type seismograph was invented within the walls of Saint Peter's Monastery of Perugia by Benedictine Priest Andrea Bina in the year 1751, considering an earthquake as a natural phenomenon and measuring it for the first time with his own instrument. In a publication entitled: *Reasoning over the Origin of Earthquakes and in particular on that of the land of Gualdo Nocera in Umbria in 1751*, Father Bina proposed his own theory regarding the origin of seismic phenomena, inspired by the knowledge at that time and described the operation of a pendulum type mechanism.

Specifically he wrote and I quote:

Earthquakes can belong to the class of Natural Phenomena on which it is permissible to speculate and to track the physical cause... The explanation to which I adhere is happily shared by all and can moreover boast of being supported by a true principle...

Father Bina thus became the creator of the "true" seismology. The theory enunciated by the Priest scientist can be briefly summarized in his own words, as follows:

As it seems that in the firing of bombs and guns, the art had imitated the admirable mastery with which nature prepares lightning, so it is believed that in the triggering of earthquakes, avails itself of a blast similar to mines... in order to explain the earth movement we imagine underground caves and very wide cavities filled with a mixture of sulphur and stone salt similar to that of the canon powder.

Apart from his research on the origin of earthquakes, the scientist was also engaged in the study of atmospheric electricity, publishing in Perugia in 1753 a pamphlet entitled "Reflections about electrification of the air". I would like to add that this long historical tradition has not been lost because these early discoveries have been continued, by establishing the Andrea Bina Seismic Observatory at the same St. Peter Monastery in 1931 and modernized in 1971 to conform with modern technological advances.

My speech would not be complete if I did not touch on an engineering wonder of the region, "Cascata delle Marmore" (Marble Cascade) in Terni, dating as far back as the year 271 B.C., and constructed by a Roman Consul Manlio Curio Dentato during the Roman era. The present panorama offered by the cascade is an epitome of modifications induced by

humans on the natural environment in the course of many centuries. This engineering feat consisted of construction of a drainage canal of reclamation of swamps at the confluence of two rivers, the Velino and Nera. Subsequent designs were also advanced to increase the carrying capacity of the structures during floods at different historical moments but not until 1787-1788 that a Terni architect by name Andrea Vici found a lasting solution which gave the cascade its present appearance. Apart from harnessing the falls for hydroenergy production it also serves as a very important tourist attraction. The Marble Falls is not only a historical engineering construction but has become an interdisciplinary laboratory for a three-dimensional mathematical modeling of the waterfall in symbiosis with its natural environment.

I would like to make a special mention of the Water Resources Research and Documentation Centre (WARREDOC) of the Perugia University for Foreigners which for more than twenty years has carried out research, training and documentation programmes in water and environment, mainly for developing countries under the Italian Development Cooperation of the Ministry of Foreign Affairs. I would be doing a disservice to myself if I do not mention the institution here in Perugia which I head, the National Research Institute for Geohydrological Protection of the National Research Council and which has become the local organizational seat of this General Assembly. Finally I would also wish to mention and thank one of the oldest universities in Italy, the University of Perugia, which has offered us its logistical facilities for the scientific programmes of the Assembly and call on all of you to join me in wishing the Rector and the staff higher and higher laurels during the celebrations of its seven hundred years of existence next year.

I would also like to seize this opportunity to express my most profound and sincerest gratitude and thanks to all the members of the many Committees (honorary, local organizing and others), the Authorities at the national, regional and local levels for their unflinching support and cooperation at all the passes of this unique initiative. Specially thanks I would express to the President of Republic and the President of the Council of Ministers of Italy. Permit me again to thank you all for finding time to be here with us at the XXIV General Assembly of the IUGG not only in the service of science but most importantly for your concerns about our Changing Planet and hope and wish that you would enjoy the very high quality of scientific presentations, both oral and posters, that are awaiting you in about 300 sessions of this General Assembly.

Welcome again to Perugia and enjoy your stay.

ADDRESS BY GIULIO COZZARI, PRESIDENT OF THE PROVINCE OF PERUGIA

It is with great pleasure that I welcome you - many for the very first time - to the Province of Perugia, to our region and to the city of Perugia. Thanks to intense work on behalf of the highest representatives of this initiative, today we inaugurate the XXIV General Assembly of Geodesy and Geophysics. This is an event in which the Province of Perugia has believed in from the very beginning. We are in fact, founding members along with the municipality of Perugia, the CNR and other important institutions of the USMA Associations (Umbria Scientific Meeting Association) which has organized this very important world event.

By choosing Perugia, the scientific community has conferred our city the capability to host a qualified representation of the scientific community, fully aware that the sensitivity and welcoming spirit is a characteristic of the Umbrian people; A spirit animating life, history, art and Umbrian civilization. The Umbrian population has always searched, along with freedom, democracy and economic wellbeing, serenity and spirituality as the supporting structure for a civilization which pursues the future without losing its roots. This is the land of Saint Benedict, of Saint Francis; mysticism which has deep roots in the past but nevertheless aware that there is a precious commodity to protect with intelligence while fully respecting tradition and offering at the same time hospitality with high qualitative standards. Choosing Perugia, Umbria to host the Assembly over other candidates undoubtedly represents a preference to live a unique experience; a land which attracts with its antique charm but astonishes with its modernity.

Knowing also that here during this Assembly many findings will help protect our environment in the near future and they will be incentive to respect our surroundings: this is something to be proud of.

The province of Perugia has always had an active role in this field. The promotion of micro-plants for renewable energy and of photo-voltaic plants on schools, spreading dio-edile practices, promoting the creation of biomass energy generators and encouraging eco-tourism are only some of the initiatives that are being carried out. Sustainable development is the fundamental objective of whoever guides this area by enhancing its environmental characteristics and increasing its potentialities. Lake Trasimeno was defined by Guido Pompili, poet and writer, "...a true national monument", with its islands, convents, churches and greenery, favorite oasis for grand tour travelers; a landscape which changes while the traveler experiences, going through centuries of history, the meeting of nature and history; this is a true journey of discoveries. Our entire region is marvelous, a patrimony of richness that I invite you to see taking this opportunity of being here in Umbria.

Special thanks to professor Lucio Ubertini and to his team of collaborators who have been working for some time now by taking care of every organizing detail to make your stay a pleasant and memorable experience.

Giulio Cozzari
President of the Province of Perugia

ADDRESS BY GIULIO COZZARI, PRESIDENT OF THE PROVINCE OF PERUGIA, CONTINUED

E' con profonda soddisfazione che rivolgo a tutti voi il saluto della Provincia di Perugia e do a tutti quanti sono qui per la prima volta il benvenuto nella nostra regione e a Perugia. Grazie ad un intenso lavoro da parte dei massimi responsabili dell'iniziativa oggi si inaugura la XXIV Assemblea Generale di Geodesia e Geofisica, un evento a cui la Provincia di Perugia ha creduto fortemente e con entusiasmo, fin dall'inizio. Siamo infatti soci fondatori, insieme con il Comune di Perugia, il C.N.R. e altre importanti istituzioni, della Associazione USMA (Umbria Scientific Meeting Association) che ha organizzato questo importante evento di portata mondiale.

Scegliendo Perugia la comunità scientifica ha collocato questa città tra quelle in grado di accogliere una rappresentanza nutrita e qualificata della comunità scientifica, consapevoli che la sensibilità e la cultura dell'accoglienza sono una caratteristica dell'animo umbro. La spiritualità ha permeato la vita, la storia, l'arte e la civiltà umbra. Il popolo umbro ha sempre ricercato, unitamente alla libertà, alla democrazia, al benessere economico, la serenità e la spiritualità, quale struttura portante per una civiltà dell'avvenire che conserva le radici del passato. Viviamo nella terra di San Benedetto, di San Francesco, il misticismo affonda le sue radici in tempi lontani, consapevoli di avere un bene prezioso da valorizzare con intelligenza nel pieno rispetto della tradizione e al tempo stesso in grado di proporre una offerta ricettiva con alti standard qualitativi. Scegliere Perugia, l'Umbria, per lo svolgimento dell'Assemblea, rispetto ad altre candidature è stata indubbiamente una scelta legata al fatto di vivere un'esperienza unica. Una terra che attrae con

il fascino dell'antico e sorprende con la ricchezza della modernità.

Sapere inoltre, che proprio qui emergeranno delle risposte che favoriranno la tutela ambientale e uno stimolo ad un corretto godimento dell'ambiente, costituisce motivo di orgoglio per noi tutti. La Provincia di Perugia su queste tematiche svolge un ruolo attivo. Promuovere la diffusione di micro-impianti di energia rinnovabile e di impianti fotovoltaici nelle scuole, diffondere la pratica della bio-edilizia, favorire la creazione di impianti generatori di energia a biomasse e incoraggiare l'ecoturismo, sono alcune delle iniziative che stiamo mettendo in campo. Lo sviluppo sostenibile è l'obiettivo fondamentale di chi è chiamato a governare questo territorio esaltando le peculiarità ambientali ed incrementandone le potenzialità. Il lago Trasimeno che è stato definito da Guido Gozzano, poeta e scrittore, "un vero e proprio monumento nazionale," con le sue isole, conventi, chiese e verde, oasi prediletta per i viaggiatori del grand tour un paesaggio che cambia sotto l'occhio del viaggiatore che sperimenta, passando attraverso secoli di storia, l'esperienza del incontro tra natura e storia, racchiude in se la meraviglia di un vero viaggio di scoperta. Tutta la nostra regione racchiude meraviglie, un patrimonio di ricchezze che vi invito ad andare a visitare, cogliendo l'opportunità della vostra presenza in Umbria.

Un ringraziamento speciale infine va al professore Lucio Ubertini e a tutta la sua squadra di collaboratori che da tempo lavorano, curando ogni aspetto organizzativo per rendere la vostra permanenza un'esperienza piacevole ed indimenticabile.

ADDRESS BY RENATO LOCCHI, MAYOR OF PERUGIA

Welcome to Perugia. We hope your stay in Perugia is a pleasant one.

For our city this is an important and unprecedented event. This is the first time that our city has had the privilege to host such a prestigious scientific event. Also, this is the first time that such a numerous group of people from the academic world, from research, and such complex subject matters will come together in our university classrooms and in the public rooms to come to an update on the latest results of their work and on future perspectives. On the eve of the celebration of the 700th anniversary of the foundation of the University of Perugia, this is a wonderful exemplary way to celebrate a tradition of excellence and scientific integrity. Seven centuries mean a major part of the city's history in which the university and the Perugian community have followed a common path. Today we follow a path, which is of extraordinary collaboration with the rationalization of the university's presence within the city so that the university can increase its competitiveness and the city can receive beneficial returns from the university in its developmental projects. We work together on numerous aspects with mutual respect and open to the needs of one another. We know that the future of the city and of the university are intertwined. The IUGG Assembly is here to assert this moment.

The entire city, including the municipal administration will do its best so that so many illustrious guests will have a pleasant image of this welcoming city. This is the image along with the prestige of our university, which made a difference in attaining the sponsorship to be able to host this XXIV General Assembly.

We are proud of such an international acknowledgement, which also goes to the academic world that has worked very hard in this direction.

Perugia has always been open to the international world. It is a city of art with many important art museums such as the National Gallery of Art, important especially for its Middle Ages and Renaissance collection. It has just hosted a very successful collection, dedicated to Perugino and another to Pinturicchio, which will be held in a few months.

It is a city of peace because the peace march, which leaves from here and arrives in Assisi, was created here. Here the UN is holding its works on the assembly of populations, a sort of diplomatic approach which in no way replaces that of governments but stems from the heart, from needs above all.

It is also the location of the University for Foreigners which in not remote times, even before globalization was still unheard of, began hosting and opening up to the world. Today, thousands of foreign students come here to learn the Italian language and culture to then become ambassadors of dialogue and collaboration among peoples and nations from all continents.

These are also reasons why Perugia won the bid to host this Assembly. To win this bid, Perugia displayed all the excellence it is capable of. Everyone has done his/her share towards this goal – this is in fact the only way to promote a city, in the common belief of all its energy and strength. In this case, the result is a major scientific event. But the very topic it deals with is in the interest of nonscientists as well. The study of the planet in its different aspects, especially when huge changes are occurring so fast that we do not even notice are all a concern of ours. Today the IUGG Assembly will gain the media's attention and that of the population. The Earth's health is everyone's concern.

The city will know how to be a good patron also with the help of another majestic event: Umbria Jazz. Two faces of contemporary Perugia, different but united by an international bond represented by the high international aspects, IUGG and Umbria Jazz. A unique event: first a key event and a key event of the cultural life of Perugia. On the one hand, the assembly of important scientists of the Earth; on the other, one of the most famous events in the world. Undoubtedly, these stimulating events will happen in the streets of Perugia. Stimulating but consistent and natural like two aspects of contemporaneity, which cannot do without the other.

Perugia will be the perfect stage. For our city this will be another demonstration of a positive phase of the international growth of Perugia and Umbria; a phase in which the city is changing and developing to meet the needs of a modern city without renouncing the peculiarities of its identity.

ADDRESS BY RENATO LOCCHI, MAYOR OF PERUGIA, CONTINUED

Siete i benvenuti a Perugia. Vi auguro, a nome dei perugini, un felice soggiorno nella nostra città ed un proficuo lavoro.

Per Perugia è un appuntamento importante, per non dire inedito. Mai prima la città ha avuto la soddisfazione di ospitare un evento così prestigioso a livello scientifico. Mai prima di oggi un numero così cospicuo di personalità del mondo accademico, della ricerca, dello studio di discipline tanto complesse, si era ritrovato nelle aule universitarie e nelle sale pubbliche della nostra città per fare il punto sui risultati del proprio lavoro e le prospettive future. Alla vigilia della celebrazione del settecentesimo anniversario della nascita dell'Università di Perugia, è anche un modo appropriato, per non dire esemplare, per celebrare una tradizione di eccellenze e serietà scientifica. Sette secoli significano una parte non trascurabile della storia cittadina in cui l'Università e la comunità perugina hanno percorso assieme le tappe del loro sviluppo conoscendo fasi alterne. Oggi è una fase di straordinaria collaborazione, che si sta traducendo in un razionalizzazione della presenza universitaria nel territorio urbano, affinché l'Ateneo possa accrescere la sua competitività e nello stesso tempo la città ricavi dall'Università vantaggi decisivi nei suoi progetti di sviluppo. Lavoriamo assieme su diversi aspetti, rispettosi delle competenze di ciascuno, disponibili alle esigenze prospettate. Sappiamo che il futuro della città e quello dell'Ateneo si intrecciano. L'Assemblea della IUGG arriva a sancire questo momento.

La città tutta, a partire dall'Amministrazione comunale, farà quanto in suo potere e di sua competenza affinché a tanti ospiti illustri sia offerto il volto migliore di una comunità accogliente e civile. Su questa immagine del resto abbiamo puntato, assieme al prestigio del nostro Ateneo, per ottenere la responsabilità di organizzare qui la XXIV Assemblea dell'IUGG. Ci siamo riusciti. Siamo orgogliosi di una credibilità internazionale di cui evidentemente gode la città, e che viene senza dubbio riconosciuta agli ambienti accademici perugini che si sono battuti in questa direzione.

Perugia non è certamente nuova ad una ribalta internazionale. E' una città d'arte sede di uno dei musei italiani più importanti, la Galleria Nazionale dell'Umbria, soprattutto per le collezioni del medio Evo e del Rinascimento. E' reduce da una mostra che ha riscosso un grandissimo successo, quella dedicata al Perugino, ed un'altra mostra, questa volta sul Pintoricchio, allestirà tra qualche mese.

E' anche la città della pace, perché qui è stata ideata, e da qui parte ogni volta, la Marcia che si

conclude ad Assisi. In questo contesto si svolgono anche i lavori dell'assemblea dell'ONU dei popoli, una sorta di diplomazia dal basso che non vuole certamente sostituirsi a quella degli Stati ma che offre una visione del mondo diversa, ovvero a partire dai sentimenti, dalle aspirazioni, dalle necessità delle persone prima che dalle agenzie ministeriali e sovranazionali.

E' la città che da 80 anni è sede dell'Università per stranieri, chi quindi in tempi lontani, quando di globalizzazione non si parlava e nemmeno si pensava, ha intuito di poter acquisire una vocazione di ospitalità e nello stesso tempo di apertura al mondo. Oggi, per le aule ed i laboratori di questa Università passano migliaia di cittadini stranieri che imparano la lingua e la cultura degli italiani, e che diventano quindi amasciatori del dialogo e della collaborazione con popoli e nazioni di tutti i continenti.

Anche per tutti questi motivi Perugia ha ritenuto dunque di avere i requisiti adatti ad ospitare un evento come l'Assemblea dell'IUGG. Per essere prescelta ha messo in campo le eccellenze di cui dispone. E' stato uno sforzo di tanti, ciascuno per la propria parte. Del resto non esiste altro metodo di lavoro, se si vuol promuovere un territorio, della convinta collaborazione di tutte le sue forze vive e vitali. In questo caso, il risultato si è tradotto in una manifestazione di grandissimo significato scientifico, ma che, per gli argomenti di cui si occupa, è anche tale da suscitare l'interesse di chi scienziato non è. Lo studio del pianeta nei suoi diversi aspetti, soprattutto nel momento in cui grandi - troppo grandi e troppo veloci per non preoccuparci - cambiamenti stanno accadendo, ci riguarda tutti. Credo che ancor più oggi l'Assemblea dell'IUGG avrà l'attenzione dei media e dei non addetti ai lavori. Lo stato di salute della Terra interessa tutti.

La città saprà offrire uno scenario degno, reso anche più gustoso e culturalmente accattivante dal quasi contemporaneo svolgimento di Umbria Jazz. Due facce di Perugia complementari, diverse ma unite da un filo rosso che è rappresentato dall'alta valenza internazionale, la IUGG e Umbria Jazz. Un evento unico, la prima; un appuntamento chiave della vita culturale perugina, la seconda. Da un lato, l'assemblea dei maggiori scienziati delle discipline che studiano la Terra; dall'altro, una delle manifestazioni più famose al mondo. E' senza dubbio stimolante l'intreccio che si realizzerà nelle strade di Perugia tra il rigore della scienza e l'estemporaneità della musica. Stimolante ma coerente e perfino naturale, come due facce diverse

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di una contemporaneità che non può fare a meno di entrambe.

Perugia offrirà a questa suggestiva interazione il palcoscenico adatto. Per la nostra città sarà una ulteriore dimostrazione di una fase felice della

crescita dell'immagine internazionale di Perugia e dell'Umbria, una fase in cui la città sta trasformandosi e si sviluppa per rispondere alle esigenze della modernità senza rinunciare ai tratti peculiari della sua identità.

**ADDRESS BY PROFESSOR THOMAS ROSSWALL
EXECUTIVE DIRECTOR, INTERNATIONAL COUNCIL FOR SCIENCE (ICSU)**

President of IUGG, Professor Uri Shamir,
Dignitaries,
Dear Colleagues,
Ladies and Gentlemen.

In 2006, the International Council for Science, ICSU, celebrated its 75th Anniversary. ICSU has its origin in the International Association of Academies, established in 1899. This body was succeeded in 1919 by the International Research Council (IRC), which was also an international body of National Members. However, some International Scientific Unions became affiliated to IRC one by one but with limited powers. Thus, when ICSU was established in 1931, it took over 40 National Members and 8 International Scientific Unions. Since IUGG had been affiliated with IRC since 1922, it became one of the founding members of ICSU.

ICSU's mission is to strengthen international science for the benefit of society. Its broad membership currently includes 29 International Scientific Unions, representing different scientific disciplines, and 112 National Members, representing multiple disciplines within individual countries. Thousands of scientists, be they anthropologists working with local communities in Senegal or chemists working on the latest applications of nanotechnology in California, are affiliated with ICSU via their professional organizations. Because of this, ICSU is uniquely able to bring together the intellectual resources of the international scientific community to explore complex issues at the interface between different disciplines.

Since its establishment in 1931 the Council has strived to ensure that the best scientific knowledge is made available to policy makers and it has taken the lead in exploring areas, such as global environmental change, which are critically important to society as a whole. This has often necessitated the establishment of Interdisciplinary Bodies, which provide a focus for scientists to work together internationally in key priority areas where multidisciplinary approaches are necessary. Many of these bodies are co-sponsored by various UN agencies and non-governmental partners. In addition to planning and coordinating research, they help ICSU provide independent scientific input to various intergovernmental fora.

The Principle of the Universality of Science has been embedded in the statutes of ICSU from its very early days. All Members agree to adhere to this Principle and it provides a model of equity and non-discrimination across the international science

community. Open communication and exchange have been critical for the progress of science and the Principle is as pertinent today as at any time during the past.

Over the past few years, ICSU has developed a Strategic Plan based on the views of its National and Union Members. In developing an ICSU strategy for the next six years, it has been important to build on the organization's established structure and values. At the same time, it was recognized that both science and society are changing rapidly. The landscape for international science is very different today from that which existed even a decade ago. ICSU needs to situate itself within this continuously evolving landscape in order to define its future priorities.

The Strategic Plan focuses on three priority tasks:

- Planning and coordinating major international research programmes
- Ensuring that best available scientific knowledge is available to decision makers
- Promoting Universality of Science

The launch of major new international and interdisciplinary research programmes has been one of the hallmarks of ICSU's success over the past half century. On 1 July 1957, ICSU launched the International Geophysical Year with three of the Scientific Unions as sponsors; IUGG, IAU and URSI. Initially this was planned as a 3rd International Polar Year, but during the planning the focus expanded beyond the polar regions and the programme became truly global. In the history of ICSU published 1996, it was stated that "IGY would not have existed without ICSU, but IGY changed ICSU". From that first major ICSU international research programme, strongly supported by the relevant Scientific Unions, ICSU could confidently continue to initiate programmes on a large scale. In 1964-1974, IGY was followed by the International Biological Programme. In 1970, the World Climate Research programme was established, which has later been joined by three additional ICSU sponsored global change research programmes to understand the functioning of Planet Earth and the influence of Man on the Planet, our home.

The policy relevance of ICSU's programmes can be exemplified by the global change research programmes. Together with ICSU sponsored global monitoring systems, they constitute the basis for the IPCC assessments on climate change and the political discussions related to the UN Framework Convention on Climate Change and its Kyoto

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Protocol. ICSU, with partners, have thus been successful in bridging the gap between science and policy.

On 1 March this year, ICSU and WMO launched the fourth International Polar Year 2007-2008, which has been received enthusiastically by the international science community and have garnered substantial increased financial support for polar science. The next ICSU programme will probably be on Natural and Human Induced Hazards and Disasters, the plans for which will be presented at our General Assembly in 2008.

IUGG and the broader geoscience community have essential roles to play in both IPY and a new Hazards programme. The success of ICSU programmes is crucially dependent on the ability to

build on the disciplinary expertise within Scientific Unions such as IUGG.

In 2007, we celebrate the 50th Anniversary of IGY. The IPY is part of a bouquet of birthday flowers to IGY, others being the eGY, the International Heliophysical Year and the International Year of Planet Earth. IUGG is a key player in all these initiatives and I wish to congratulate you on your past achievements and look forward to strengthened collaboration as new initiatives emerge.

It is an honour and pleasure to be with you today and I am looking forward to a scientifically exciting Assembly. On behalf of the ICSU Executive Board, I wish you all the best for a successful event.

**ADDRESS BY PIERGIORGIO MANCIOLA
PROFESSOR OF HYDRAULIC WORKS, UNIVERSITY OF PERUGIA**

Ladies and gentlemen,

It is a great honour for me as a professor at the University of Perugia to welcome so many scientists coming from all of the continents of our planet.

It is also a great honour to be here on this stage, together with many illustrious persons and to be in front of the buildings that tell the story of our city.

This important scientific event that we are about to inaugurate has been supported and organized by the University of Perugia together with the National Research Council, after more than fifty years since the last edition in Rome.

I would like to therefore thank The Chancellor of the University, Professor Francesco Bistoni, the Administrative Direction, the Academic Deans, and the Department Chairmen who have made available their teaching facilities, all teaching and non-teaching staff who have contributed to the organization of the Twenty-Fourth general assembly of the IUGG. The atheneum of Perugia worthily celebrates the Seventh Centenary of its foundation with this event.

Just a special mention regarding the organizational effort:

Seven departments have been involved, in addition to the Academy of Fine Arts and the University for Foreigners, Perugia:

The Departments of:

Chemistry
Physics
Mathematics
Economics
Political Science
Pharmacy
Education
And the Law School

A total of seven thousand forty-seven abstracts have been submitted and six-thousand nine-hundred fifteen accepted of which four-thousand two-hundred seventeen for oral presentations and two-thousand and two for poster sessions.

Some numerical information on the General Assembly: To date, the number of registrations are three-thousand eight-hundred and forty-five. The number of Log-ins to the web-site, seven-thousand five-hundred and fifty-six. There are seventy exhibitors. Just to give an idea of the size of the organizational impact, I point out that in the last few months more than 32,000 (thirty-two thousand) e-mails have been processed by the LOC secretary's office. Please excuse any inconveniences which do not nevertheless take anything away from the merit and commitment of our young secretariat.

I wish you prosperous work, rich in the results that society awaits from you.

I hope that Perugia and its cultural resources, as well as UmbriaJazz are able to reward you for your work carried out.

Thank-you to all once again.

**ADDRESS BY STEFANIA GIANNINI
RECTOR, UNIVERSITY OF FOREIGNERS OF PERUGIA**

The changed global environmental scenario and the new earth emergencies deserve our attention from multiple points of view. The scientific research and the cooperation in this field are necessary to face the situation properly. The University for Foreigners of Perugia through the WARREDOC centre (Water Resources Research and Documentation Centre) has been involved in the environmental sector since many years, basing its activities on training and education, research and documentation, with a specific stress on water resources development and management.

In this brief speech, the history and the development of the WARREDOC will be outlined considering the recent experience of the "Higher Education Programme for Mitigation of Natural Disasters" for Sri Lankan officers and students, implemented thanks to the co-operation with the Università Politecnica delle Marche, the University of Peradeniya and the UN programme ILO/Universitas within the framework of the activities following the December 26th 2004 tsunami.

The WARREDOC training courses allow experts from different countries, often with difficult diplomatic relations, to share and participate to the solution of important problems such as the water resources management. The University for Foreigners of Perugia represents a real multi-linguistic and multiethnic laboratory. Its institutional mandate consists in a full opening to the world, proposing an original didactic model: the study of Italian language as a way to exchange cultural values, crucial also to reflect upon important and dramatic issues such as the environment.

I recenti sviluppi dell'emergenza ambientale planetaria richiamano necessariamente la nostra attenzione su diversi fronti. La ricerca scientifica e la cooperazione in questo ambito sono senza dubbio degli strumenti necessari per far fronte ed intervenire efficacemente in questo scenario. L'Università per Stranieri di Perugia attraverso il centro WARREDOC (Water Resources Research and Documentation Centre) da molti anni è impegnata nel settore ambientale, con particolare riferimento alle attività di preparazione e formazione, ricerca e raccolta di documentazione, in relazione al problema dello sviluppo e dell'impiego risorse idriche.

In questo breve indirizzo di saluto verranno tracciate la storia e le linee di sviluppo del centro WARREDOC, anche alla luce della recente realizzazione del Programma di Alta Formazione per la Prevenzione delle Catastrofi Naturali, rivolto ad alti funzionari e studenti srilankesi, istituito, in collaborazione con l'Università Politecnica delle Marche, l'Università di Peradeniya ed il Programma ILO/Universitas, nell'ambito delle attività di supporto alla ricostruzione materiale e strutturale in seguito allo tsunami del dicembre 2004.

I corsi di formazione realizzati dal WARREDOC si basano essenzialmente sul principio di far lavorare a stretto contatto tecnici provenienti da paesi differenti, spesso in rapporti diplomatici conflittuali, e di partecipare attivamente, in tale modo, alla rielaborazione e alla soluzione di problemi rilevanti come quello della gestione delle risorse idriche. Di fatto, l'Università per Stranieri di Perugia rappresenta un vero e proprio laboratorio multilinguistico e multietnico. La vocazione istituzionale della Straniere consiste, in fatti, nell'apertura verso il mondo esterno e verso i paesi altri e nella proposta di un modello didattico originale: lo studio della lingua italiana come strumento di interazione e di scambio di valori culturali, necessario per riflettere anche su temi di più ampio respiro e, talvolta, di drammatica attualità. Fra essi, senza dubbio, si pone il tema dell'ambiente.

**ADDRESS BY PAOLA MALANOTTE RIZZOLI
CHAIR, SCIENTIFIC PROGRAM COMMITTEE**

It is my privilege and my honor to be here, in my home country, to welcome the scientists of the International Union of geodesy and Geophysics (IUGG) to Perugia and Umbria, arguably the most beautiful region in Italy. First of all, I wish to thank the Chair of the Local Organizing Committee (LOC), my dear friend Prof. Lucio Ubertini, and the entire LOC for their work in organizing the logistics of this huge event.

And, in the name of all the IUGG scientists and my own personally, I wish to thank the Mayor of Perugia, the President of the Perugia Province, and the Rector of the Perugia University for Foreigners and the Assessor of Environment for honoring us with their presence here.

As Chair of the IUGG Scientific program Committee, I wish to give you all a few details about the structure of IUGG, which presently comprises seven international Associations, covering all the different sciences of the earth. As such, IUGG is the world biggest organization for the earth sciences and the only one truly international.

The IUGG Associations are presently:
International Association of Geodesy - IAG
International Association of Geomagnetism and Aeronomy – IAGA
International Association of Hydrological Sciences – IAHS
International Association of Meteorology and Atmospheric Sciences – IAMAS
International Association of the Physical Sciences of the Ocean – IAPSO
International Association of Seismology and Physics of the Earth’s Interior – IASPEI
International Association of Volcanology and Chemistry of the Earth’s Interior - IAVCEI

We have here scientists not only from North America, Canada and Europe, but from all over the world, including Russia, Ukraine, China, India, South America, Australia, Iran, Tunisia, Algeria, South Africa etc.

To give you an idea about the vastness of our Assembly, we have received 7,253 abstracts of which 6,925 were accepted.

Grants were given to scientists from developing countries, especially young scientists, in the form of support for registration fees, food and lodging expenses, travel expenses. These grants were given through funds provided directly by IUGG and each individual Association. The LOC and Prof. Lucio

Ubertini very generously provided 250,000 Euros. In total, the amount given to grants was of 428,502 Euros.

The Scientific Program Committee, which I had the honor to chair, comprises the Secretaries General of the Associations and the IUGG Secretary General, Dr. JoAnn Joselyn.

Our committee met first in Perugia in September 2006 and then in March 2007. The remainder of the work to establish, coordinate and finalize the scientific program was carried out electronically. As a result, we have 13 Union Symposia related directly to the IUGG and 4 Union lectures chosen by IUGG President, Prof. Uri Shamir, and delivered by most distinguished scientists.

We have 122 Symposia sponsored by the individual Associations and 75 Joint Symposia sponsored by two or more Associations.

We have a number of special events and I wish to bring two of them to your attention to insure we have an audience commensurate to their importance. Dr. Joselyn will relate about other special events.

The first one is IAPSO special event, that is the Prince Albert I memorial lecture and the presentation of the Prince Albert I Gold Medal to Prof. Russ Davis of Scripps Institution of Oceanography.

The lecture will be held on Wednesday July 4 at 9.30 a.m.

This event is to honor the memory of Prince Albert I of Monaco who in 1919 founded, and was the first President of, the Commission for Physical Oceanography which later became IAPSO. The Gold Medal was established in 2000 by HMS Highness Prince Rainier III of Monaco to honor a most eminent scientist in the Physical Sciences of the Ocean and is presented at every IAPSO General Assembly held every other year.

On Thursday July 5 at 7 p.m. there is the IAMAS special event, devoted to the findings of the 4th report of the International Panel for Climate Change, i.e. “Our Understanding of Climate Change”. In view of the paramount importance and challenge that the changing climate of our planet presents to us, especially because of the anthropogenically induced global warming, I urge the all of you to attend this important event.

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I wish to conclude by thanking all the Secretaries general of the Associations, my colleagues in the Scientific Program Committee. We have worked closely and collegially for more than one year, and in these last months frantically!

Now we are here, in this gorgeous city, in this cultural environment. We are starting the largest and most important Assembly in our disciplines. We are ready to enjoy our sciences and, equally importantly, the wonderful hospitality of Umbria.

Again, welcome to you all!

ADDRESS BY JOANN JOSELYN, SECRETARY GENERAL OF IUGG

Dear Honored Guests, Colleagues,
Ladies and Gentlemen,

It is my pleasure to report to the Assembly certain aspects of the administration of the Union. A complete report has been sent to the IUGG Council members seated here, and has also been posted on the IUGG Website. A final report of matters transacted at this General Assembly will be made at the Closing Ceremony on July 13th. I hope that many of you will join us then.

In particular, at the Closing Ceremony we will name and remember those colleagues who have passed away since the 2003 General Assembly. Even so, today we must take note of the loss of Paul Melchior in September 2004. This extraordinary scientist had served IUGG as Secretary General from 1973 to 1991, and was still the Honorary Secretary General at the time of his death. His legacy of service will remain with us for years to come.

As of this 24th General Assembly, IUGG has 65 Members. Since the closing of the 23rd General Assembly in 2003 in Sapporo, Japan, we have added Bolivia, the Democratic Republic of the Congo, and Ghana. We are in discussions with several other countries, and soon hope to add additional partners with which to promote and enable worldwide research in the geosciences.

Dr. Shamir will summarize many of the activities of the Union during the past quadrennium, but a few are worthy of special note.

On 26 December 2004, a magnitude 9 great earthquake occurred off the west coast of northern Sumatra, South Asia. It triggered tsunamis that inundated the coastal zones around the Indian Ocean resulting in tragic and historic loss of life and property. The IUGG Union Commission on Geophysical Risk and Sustainability (GeoRisk), in cooperation with the IAPSO/IASPEI/IAVCEI Tsunami Commission, immediately responded with analysis and a statement. An IUGG Resolution based on this document was presented at the World Conference on Disaster Reduction in Kobe Japan (18-22 January 2005) by Tom Beer, IUGG Vice President and Past Chair of the GeoRisk Commission. The general topic of geohazards has been and continues to be a priority both within IUGG, its Commissions and Associations, and the entire scientific community.

As you have already been reminded, this is the 50th anniversary of the 1957-1958 International Geophysical Year. In response to a call to plan a

scientific activity that would build on the legacy of the IGY, the International Association of Geomagnetism and Aeronomy (IAGA) initiated a major project to provide an internationally coordinated framework and focus for a 21st-Century approach to geoscience data stewardship, capacity building, education and public outreach. This initiative, known as the Electronic Geophysical Year (eGY), was adopted as an IUGG initiative by the Executive Committee in 2005 and has been endorsed by a number of international bodies and programs, particularly the International Year of Planet Earth, the International Heliophysical Year, and the International Polar Year. The launch of the eGY is planned for next Saturday afternoon and we invite you to enjoy the exhibits and ceremonies that will be held then.

Dr. Shamir will say that the new Union Commission on Cryospheric Sciences is prepared to propose the formation of a new Association. If successful this will be an historic event. The last new Associations were added to IUGG in 1922, 85 years ago!

In the past four years, a total of \$65,000 in grants to support meetings was allocated to the organizers of 32 symposia, workshops, schools or meetings in 25 different countries, most of them in developing countries. In addition, a total of \$50,000 in grants was allocated in the years 2004 and 2005 to support 8 inter-Association initiatives that specifically benefited developing countries. By action of the 2005 Executive Committee, the grants were suspended for 2006-2007 in order to build a reserve of \$50,000 that could be used to seed a potential major project in Africa, an action still in progress. There will be presentations on the GeoSciences in Africa programme on Saturday as well.

An important part of my duties during the past quadrennium has been service to the International Council for Science (ICSU), here represented by their Executive Director, Thomas Rosswall. IUGG was successful in winning a total of \$73,000 in competitive grants to promote IAGA and IAHS research objectives; nominated persons for numerous panels and working groups, and endorsed the ICSU "Agenda for Action" with regard to Science in the Information Society. IUGG officers and representatives attended multiple ICSU meetings, and sent three young scientists to an extraordinary ICSU Young Scientists Conference organized this year in celebration of ICSU's 75th Anniversary. In addition, at the 2005 General Assembly, IUGG and its sister Union, the International Union of Geological Sciences, assumed responsibility for the

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International Lithospheric Programme, formerly an ICSU Interdisciplinary Body. During the past 4 years, IUGG spent more than \$147,000 to support inter-Union activities, including ILP, the World Climate Research Programme and the Federation of Astronomical and Geophysical Data Analysis Services. We look forward to continuing positive collaborations within this active consortium of international Unions and national members.

Along with Dr. Shamir, I would like to add my personal thanks to the Local Organizing Committee under the leadership of Dr. Lucio Ubertini, and the Scientific Programme Committee, chaired by Dr. Paola Malanotte-Rizzoli. Of particular importance, the Local Organizing Committee raised more than 250,000 Euros and acquired sponsorships to support scientists who could not otherwise afford to travel to Perugia. We understand the challenges of hosting a General Assembly and are grateful for their hard work.

During these past 8 years, the office of the Secretariat has been hosted by the University of Colorado within the Cooperative Institute for Research in Environmental Sciences (CIRES), and was financially supported by a grant from the US

National Research Foundation in cooperation with the National Research Council of the National Academies. The grant permitted the hire of assistants who managed the database, corresponded with the Member Adhering Bodies and IUGG officers, and prepared reports and mailings. During the past 4 years, it has been my special pleasure to work with Katina Rogers, whose support cannot be underestimated. I have appreciated her language skills, computer skills, dedication, laughter and friendship.

Finally, as I conclude my work with IUGG at this General Assembly, I wish to thank the IUGG Bureau members, Association Officers, and the Inter-Associations Committees for their work of the past 8 years. In particular, the IUGG Presidents, Dr. Uri Shamir, and before him Dr. Masaru Kono, and the IUGG Treasurer Dr. Aksel Hansen have served the Union with passion and dedication. It has truly been an honor to stand beside them.

Best Wishes to all for a successful General Assembly and the quadrennium to come.
Thank you.

ADDRESS BY URI SHAMIR, PRESIDENT OF IUGG

IUGG Colleagues, Excellencies,
Ladies and Gentlemen,

We gather again for IUGG's General Assembly. Four years ago the current Bureau and the Executive Committee assumed responsibility for the Union and worked together to advance the state of our science and to ensure the participation of colleagues from all around the world, with special attention to those of us from countries and regions that are less developed and in greatest need.

The culmination of this four-year period is in this 24th General Assembly. We are grateful for the Patronage of the President of Italy, of the National Council for Research, the University of Perugia, the Region of Umbria, the Province and City of Perugia, and many sponsoring entities, and appreciate the extensive work of the Local Organizing Committee.

This General Assembly convenes under the title "Earth: Our Changing Planet", which reflects the dynamic nature of the geophysical world, evolving and changing due to natural forces and man-made influences, and the consequences of these forces. Dynamism and change also characterize our programmes in science and social responsibility. We pursue scientific objectives in geophysics to increase understanding of the terrestrial world that we share with its fauna and flora, looking also to the space and planets beyond and their influence on Earth, and using this knowledge for creating the foundation upon which society can make wise choices.

While doing so we must keep in mind that society and the decision makers may not accept and apply readily the knowledge and advice that we are offering, especially when our work leads to a conclusion that more caution and prudence should be exercised in policies and action. We are therefore called upon to formulate and present our knowledge in forms and formats that make the knowledge understandable and convincing to broad audiences and to politicians. Some of the sessions in this Assembly deal specifically with such cases, for example climate change, monitoring and preparedness for tsunamis and earthquakes, and the effect of aerosols on precipitation. In these cases we must maintain our responsibility as scientists, by creating a well founded knowledge base and through informed and responsible advocacy.

IUGG is a union of seven Associations, which cover all components of earth and its environment: geodesy, aeronomy and geomagnetism, hydrology and water resources, the atmosphere and oceans,

the earth's interior and its volcanoes. An eighth Association, which deals with the cryosphere, will be brought for approval during this Assembly. The challenge is ever present: to expand and improve our understanding in all these domains - individually and jointly.

In the years leading up to the Sapporo GA, IUGG was engaged in a process of self-examination, defining its goals and mode of operation. The process was prompted by the sense that IUGG needs to evolve in view of changing conditions. Some of the reasons that motivated the statement of a renewed mission were:

- our science must cover the entire globe and integrate colleagues from around the world;
- the increasing importance of the social context of our scientific work; and
- the continuing revolution in Information Technology, and the effect that it has on scientific work.

The resulting conclusions have been and remain a valuable road-map for the Union.

Let me mention a few highlights of IUGG's activities during the last quadrennium, and leading into the next:

- The Associations, which are the pillars of the Union, continue their creative and active scientific work with projects, working groups and meetings.
- The Union Commissions – on GeoRisk and Sustainability, on Mathematical Geophysics, and on the Lithosphere - conducted projects and meetings.
- The Executive Committee is recommending to the Council to approve a new International Association for Cryospheric Sciences, our eighth Association.
- We created and greatly strengthened the Geo-Unions consortium, a cluster of eight Unions, cooperating in science programs – on cities and mega-cities, desertification, groundwater, hazards, health, and the International Year of Planet Earth - and operating jointly within ICSU, the International Council of Science.
- The "Geo-Sciences in Africa" initiative, which supports geoscientists in Sub-Saharan Africa, was also adopted as a component of the Geo-Unions work plan, to be conducted in collaboration with ICSU's Regional Office in Africa. Similar cooperation is being built with the other ICSU Regional Offices, in Asia and Pacific, and in Latin America and Caribbean.
- We continue to promote our involvement and presence within ICSU – the International Council of Science.

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Opening Ceremony

- IUGG also continues to maintain its cooperation with the international agencies, including UNESCO and the WMO.
- Next Saturday we will be celebrating the 50th Anniversary of the International Geophysical Year IGY+50, and the other anniversary years: eGY – the Electronic Geophysical Year, led by the Association for Aeronomy and Geomagnetism; IHY – the International Heliophysical Year; IPY – the International Polar Year; and IYPE – the International Year of Planet Earth.
- The Secretariat, led by our very able Secretary General JoAnn Joselyn, made great improvements to the IUGG site page and the communication with the Associations and membership, and continues to disseminate monthly the E-Journal.
- The Science Programme Committee, constituted from the Secretaries General of the Associations and chaired by Paola Rizzoli, prepared the programme for this Assembly. It emphasizes Union level, Inter-Association and Association symposia and workshops.
- A Nominations Committee, chaired by Soren Gregersen, solicited proposals, prepared a slate, and will present to Council recommendations for appointment of the President and other members of the incoming Bureau of the Union.
- The Statutes and By-Laws Committee, chaired by David Kerridge, and a Resolutions Committee chaired by Masaru Kono, have been appointed, and will carry out on their respective responsibilities during this Assembly.
- The Site Evaluation Committee, chaired by Bob Engdahl, is considering invitation for hosting the next General Assembly.
- The Local Organizing Committee, chaired by Lucio Ubertini and managed by Salvatore Grimaldi and Arnaldo Pierleoni, with many others helping, have worked long and hard to make the arrangements for the Assembly, for which we are grateful.

I have held various offices in the Union since the 1970s, four years as President of IAHS, then eight years Vice President of IUGG and in the last four years as President. It has been an exciting and eventful time, and I am grateful for the opportunity to serve my scientific community, jointly with the Bureau: Vice President Tom Beer, Secretary General JoAnn Joselyn, Treasurer Aksel Hansen, Bureau members Yun-Tai Chen, Harsh Gupta and Ali Tealeb. A strong, dedicated and cooperative Executive Committee of Association Presidents, 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.

The Council will be electing a new group of officers, who will be taking over at the end of this Assembly, to lead the Union in the coming four years. To them we send our thanks for being prepared to undertake the task, and wish them well.

And to us all I wish a successful and fruitful Assembly. May it be an opportunity to advance our science and strengthen collaboration and friendships.

MINUTES OF THE COUNCIL MEETINGS
MINUTES OF THE FIRST SESSION OF THE IUGG COUNCIL MEETING
24TH GENERAL ASSEMBLY, PERUGIA, ITALY, 2-13 JULY 2007

FIRST SESSION

WEDNESDAY JULY 4, 2007 (2 PM – 6 PM), ROOM 8 OF THE RECTORATE BUILDING

PARTICIPANTS

NATIONAL DELEGATES

Australia	Ian Jackson
Austria	Christoph Twaroch Michael Kuhn (alternate)
Belgium	Prof. Bernard Ducarme
Brazil	Luiz Paulo Souto Fortes
Canada	Zoltan Hajnal
Chile	Rodrigo Barriga Vargas
China	Guoxiong Wu
China – Taipei	Yih-Hsiung Yeh
Colombia	<i>William Martinez-Diaz</i>
Czech Republic	Petr Holota
Denmark	Søren Gregersen
Egypt	Salah Mahmoud
Estonia	Rein Room
Finland	Pentti Malkki
France	Roland Schlich
Germany	Rainer Kind
Hungary	Jozsef Adam
Iceland	Arni Snorrason
India	V.P. Dimri
Indonesia	Cecep Subarya
Israel	Zev Levin
Italy	Lucio Ubertini
Japan	Kuniyoshi Takeuchi
Korea	Wooil M. Moon
Luxembourg	Nicolas Schares
New Zealand	David Rhoades
Nigeria	C.U. Ezeigbo (alternate)
Norway	Bente Lilja Bye
Poland	Lubomir W. Baran
Portugal	Luis Alberto Mendes-Victor
Romania	Constantin Sava
Russia	Alexei D. Gvishiani
Slovak Republic	Ladislav Brimich
Slovenia	Dr. Mitja Brilly
South Africa	Charles Merry Isabelle Ansorge (Alternate)
Spain	Alicia García García
Sweden	Goran Marklund
Switzerland	Charles Fierz
Turkey	Ali Kilicoglu
United Kingdom	David Collins
USA	Priscilla Grew

Italics for Countries in Observer Status

MEMBERS OF THE BUREAU

President	Uri Shamir
Vice President	Tom Beer
Treasurer	Aksel Hansen
Secretary General	Jo Ann Joselyn
Member	Yun-tai Chen
Member	Harsh Gupta
Member	Ali Tealeb

Katina Rogers, Assistant Secretary General

MEMBERS OF THE FINANCE COMMITTEE

Chair	Michael Hamlin
Member	David Jackson
Member	Juan Francisco Vilas

IUGG PAST PRESIDENT AND PRESIDENTS OF THE ASSOCIATIONS

Past President	Masaru Kono
President IAG	Gerhard Beutler
President IAGA	Charles Barton
President IAHS	Arthur Askew
President IAMAS	Michael MacCracken
President IAPSO	Shiro Imawaki
President IASPEI	E. Robert Engdahl
President IAVCEI	Oded Navon

GUESTS OF THE PRESIDENT ATTENDING THE FIRST SESSION OF THE COUNCIL

Secretaries General of the Associations

IAG	Christian Tscherning
IAHS	Pierre Hubert
IAMAS	Roland List
IAPSO	Cintia Piccolo for Fred Camfield
IASPEI	Peter Suhadolc
IAVCEI	Steve McNutt

Czango Baag (candidate for IUGG Finance Committee)

Ray Cas (representing the Australia/New Zealand bid for the 2011 General Assembly)

Alik Ismail-Zadeh (candidate for IUGG Secretary General)

Zhang Hongren (President of the International Union of Geological Sciences)

Georg Kaser (President of the Union Commission on Cryospheric Sciences)

David Kerridge (candidate for IUGG Vice-President, and Chair of Statutes and By-Laws Committee)

Jan Krynski (candidate for IUGG Finance

Committee)

François Lefeuvre (President of the Union of Radio Science International)

Thomas Rosswall (Executive Director, International Council for Science (ICSU))

Ester Szein (USA National Academies Board of International Scientific Organizations)

1. Greetings; Presentation of the credentials

The meeting was called to order at 2 pm and began with a roll call of delegates. 38 delegates were present at the opening, 37 eligible to vote. The total number of countries eligible to vote was 50 (65 minus 7 in observer status, minus 8 in associate status). The quorum (17) was reached. Other delegates arrived in the course of the meeting, bringing the total to 41 with 40 eligible to vote.

2. Approval of the Agenda

Uri Shamir announced a request on behalf of Argentina to allow adding to the agenda a vote to lower their category from 4 to 3 under Agenda item 7. The President asked for a show of cards to ascertain if a 2/3rds majority vote of the Council would agree that this could be added. None dissented. Shamir then asked if the amended Agenda could be approved, and again there was no dissent.

3. Approval of the minutes of the Council Meeting in Sapporo (2003)

The Minutes of the 2003 Council Meeting were printed and distributed to the participants of the 2003 General Assembly for their comments, were published in the Comptes Rendus of the 23rd General Assembly, and were also posted on the IUGG web page. President Shamir asked if the 2003 Council Minutes could be approved; there was no dissent.

4. Brief Reports of the Officers

President Uri Shamir

Uri Shamir summarized the activities of the Union since 2003 as detailed in his report in the Council Agenda Book.

Vice-president Tom Beer

Tom Beer summarized the activities of the Union Commissions since 2003 as detailed in his report in the Council Agenda Book. Allocation of responsibility for the Union Commissions to the Vice-President was a decision of the Bureau at their 2004 meeting

Secretary General Jo Ann Joselyn

JoAnn Joselyn summarized activities of the Secretariat, especially including membership issues. Her full report was included in the Council Agenda Book.

Treasurer Aksel Hansen

Aksel Hansen summarized his report in the Council Agenda Book. Of special note were the following 2004-2007 estimates in thousands of US Dollars, comparing the budget to the estimated "reality" results (figures will be finalized only after the GA):

Budgeted Income: 1.531

Budgeted Expenditures: 1.624

Expected Result: loss of 92

Reality:

Estimated Income: 1.735

Estimated Expenditures: 1.590

Expected Result: gain of 145

The positive outcome - estimated to be 235,000 US Dollars - is the result of higher income from the 2003 General Assembly than budgeted, and lower administrative expenses for the past quadrennium than budgeted.

5. Introduction of the Guidelines on IUGG Administration

JoAnn Joselyn explained that the guidelines allowed for easier application of separate sections of the Statutes and By-Laws and increased understanding of IUGG procedures. It also preserves the rationale for why/how certain decisions are made, such as those regarding Union Commissions (agreed at the meeting of the 2004 Executive Committee) and the rules used for the annual allocations to the Associations. It was proposed that maintenance of this document become a responsibility of the Bureau, and that this duty be explicitly noted in the Statutes and By Laws under Agenda item 8.

6. Report of the Nominations Committee and Introduction of the Candidates

Søren Gregersen, Chair of the Nomination Committee reviewed his preliminary report in the Council Agenda Book, including the role/actions of the Nominations Committee. He thanked the members of the Nominations Committee (Prof. Attia Ashour (Egypt), Prof. Robert Duce (USA), and Prof. Seiya Uyeda (Japan)) and introduced the nominees. For each position, one or two candidates have been nominated, as required by the By-Laws (10b). The positions and the nominated candidates were:

President: Tom Beer (Australia)

Vice-President: Harsh K. Gupta (India), and David Kerridge (U.K.)

Treasurer: Aksel W. Hansen (Denmark)

Secretary General:

Alik Ismail-Zadeh (Germany)

Bureau Members

Position #1 Yun-Tai Chen (China)

Position #2 Ali Tealeb (Egypt)

Position #3 David Jackson (U.S.A.)

Finance Committee

Position #1	Jan Krynski (Poland)
Position #2	Kyoshi Suyehiro (Japan)
Position #3	Juan Francisco Vilas (Argentina)
Position #4	Czango Baag (Korea)

He explained that additional nominations could be received for the Finance Committee. There must be two new members and two continuing members. The continuing members were K. Suyehiro and J.F. Vilas, and no other continuing members were eligible. However, new nominations for the other two positions on the Finance Committee were open until 3 days before the election (Sunday July 8, considering that the elections take place on Wednesday July 11). Only those who have served on Council can be nominated and 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 programs supported by the Union. Nominations could be delivered to the Chair of the Committee or placed in his mailbox in the IUGG office.

Uri Shamir added that he hopes for a higher number of nominations for all offices in the future.

7. Matters of Membership

Uri Shamir introduced this important item of business, which required written ballots that had been distributed at the beginning of the Council session. David Collins (United Kingdom) and Alik Ismail-Zadeh volunteered to tally the votes with the help of Katina Rogers.

The matters requiring votes (for, against, or abstain) were presented in detail in the Council Agenda Book. Ballots for admission of new members required a 2/3rds majority vote; all other matters of membership required a majority vote. The results were as follows:

Admission of D.R. Congo as an Associate Member	For 39; Against 0; Abstain 1
Admission of Ghana as an Associate Member	For 39; Against 0; Abstain 1
Admission of Bolivia as an Associate Member	For 39; Against 0; Abstain 1
Transfer of Bulgaria to Associate Status	For 38; Against 0; Abstain 2
Deletion of Serbia & Montenegro as a member Country	For 38; Against 0; Abstain 2

A letter from Argentina's National Committee explaining the circumstances that led to the request to reduce their category from 4 to 3 was read.

Michael Hamlin, Chair of the Finance Committee, commented that the Committee had examined these circumstances and endorsed the request. An extra ballot had been distributed to record this vote. Reduction of Category of Argentina from 4 to 3
For 38; Against 0; Abstain 2

During the past term, 4 members that had been in Associate status had petitioned to the Bureau to once again become regular members. Uri Shamir expressed his appreciation to these members and also his hope that additional Associate members could follow these examples.

Associate Members that have resumed dues payments and are again regular Members:

- Pakistan
- Nigeria
- Armenia
- Albania

8. Proposal to add a new constituent Association: the International Association for Cryospheric Sciences (IACS)

Uri Shamir invited Georg Kaser to give a presentation on behalf of the current UCCS. Specific questions from Council Members and the responses included the following.

- What is the relationship between the proposed new Association and existing Associations? At the 2005 Executive Committee meeting, all Associations agreed that Cryospheric Sciences has matured into an independent scientific discipline and unanimously approved the formation of a new Association. IAHS, which had previously included some aspects of the new Association within their International Commission on Snow and Ice, has been the strongest supporter of the new Association.
- What is the relationship between the proposed new Association and the ICSU Scientific Committee for Antarctic Research? The new Association expects to collaborate with SCAR as opportunity arises, and in fact should strengthen the IUGG presence within SCAR.
- Will all countries be able to have a correspondent? While it is true that some countries may not have cryospheric scientists within their borders, that is also true for other disciplines such as volcanology. We expect that at least a quorum of countries (one-third) represented within IUGG will be able to name correspondents.
- What will be the impact on the IUGG budget? The budget to be presented to the Council provides for support for the new Association from that portion of the budget allocated to Union activities. That is, for the next term, there will be no reduction in the budgetary

allocations to the present Associations as a result of the new Association. For the following term, a new proposal will be made to slowly integrate IACS into the algorithm for distribution of IUGG income to the Associations.

- Does this action fragment IUGG sciences? The opinion of the other Associations is that this clarifies and strengthens the disciplinary work of IUGG. Inter-disciplinary activities are always encouraged, and are a specific goal of the IUGG General Assemblies.

Delegates from Finland, France, and Norway spoke in support of the new Association, as did officers of IAHS, IAMAS, and IAPSO.

The vote was taken: 35 yes, 3 no, 2 abstain. This satisfies the requirement for a simple majority, and IACS is now established as a new Association, in effect at the closing of the current GA.

9. Proposed Changes of Statutes and By-Laws

Uri Shamir invited David Kerridge, Chair of the Committee on Statutes and By-laws, to present the report given in the Agenda. He first thanked the members of the Committee (Pierre Barriot, Priscilla Grew, and Ronald Stewart), and corrected an error in the material on page 60 – the proposal for the changes regarding languages was submitted by Denmark, not the United States of America.

Kerridge first presented the proposed editorial changes, explaining that the reasons for each were clarification, primarily through changes in the choice of words. He noted the three instances in which the words proposed could alter the original meaning. A number of questions were raised and discussed.

Kerridge then discussed each of the seven substantive changes as presented in the Council Agenda Book.

1. Introduces the changes necessary to admit the new association, IACS.
2. Clarifies who may be nominated for the Finance Committee; extend possibility to any who have served as Council Delegates at present or previous General Assembly.
3. Extend the range of categories to 14, such that Category 13 carries 45 units, and 14 carries 50 unit.
4. Clarifies the definition of Union Commissions.
5. Adds a responsibility to the duties of the Bureau, the SG, and the Treasurer with regard to the administration (to include maintenance of the document “Guidelines on IUGG Administration”)

6. Modifies Statute 26 to specify which revision of Robert’s Rules of Order is to be applied at meetings.
7. Clarifies that French and English are the official languages of the Union, and modifies Statute 27 so that the English version of the Statutes becomes the definitive version of the text.

Following discussion, the delegates were asked to vote on each proposal. The results were as follows (for Proposal 3, votes are weighted by category):

Proposal	For	Against	Abstain
Editorial changes	36	0	4
1. IACS	37	0	3
2. Finance Committee	36	0	4
3. Increase in membership categories	108	15	7
4. Clarification of Union Commissions	34	1	5
5. Addition of Admin. Guidelines document	37	0	3
6. Clarification of Edition of Robert’s Rules	36	0	4
7. Clarification of official languages	30	4	6

Thus, all proposed changes were approved, with the necessary majority.

10. Adoption of IACS Statutes and By-laws Appointment of IACS Officers, 2007-2011

The Council, having approved the formation of the International Association for Cryospheric Sciences, was asked to approve their proposed Statutes and By-laws, and to appoint the first officers of the Association. The Statutes and By-laws were included in the Council Agenda Book, as well as a partial slate of officers. The completed slate was presented as follows:

President: Georg Kaser (Austria)
President Elect: Ian Allison (Australia)
Vice President: Kumiko Goto-Azuma (Japan)
Vice President: Peter Jansson (Sweden)
Vice President: Gino Casassa (Chile)
Secretary General: Manfred Lange (Germany)

Head of Division I: "Snow and Avalanches":
Charles Fierz (Switzerland)
Head of Division II: "Glaciers and Ice-sheets":
Julian Dowdeswell (UK)
Head of Division III: "Marine and Freshwater Ice":
Claude Duguay (Canada)

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Head of Division IV: "Cryosphere, Atmosphere and Climate":

Valérie Masson Delmotte (France)

Head of Division V: "Planetary and other Ices of the Solar System": Ralf Greve (Japan)

The Council vote was taken up at the second session of the Council. The results were

For 39; Against 0; Abstain 1

11. Presentation of the Proposals for the XXV General Assembly in 2011

Uri Shamir invited Ray Cas to give a presentation on the joint bid of Australia and New Zealand to host the 2011 General Assembly. Ray Cas discussed the strengths of Melbourne for hosting a conference such as convenient international access, excellent rail and bus transportation within the city, the Convention and Exhibition space (MECC), and the availability of a wide variety of accommodations, including University dormitories if the Assembly can be planned so that it coincides with semester break. He also pointed out the

scientific value of a General Assembly in the Southern Hemisphere and particularly Australia and New Zealand, enumerated possible scientific and cultural field trips and their proposal for a public scientific outreach program. 500,000 Aus \$ is being contributed by the Victorian State Government to provide organization costs and to help support the attendance of scientists in need to attend, and a further 60,000 Aus \$ by the Melbourne Convention and Visitors Bureau to help promote the conference between now and 2011. In reply to a specific question about the expected registration fee, Cas replied that it was a goal of the Local Organizing Committee to make the Assembly affordable, keeping the fees in line with prior Assemblies but allowing for inflation. They will seek further funding and sponsorship.

He noted that the bid document is available on the web and a booth has been set up in the exhibition area.

The Council recessed until Friday July 6.

SECOND SESSION
FRIDAY JULY 6, 2007 (4 PM – 7 PM), ROOM 8 OF THE RECTORATE BUILDING

PARTICIPANTS

Member Harsh Gupta
Member Ali Tealeb

NATIONAL DELEGATES

Argentina Alfredo Augusto Stahlschmidt
Australia Ian Jackson
Austria Christoph Twaroch
Belgium Bernard Ducarme
Bosnia and Herzegovina
Medzida Mulic
Brazil Luiz Paulo Souto Fortes
Canada Zoltan Hajnal
Chile Rodrigo Barriga Vargas
China Guoxiong Wu
China – Taipei Yih-Hsiung Yeh
Colombia William Martinez-Diaz
Czech Republic Petr Holota
Denmark Søren Gregersen
Egypt Salah Mahmoud
Estonia Rein Room
Finland Pentti Malkki
France Roland Schlich
Germany Rainer Kind
Hungary Jozsef Adam
Iceland Arni Snorrason
India V.P. Dimri
Indonesia Cecep Subarya
Israel Zev Levin
Italy Lucio Ubertini
Japan Kuniyoshi Takeuchi
Korea Woil M. Moon
Luxembourg Nicolas Schares
New Zealand David Rhoades
Nigeria Francis Fajimirokun
Norway Bente Lilja Bye
Poland Lubomir W. Baran
Portugal Luis Alberto Mendes-Victor
Romania Constantin Sava
Russia Alexei D. Gvishiani
Slovak Republic Ladislav Brimich
Slovenia Dr. Mitja Brilly
South Africa Charles Merry
Spain Alicia García García
Sweden Goran Marklund
Switzerland Charles Fierz
Turkey Ali Kilicoglu
United Kingdom David Collins
USA Priscilla Grew

Katina Rogers, Assistant Secretary General

Members of the Finance Committee

Chair Michael Hamlin
Member David Jackson
Member Kiyoshi Suyehiro
Member Juan Francisco Vilas

IUGG Past President and Presidents of the Associations

Past President Masaru Kono
President IAG Gerhard Beutler
President IAGA Charles Barton
President IAHS Arthur Askew
President IAMAS Michael MacCracken
President IAPSO Shiro Imawaki
President IASPEI E. Robert Engdahl
President IAVCEI Oded Navon

Guests of the President attending the second session of the Council meeting

Secretaries General of the Associations
IAHS Pierre Hubert
IAMAS Roland List
IASPEI Peter Suhadolc
IAVCEI Steve McNutt
Hermann Drewes (candidate for IAG Secretary General)
Alik Ismail-Zadeh (candidate for IUGG Secretary General)
Georg Kaser (President of the Union Commission on Cryospheric Sciences)
Ester Szein (USA National Academies Board of International Scientific Organizations)

The Council Meeting resumed at 4 pm with a roll call of delegates. 41 delegates were present at the opening, 40 eligible to vote. The quorum (17) was reached.

12. Reports by Association Presidents

Council Delegates were asked to note the reports of the Associations available in the Council Agenda book.

□ IAG

Gerhard Beutler reported for IAG. He described the Association's work and the technology used. He also delineated the various services and projects, as well as several minor changes made to the Statutes and By-Laws. Of special interest, is their new logo.

□ IAGA

Charles Barton reported on behalf of IAGA, first asking formal permission from the president to

Italics for Countries in Observer Status

Members of the Bureau

President Uri Shamir
Vice President Tom Beer
Treasurer Aksel Hansen
Secretary General Jo Ann Joselyn
Member Yun-tai Chen

continue his report, considering that Aeronomy is not included in the first Statute of IUGG; he suggested that this lacuna should be corrected.. He then described the general work of IAGA, as well as the previous and upcoming assemblies. He announced the new EC members: President Eigel Friis-Christensen (Denmark); VP Kathryn Whaler (UK); and the election of 7 members from Brazil, China, Czech Republic, France, India, and USA.

□ IAHS

Arthur Askew reported for IAHS. He announced that during the coming week, they would be voting for officers for the coming quadrennium. He noted that, in view of the establishment of IACS, a slight change would need to be made to the name of one IAHS commission so that it reads International Commissions on Snow and Ice Hydrology; this change will be included in their By-Laws. He described the various Commissions and Working Groups, the Journal and Red Books. He also announced the winners of the 2007 International Hydrology Prize (Des Walling, UK) and the Tison Award (Christophe Cudennec, France and Houda Boudrhaâ, Tunisia).

□ IAMAS

Michael MacCracken reported on behalf of IAMAS. He described the various activities that are the focus of IAMAS, and the recent international meetings held by the groups within IAMAS. He described the work of IAPSAG (International Aerosol-Precipitation Assessment Group), which was jointly established by IUGG and WMO pursuant to a resolution passed at the Sapporo Assembly, indicating that they had completed their work and were releasing their report on the effects of aerosol emissions on precipitation in a special symposium at this General Assembly. In addition, he indicated that IAMAS would be submitting two resolutions, one dealing with the follow-up effort to IAPSAG and one regarding the urgency of addressing climate change. He announced a few anticipated changes to IAMAS Statutes and By-laws. There will be many changes among the officers when elections take place, as many are retiring, and particularly noted the long and faithful service of retiring Secretary General, Roland List.

□ IAPSO

Shiro Imawaki presented on behalf of IAPSO. He announced the work of IAPSO, recent assemblies, and joint projects. He also announced the winner of 2007 Prince Albert I Medal (Russ Davis, USA). He discussed proposed changes to the Statutes and By-Laws, the most important of which involves the division of duties of the Secretary General and the addition of a Treasurer. The next IAPSO assembly will be held jointly with IAMAS and IACS in Montreal, Canada, in 2009.

□ IASPEI

Bob Engdahl reported for IASPEI. Their 2005 Assembly in Santiago, Chile had participants from 42 countries (including all countries in South America). He described the upcoming projects of IASPEI, many of which involve risk analysis and risk management. He discussed IASPEI publications and announced the new officers.

□ IAVCEI

Oded Navon presented on behalf of IAVCEI. He described the basic work, website, and publications of IAVCEI, especially recent 'super volcano' studies. He delineated attendance and locations of recent assemblies and described the commissions, which carry out much of IAVCEI's work. He announced details of membership, and also the results of the elections. He noted the addition of elected national correspondents in Romania and Mexico, which had a positive effect on membership.

13. Review of IUGG Union Commissions

Tom Beer reported on the Union Commissions, noting that the existence of these entities is from one General Assembly to the next, depending on the recommendations of the Executive Committee and the approval of the Council. Detailed reports from each Union Commission are included in the Council Agenda Book.

- Commission on Geophysical Risk and Sustainability (GeoRisk)
- Committee on Mathematical Geophysics (CMG)
- Committee on Studies of Earth's Deep Interior (SEDI)
- Commission on Cryospheric Sciences (CCS)

Following Beer's presentation, the following questions were raised.

- Is there a formal mechanism by which the Union keeps track of these organizations? Yes, the IUGG Vice President has the responsibility of communicating with each Commission. Reports are required before each meeting of the Executive Committee.
- Is there an effort made to hold meetings in common? The Union Commissions meet separately, but in coordination with the Association meeting. Union Commissions are expected to co-convene symposia especially at General Assemblies.

14. Review of Inter-Union Activities

□ International Lithosphere Program (ILP)

Uri Shamir introduced the ILP, which is an inter-Union body between IUGG and the International Union of Geological Sciences. Bob Engdahl, IUGG representative to ILP, then presented a detailed report, describing the transformation of ILP over time and their present activities. K.C. Sain is the other IUGG representative to the ILP

Bureau, and Alan Green, a former Chair of ILP, is the joint IUGS/IUGG member. In addition, Søren Gregersen is Chair of ILP National Members. ILP financial support from IUGG this past term (2004-2007) was \$68,000 (USD). The same amount, \$17,000/year, is proposed for the next term.

The GeoUnions Consortium

Uri Shamir described the Consortium as an informal grouping of eight of the ICSU Unions. There are four clusters of unions within ICSU; the GeoUnions Consortium is based on one of them. Representatives of the GeoUnions have met together 5 times since 2004 in order to collaborate on scientific programs and to discuss issues of mutual interest, including their position with ICSU. Examples of specific issues were a perceived disregard by ICSU for Union expertise, and lack of transparency particularly with regard to the selection of members of ICSU working groups. A joint letter to ICSU was prepared and sent, and a reply was received. The GeoUnions welcomed the response and sent a second letter praising the improvements. The GeoUnions have established a website including Terms of Reference at www.geounions.org.

15. Relations with ICSU

Summary of Matters Arising

Uri Shamir explained that ICSU - the International Council for Science - is a non-governmental organization that seeks to coordinate the activities of scientific unions (29, including IUGG) with the aim of strengthening international science for the benefit of society. IUGG pays dues to ICSU of approximately \$16,000/year. At the 2005 ICSU General Assembly in China, Uri Shamir was proposed by the GeoUnions and elected by the ICSU General Assembly to the ICSU Executive Board, and Harsh Gupta was named to the Committee for Scientific Planning and Review, which carries critical responsibilities with regard to the ICSU Strategic Plan. IUGG is fortunate to have officers in these key roles.

Of particular interest to IUGG, ICSU has established 3 Regional Offices in the past few years in Africa, Asia and the Pacific, and Latin America and the Caribbean. IUGG has sent representatives to the inaugural meetings of these offices: Charles Merry to the office in Pretoria, Africa, Tom Beer and Harsh Gupta to the office Kuala Lumpur, and Luiz Paolo Fortes to the office in Rio de Janeiro. It was proposed that IUGG liaisons to each of these offices be formally appointed by the Council so that IUGG can be better involved in activities that build the scientific capacities within each region.

Federation of Astronomical and Geophysical Data Analysis Services (FAGS)

At the 2005 ICSU General Assembly, it was proposed that FAGS be discontinued as an Inter-disciplinary Body. IUGG has significant interest in FAGS, primarily through the several Permanent Services affiliated with IAG. IUGG supports FAGS at the level of \$12,000/year, and shares responsibility for some of the Permanent Services with URSI and IAU. Ultimately, as explained in the Council Agenda Book, ICSU decided to continue FAGS until 2008 while they re-examine all ICSU activities relating to data and information such as CODATA and the Panel on World Data Centers. ICSU has formed a Scientific Committee on Information and Data (SCID) to consider the possibilities and report to the 2008 ICSU General Assembly in Maputo, Mozambique. Until then, it was proposed that IUGG maintain a liaison with FAGS and continue financial support at the same level as last term,

16. Reports from liaison appointments to ICSU Commissions and Committees

In order to conserve time, Uri Shamir referred the Council to reports in the Agenda Book and only briefly reviewed each of the organizations. He announced that following the next Agenda item, a table of appointments for the 2007-2011 terms would be presented for Council approval.

Scientific Committee

- on Antarctic Research (SCAR)
- on the International Geosphere-Biosphere Programme (IGBP)

Note – it was recommended that this liaison appointment be discontinued and liaison activities with IGBP programmes be carried out as appropriate at the Association level.

- on Oceanic Research (SCOR)
- on the Problems of the Environment (SCOPE)
- on Science and Technology in Developing Countries (COSTED)

Note – COSTED no longer exists; has it has been replaced by the ICSU Regional Offices.

- on Solar-Terrestrial Research (SCOSTEP)
- on Space Research (COSPAR)
- on World Climate Research Program (WCRP)

Roland Schlich (France), the IUGG liaison to SCAR for the past term, commented that he had felt isolated in his role and thought there should be more interaction between the liaisons and the IUGG Executive Committee. Shamir responded that Executive Committee understands this comment and seeks to remedy this issue through better communication.

17. Relations with inter-governmental and other organizations (renewal of liaison officers)

Uri Shamir continued to highlight these reports in the Council Agenda Book.

- Cartographic Office of the United Nations
- International Civil Aviation Organization (ICAO)
- Panamerican Institute of Geography and History (PAIGH)
- UNESCO International Hydrological Programme (IHP)
- UNESCO International Oceanographic Commission (IOC)
- World Meteorological Organization (WMO)

Finally, the following table of proposed appointments was presented. Shamir asked if the Council could approve the appointments and there was no dissent.

Organization	Proposed Liaison 2007-2011
FAGS	Ruth Neilan (USA)
SCAR	V. Papatashvili (USA)
IGBP	None (delete)
SCOR	M. MacCracken (USA), L. Mysak (Canada)
SCOPE	N. Jake Peters (USA)
ICSU RO Africa	R. Wonnacott (S. Africa)
ICSU RO Asia & Pacific	S. Widiyantoro (Indonesia)
ICSU RO Latin America & Caribbean	Luiz Fortes (Brazil)
SCOSTEP	Robert Vincent (Australia)
COSPAR	Eigil Friis-Christensen (Denmark)
WCRP	Guoxiong Wu (China)
CODATA	Charles Barton (Australia)
UN Cartogr.	Luiz Fortes (Brazil)
ICAO	William Rose (M. Gufanti, Alternate) (USA)
PAIGH	Hermann Drewes (Germany)
IHP	Pierre Hubert (France)
IOC	Eugene Morozov (Russia)
WMO	Arthur Askew (Aus/UK); John Turner (UK)

18. Report of the IUGG Finance Committee

- Review of the 2003-2007 Quadrennium

Michael Hamlin, Chair of the Finance Committee, reported on the healthy status of IUGG's finances (formally presented in the Council Agenda Book), as well as his own tenure in the Finance Committee and the need for continuity. While it has been planned that IUGG would spend more than its income for the past quadrennium, thereby drawing down the reserves, instead the quadrennium is ending with a surplus. Reasons for the surplus include healthy economies, increased payment by member countries, and low spending.

- Review of Categories of Member Adhering Bodies (By-Law 11.g)

Hamlin explained how the category of a member country is determined and applauded the decision by Switzerland to raise their category from 3 to 5. He noted that a number of countries belonged in higher categories than their present subscription, and that he and the IUGG President had written to each of those countries asking for a voluntary raise. They had also written to each member in observer status, asking that they seek the means to pay their dues and regain their right to vote and hold office. Further, Associate members had been encouraged to begin payment of dues.

19. Presentation and Adoption of the 2008-2011 Budget

Aksel Hansen discussed the proposed budget. He noted that the number of Observers (those members that owe more than one year of dues payments) has decreased to seven. He described the changes that are being proposed in order to decrease the reserves over the next term (2008-2011). The plan will be to maintain a reserve of about 550k, equivalent to one year's expenses. Once the reserve has been reduced to that level, a balanced budget will be maintained. He 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.

Uri Shamir then asked if Council was ready to vote on the Budget. David Collins (U.K.) once again served as Teller, assisted by Katina Rogers and Alik Ismail-Zadeh. The vote, weighted by category, was taken and the results were as follows.

For 136; Against 0; Abstain 12

The Council recessed until Wednesday July 11.

IUGG Budget 2008 -11 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		####	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

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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, CMG		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		
	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		

IUGG FINANCIAL STATUS

- | | |
|--|--|
| <input type="checkbox"/> 2000-2003, Final | <input type="checkbox"/> 2004-2007 (est.) |
| <input type="checkbox"/> Budget | <input type="checkbox"/> Budget |
| <input type="checkbox"/> Income 1,578k | <input type="checkbox"/> Income 1,531k |
| <input type="checkbox"/> Expenditures 1,576k | <input type="checkbox"/> Expenditures 1,624k |
| <input type="checkbox"/> Result +2k | <input type="checkbox"/> Result -92k |
| <input type="checkbox"/> Reality | <input type="checkbox"/> Reality |
| <input type="checkbox"/> Income 1,747k | <input type="checkbox"/> Income 1,734k |
| <input type="checkbox"/> Expenditures 1,575k | <input type="checkbox"/> Expenditures 1,590k |
| <input type="checkbox"/> Result +172k | <input type="checkbox"/> Result +143k |
| <input type="checkbox"/> Less spending + surcharge | <input type="checkbox"/> Less spending + surcharge |
| <input type="checkbox"/> Surplus in Birmingham | |

IUGG's FORMAL STATUS

Bank: Danske Bank, Gentofte

Accounts: 1*DKK (288k)
 1*USD (281k)
 High Interest Account (400k)
 2 Mastercards

Tax: No income tax, but we pay VAT

THIRD SESSION
WEDNESDAY JULY 11, 2007 (4 PM – 7 PM), ROOM 8 OF THE RECTORATE BUILDING

PARTICIPANTS

NATIONAL DELEGATES

Argentina	Corina Risso
Australia	Ian Jackson
Austria	Michael Kuhn
Belgium	Véronique Dehant
Brazil	Denizar Blitzkow
Canada	Zoltan Hajnal
Chile	Rodrigo Barriga Vargas
China	Guoxiong Wu
China – Taipei	Yih-Hsiung Yeh
<i>Croatia</i>	<i>Mirko Orlic</i>
Czech Republic	Vladimir Cermak
Denmark	Søren Gregersen
Egypt	Salah Mahmoud
Estonia	Rein Room
Finland	Penti Malkki
France	Michel Menvielle
Germany	Rainer Kind
Hungary	Jozsef Adam
Iceland	Arni Snorrason
India	V.P. Dimri
Israel	Zev Levin
Italy	Lucio Ubertini
Japan	Kuniyoshi Takeuchi
Korea	Wooil M. Moon
Luxembourg	Nicolas D'Oreye
New Zealand	David Rhoades
Nigeria	Francis Fajemirokun
Norway	Bente Lilja Bye
Poland	Lubomir W. Baran
Portugal	Luis Alberto Mendes-Victor
Romania	Constantin Sava
Russia	Alexei D. Gvishiani
Slovak Republic	Ladislav Brimich
South Africa	Charles Merry
	Isabelle Ansoorge (Alternate)
Spain	Alicia García García
Sweden	Goran Marklund
Switzerland	Charles Fierz
Turkey	Ali Kilicoglu
United Kingdom	David Collins
USA	Priscilla Grew

Italics for Countries in Observer Status Only

Members of the Bureau

President	Uri Shamir
Vice President	Tom Beer
Treasurer	Aksel Hansen
Secretary General	Jo Ann Joselyn
Member	Yun-tai Chen
Member	Harsh Gupta
Member	Ali Tealeb

Katina Rogers, Assistant Secretary General

Members of the Finance Committee

Chair	Michael Hamlin
Member	David Jackson
Member	Kiyoshi Suyehiro
Member	Juan Francisco Vilas

IUGG Past President and Presidents of the Associations

Past President	Masaru Kono
President IAGA	Charles Barton
President IAHS	Arthur Askew
President IAMAS	Michael MacCracken
President IAPSO	Shiro Imawaki
President IASPEI	E. Robert Engdahl

Guests of the President attending the third session of the Council

Secretaries General of the Associations

IAGA	Bengt Hultqvist
IAHS	Pierre Hubert
IAMAS	Roland List

Ray Cas (representing the Australia/New Zealand bid for the 2011 General Assembly)

Alik Ismail-Zadeh (candidate for IUGG Secretary General)

Georg Kaser (President of the Union Commission on Cryospheric Sciences)

David Kerridge (candidate for IUGG Vice President)

Lawrence Mysak (President-elect of IAPSO)

Johan Rohde (Secretary General-elect of IAPSO)

Michael Sideris (President-elect of IAG)

Ester Szein (USA National Academies Board of International Scientific Organizations)

The Council meeting resumed at 4 pm with a roll call of delegates. 37 delegates were present at the opening, 36 eligible to vote. The quorum (17) was reached. Other delegates arrived in the course of the meeting, bringing the total to 39 with 38 eligible to vote. Delegates from Estonia and Bosnia and Herzegovina had deposited their votes with the Secretary General for matters to be taken up at the third session; therefore 40 votes were cast.

Uri Shamir began by presenting preliminary statistics regarding attendance at the General Assembly, noting that final statistics would appear in the Comptes Rendus and also on the IUGG web page. He welcomed the new Association officers that were present, and invited everyone to the

Closing Ceremony from 4-5 pm on Friday July 13 in the Rectorate Main Hall.

20. Elections of IUGG Officers (Ref. AGENDA ITEM 5)

Søren Gregersen gave opening remarks regarding the elections, drawing attention to the fact that information, including CV's, has been available for some time on the IUGG website. He announced that the nomination of one additional candidate for the Finance Committee, David Collins, delegate from the U.K., had been received. The nomination had been seconded by Russia, the USA, Italy, and Switzerland, and fully met the requirements for election. The nominations committee had carefully examined the Statutes and By-laws adopted in Sapporo, which are the Statutes applicable to the Perugia General Assembly, and had determined that the two positions reserved for former or current Council delegates on the Finance Committee would be filled by the persons that received the highest and the second-highest number of votes among the 3 persons nominated, providing that those persons each received a majority of the votes cast (every delegate would be asked to vote for two of the three candidates).

Gregersen noted that only two positions open for election offered a real choice: Vice-President, and the Council Delegates on the Finance Committee. He reviewed information about the excellent qualifications of the candidates for these races: first, Harsh Gupta and David Kerridge; then, more briefly, Czango Baag, David Collins, and Jan Krynski.

There were no further questions about the slate; therefore, the Council proceeded to vote. For the contested office of Vice President, Harsh Gupta received the greater number of votes and was elected. For the contested positions of two Council delegates for the Finance Committee, the persons receiving the greatest number of votes were David Collins and Jan Krynski. The actual vote tallies are given below.

Candidate	For	Against	Abstain
Tom Beer for President	39	0	1
Harsh Gupta for Vice President	31	0	0
David Kerridge for Vice President	9	0	0
Aksel Hansen for Treasurer	40	0	0
Alik Ismail-Zadeh for Secretary General	38	0	2
Y.T. Chen for Bureau Member	38	0	2
David Jackson	37	0	3

for Bureau Member			
Ali Tealeb for Bureau Member	37	0	3
Kiyoshi Suyehiro for Finance Committee	39	0	1
Juan Francisco Vilas for Finance Committee	37	0	3
Czango Baag for Finance Committee	20	0	0
David Collins for Finance Committee	30	0	0
Jan Krynski for Finance Committee	25	0	0

21. Selection of the venue of the XXV IUGG General Assembly (2011) (Ref: AGENDA ITEM 11)

The Chair of the Site Selection committee, Bob Engdahl, presented the findings of the Committee. The other Committee members were K Whaler and CC Tscherning, all of whom have extensive experience in planning scientific assemblies. He briefly reviewed the proposed meeting facilities and exhibition space; they were deemed to be more than adequate. There were comprehensive choices for accommodations. The proposed dates in 2011 are between 17 June and 3 July, but other dates could be considered. A specific question had been raised by the Committee with regard to Government support to assure free circulation of scientists. The Local Organizing Committee had replied that they were not able to obtain assurance, but had been told that the problem was well understood and that every effort would be made to admit scientists participating in the General Assembly.

Budgetary planning for the Assembly is being based on 3000 delegates. Engdahl reiterated that IUGG expects that the host will take full responsibility for the financial affairs of the meeting, and applauded them for already raising 500,000 Aus \$ to assist young scientists and those from developing countries to attend.

Questions from the delegates concerned the expected registration fee and concern for the travel expense to come to Australia. Ray Cas answered that scientists from Australia, New Zealand, and surrounding regions are well aware of the airfares because they must pay them when attending meetings in the West, and that the LOC was working hard to get sponsorship in order to keep registration fee as low as possible. If more than 3000 people register (recent registrations for IUGG General Assemblies have been about 4000 people),

extra income can be used to augment travel grants and provide additional services. There should be no problem with the logistics of hundreds of people arriving in Melbourne in a short time. Another question concerned availability of the schedule of scientific sessions and the abstracts. Cas replied that these issues were already being organized.

There was discussion about reducing the length of the General Assembly from its present 2-week format. Shamir reminded the Council delegates that this issue has been debated repeatedly and that the Science Programme Committee has not yet found a way to fit the programmes submitted by the Associations into a time frame of less than 2 weeks, even though some Associations do fit their programmes into fewer days within that structure. Joselyn commented that in addition to the scientific sessions in Perugia, 99 working groups met before, after and during the General Assembly including the Council meeting; these important meetings must be accommodated.

On behalf of the Site Selection Committee, Bob Engdahl recommended that the Council accept the bid. Shamir then asked the Council to cast their ballots, and the results were as follows.

For 39; Against 0; Abstain 1

22. Presentation and Adoption of the Resolutions

Masaru Kono, IUGG Past President and Chair of the Resolutions Committee, began his report by introducing and thanking the members of the Resolutions Committee: Huw Davies, Pierre Hubert, and Zev Levin. Associations had been asked to submit their Resolutions, which must have been agreed at their respective plenary meetings of delegates, before the final deadline of Tuesday morning, July 10. The Resolutions Committee had considered each one carefully, and in many cases had consulted with the proposers to arrive at the wording submitted to the delegates.

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

Resolution 1: Precession, nomenclature, and definition of TDB (Temps Dynamique Barycentrique), submitted by IAG. It was explained that IAG strongly supported these IAU Resolutions and that additional IUGG support was considered critical to their eventual adoption by the global scientific community.

Uri Shamir asked for a show of cards in favor of the resolution. The resolution passed without dissent.

Resolution 2: Geocentric and International Terrestrial Reference Systems (GTRS and ITRS), submitted by IAG. Discussion included concern about the number of acronyms, and references to previous resolutions. It was explained that all previous resolutions are available on the IAG website.

Uri Shamir asked for a show of cards in favor of the resolution. The resolution passed with one abstention.

Resolution 3: Global Geodetic Observing System (GGOS) of the IAG, submitted by IAG.

Discussion included concern about the availability of the background information on GGOS, and a more general comment about distribution of the draft resolutions to the Council delegates before the Council meeting where they were to be adopted. Michael Sideris, President-elect of IAG, explained details of GGOS and the importance of IUGG recognition of the programme.

Uri Shamir asked for a show of cards in favor of the resolution. The resolution passed without dissent.

Resolution 4: Electronic Geophysical Year, 2007-2008 (eGY) and Data Rescue, submitted by IAGA.

There were inquiries about the term "Science Information Commons". Charles Barton, President of IAGA, replied, saying that "commons" refers to a "space" within which all interested parties can operate and cooperate, in this case relating to of data and information. The Declaration referenced in the resolution is on the eGY website.

Uri Shamir asked for a show of cards in favor of the resolution. The resolution passed without dissent.

Resolution 5: Ionosphere Satellites, submitted by IAGA. There was extensive discussion about the specific mention of the Italian Space Agency and the ESPERIA satellite. A motion was made by M. Menvielle to alter the wording of the resolution. The motion was seconded and passed with 6 No votes and 4 abstentions.

Uri Shamir asked for a show of cards in favor of the amended resolution. The resolution passed with five abstentions.

Resolution 6: The Urgency of Addressing Climate Change, submitted by IAMAS

Following brief discussion, Uri Shamir asked for a show of cards in favor of the resolution. The resolution passed with four abstentions.

Resolution 7: Intensified Study of Aerosol Pollution Effects on Precipitation, submitted by IAMAS. Kono reminded the Council of the resolution passed by at Sapporo General Assembly on biomass burning. Discussion concerned

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whether other agencies, in addition to WMO, should be invited to participate. Michael MacCracken, President of IAMAS, replied that WMO has established themselves in the field of how pollution affects precipitation.

Uri Shamir asked for a show of cards in favor of the resolution. The resolution passed with two abstentions.

Resolution 8: Reduction of Risk from Natural Hazards, submitted by the Union Commission on Geophysical Risk and Sustainability. Discussion concerned the wording regarding where risk from hazards occurred. Tom Beer, Past President of the GeoRisk Commission, responded indicating that the goal was to indicate the necessity of work being done at the local level to reduce risk. Kono added that disasters can occur on the global scale, but risk varies by local places, so the consequences of even a global scale event changes from place to place. A motion to alter the wording of the resolution was made and seconded. It passed with two “no” votes and 5 abstentions.

Uri Shamir asked for a show of cards in favor of the amended resolution. The resolution passed with five abstentions.

Resolution 9: Thanks

Masaru Kono read the resolution that had been drafted by the Resolutions Committee on behalf of the Council. The Council responded with applause and the resolution was considered to have passed. Lucio Ubertini, Chair of the Perugia General Assembly Local Organizing Committee, expressed his appreciation to the Council for the Resolution.

Closing remarks

Uri Shamir reminded the Council of the Closing Ceremony that will take place on Friday. At that time, retiring officers of the Bureau and Finance Committee would be recognized. However, Mike Hamlin cannot be present and so Council was asked to acknowledge his 16 years on the Finance Committee at this time. The Union offered him a modest gift: a Deruta plate inscribed with his name and years of service. Hamlin thanked the Council particularly, and the officers as well, saying he would treasure it.

There being no other business, Uri Shamir declared that the Council of Delegates to the XXIV General Assembly was adjourned.

OFFICERS ELECTED BY THE COUNCIL OFFICERS OF THE UNION FOR 2008-2011

Bureau of the Union

<i>President:</i>	Tom Beer	AUSTRALIA
<i>Vice-President:</i>	Harsh Gupta	INDIA
<i>Secretary General:</i>	Alik Ismail-Zadeh	GERMANY/RUSSIA
<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, U. Shamir (Israel)
- the Presidents of the International Associations:

<i>IACS:</i>	Georg Kaser	AUSTRIA
<i>IAG:</i>	Michael Sideris	CANADA
<i>IAGA:</i>	Eigil Friis-Christensen	DENMARK
<i>IAHS:</i>	Arthur Askew	SWITZERLAND/AUSTRALIA
<i>IAMAS:</i>	WU Guixiong	CHINA
<i>IAPSO:</i>	Lawrence Mysak	CANADA
<i>IASPEI:</i>	WU Zhongliang	CHINA
<i>IAVCEI:</i>	Setsuya Nakada	JAPAN

Secretaries General of the International Associations

<i>IACS:</i>	Manfred Lange	GERMANY
<i>IAG:</i>	Hermann Drewes	GERMANY
<i>IAGA:</i>	Bengt Hultqvist	SWEDEN
<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 Marti	SPAIN

Finance Committee of the Union

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

**RESOLUTIONS ADOPTED AT THE XXIV GENERAL ASSEMBLY
BY THE UNION - 11 JULY 2007
24TH GENERAL ASSEMBLY, PERUGIA, ITALY, 2-13 JULY 2007**

Resolution 1: Precession, nomenclature, and definition of TDB (Temps Dynamique Barycentrique)

The International Union of Geodesy and Geophysics,

Considering,

That the IUGG adopted in 2003 the International Astronomical Union (IAU) 2000 resolutions related to reference systems; and
That the IAU adopted three resolutions in 2006 which are complimentary to the previous IAU2000/IUGG2003 resolutions;

Recognizing,

The importance of reference frame, Earth orientation, and time systems used by the geosciences community;

Endorses,

The 2006 IAU resolution, Resolution B1, which notes that the IAU2000 precession model was not dynamically consistent and recommends that it should be replaced by the P03 precession model;
The 2006 IAU resolution, Resolution B2, which, in the first part, deals with the nomenclature related to the intermediate reference systems, while the second part fixes the orientation of the axes of the celestial reference system Barycentric Celestial Reference System (BCRS) and Geocentric Celestial Reference System (GCRS); and
The 2006 IAU resolution, Resolution B3, which recommends the use of a fixed linear relation between Temps Dynamique Barycentrique (TDB) and Temps-Coordonnée Barycentrique (TCB), and solves the ambiguity between these time systems.

**Resolution 2: Geocentric and International Terrestrial Reference Systems
(GTRS and ITRS)**

The International Union of Geodesy and Geophysics,

Considering,

The increasing importance of geodetic reference systems in geosciences, and more generally in numerous scientific and technical activities, such as satellite navigation systems and geo-spatial information;

Noting,

The IUGG Resolution 2 and International Association of Geodesy (IAG) Resolution 1, both adopted in 1991 at the Vienna IUGG General Assembly, which defined the Conventional Terrestrial Reference System (CTRS);

Recognizing,

- The quality of the work done by several IAG services (IERS, IGS, ILRS, IVS, IDS) to realize these systems and provide access for numerous users within and beyond the geosciences community;

Endorses,

The definition of a **Geocentric Terrestrial Reference System (GTRS)** in agreement with the 2003 IAU resolution B1.3;
The definition of the **International Terrestrial Reference System (ITRS)** as the specific GTRS for which the orientation is operationally maintained in continuity with past international agreements (BIH orientation); and

Adopts,

The **ITRS** as the preferred GTRS for scientific and technical applications; and

Urges,

Other communities, such as the geo-spatial information and navigation communities, to do the same.

Resolution 3: Global Geodetic Observing System (GGOS) of the International Association of Geodesy (IAG)

The International Union of Geodesy and Geophysics,

Recognizing,

The great progress made during the last decades in the use of space and ground-based techniques for monitoring the Earth System, and the efforts made towards the integration of geodetic observation techniques, data processing, and evaluation and process modeling;

The significant progress of IAG's project Integrated Global Geodetic Observing System (IGGOS) since 2003, which was renamed Global Geodetic Observing System (GGOS) in 2005;

That the IAG is represented on the Group on Earth Observation (GEO) by GGOS;

The urgent need to further develop and strengthen the scientific and organizational collaboration of geodesy within geosciences; and

The necessity of generation and accessibility of consistent products for users in Earth observation, Earth sciences, neighboring disciplines and society in general;

Considering,

That, due to the progress of GGOS, the IAG decided to elevate its status from a project to a full component of IAG in order to further realize the IUGG Resolution No. 1 adopted at the 22nd General Assembly in Birmingham and the IUGG Resolution No. 3 at the 23rd General Assembly in Sapporo;

Noting,

The new structure of IAG reflected by the designation of GGOS as a permanent component;

Urges,

Sponsoring organizations and institutions to continue their support of the elements of GGOS, which is crucial for sustaining long-term monitoring and understanding of the Earth System; and

Encourages,

The Associations to support further development of GGOS through participation and cooperation by sharing/providing data, models, products, and expertise useful for GGOS, and to establish close links with GGOS through the relevant components in their structure, and to assist in symposia, meetings, and joint activities.

Resolution 4: Electronic Geophysical Year, 2007-2008 (eGY) and Data Rescue

The International Union of Geodesy and Geophysics,

Noting,

The ability of modern information and communications technologies to revolutionize the science and management of data and information;

The growing recognition of the need for, and the benefits of a science information commons;

The urgent need to rescue and store data at risk of being lost; and

That 2007-2008 is the 50-year anniversary of the International Geophysical Year, which pioneered the concept of international cooperation and sharing of data and information about the Earth for the common good;

Urges,

The funding agencies to support the effort to rescue valuable historical data; and

Encourages,

Scientists and their scientific bodies worldwide to use the occasion of the Electronic Geophysical Year, 2007-2008 to undertake activities to improve data access, data preservation, data discovery, data release, education and outreach, to reduce the digital divide, and to sign the *eGY Declaration for an Earth and Space Science Information Commons**.

*<http://www.egy.org/declaration.html>

Resolution 5: Ionosphere Satellites

The International Union of Geodesy and Geophysics,

Noting,

The ability of low Earth orbiting satellites to provide spatial and temporal monitoring of the topside ionosphere and to define the near-Earth environment;

Recognizing,

That an extended time series of satellite observations of magnetic/electric fields and of plasmas in the Earth's ionosphere are crucial for a wide spectrum of geoscience and space science studies;

The unique equatorial orbiting Italian Space Agency satellite ESPERIA; and

Understanding,

That the DEMETER mission will end in 2008;

Welcomes,

The plans by several nations to launch ionospheric monitoring satellite missions.

Resolution 6: The Urgency of Addressing Climate Change

The International Union of Geodesy and Geophysics,

Considering,

The advances in scientific understanding of the Earth system generated by collaborative international, regional, and national observations and research programs; and
The comprehensive and widely accepted and endorsed scientific assessments carried out by the Intergovernmental Panel on Climate Change and regional and national bodies, which have firmly established, on the basis of scientific evidence, that human activities are the primary cause of recent climate change;

Realizing,

Continuing reliance on combustion of fossil fuels as the world's primary source of energy will lead to much higher atmospheric concentrations of greenhouse gases, which will, in turn, cause significant increases in surface temperature, sea level, ocean acidification, and their related consequences to the environment and society;
Stabilization of climate to avoid "dangerous anthropogenic interference with the climate system", as called for in the UN Framework Convention on Climate Change, will require significant cutbacks in greenhouse gas emissions during the 21st century; and
Mitigation of and adaptation to climate change can be made more effective by reducing uncertainties regarding feedbacks and the associated mechanisms;

Urges,

Nations collectively to begin to reduce sharply global atmospheric emissions of greenhouse gases and absorbing aerosols, with the goal of urgently halting their accumulation in the atmosphere and holding atmospheric levels at their lowest practicable value;
National and international agencies to adequately support comprehensive observation and research programs that can clarify the urgency and extent of needed mitigation and promote adaptation to the consequences of climate change;
Resource managers, planners, and leaders of public and private organizations to incorporate information on ongoing and projected changes in climate and its ramifications into their decision-making, with goals of limiting emissions, reducing the negative consequences of climate change, and enhancing adaptation, public well-being, safety, and economic vitality; and
Organizations around the world to join with IUGG and its member Associations to encourage scientists to communicate freely and widely with public and private decision-makers about the consequences and risks of on-going climate change and actions that can be taken to limit climate change and promote adaptation; and

Resolves,

To act with its member Associations to develop and implement an integrated communication and outreach plan to increase public understanding of the nature and implications of human-induced impacts on the Earth system, with the aim of reducing detrimental consequences.

Resolution 7: Intensified Study of Aerosol Pollution Effects on Precipitation

The International Union of Geodesy and Geophysics,

Welcoming,

The comprehensive and peer reviewed report “Aerosol Pollution Impact on Precipitation, A scientific Review” that provides an in-depth study of the relationship between aerosol pollution and precipitation, called for by the IUGG XXII General Assembly in Sapporo and the WMO Congress CgXIV in Geneva, and prepared by the International Aerosol-Precipitation Scientific Assessment Group (IAPSAG);

Considering,

That aerosol pollution resulting from biomass burning, fossil-fuel burning, and wild fires can significantly alter precipitation and its distribution;
That the changes in precipitation that can occur depend on the characteristics of aerosol pollution and the geographic and meteorological situations; and
That changes and re-distribution in precipitation have significant societal and economic impacts; and

Noting,

That the recommendations of the review mentioned above call for actions by international bodies, individual governments, and the scientific community at large;

Invites,

WMO to join with IUGG and form an Aerosol-Precipitation Project Group charged with converting the recommendations of the Review into an international action plan;
WMO to join with IUGG in approaching the Food and Agricultural Organization (FAO) and other international organizations to join the IUGG/WMO efforts and participate in the planning;

Encourages,

IAMAS, IAHS, and other IUGG Associations, in collaboration with WMO, to continue their efforts to improve understanding of aerosol pollution with the goal of moderating adverse effects; and
The scientific community to study the direct impacts of aerosol pollution on precipitation and global and regional precipitation climate.

Resolution 8: Reduction of Risk from Natural Hazards

The International Union of Geodesy and Geophysics,

Considering,

Global, regional, and local increases of vulnerability and all changes of environmental conditions including climate; and
The continuous increase of fatalities, the number of people affected, and property damage caused by natural events;

Realizing,

That climate changes will continue into the future even with decreasing greenhouse gas emissions;
That disaster reduction, management, and preparedness as well as warning systems need long term planning; and
That reducing the impact of disasters should be carried out mainly at the local level;

Urges,

The international science community to quantify natural hazards and extreme events at all scales;
To adopt integrative and comprehensive interdisciplinary approaches towards developing adaptation in order to decrease vulnerability; and
To produce planning tools for disaster risk reduction at all scales.

Resolution 9: Thanks

The International Union of Geodesy and Geophysics,

Gratefully records its appreciation for the organization, arrangements, and hospitality at the XXIV General Assembly. On behalf of all participants, the Council expresses its warm thanks to the Italian National Committee for IUGG, the University of Perugia, the Local Organizing Committee, the Program Committee, and all others for their efforts to make the XXIV General Assembly a scientific success in the beautiful city of Perugia.

**RESOLUTIONS DE L'UNION ADOPTEES A LA XXIV ASSEMBLEE GENERALE
DE L'UNION – 11 JUILLET 2007
24TH GENERAL ASSEMBLY, PERUGIA, ITALY, 2-13 JULY 2007**

Résolution 1 : Précession, nomenclature, et définition du TDB (Temps Dynamique Barycentrique)

L'Union Géodésique et Géophysique Internationale,
Considérant,

que l'UGGI a adopté en 2003 les résolutions de l'UAI de 2000 relatives aux systèmes de référence ; et
que l'UAI a adopté en 2006 trois résolutions qui complètent les résolutions précédentes de UAI2000/UGGI2003 ;

Reconnaissant,

l'importance du cadre de référence, de l'orientation de la Terre, et des systèmes de temps utilisés pour la communauté des géosciences,

Approuve,

la première résolution B1 de l'UAI, qui note que le modèle de précession de l'UAI2000 ne n'est pas dynamiquement cohérent et recommande qu'il doit être remplacé par le modèle de précession P03 ;
la deuxième résolution B2 de l'UAI, qui, en première partie, traite de la nomenclature relative aux systèmes de références intermédiaires, cependant que la deuxième partie fixe l'orientation des axes du système de référence céleste « Système de référence céleste barycentrique » (BCRS) et du Système de référence céleste géocentrique (GCRS) ;
la troisième résolution B3 de l'UAI, qui recommande l'usage d'une relation linéaire fixe entre le Temps Dynamique Barycentrique (TDB) et le Temps-Coordonnée Barycentrique (TCB), et résout l'ambiguïté entre ces temps.

Résolution 2 : Les Systèmes de référence géocentriques et internationaux (GTRS et ITRS)

L'Union Géodésique et Géophysique Internationale,
Considérant,

l'importance croissante des systèmes de référence géodésiques dans les géosciences, et plus généralement dans de nombreuses activités scientifiques et techniques, telles que les systèmes de navigation satellitaires et les informations géoréférencées ;

Notant,

la Résolution 2 de l'UGGI et la Résolution 1 de l'AIG, toutes deux adoptées en 1991 à l'Assemblée Générale de l'UGGI à Vienne, qui ont défini le Système de Référence Terrestre Conventionnel (CTRS) ;

Reconnaissant,

la qualité du travail effectué par plusieurs services de l'AIG (IERS, IGS, ILRS, IVS, IDS) pour réaliser ces systèmes et pour fournir l'accès à de nombreux utilisateurs au sein de la communauté des géosciences et ailleurs ;

Approuve,

la définition d'un Système de Référence Terrestre Géocentrique (GTRS) en accord avec la résolution B1.3 de l'UAI de 2003 ; et
la définition du Système de Référence Terrestre International (ITRS) comme le GTRS spécifique dont l'orientation est entretenue de manière opérationnelle en continuité avec les accords internationaux passés (orientation BIH) ;

Adopte,

l'ITRS comme le GTRS à utiliser pour les applications scientifiques et techniques ; et

Recommande,

que d'autres communautés, comme celles de l'information géoréférencée et de la navigation, fassent pareillement.

Résolution 3 : Le Système d'observation géodésique globale (GGOS) de l'AIG

L'Union Géodésique et Géophysique Internationale,

Reconnaissant,

les grands progrès faits au cours des dernières décennies dans l'usage des techniques de surveillance du Système terrestre à partir de l'espace ou du sol, et les efforts effectués en vue de l'intégration des techniques d'observation géodésiques, du traitement des données, ainsi que de l'évaluation et de la modélisation des processus ;
le progrès significatif du projet de l'AIG Système d'observation globale géodésique intégré (IGGOS) depuis 2003, renommé Système d'observation géodésique globale (GGOS) en 2005,
que l'AIG est représentée dans le Groupe de l'observation de la Terre (GEO) par GGOS ;
le besoin urgent de continuer à développer et à renforcer la collaboration scientifique et organisationnelle de la géodésie au sein des géosciences ; et
la nécessité de réaliser et de rendre accessibles des produits cohérents pour les utilisateurs de l'observation de la Terre, des sciences de la Terre, des disciplines connexes et de la société en général ;

Considérant,

que, en raison du progrès du GGOS, l'AIG a décidé de l'élever du rang de projet à celui de composante de l'AIG afin de réaliser plus complètement la Résolution no. 1 de l'UGGI adoptée à la XXII Assemblée Générale à Birmingham et la Résolution no. 3 de l'UGGI adoptée à la XXIII Assemblée Générale à Sapporo,

Note,

la nouvelle structure de l'AIG caractérisée par la désignation du GGOS au rang de composante permanente,

Recommande,

que les organisations parraines et les institutions continuent à soutenir les éléments de GGOS, ce qui est essentiel pour poursuivre sur le long terme la surveillance et la compréhension du Système terrestre, et

Encourage,

les Associations à soutenir le développement continu de GGOS à travers une participation et une coopération au partage et à la fourniture de données, de modèles, de produits, et d'expertise utiles à GGOS, et pour établir des liens étroits avec GGOS à travers les composantes appropriées de leur organisation, et pour apporter leur aide à travers des colloques, des réunions, et des activités communes.

Résolution 4 : L'année géophysique électronique, 2007-2008 (eGY) et le sauvetage des données

L'Union Géodésique et Géophysique Internationale,

Notant,

la capacité des technologies modernes de l'information et de la communication à révolutionner la science et la gestion des données et de l'information ;
la reconnaissance croissante du besoin et des bénéfices d'un espace commun de l'information scientifique,
le besoin urgent de sauver et de conserver des données qui risquent être perdues ; et
que 2007-2008 marque le 50^{ème} anniversaire de l'Année géophysique internationale, qui a frayé le chemin au concept de coopération et de partage internationaux des données et information sur la Terre pour le bien commun ;

Recommande,

que les bailleurs de fonds soutiennent les efforts de sauvetage des données historiques de grande valeur ; et

Encourage,

les scientifiques et leurs organisations à travers le Monde à utiliser l'occasion de l'Année géophysique électronique 2007-2008 pour entreprendre des activités visant à améliorer l'accès aux données, la préservation des données, la recherche de données, la mise à disposition des données, l'éducation et la vulgarisation pour réduire la fracture digitale, et à signer le document de l'eGY *Déclaration pour espace commun des sciences de la Terre et de l'espace**.

*<http://www.egy.org/declaration.html>

Résolution 5 : Satellites de l'ionosphère

L'Union Géodésique et Géophysique Internationale,

Notant,

la capacité des satellites de la Terre en orbite basse à réaliser une surveillance spatiale et temporelle de l'ionosphère sus-jacente et à reconnaître l'environnement proche de la Terre ;

Reconnaissant,

qu'une longue série d'observations satellitaires des champs magnétiques/électriques et des plasmas dans l'ionosphère de la Terre est essentielle pour une large gamme d'études en géoscience et en sciences de l'espace ;

l'unique satellite d'orbite équatoriale de l'Agence Italienne de l'Espace ESPERIA ; et

Comprenant,

que la mission DEMETER aboutira en 2008 ;

Accueille favorablement,

les projets de plusieurs nations de lancer des missions de satellites de surveillance ionosphérique.

Résolution 6 : L'urgence d'aborder le changement climatique

L'Union Géodésique et Géophysique Internationale,

Considérant,

les progrès de la compréhension scientifique du système terrestre produits par des observations et des programmes de recherches en coopération internationales, régionales, et nationales ; et les évaluations scientifiques complètes et largement acceptées émanant du Groupe intergouvernemental d'étude des changements du climat et par des organismes régionaux et nationaux, qui ont fermement établi, sur une base scientifique solide, que les activités humaines sont la cause principale du changement climatique récent ;

Réalisant,

que l'usage continu des combustibles fossiles comme source d'énergie principale au niveau mondial mènera à des concentrations beaucoup plus élevées des gaz à effet de serre dans l'atmosphère, qui à leur tour provoqueront des augmentations significatives de la température superficielle, du niveau de la mer, de l'acidité des océans, avec leurs conséquences respectives sur l'environnement et la société ;
que la stabilisation du climat afin d'éviter « une interférence anthropogénique dangereuse avec le système du climat, » ainsi que l'exige la Convention Cadre sur le Changement climatique des Nations Unies, nécessitera des réductions significatives des émissions de gaz à effet de serre au cours du XXI^e siècle ; et
que l'atténuation des effets et l'adaptation au changement climatique peuvent être plus efficaces en réduisant les incertitudes concernant les rétroactions et les mécanismes associés ;

Recommande,

que les nations commencent de manière collective à réduire les émissions atmosphériques de gaz à effet de serre et d'aérosols absorbants, dans le but d'arrêter d'urgence leur accumulation dans l'atmosphère et de conserver leur concentration dans l'atmosphère à un niveau aussi bas que possible ;
que les agences nationales et internationales soutiennent l'observation et les programmes de recherche complets pouvant préciser l'urgence et l'importance des mesures d'atténuation nécessaires qu'elles promeuvent l'adaptation aux conséquences du changement climatique ;
que les gestionnaires de ressources, les planificateurs, et les dirigeants des organisations publiques et privées intègrent les informations sur les changements climatiques actuels et prévus dans leurs prises de décisions, afin de limiter les émissions, de réduire les conséquences négatives du changement climatique, et d'améliorer l'adaptation, le bien-être public, la sûreté, et la vitalité économique ; et
que les organisations du monde entier se joignent à l'UGGI et à ses Associations membres afin d'encourager les scientifiques à communiquer librement et largement avec les décideurs sur les conséquences et les risques du changement de climat en cours et les actions qui peuvent être effectuées pour limiter le changement du climat et promouvoir l'adaptation ;

Décide,

d'agir avec ses Associations membres pour développer et installer un programme de communication et de vulgarisation intégré pour augmenter la compréhension générale de la nature et des implications des impacts causés par les êtres humains sur le système terrestre, dans le but de réduire leurs conséquences négatives.

Résolution 7 : Etude renforcée des effets de la pollution par les aérosols sur les précipitations

L'Union Géodésique et Géophysique Internationale,
Accueillant favorablement,

le rapport complet et évalué par des pairs «Revue scientifique de l'impact de la pollution par les aérosols sur les précipitations, une revue scientifique » qui fournit une étude approfondie de la relation entre la pollution par les aérosols et les précipitations, demandé par la XXIII^e Assemblée Générale de l'UGGI à Sapporo et par le XIV^e Congrès de l'OMM à Genève et préparé par le Groupe d'évaluation scientifique Aérosols-Précipitations (IAPSAG) ;

Considérant,

que la pollution par les aérosols résultant de la combustion de la biomasse, de la combustion des combustibles fossiles, et des incendies de forêts peut altérer de manière significative les précipitations et leur répartition ;
que les changements de précipitations pouvant se produire dépendent des caractéristiques de la pollution par les aérosols et de caractéristiques situations géographiques et météorologiques ; et
que les changements et la redistribution des précipitations ont des impacts sociaux et économiques significatifs ; et

Notant,

que les recommandations de la revue mentionnée ci-dessus comprennent des appels à l'action adressés à des entités internationales, des gouvernements particuliers, et à toute la communauté scientifique,

Invite,

l'OMM à se joindre à l'UGGI et à créer un Groupe de Projet Aérosols-Précipitations chargé de traduire les recommandations de la Revue en un projet d'action international ;
l'OMM à se joindre à l'UGGI pour inviter à l'Organisation des Nations Unies pour l'alimentation et l'agriculture (FAO) et d'autres organisations internationales à se joindre aux efforts UGGI/OMM et pour participer à la planification ;

Encourage,

AIMSA, AISH, et d'autres Associations de l'UGGI, en collaboration avec l'OMM, à continuer leurs efforts d'amélioration de la compréhension de la pollution par les aérosols en vue de limiter ses effets négatifs ; et
la communauté scientifique à étudier les conséquences directes de la pollution par les aérosols sur les précipitations et sur le régime mondial et régional des précipitations.

Résolution 8 : Réduction des risques dus aux catastrophes naturelles

L'Union Géodésique et Géophysique Internationale,
Considérant,

l'augmentation mondiale, régionale, et locale de la vulnérabilité et tous les changements environnementaux y compris le climat ; et
l'augmentation continue du nombre de victimes, du nombre de personnes affectées, et des dégâts aux biens provoquée par les événements naturels ;

Réalisant que,

les changements du climat continueront à l'avenir même avec une réduction des émissions de gaz à effet de serre ;
la réduction et la gestion des catastrophes, la préparation aux catastrophes, et que la mise en place de systèmes d'alerte, nécessitent une planification à long terme ; et
la réduction de l'impact des catastrophes devrait s'effectuer de priorité au niveau local ;

Recommande à la communauté scientifique internationale,

de quantifier les risques naturels et les événements extrêmes à toute échelle ;
d'adopter des approches interdisciplinaires intégrées et complètes pour développer l'adaptation en vue d'une réduction de la vulnérabilité ; et
à produire des outils de planification pour la réduction des risques de catastrophes à toutes les échelles.

Résolution 8 : Remerciements

L'Union Géodésique et Géophysique Internationale

exprime avec gratitude sa reconnaissance pour l'organisation, les dispositions prises, et l'hospitalité de la XXIV Assemblée Générale. De la part de tous les participants, le Conseil remercie chaleureusement le Comité National Italien pour l'UGGI, l'Université de Perugia, le Comité d'Organisation Local, le Comité du Programme, et tous les autres de leurs efforts pour faire de la XXIV Assemblée Générale un succès scientifique dans la belle ville de Perugia.

**RESOLUTIONS ADOPTED AT THE XXIV GENERAL ASSEMBLY
BY THE IUGG ASSOCIATIONS
24TH GENERAL ASSEMBLY, PERUGIA, ITALY, 2-13 JULY 2007**

**IAG RESOLUTION 1:
Gratitude to the Host Institution of the Central Bureau**

The International Association of Geodesy,

acknowledging

the hosting of its Central Bureau at the Niels Bohr Institute (NBI) of the University of Copenhagen from 1996 to 2007,

thanks

- (i) the NBI for the excellent support it provided, as well as
- (ii) the Assistant Secretary General, Ole Andersen, and
- (iii) the secretaries Mrs. Henriette Hansen, Mrs. C.S. Petersen, Mrs. Anni Pallesen and Mr. E. Enemærke for their outstanding work over the years.

**IAG RESOLUTION 2:
Placing Laser Retro-reflectors on Satellites of the Global Navigation Satellite System**

The International Association of Geodesy,

noting

- (i) the extensive and accelerating use over the past 15 years of the Global Navigation Satellite System, GNSS, (i.e., United States' Global Positioning System (GPS) and the Russian GLONASS) and the anticipated future use of new GNSS (i.e., European Galileo and China's COMPASS);
- (ii) the societal benefits increasingly derived from the integration of the space-geodetic observations within the Global Geodetic Observing System (GGOS), including GNSS, Satellite Laser Ranging (SLR), Very Long Baseline Interferometry (VLBI), Doppler Orbitography Radiopositioning Integration by Satellite (DORIS); and
- (iii) the essential contribution of the integration of the techniques to the multidisciplinary scientific advances, including the establishment and maintenance of an accurate and stable terrestrial reference frame,

recognizes

- (i) the improved inter-technique calibrations and validation needed for the demanding geodetic accuracy to achieve a high-accuracy reference frame to support positioning, navigation, and timing; and
- (ii) the resulting improvement in our understanding of the Earth system dynamics, including geo-hazards, ice and ocean mass transport, atmospheric processes, and sea-level variations; and

recommends

- (i) that all future GNSS satellites carry precision laser retro-reflector arrays; and
- (ii) that a careful pre-launch ground calibration/measurement of the center of mass offset of the array be provided.

IASPEI RESOLUTION 1:

Use of model ak135 for earthquake location

RECOGNIZING that the workshops on ‘Modernizing ISC location procedures’ have demonstrated that the ak135 traveltimes tables provide a better fit than the Jeffreys-Bullen (JB) tables to observed seismic phases,

IASPEI

RECOMMENDS that the International Seismological Centre replace the JB model by ak135 for the routine location of seismic events.

IASPEI RESOLUTION 2:

Consistent determination & reporting of earthquake source parameters

RECOGNIZING the long-term need for a broader set of standardized seismological phase and parameter data in seismological research and practice, especially amplitude, period, magnitude, moment and energy,

IASPEI

RECOMMENDS that steps be taken to develop common standards for the reporting of earthquake source parameters for use by national, regional and global data centers.

IASPEI RESOLUTION 3:

Timely reporting to ISC

RECOGNIZING that the ISC provides an on-line compilation of parametric data contributed by observatories and data centres, available to all soon after they are contributed,

IASPEI

URGES all ISC contributors to report epicentres, magnitudes, phases and focal mechanisms to the ISC as quickly as possible.

IASPEI RESOLUTION 4:

Naming the unit of Seismic Moment after Prof. Kei-iti Aki

RECOGNIZING that seismic moment is widely used as a fundamental measure of the size of an earthquake, and

RECOGNIZING that Prof. Kei-iti Aki was a pioneer in defining seismic moment and describing practical ways to measure it,

IASPEI

RECOMMENDS that 1 Aki (Ak) be defined as 10^{18} Nm, and further

RECOMMENDS that the Aki be recognized as a standard unit of earthquake size.

IASPEI RESOLUTION 5:

Appreciation

RECOGNIZING the enormous effort required to organise the General Assembly,

IASPEI

THANKS the IUGG Local Organizing Committee and its Chair Professor Lucio UBERTINI for a memorable meeting in Perugia.

XXIV IUGG GENERAL ASSEMBLY CLOSING CEREMONY

IN REMEMBRANCE

IUGG:

Baron Paul Melchior (Belgium)

IAG:

William Baarda (Netherlands)
Karel Hamal (Czech Republic)
Torben Krarup (Denmark)
Ludmila Kubackova (Czech Republic)
Buford K. Meade (USA) Milos Pick (Czech Republic)
Muzafer Serbetci (Turkey)
Urho A. K. Uotila (Finland/USA)
Pavel Vyskocil (Czech Republic)

IAGA:

Luiz Muniz Baretto (Brazil)
Jim Carrigan (UK)
Thomas M. Donahue (USA)
Jim Dooley (Australia)
Elizabeth Essex (Australia)
Roger Gendrin
Tor Hagfors (Norway)
Anton Hales (Australia)
Jan Hospers
Rosemary Hutton (Scotland)
Jack Jacobs (Wales/Alberta)
Harmut Joedicke (Germany)
Toyo Kamei (Japan)
Harry C. Koons (USA)
Takeo Kosugi (Japan)
Pierre Lantos (France)
Virginia Lincoln (USA)
Yuri Pavlovich Maltsev (Russia)
Chung Park (USA)
Harry E. Petschek (USA/Czech Republic)
Oldrich Praus (Czech Republic) (IASPEI/IAGA)
Mikhail Pudovkin (Russia)
D.R.K. Rao (India)
Tsuneji Rikitake (Japan)
Paul Serson (Canada)
Alan Shapley (USA)
William R. "Bob" Sheldon (USA)
Kendall Svendsen (USA)
William W.L. Taylor (USA)
Lester Tomlinson (New Zealand)
James A. VanAllen (USA)
Phil Williams (UK)
Lanny Wilson (USA)

IAHS:

Mike Hall (UK)
Kiyoshi Hoshi (Japan)
Shohei Inokuti (Japan)
Joseph Jacquet (France)

Hélène Lubès-Niel (France)
Joseph Merka (Zimbabwe)
Zivko Skoklevski (Macedonia)
Viorel Alexandru Stanescu (Romania)
Joop Steenvoorden (The Netherlands)
Jean Turquet de Beauregard (France)
Robert G. Wetzel (USA)

IAMAS:

Sir Nicholas Shackleton (UK)
Mark Berlyand (Russia)
Byron Boville (USA)
Gordon Cartwright (USA)
Andrew Crook (USA)
Peter V. Hobbs (UK/USA)
Vladimir Ivanovici (Romania)
Yoram Kaufman (USA)
Kirill Kondratyev (Russia)
Joseph Smagorinsky (USA)
Albert A. Chernikov (Russia)
Brian Ryan (Australia)
Guy Rochard (France)
Archie Kahan, (USA)

IAPSO:

Christian Le Provost (France)

IASPEI:

Keiiti Aki (Japan, USA, France)
Syuniti Akimoto (Japan)
Toshi Asada (Japan)
Serguei Balassanian (Armenia)
Bruce A. Bolt (USA)
Tony Dahlen (USA)
Jessie Daligdig (Philippines)
Jack Darbyshire (UK)
Father Lawrence Arthur Drake sj (Australia, Bolivia)
Frank Evison (New Zealand)
Sergey V. Goldin (Russia)
Cecil H Green (USA)
Joergen Hjelme (Denmark)
Henri A B Kampunzu (Botswana)
Masayuki Kikuchi (Japan)
Nadezhda Kondorskaya (Russia)
Heikki Korhonen (Finland)
Pavel Kottnauer (Czech republic)
Vasile Marza (Romania, Brazil)
Raymundo S Punongbayan (Philippines)
Xinling Qin (China)
Tsuneji Rikitake (Japan)
Ryosuke Sato (Japan)
John S Steinhart (USA)
George H Sutton (USA)

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

Shigeji Suyehiro (Japan)
Robert J Swain (USA)
Norman Tungol (Philippines)
Yuri Tyupkin (Russia)
Tokuji Utsu (Japan)
Jean Vogt (France)

IAVCEI:
Kei Aki (Japan, USA, France)
Roy A. Bailey (USA)
Lorenzo Casertano (Italy)
Jean-Louis Cheminée (France)
Robert Decker (USA)
Jim Luhr (USA)
Donald W. Peterson (USA)
George Walker (UK)

REPORT OF THE IUGG SECRETARY GENERAL
DR. J.A.JOSELYN
24TH GENERAL ASSEMBLY, PERUGIA, ITALY, 2-13 JULY 2007

65 countries adhere to 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.

At this meeting, delegates from 42 Adhering Bodies attended one or more sessions.

Since the Sapporo General Assembly we have added 3 Countries: Bolivia, Congo, and Ghana. With the permission of the Council, Argentina Bulgaria changed their membership.

Perhaps the most exciting thing the Council approved was the new Association – the first one in 85 years. We will have a special event to honor this remarkable achievement just at the close of this Ceremony.

As is usual, a number of changes to the Statutes and by-Laws were suggested and approved. These included:

- changes to accommodate the new Association,
- approval of a Guidelines document that will be posted on the Web so that IUGG administrative practices are more transparent,

- increasing the number of categories of membership,
- clarification of procedures regarding the Finance Committee and Union Commissions,
- clarification of the languages of IUGG,
- the edition of Robert’s Rules of order under which we operate,
- and miscellaneous other editorial improvements.

Aksel Hansen, IUGG Treasurer, will present the budget in a few minutes

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

Finally, elections were held (to be reported shortly), Melbourne was selected as the venue for the 25th IUGG GA in 2011, and 9 Resolutions were passed. Those will be read to you soon, in their entirety.

Details about these decisions will be available via the E-Journal and on our website as soon as we can manage it.

In closing, I would simply like to thank everyone who has served with me for the past 8 years for their support and inspiration. It has truly been a privilege to be among you.

**SUMMARY OF DECISIONS TAKEN BY COUNCIL AT THE
XXIV IUGG GENERAL ASSEMBLY**

Delegates from 42 Adhering Bodies attended the Council meetings, held in three sessions.

- All matters of membership were approved (admission of Bolivia, D.R. Congo, Ghana, change of Category of membership for Argentina, and transfer of Bulgaria to Associate status)
- The new International Association for Cryospheric Sciences was approved and officers were appointed
- All proposed changes to the Statutes and By-Laws were approved
- The budget for 2008-2011 was approved
- Official IUGG Representatives to various scientific bodies were appointed
- New IUGG Officers were elected
- Melbourne, Australia was selected as the venue for the XXV General Assembly in 2011
- 9 Resolutions were passed

ICSU Commissions and Committees

Federation of Astronomical and Geophysical Data Analysis Services (FAGS)
ICSU (International Council for Science)
on Antarctic Research (SCAR)
on Oceanic Research (SCOR)
on the Problems of the Environment (SCOPE)
on Solar-Terrestrial Research (SCOSTEP)
on Space Research (COSPAR)
on World Climate Research Program (WCRP)
Inter-governmental and other organizations
Cartographic Office of the United Nations
International Civil Aviation Organization (ICAO)
Panamerican Institute of Geography and History (PAIGH)
UNESCO International Hydrological Programme (IHP)
UNESCO International Oceanographic Commission (IOC)
World Meteorological Organization (WMO)

Organization	Liaison for 2007-2011
CODATA	Charles Barton (Australia)
COSPAR	Eigil Friis-Christensen (Denmark)
FAGS	Ruth Neilan (USA)
ICSU Regional Office for Africa	R. Wonnacott (S. Africa)
ICSU Regional Office for Asia and the Pacific	S. Widiyantoro (Indonesia)
ICSU Regional Office for Latin America and the Caribbean	Luiz Fortes (Brazil)
SCAR	V. Papatashvili (USA)
SCOR	M. MacCracken (USA), L. Mysak (Canada)
SCOPE	N. Jake Peters (USA)
SCOSTEP	Robert Vincent (Australia)
WCRP	Guoxiong WU (China)
Cartographic Office of the UN	Luiz Fortes (Brazil)
ICAO	William Rose (M. Gufanti, Alternate) (USA)
PAIGH	Hermann Drewes (Germany)
IHP	Pierre Hubert (France)
IOC	Eugene Morozov (Russia)
WMO	Arthur Askew (CH); John Turner (UK)

REPORT OF THE IUGG TREASURER
DR. A.W. HANSEN
24TH GENERAL ASSEMBLY, PERUGIA, ITALY, 2-13 JULY 2007

Overview of IUGG's financial status

	1996-99	2000-03	2004-07	2008-2011
Value of 1 unit (+2%/yr)	1320	1455	1630	1765
Units paid/yr	290	267	263 estimate	260 budget
Incoming balance	244,3	438,9	610,6	754,8
Income	1.603,5	1.720,6	1.734,2	1.851,6
Expenditures	1.408,7	1.549,0	1.590,3	2.032,3
administrative	277,4	260,5	332,5	440,0
dues to ICSU	47,8	53,5	54,0	68,0
associations	712,6	777,1	805,3	984,2
grants/union activities	266,7	430,9	398,5	495,1
miscellaneous				45,0
Outgoing balance	439,1	610,6	754,5	574,1

Conclusion

we have now a sound economy, and we can allow a temporary increase in the activities for the next quadrennium, but only this time

- IUGG is a scientific union with 8 (+1 in Perugia) associations (with their own economy). I shall only deal with the union.
- IUGG has 65 members, 58 are paying members
 - 14 paying categories (13 and 14 introduced here in Perugia) + an Associate category
 - The Union's economy is based on dues paid by the members
 - o Member dues follow the category, now a total of 274 units
 - o The price of 1 unit is now US\$ 1,630.
- Council approves a budget for the 4yr period following the General Assembly. The new budget allows additional initiatives.

Budget for 2008-2011

July 6, 2007, Perugia

CONCLUSION

IUGG is in a good financial position

It allows additional initiatives for the next period

But the cut in the reserves is only for this period

**READING OF THE RESOLUTIONS OF THE UNION
ADOPTED AT THE XXIV GENERAL ASSEMBLY
24TH GENERAL ASSEMBLY, PERUGIA, ITALY, 2-13 JULY 2007**

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 either Jo Ann Joselyn or Uri Shamir, and they were shown on overhead projection in both English and French.

FINAL REMARKS BY URI SHAMIR, OUTGOING IUGG PRESIDENT
24TH GENERAL ASSEMBLY, PERUGIA, ITALY, 2-13 JULY 2007

IUGG Colleagues, Friends, Ladies and Gentlemen,
The 24th General Assembly has reached its closing moments. For the last two weeks we enjoyed the camaraderie of over 4,000 geo-scientists, assembled in Perugia 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, which 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 2007-2011

President: Dr. Tom Beer (Australia)
Vice President: Dr. Harsh Gupta (India)
Secretary General: Dr. Alik Ismail-Zadeh (Germany/Russia)
Treasurer: Dr. Aksel Hansen (Denmark)
Bureau Members:
Dr. CHEN Yun-Yai (China),
Dr. David Jackson (USA),
Dr. Ali A. Tealeb (Egypt)

IUGG Finance Committee members for 2007-2011

The new Finance Committee Members are Dr. David Collins (U.K.), Dr. Jan Krynski (Poland), Dr. Kiyoshi Suyehiro (Japan), and Dr. Juan Vilas (Argentina). The Committee selected Dr. Vilas as their Chair.

Association Presidents and Secretaries General for 2007-2011

A major decision of the 2007 Council was the addition of a new Association, the International Association of Cryospheric Sciences.

International Association for Cryospheric Sciences
President: Dr. Georg Kaser (Austria)
President-elect: Dr. Ian Allison (Australia)
Secretary General: Dr. Manfred Lange (Germany)

International Association of Geodesy
President: Dr. Michael Sideris (Canada)
Secretary General: Dr. Hermann Drewes (Germany)

International Association of Geomagnetism and Aeronomy
President: Eigil Friis-Christensen (Denmark)
Secretary General: Dr. Bengt Hultqvist (Sweden)

International Association of Hydrological Sciences
President: Dr. Arthur Askew (Switzerland/Aus);
President-Elect: Dr. Gordon Young (Canada)
Secretary General: Dr. Pierre Hubert (France)

International Association of Meteorology and Atmospheric Sciences
President: Dr. WU Guixiong (China)
Secretary General: Dr. Hans Volkert (Germany)

International Association for the Physical Sciences of the Oceans
President: Dr. Lawrence Mysak (Canada)
Secretary General: Dr. Johan Rodhe (Sweden)

International Association of Seismology and Physics of the Earth's Interior
President: Dr. WU Zhongliang (China)
Secretary General: Dr. Peter Suhadolc (Italy)

International Association of Volcanology and Chemistry of the Earth's Interior
President: Dr. Setsuya Nakada (Japan)
Secretary General: Dr. Joan Marti (Spain)

Union Commission Officers for 2007-2011

Union Commission on Geophysical Risk and Sustainability (GeoRisk)
President: Kuniyoshi Takeuchi (Japan)
Secretary General: Gerd Tetzlaff (Germany)

Union Commission on Mathematical Geophysics (CMG)
President: Dan Rothman (USA)
Secretary General: Claudia Pasquero (USA)

Union Commission on Studies of Earth's Deep Interior

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

(SEDI)

President: Gauthier Hulot (France)

Secretary General: Michael Bergman (USA)

Location of the 2011 IUGG General Assembly

The Council selected Melbourne, Australia, as the site of the 2011 IUGG General Assembly. The dates of the 25th IUGG General Assembly will be announced as soon as possible, but the first half of July is most likely.

As I stated in my remarks at the impressive opening session, I have held various offices in the Union since

the 1970s, four years as President of IAHS, then eight years Vice President of IUGG and in the last four years as President. It has been an exciting and eventful time, and I am grateful for the opportunity to serve our scientific community, jointly with the Bureau: Vice President Tom Beer, Secretary General JoAnn Joselyn, Treasurer Aksel Hansen, Bureau members Yun-Tai Chen, Harsh Gupta and Ali Tealeb. A strong, dedicated and cooperative Executive Committee of Association Presidents, 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 TOM BEER
24TH GENERAL ASSEMBLY, PERUGIA, ITALY, 2-13 JULY 2007

Thank you, President Shamir, for your leadership of the Union for the past four years.

This XXIV IUGG General Assembly held in Perugia provided an opportunity for scientists from around the entire world, from the developed and less developed countries, to meet and to discuss the latest scientific findings and conclusions. These findings are then incorporated into resolutions that are adopted during the final meeting of the IUGG Council. The resolutions that were adopted deal with important issues of international standardisation, and with the important problems associated with the interaction of geophysics, geodesy and society including the problems of climate change and the possible effects of aerosols on clouds and precipitation. Because one of our major concerns is with the less developed countries, where most of the loss of human life and huge damages occur due to natural and man-made disasters, it is in these countries that we must make the greatest effort to support local science and its role in support of decision making, so as to improve the quality of life for the neediest. However, developed countries also suffer from inadequate investment in the geo-sciences that can help alleviate the suffering and loss resulting from damaging events.

The possible increase of geophysical and geodetic natural hazards as a result of possible human induced climate change is a concern that requires scientific investigation that can use all of the capabilities of the IUGG. The geodesists within IAG, are able accurately to determine earth movements and landslides. The hydrologists within IAHS, are working on improvements to their flood forecasting capability. The meteorologists in IAMAS are concerned with droughts and severe storms. The oceanographers in IAPSO and the seismologists in IASPEI study and investigate tsunamis and play a vital role in the development of tsunami warning systems. The volcanologists in IAVCEI deal with the dangers of volcanic explosions. The geomagneticians and aeronomers in IAGA examine space weather and the effects that it has on human beings, and the cryospheric scientists in our newest association, IACS (the International Association for Cryospheric Sciences) deal with the possible consequences of large-scale melting of glaciers and ice-caps.

The IUGG General Assembly is organized every four years. During the Opening Ceremony held in Perugia's beautiful Piazza IV Novembre it was described as the "Olympics of Geosciences". It brings together scientists from all the geo-sciences, for joint symposia and workshops, to create the inter-disciplinary synergies that ensure a comprehensive perspective on the geo-sciences and their relevance to society. Each of the IUGG Associations has its own meetings, but emphasis is also placed on inter-Association and Union level events.

An IUGG General Assembly also offers the opportunity for companies and organisations that offer scientific tools to exhibit their products. The Perugia assembly included an exhibition area in which book publishers and equipment suppliers could display their wares, as well as areas for cognate organisations to make scientists aware of their scientific products. One of these booths was there to provide information on Melbourne, Australia, which is to be the host city for the XXV IUGG General Assembly.

The Australian Academy of Science, and the Royal Society of New Zealand combined to invite IUGG to hold the next General Assembly in Melbourne during June or July of 2011. There are many reasons why the 2011 General Assembly will be exciting. For one, it will be the first General Assembly in which our newest Association, IACS, will be a full participant.

To continue, the sporting analogy; let me describe the one-two-three-go of this event:

This is the first time since 1922 that the IUGG has created a new international association;

2011 will be the second time that the IUGG General Assembly will have been held in the Southern Hemisphere.

2011 will be the third time that the IUGG General Assembly will have been held outside of Europe or North America.

So, go to Melbourne in 2011. I look forward to welcoming all of you there.

QUADRENNIAL REPORT OF THE PRESIDENT
PROF. U. SHAMIR
24TH GENERAL ASSEMBLY, PERUGIA, ITALY, 2-13 JULY 2007

Following from the 2003 Sapporo General Assembly

In the years leading up to the Sapporo GA, IUGG was engaged in a process of self-examination, defining its goals and modus operandi, as reported by Past President Prof. Masaru Kono in his President's report to the Sapporo Council. The process was prompted by the sense that IUGG needs to change, in view of evolving conditions.

The process engaged the Associations and National Members, and was conducted and coordinated by members of the Bureau and the Executive Board. Some of the reasons that motivated the search for a change, which were covered by the report that Past President Kono presented to the Sapporo Council four years ago were:

- The emergence of regional geophysical societies, and how IUGG should maintain its role as the international geophysical organization.
- The increasing importance of the social context of our scientific work.
- The continuing revolution in Information Technology, and the effect that it has on scientific work.

An extensive survey of views was conducted among the Associations and National Members, using a structured questionnaire. The findings were debated at length in the Executive Committee and then summarized. The resulting document "IUGG Structure, Goals and Objectives" was adopted by the Sapporo Council. A draft of a "Long Range Vision Statement for the IUGG" was also presented. After some further refinement, the Executive Committee adopted the Mission Statement, which is posted on the IUGG web site. These documents have been and remain a valuable road-map for the Union.

Strategic Directions for IUGG during the last Quadrennium and into the Next

Commission for Cryospheric Sciences (CCS) – to become an Association (IACS)

Snow and Ice have been an integral part of IUGG's remit for many decades, and were located within IAHS. For a very long time, the cryo-scientists argued that the role of snow and ice in the hydrological cycle is but one aspect of the cryosphere, and the discipline deserves to be an IUGG Association. Lengthy discussions, over several years, finally culminated in a recommendation by the Executive Committee in 2004 to grant this status, while in the interim a Union level Commission on Cryospheric Sciences (CCS) was

created by the Executive Committee. IAHS maintains its interest in snow and ice as a component of the hydrological cycle, and consequently will keep its International Commission on Snow and Ice (ICSI), which maintains strong links with the CCS.

In preparation for this Council meeting, the Statutes and By-Laws for the introduction of IACS have been prepared, as well as the budgetary aspects of adding an eighth Association. This Council will consider the recommendation to approve the conversion of the CCS into the International Association for Cryospheric Sciences (IACS). Our expectation is that the decision will be positive, and IUGG will henceforth have eight Associations.

Cooperation with our Sister GeoUnions

Beginning in early 2004, the GeoUnions got together to coordinate and cooperate. This was received with considerable enthusiasm by ICSU, and viewed as model for other Unions to follow. We now constitute a "cluster" of Unions within the ICSU family, of the following seven Unions: IAU (Astronomy, not fully engaged in the GeoUnions activities), IGU (Geography), INQUA (Quaternary Research), ISPRS (Photogrammetry and Remote Sensing), IUGS (Geology), IUGG (Geodesy and Geophysics), IUSS (Soil Sciences). We have met four times since 2004, and continue to cooperate closely.

A joint Science Program was agreed, with five topics, each led by one of the Unions: Cities and Megacities (IGU); Desertification (IUSS); Groundwater (IUGG); Hazards (IUGG); Health (IUGS). Teams were set up, with members from each of the Unions, to prepare a scientific program of action, and then develop research proposals which can be submitted to funding sources. Some of the teams progressed more than others, but none has so far reached the point where it is able to submit proposals. The idea has much merit, but implementation is not easy, and depends very much on the individuals involved, in particular the lead persons.

At its meeting in Sapporo, the Executive Committee decided to become a Founding Member of the International Year of Planet Earth (IYPE), whose title is "Earth Sciences for Society - an International Year of Planet Earth". IYPE (also dubbed Earth Science for Society) is a joint IUGS-UNESCO initiative, which is, in fact, a three year plan (2007-2009). It is one of several *YEARS* which are designed to celebrate the 50th anniversary of the 1957 IGY, and will be discussed below.

There is considerable overlap between the science topics of IYPE and those of the GeoUnions science programs. It is hoped that the GeoUnions joint program will lead to significant science projects, to greater recognition by society, and will help to create an attraction for young scholars to adopt a career in the geosciences.

For the ICSU General Assembly in China, in October 2005, the GeoUnions decided jointly to support me in the election for the ICSU Executive Board, which includes four members from the Unions, one from each "cluster", and four from among the National Members. Since there was only one candidate from our cluster, I was elected, and will serve on the ICSU-EB for a three year period, 2005-2008. It is important to note that members of the ICSU-EB are not representatives of their union, or even their cluster and its specific interests, but rather act jointly to guide ICSU as a whole.

Geosciences in Africa (GIA)

Upon taking office in Sapporo I launched an initiative for IUGG to become active in Africa. This was based on the observations that: (a) our colleagues in Africa suffer, more than others in the rest of the world, from shortage of resources, from lack of an adequate cadre of trained scientists, and from lack government recognition and support, and (b) geo-sciences cannot be complete without engaging scientists around the world, since the scientific basis is common and many of the processes are global.

The first move was to convince the Nigerian delegates to the Sapporo GA to hold a regional geosciences conference, and promised to attend it. They managed to do this, and in August 2004 I attended a workshop of the Nigeria Union of Radio and Planetary Sciences (NURPS, the IUGG Adhering Body) in Lagos. New officers of NURPS were elected, and although it has taken some time to complete the move, Nigeria has paid its dues and is again a full member of IUGG.

The GeoUnions joined the GIA initiative, so it is now part of our joint GeoUnions science program.

At its meeting in 2005, the Executive Committee approved my request to set aside \$50,000 to promote the GIA initiative. It was stipulated that these funds will be used to leverage much larger funds, from other funding sources, to enable large inter-disciplinary projects. To date, none of this money has been spent, since no proposals that satisfy this condition have been generated.

In 2004, ICSU decided to establish its Regional Offices, the first one for Africa, in Pretoria. Prof. Sospeter Muhongo (Tanzania) was appointed Director, and since the establishment of this ICSU Regional Office for Africa (ICSU-ROA) I have worked with and through this office to promote the GIA initiative. I attended two meetings – The African Geology Conference in Maputo (July 2006), and the Second Consultative Forum of the ICSU-ROA in Johannesburg and Pretoria (September 2006). At this latter meeting four science programs were initiated, and I tried to connect them to the ongoing activities of the GeoUnions and their science program. This process is still ongoing. A separate document will be available to this Council, titled "Geo-Sciences in Africa (GIA): An Initiative and Action Plan of the Geo-Unions", which is made available to participants of conferences, workshops and meeting in Africa.

Young Scientists – "Geosciences: The Future (GTF)" and beyond

During the previous quadrennium (1999-2003) a group of seven young (~30) scientists, one from each of the Associations, conducted a study, titled "Geosciences: The Future", considering where the Union should be going and what its future science program should be. I acted as initiator and mentor for the GTF group, and IUGG allocated \$12,000 for its work. This study culminated in a report and a Union Symposium in Sapporo. A summary paper appeared in EOS.

The underlying idea was to engage young geoscientists in setting the science agenda and of the Union, thereby promoting the next generation of leaders, while inviting them to present a fresh perspective on the future of our science. This experience was considered a success, and proposals were made by members of the Bureau and Executive Committee to find an appropriate mechanism to carry the idea forward. No plan was adopted as yet, and it remains for the next Bureau and Executive Committee to decide what to do.

ICSU will be holding a conference titled "Global Scientific Challenges: Perspectives from Young Scientists", in Lindau, Germany, in April 2007. IUGG is sending three young scientists to attend, and we hope to hear from them at the Perugia GA.

The IGY+50 *YEARS*

2007 marks the 50th anniversary of the International Geophysical Year (IGY), which was great success. IUGG decided to celebrate this anniversary at the Perugia GA. Several other *YEARS* have also been launched, around 2007, some have a duration longer than a single year.

IGY+50

An IGY+50 Committee was set up after the Sapporo GA. It is preparing a special celebration on Saturday, July 7, 2007.

eGY – The Electronic Geophysical Yeart

eGY is an initiative of IAGA, which has gained very wide acceptance and visibility. It aims to utilize the capabilities afforded by modern IT, and use them to manage geophysical data and information for the benefit of all. The barriers of policies and inadequate access to communication are to be overcome by a concerted international effort.

IPY – the International Polar Year

IPY constitutes a broad multi-disciplinary and trans-disciplinary program of inter-related projects which emphasize the polar regions. It has been approved by ICSU as a component of its program.

IHY – the International Heliophysical Year

IHY aims to advance the understanding of the fundamental Heliophysical processes that govern the Sun, Earth and Heliosphere. It also has a substantial outreach program.

IYPE – the International Year of Planet Earth

IYPE was created by the International Union of Geological Sciences (IUGS) in cooperation with UNESCO. IYPE is going via the political route, and has managed to get the UN to make a specific Proclamation, making 2008 the United Nations International Year of Planet Earth, whose activities will span the three years 2007-2009. IYPE has developed ten scientific topics, and continues to seek funding for implementation. In parallel, considerable effort is spent on outreach, to bring the message of the geosciences and their importance to man and society to the public and to decision makers.

IUGG and GeoUnions Relations with ICSU

ICSU has over 100 National Members and 29 Unions, seven of them in the Geo-Union cluster, and several Interdisciplinary Bodies. The Executive Board of ICSU has, in addition to the ICSU Officers, four members elected by the National Members and four elected by the Unions, one from each of the four "clusters" of Unions. At the ICSU General Assembly in Souzhou in October 2005, the Geo-Unions cluster decided to place my name as the sole candidate from our cluster, and I was elected to the ICSU-EB for the period 2005-2008. The next Geo-Unions meeting will take place in Rome on April 21-22, just prior to the next ICSU Unions meeting on April 23-24.

ICSU turns to its membership when it considers new programs, and, in particular, when it seeks nomination

for special committees and task groups. Several IUGG officers and members have been and still are members of such groups. Still, IUGG has had some concerns about the manner in which the interaction between ICSU and its Unions is conducted. In consultation with the other Geo-Unions, who felt the same, a letter of concern was addressed to ICSU (IGU did not join) in September 2006, titled "ICSU and its Unions: A Call for Closer Cooperation". The letter was also circulated to all other ICSU Unions, and several consenting answers were received. The ICSU-EB discussed the letter, and ICSU Executive Director, Prof. Thomas Rosswall, responded in a letter in November 2006. Copies of these two documents can be made available to members of this Council upon request. It is to be expected that these discussions have helped to improve the coordination between ICSU and its Unions.

ICSU decided to create a number of Regional Offices. The Regional Office for Africa (ICSU-ROA) was established in Pretoria in 2004. The Regional Office for Asia and the Pacific (ICSU-ROAP) was established in 2006, and an office for Latin America (ICSU-ROLA) is being established. Attempts to find a location for an ICSU office in the Arab world have not yet borne results. The Regional Offices have the task of dealing with issue that have regional relevance and of engaging local scientists, in collaboration with the international scientific community. They are led by Regional Committees.

IUGG Web Page (<http://www.iugg.org/>)

The IUGG web page has been improved substantially since Sapporo. It serves to provide all the essential documents of the Union, as well as current information regarding meetings, events and scientific programs.

IUGG E-Journal

The E-Journal is prepared monthly by the Secretary General, and, after receiving suggestions on its draft from the Bureau and Executive Committee, it is finalized, distributed and posted on the IUGG Web Site. Because some of our National Committees and colleagues around the world may not be able to download attachments, the E-Journal is also distributed by E-Mail.

Preparations for the Perugia General Assembly

Perugia, Italy, was selected by the Sapporo Council, after competition with Melbourne, Australia (which is bidding again for the 2011 General Assembly). Much work has gone into the planning the scientific program and making the organizational and logistical arrangements. Prof. Lucio Ubertini, Chair of the Local Organizing Committee, is aided by a large staff,

headed by Dr. Salvatore Grimaldi. I had occasion to meet with these leaders and their support staff more than once, and admire their dedication. The web site for the General Assembly enables on-line registration and submission of abstracts, and hopefully all will be in good order by the time we arrive for the General Assembly.

The Science Program Committee

The Science Program Committee for this General Assembly is made of the Secretaries General of the Associations. We have included the SG of the Commission on Cryospheric Sciences (CCS), anticipating the approval by this Council of them becoming an Association. The SPC is chaired by Prof. Paola Rizzoli (MIT).

Union Lectures

I have invited the following four Union Lecturers (in the order of their lectures, indicating the connection with the corresponding Union Symposia and the responsible Association):

- Prof. Robert Corell - Global Change Program at the H. John Heinz III Center for Science, Economics and the Environment, and Senior Policy Fellow of the American Meteorological Society: "Our Changing Climate: A Policy Issue" (Monday, July 2, Symposium U1, IAMAS)
- Prof. Maria Zuber – Department of Earth, Atmospheric and Planetary Sciences, MIT: "Inside the Terrestrial Planets" (Thursday, July 5, Symposium U5, IAGA)
- Prof. Claudio Faccenna – Geological Sciences, University Roma III: "Subduction and Mantle Convection in the Mediterranean" (Tuesday, July 10, Symposium U9, IAPSO)
- Prof. Kenji Satake - Active Fault Research Center, Tsukuba, Japan: "Lessons from the 2004 Sumatra-Andaman Earthquake and the Asian Tsunami" (Friday, July 13, Symposium U12, IASPEI)

Special Committees for the General Assembly

I appointed four special Committees for the GA, 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 balance.

Nominating Committee

Soren Gregersen – Chair	Denmark
Attia Ashour	Egypt
Robert Duce	USA
Seiya Uyeda	Japan

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.

Statutes and By-Laws Committee

David Kerridge - Chair	UK
Jean-Pierre Barriot	France
Priscilla Grew	USA
Ronald Stewart	Canada

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 matters that relate to the compatibility between Associations' Statutes and By-Laws and those of the Union. A special task has been to examine the proposed Statutes and By-Laws of the International Association for Cryospheric Sciences, the new Association which is to be brought to this Council for approval.

Resolutions Committee

Masaru Kono – Chair	Japan
Huw Davies	Switzerland
Pierre Hubert	France
Zev Levin	Israel

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.

Site Evaluation Committee

Bob Engdahl – Chair (IASPEI)	USA
Christian Tscherning (IAG)	Denmark
Kathy Whaler (IAGA)	UK

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.

Funds for Support of Young Scientists and Scientists in Need

IUGG continues to place great importance on being able to support young scientists and those who have financial difficulties. Funds are made available by the Union, taken as part of the regular registration fee, and through solicitation by the LOC of support from external sources. The Italian invitation to host this GA included a commitment to raise funds to match the level which was available in Sapporo. I have made myself available to the LOC in its efforts to raise funds.

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We have had several meetings with potential donors, and the LOC has attempted to mobilize Italian Municipalities to "adopt a scientist". At the time of this writing, my efforts to prompt the LOC to meet its original pledge have not borne the results we are still hoping for. It remains to be seen whether this will change by the time of the GA.

24/09-30/09	Forum - ICSU Regional Office in Africa, Johannesburg/Pretoria
16/10-18/10	IUGG Bureau Melbourne
25/10-26/10 *	ICSU Executive Board Paris
05/12 *	Perugia GA-LOC and funding sources Perugia

* = Travel paid by ICSU or UNESCO, or no cost

Meetings with the Associations and Unions Activities

While the Association leaders meet at the Executive Committee meetings, it is most important that the link between the Union and the Associations be as strong as possible. Presence of IUGG officers at Associations' Scientific Assemblies and at scientific symposia and workshops of disciplinary groups help to strengthen these links. I have attended the following meetings:

2004	05/02-07/02	GeoUnions and ILP Paris
	09/02-10/02	ICSU Unions Meeting Paris
	12/02-13/02	Preparatory meeting for the Perugia GA, Perugia
	24/05-27/05 *	ICSU Committee on Membership, Paris
	07/07-09/07	SEDI Workshop Garmish-Patenkischcen
	15/08-19/08	NURPS Conference Lagos
	20/08-25/08	Int. Geological Congress Florence
	26/08-28/08	GeoRisk Committee Stockholm
	29/08-02/09	IUGG Bureau and EC, and Earth Unions, Boulder
2005	30/03-09/04	IAHS Scientific Assembly Foz de Iguassu
	18/07-20/07	IAGA Scientific Assembly Toulouse
	06/09-07/09	GeoUnions meeting Rome
	08/09-11/08	IUGG Bureau, EC and SPC Perugia
	15/10-16/10	GeoUnions Meeting Shanghai
	17/10-22/10	ICSU General Assembly Souzhou
2006	20/04-23/04 *	ICSU Executive Board Paris
	10/05-12/05 *	UNESCO Review of Science Sectors, Paris
	04/06 *	CMG Zemach, Israel
	03/07-06/07	Geology in Africa Maputo

Acknowledgements and Thanks

The end of the Perugia General Assembly will mark the end of a 12 year period during which I served on the Union Bureau as Vice President (1995-1999 and 1999-2003) and President (2003-2007). Preceding that, I was active in various capacities in IAHS and its President (1991-1995), during which I was member of the Executive Committee. 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, JoAnn Joselyn, who will be stepping down after eight years of dedicated and most capable service to the Union. She has been my constant and wise council, while carrying the burden of the daily operation. Vice President Tom Beer 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 Mike Hamlin, kept our finances in excellent shape. Members of the Bureau Yun-Tay Chen, Harsh Gupta 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 Paola Rizzoli. The SPC set the program and ascertained that it can be carried out successfully in this great venue of Perugia.

Special recognition is due to the Local Organizing Committee for this General Assembly, chaired by Lucio Ubertini and led by Salvatore Grimaldi. They have had a gigantic task, and we all hope that the Assembly will proceed to the full satisfaction of one and all.

Last, I wish to acknowledge the substantial financial support provided to me for my travels (except those paid by ICSU and UNESCO, as marked in the list) by the Israeli Academy of Sciences and Humanities and

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by my home institution, the Technion – Israel Institute of Technology, which also gave me permission to use my own travel funds for this purpose. Without this I could not visit as many of the Associations and

Commissions activities, nor attended meetings to promote the GeoSciences in Africa (GIA) initiative.

February 15, 2007

Uri Shamir, President

QUADRENNIAL REPORT OF THE VICE PRESIDENT

DR. T. BEER

24TH GENERAL ASSEMBLY, PERUGIA, ITALY, 2-13 JULY 2007

When I took office as Vice-President I noted that there was no formal role for the Vice-President in the statutes or by-laws. During 2004 I reviewed the statutes and by-laws in relation to Union and Inter-Association Commissions and established guidelines for such commissions. During this review a specific duty was established for Vice-President. The relevant item reads:

The Union Commissions will formulate their program of work and should report to the Vice-President of the Union at least on an annual basis. An annual financial statement based on the calendar year shall be provided to the IUGG Treasurer.

I have maintained electronic liaison with CMG, SEDI, GeoRisk, CCS, SCL/ILP and SEDI.

In addition to attending Executive and Bureau meetings in Boulder 2004 and Perugia 2005, I hosted the Bureau meeting in Melbourne in October 2006. I also engaged in various other activities to represent IUGG to ICSU.

I represented IUGG at the first planning meeting for the ICSU Regional Office for Asia and the Pacific in April 2005, and then at the meeting to inaugurate the regional office in Kuala Lumpur in September 2006.

I was nominated by IUGG to be a member of the Scoping Group for the new ICSU research program on

Natural and Environmental Hazards and Disasters. The Scoping Group report was accepted by the ICSU General Assembly and I was then nominated by IUGG to be on the Planning Group for the program. The Science Plan developed by the Planning Group will be outlined by the Chair (Gordon McBean) during his presentation in session U12 at the IUGG General Assembly. Other members of the IUGG family on the Planning Group are Harsh Gupta and Steve Sparks.

I was also asked to represent IUGG as Chair of the Hazards Theme of the GeoUnions Science Initiative. As I also chair the Hazards Theme of the International Year of Planet Earth I deal with them as a combined committee. We are in the process of arranging a major conference in 2008 (The UN designated Year of Planet Earth) hopefully to be held in association with ICSU and UN-ISDR.

In addition to these, I was asked to represent IUGG at the UN World Conference on Disaster Reduction held in Kobe, January 2005. This conference became a high-profile event because of the Asian Tsunami of 26 December 2006 and I resolved to present the IUGG resolution on the tsunami to the conference. This proved surprisingly difficult to do when one is at a UN conference but is not a member of a national delegation, and I must confess to a sense of personal accomplishment at having succeeded at the task.

Tom Beer

QUADRENNIAL REPORT OF THE SECRETARY GENERAL

DR. J.A. JOSELYN

24TH GENERAL ASSEMBLY, PERUGIA, ITALY, 2-13 JULY 2007

OVERVIEW

The International Union of Geodesy and Geophysics (IUGG) is a not-for-profit scientific organization dedicated to promoting and co-ordinating world-wide studies of the Earth and its environment in space. It is a union of seven geophysical Associations, each dedicated to a specific scientific discipline, but with overlapping interests and complementary strengths. At present, there are four Unions Commissions that are dedicated to particular interdisciplinary topics. The Union is financially supported by Member Adhering Bodies that benefit from the knowledge, data, services, and scientific talent that are concentrated within each Association and inter-Association body.

The Activities of the Union during the past quadrennium are summarized below, but there are several activities worthy of special note.

A magnitude 9 great earthquake that occurred on 26 December 2004 off the west coast of northern Sumatra, South Asia, triggered tsunamis that inundated the coastal zones around the Indian Ocean resulting in tragic and historic loss of life and property. The IUGG Union Commission on Geophysical Risk and Sustainability (GeoRisk), in cooperation with the IAPSO/IASPEI/IAVCEI Tsunami Commission, wrote a statement including a list of recommendations for further analysis which can be found on the web-page of the GeoRisk Commission <http://www.mitp.ru/georisk>. An IUGG Resolution based on this document, published in a special issue (11 January 2005) of the IUGG E-Journal, was sent to the UN Inter-Agency Secretariat of the International Strategy for Disaster Reduction (ISDR) and was presented at the World Conference on Disaster Reduction in Kobe Japan (18-22 January 2005) by Tom Beer, IUGG Vice President and Past Chair of the GeoRisk Commission. Since then, the general topic of geohazards has been a priority both within IUGG, its Commissions and Associations, and the entire scientific community.

In a continuing effort to sharpen the focus of the Union, the officers of the Union agreed on a Mission Statement at the 2005 meeting of the Union Executive Committee. That statement, posted on the IUGG webpage (<http://www.IUGG.org>) follows.

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.

A new Union Commission on Cryospheric Sciences was established at the 2004 meeting of the IUGG Executive Committee. This Union Commission was formed from an international commission of the International Association of Hydrological Sciences but includes appropriate scientific topics from other Associations (e.g. sea ice, from the International Association for the Physical Science of the Oceans (IAPSO). The IUGG Executive Committee recognized the unique scientific niche of the cryosphere and at its meeting in 2005, voted to recommend to the IUGG Council that this Union Commission should become the 8th Association of IUGG.

As a response to a call to plan a scientific activity that would build on the legacy of the 1957-1958 International Geophysical Year (celebrating its 50th anniversary in 2007-2008), the International Association of Geomagnetism and Aeronomy (IAGA) initiated a major project to provide an internationally coordinated framework and focus for a 21st-Century approach to geoscience data stewardship (including data preservation, data maintenance, data discovery, data release, ready access to data), and the development of virtual observatories, capacity building, and education and public outreach. This initiative, known as the Electronic Geophysical Year (eGY), was adopted as an IUGG initiative by the Executive Committee in 2005 and has been endorsed by a number of international bodies and programs.

In the past four years, a total of \$65,000 in grants to support meetings was allocated to the organizers of 32 symposia, workshops, schools or meetings in 25 different countries, most of them in developing countries. In addition, a total of \$50,000 in grants was allocated in the years 2004 and 2005 to support 8 inter-Association initiatives that benefited developing

countries. These activities included support for the IAGA/IUGG initiative on the electronic Geophysical Year (eGY), distribution of a monograph *The State of the Planet* (resulting from the Union Symposia of the same name at the 2003 IUGG General Assembly), support for an assessment of Biomass Burning on Precipitation (resulting from an IUGG resolution passed at the Sapporo General Assembly), support for several activities of the WMO/GEWEX (Global Energy and Water Cycle Experiment) programme, and 4 other projects specifically aimed at geohazards (earthquakes, volcanoes, tsunamis). By action of the 2005 Executive Committee, the grants were suspended for 2006-2007 in order to build a reserve of \$50,000 that could be used to seed a potential major project in Africa.

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 Panel of Area Assessment on Environment and its Relation to Sustainable Development (Dr. Uri Shamir), an ad hoc Expert Panel on Priority Area Assessment on Capacity Building in Science (Dr. Harsh Gupta), an ad hoc Committee on Membership Issues (Dr. Uri Shamir), and both the scoping and planning group on Natural and Human-Induced Environmental Hazards (Dr. Tom Beer). IUGG wrote a letter endorsing the ICSU "Agenda for Action" with regard to Science in the Information Society, and wrote a statement and sent an observer to the December 8-9, 2003 conference in Geneva, Switzerland, on the Role of Science in the Information Society. During the quadrennium, IUGG officers attended an ICSU Unions meeting in Paris (2004) and an upcoming Unions meeting in Rome (April 2007), and the ICSU General Assembly in Suzhou, China (2005). Prof. Charles Merry, Chairman of the South African National Committee for IUGG, represented IUGG at the First ICSU Regional Meeting for Africa in Harare, Zimbabwe in 2004. The meeting discussed how the ICSU Regional Office for Africa, to be located in Pretoria, South Africa, will contribute to the strengthening of African science. Drs. Tom Beer and Harsh Gupta represented IUGG at the meeting establishing the ICSU Regional Office for Asia and the Pacific held in Kuala Lumpur in 2005, and Dr. Luiz Paulo Fortes, Chairman of the Brazilian National Committee for IUGG, represented IUGG at the meeting establishing the ICSU Regional Office for South America, held in Panama City in 2006. Dr. Uri Shamir was elected to the ICSU Executive Board at the Suzhou General Assembly, and Harsh Gupta was selected as a member of the ICSU Committee on Scientific Planning and Review.

IUGG has appreciated the opportunity to propose initiatives for ICSU grants. In 2003, the International Association for Geomagnetism and Aeronomy (IAGA) received an award of \$35,000 for their proposal "Rescue of old analogue magnetograms by converting to digital images." The project's outcome was that 177 station-years of 64,650 old and historic magnetograms from 9 Russian, two Indian, and one German magnetic observatory were converted to digital images. The hardware purchased with the project support is now available for the staff at the World Data Centres in India, Russia, and Japan for the follow-on conversion of analogue magnetograms into digital images in their routine work, as well as for specific rescue projects. IUGG did not submit a proposal for funding in 2004, but supported several grant proposals including four that were selected. In 2005, IUGG submitted two ICSU project proposals, and supported 3 others. Two of the supported proposals were successful. ICSU suspended the Grants Programme for 2007 and beyond pending a review of the programme and efforts to find funding for it.

During the quadrennium, IUGG collaborated with sister Unions on an initiative led by the International Union of Biological Sciences on the general topic of Science for Health and Well-being. We also participated in a new consortium of "geo" Unions, now 7 in number. The GeoUnions have met 4 times and identified 5 topics of interdisciplinary interests for future collaboration as opportunities arise. Several of the GeoUnions perceived a deficiency in communication and transparency between the Executive office of the International Council of Science and its Unions and issued a statement of concern that will be discussed at an April meeting of the ICSU Unions. IUGG and the International Union of Geological Sciences (IUGS) now jointly administer a former ICSU Interdisciplinary Body, the International Lithosphere Programme, and IUGG is collaborating with the International Astronomical Union and (IAU) the Union of Radio Scientists International (URSI) as ICSU restructures its data and information portfolio, including the Federation of Astronomical and Geophysical Data Analysis Services and the Panel on World Data Centres.

IUGG became a founding Partner in 2003 of the International Year of Planet Earth, an initiative of the International Union of Geological Sciences and UNESCO. The initiative seeks to raise the awareness of the contribution to, and role of the Earth sciences in society in the minds of politicians, decision-makers, the media and the general public. In 2005, the General Assembly of the United Nations proclaimed The International Year of Planet Earth for 2008. Governments will be urged to pay greater attention to the Earth sciences as affecting many aspects of the

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everyday lives of their citizens, with particular reference to applications in educational systems, governmental legislation and civil regulations, so as to take full advantage of this extensive source of expertise and experience. The Year is one of several initiatives (e.g., the International Polar Year and the International Heliophysical Year) included under the general heading of IGY+50 programmes. These programmes are all invited to participate in the July 2007 IUGG General Assembly in Perugia, and special scientific sessions and public events are being planned.

The sections below summarize matters of Union membership, actions of the Bureau and Executive Committees, and the Secretariat itself. The work of the Associations, the inter-Associations Commissions, and other matters of scientific interest are included in other sections of the Council Agenda.

MEMBERSHIP IN THE UNION

As of January 2007, IUGG has 65 Member Countries with distribution throughout the world as follows:

Europe 31 North and Central America 3 Asia 16
 Africa 6 South America 7 Oceania 2

This is two more than at the closing of the 23rd General Assembly (Sapporo, Japan, 2003) and does not

include Serbia and Montenegro, a country that evolved from the Federal Republic of Yugoslavia in 2003. In 2006, Serbia and Montenegro divided and all attempts to sort out which, if either, of the countries has a national committee for IUGG have been unsuccessful. Therefore it does not seem reasonable to count either as a member of IUGG, although both would be welcome pending routine application procedures. One country, Algeria, has withdrawn from membership according to IUGG Statutes owing to non-payment of dues. Three new members, all in Associate status, have been provisionally added: Bolivia, the Democratic Republic of the Congo, and Ghana. Five countries, Albania, Armenia, Bosnia and Herzegovina, Pakistan, and Nigeria, that were in Associate Status in 2003 have begun or resumed payment of dues and are once again regular members of IUGG. Unfortunately, several countries are in observer status according to Statute 14 owing to serious arrears of payment. Bulgaria petitioned for Associate status to maintain IUGG membership. These matters are also discussed in the Report of the Treasurer, and will be reviewed by the Council under Agenda item 6.

The current membership history is summarized in the table below.

MEMBERS	Dates of ADMISSION & TERMINATION	CATEGORY	UNITS
ALBANIA	1997-2002, 2003	1	1
ALGERIA	1971-2006		
ARGENTINA	1927	4	5
ARMENIA	2000	1	1
AUSTRALIA	1919	5	7
AUSTRIA	1948	3	3
BELGIUM	1919	4	5
BOLIVIA	1960-2000, 2006	A	0
BOSNIA & HERZEGOVINA	2003	1	1
BRAZIL	1922	3	3
BULGARIA	1930	A	0
BURUNDI	1987-1995		
CANADA	1919	6	10
CHILE	1924	2	2
CHINA	1977	6	10
CHINA – Acad. Of Sciences in Taipei	1995	4	5
COLOMBIA	1938-1971, 2000	1	1
CONGO D.R. (**)	2004	A	0
CROATIA	1992	1	1
CUBA	1960-1996		
CZECH REPUBLIC	1993	2	2
DENMARK	1923	4	5
DOMINICAN REP.	1957-1971		
EGYPT	1924	2	2
ESTONIA	1991	1	1
ETHIOPIA	1952-2000		
FINLAND	1927	3	3
FRANCE	1919	7	15

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GERMANY	1951	8	20
GHANA	1957-1987, 2006	A	0
GREECE	1922-2003		
GUATEMALA	1957-2000		
GUINEA	1987-1995		
HAITI	1956-1971		
HUNGARY	1930	2	2
ICELAND	1967	1	1
INDIA	1947	5	7
INDONESIA	1951	1	1
IRAN	1957	1	1
IRAQ	1983-1996		
IRELAND	1946	2	2
ISRAEL	1951	1	1
ITALY	1919	6	10
IVORY COAST	1975-1996		
JAPAN	1919	8	20
JORDAN	1979	1	1
KENYA	1975-1997		
KOREA	1960	2	2
KOREA /DEM.REP	1967-2000		
LEBANON	1967-2003		
LIBYA	1979-1996		
LUXEMBOURG	1971	1	1
EX-YUGOSLAVIAN REPUBLIC OF MACEDONIA	1995-2001		
MADAGASCAR	1967-1995		
MALAYSIA	1967-2002		
MAURITIUS	2003	A	0
MEXICO	1922	2	2
MONACO	1967	1	1
MONGOLIA	1995-2001		
MOROCCO	1924	A	0
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		

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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	1	1
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 U. Shamir (Israel), Vice-President T. Beer (Australia), Secretary-General J.A. Joselyn (U.S.A.), Treasurer A. Hansen (Denmark), and 3 Members: Y-T. Chen (China), H. Gupta (India) and A.A. Tealeb (Egypt).

The Bureau met three times during the term :
 -in Boulder, Colorado U.S.A. (30 – 31 August 2004)
 - in Perugia, Italy (8 – 9 September 2005)
 - in Melbourne Australia (16 – 18 October 2006)
 The Bureau will meet again in Perugia in July.

The Boulder and Perugia meetings were followed by formal Executive Committee meetings.

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 2008-2011 term was discussed.
- IUGG Associations, in particular the formation and funding of the proposed new International Association for Cryospheric Sciences
- IUGG's relationship with ICSU, including the ICSU Regional Offices, the suspended Grants Programme, and the strategic initiative on data and information (including FAGS)
- IUGG relationship with sister geoscience Unions, in particular a joint Statement of Concern to ICSU

asking for great involvement in scientific affairs and more transparency in decision-making

- Adoption of the Terms of Reference for a reconstituted International Lithosphere Programme, to be jointly administered with the International Union of Geological Sciences (IUGS)
- IUGG support of the International Year of Planet Earth
- IUGG support of young scientists, in particular nominations of persons to attend the ICSU Young Scientist Conference in April 2007
- The 2007 General Assembly, including the chairs and members of the Nominations Committee, Statutes and By-Laws Committee, the Resolutions Committee, a new site selection committee, and arrangements for special events (IGY+50, GeoSciences in Africa, the opening and closing ceremonies, etc.).

The Executive Committee

The Executive Committee (EC) formally consists of the Bureau, the immediate past President of IUGG (M. Kono, Japan) and the Presidents of the Associations. Association Secretaries-General are always invited to attend as well, with voice but without vote. The Executive Committee met twice

- in Boulder, Colorado, USA, 31 August – 2 September 2004
 - in Perugia, Italy, 9 – 11 September 2005
- The Executive Committee will meet again in Perugia in July.

Decisions at the Executive Committee meetings included the following :

- Endorsed the IAGA initiative for an Electronic Geophysical Year (eGY) and adopted it as a Union initiative

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- Adopted IUGG Guidelines for Union Commissions
- Established the Union Commission on Cryospheric Sciences; allocated \$5K/year, beginning in 2005, to support their work; formally endorsed a proposal that this Union Commission should become an Association at the 2005 Executive Committee meeting.
- Agreed to ask the Finance Committee to approve moving expenditures for CMG and SEDI from Budget line 15.1 to line 17.1
- Approved replacement of CMG (Committee on Mathematical Geophysics) Vice-Chair George Mochan (Russia) with Einat Aharonov (Israel).
- Approved nominations for changes to the GeoRisk Commission: Alik Ismail-Zadeh as President, Ramesh Singh as Vice-President, and Gerd Tetzlaff as Secretary.
- Voiced substantial objection to the suggestion of a unified format for Association web pages.
- Decided not to change the present 4-year schedule for General Assemblies, nor promote an interim Council meeting.
- Selected “Earth: Our Changing Planet” as the theme of the Perugia 2007 General Assembly.
- Approved a new mission statement
- Reaffirmed support of the concept of an IUGG project on GeoSciences in Africa and decided to suspend the call for interdisciplinary initiatives in developing countries (IUGG Budget line 18.1) for 2006-2007 in order to accumulate a fund of \$50K to be used to attract additional funding for a major project in Africa.

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 included the following.

- Maintained, redesigned and expanded the IUGG Web page
- Produced the monthly IUGG E-Journal, the annual Yearbook, and the annual Report
- Conducted ballots by correspondence concerning the admission of Bolivia, the Republic of Congo, and Ghana as Associate members, and corresponded with a number of countries (Azerbaijan, Cuba, Eritrea, Ethiopia, Georgia, Greece, Kenya, Libya, Lithuania, Macedonia, Malaysia, Mongolia, North Korea, Saudi Arabia, Singapore, Sri Lanka, Sultanate of Oman, Tunisia,

- Uzbekistan, Zimbabwe) regarding potential membership.
- Issued the calls for support of meetings and interdisciplinary initiatives, and facilitated the awards
- Announced the death of Honorary Secretary General Paul Melchior (September 2005)
- Facilitated the work of the IUGG Nominations and Statutes and By-laws committee, reviewed the draft Statutes and By-laws for the proposed new Association; reviewed proposed changes to the Statutes and By-laws for other Associations
- Drafted the Guidelines on IUGG Administration
- Attended meetings of the Federation of Astronomical and Geophysical Data Analysis Services (FAGS) in 2005 and 2006, ICSU Unions meetings in 2004 and 2007, and the ICSU General Assembly in 2005
- Supported the Scientific Programme Committee and the Local Organizing Committee in preparations for the 2007 General Assembly

It has been an honor and a privilege to serve IUGG in this office since 1999. I have benefited enormously from the guidance and assistance of the members of the IUGG Bureau during the past eight years, especially Presidents Uri Shamir and Masaru Kono, Treasurer Aksel Hansen, Vice-President and Bureau member Tom Beer, and Bureau members J-T Chen and Y-T Chen, Harsh Gupta, Ali A.A. Tealeb, and L V. Shannon.

The office of the Secretary General has been hosted by the University of Colorado within CIRES – the Cooperative Institute for Research in Environmental Sciences, and was financially supported by a grant from the US National Research Foundation in cooperation with the Board on International Scientific Organizations within the National Research Council of the National Academies. The grant permitted the hire of part-time assistants who helped to manage the database, correspond with the Member Adhering Bodies and IUGG officers, and prepare reports and mailings. During the past 4 years, it has been my special pleasure to have worked with Katina Rogers, whose support of the duties of the Secretariat cannot be underestimated. I have appreciated her language skills, talent, dedication, humor and friendship.

My best wishes go to my successor, who will undoubtedly also benefit from the extraordinary experience of working with excellent scientists, worldwide, to promote the goals of IUGG.

Jo Ann Joselyn
February 16, 2007

QUADRENNIAL REPORT OF THE TREASURER, DR. A. HANSEN
24TH GENERAL ASSEMBLY, PERUGIA, ITALY, 2-13 JULY 2007

Introduction

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

- 1) The final accounting of 2000 – 2003 quadrennial (each year + accumulated) compared to the budget (enclosure 1).
- 2) A preliminary accounting for the present quadrennial 2004 – 2007 (each year + accumulated) (enclosure 2).
- 3) The 2004-2007 budget from Sapporo 2003 with adjustments made in Boulder 2004.

This procedure for reporting on the finances is a continuation of what was done at the General Assembly in Sapporo in 2003. 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 quadrennial. Instead it is accepted to present it at the next GA together with a preliminary accounting for the present quadrennial. Therefore in Perugia the final accounting for the quadrennial 2000 – 2003 will be shown. (1 page enclosed)

At the time of writing the preliminary report for 2004-2007 includes the year 2007 budget as a substitute for the accounting for the same year. In Perugia in July it will be possible to present a better estimate of the accounting for 2007.

The budget for the period 2004 to 2007 is presented in attachment no 3. At the Bureau meeting in Boulder, 2004, the Sapporo budget was adjusted slightly to accommodate decisions made prior to the meeting.

The final accounting for 2000 - 2003

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. The improved balance was incorporated in the budget in Boulder 2004 where also a few other adjustments were added.

The preliminary accounting for the years 2004 to 2007

Income:

The first 3 years of the budget period 2004 – 2007 show higher income than given in the budget:

- 1: the members have paid more dues
- 2: IUGG received a significant surcharge in Sapporo

3: although IUGG didn't get interest in 2004 the overall interest is higher because of year 2006

4: a higher price of 1 unit: it increased from US\$ 1,485 in 2004 to US\$ 1,630, app. 10%

The number of members withdrawing from IUGG is only 3 in the present quadrennial as compared to 15 in the previous period. IUGG has got 3 new members, one in category 1 + 2 as associate members. This also contributes to a better economy.

In fact during the quadrennials 1992-1995, 1996-1999 and 2000-2003 the actual number of units paid to IUGG went down from 1170 over the first mentioned 4 year period to 1066 in the last. We hope that this decline in contributing member countries now will level off and maybe even reverse to an increase.

A small change in the way the price of 1 unit is calculated had to be introduced in 2004/2005 because the European Union stopped issuing the OECD inflator tables. Instead an US Labor Department inflator index has been used since then. The new index was calibrated against the old index for the last few years of overlapping.

Based on the above analysis one can conclude that it is very likely that IUGG will come out the quadrennial with a higher income than in the budget. However, the buying power of the income is of course lower following the inflation. In addition the US dollar is weak here in 2006/2007 which can affect the level of the union's activity, at least indirectly. Much of the IUGG expenditure is in US dollars so the exchange rate of US dollar is not felt explicitly.

Expenditure:

Generally speaking none of the expense lines show higher expenditure compared to the budget except line 13.1 (because of the payment in 2004 of the 2003 video production in Sapporo). For several lines the accounting and budget numbers follow each other closely: e.g. travel expenses, allocations to the associations/symposia and dues to ICSU and inter-union activities. One must however notice that we can already now see that allocation to the associations will be high in 2007 as a result of the high income from dues in 2006.

For a few of the lines the expenditure is lower than the budget: 1) the cost of personnel is lower than the amount allocated to this expenditure line. For the whole period only half the allocation is actually spent on personnel. 2) the cost of publishing the IUGG Yearbook does not appear in the IUGG accounting as it has been paid with money from other sources.

And finally a major difference between accounting and budget is seen in line 18, the so called initiative line introduced in Birmingham in 1999. There has been no allocation in 2006 and 2007 from this line.

As an union member of ICSU IUGG is paying dues to ICSU. In contrast to IUGG ICSU is strongly dependent on the value of EUR, but not on USD. ICSU is now requesting that payment of dues is paid in EUR. For IUGG this means EUR 13,472 instead of USD 13,472, an increase of app. 30% in one step. The dues for 2007 is not yet paid.

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. However, an expenditure of 30.000 not included in the 2003 budget was committed to the support of the IYPE programme. In Boulder 2004 during the Bureau meeting there the two numbers above were taken in to account in the budget as adjustments added to the budget from Boulder. This adjustment was cleared with the Finance Committee represented at the meeting.

At the time of writing the financial report the estimated balance for the whole period 2004-2007 is close to zero as opposed to the decrease of US\$ 92,000 in the budget including the adjustments. This is mainly due to the higher income in 2006. Compared to the budget without adjustments the outgoing balance in 2007 is expected to be significantly higher. The reason being the higher income plus the improved incoming balance in 2004.

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. It is essential that we reverse the trend with increasing smaller number of paid units. For a long time the loss of member dues has been compensated by the increased price of 1 unit. Meaning the buying power of the more or less constant income is slowly decreasing.

As Treasurer of IUGG I want to thank every body I have been in contact with concerning IUGG business. In particular, I will send many thanks to Secretary General JoAnn Joselyn and her assistant Katina Rogers, with whom I have almost daily correspondence. Also thanks to the President and the entire Bureau and the Presidents and Secretary Generals of the Associations. I have had a close cooperation and many stimulating discussions with the IUGG Finance Committee, especially its chairman Michael Hamlin. Anders Svensson has been a very good assistant treasurer and he has made important contributions to the smooth running of the treasurer's office. Likewise Lise Gregersen until late 2005 and since summer 2006 Helle Eriksen have been very reliable assistants in running the general administration of my office.

Best regards

Aksel Walløe Hansen
Treasurer, IUGG

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, 2007, IUGG has 66 member countries (3 up as compared to 2003). IUGG has lost 3 members since 2003, but we have welcomed 6 new members.

The 66 members represent a total of 274 units. In early 2007 we have received payment from 242 units for 2006. The remaining 32 units are distributed over 13 members in observer status. On January 1st 2 more members were in observer status, but they have since paid their dues (20 units).

**Membership tables
 2006/2007**

1) Payments for 2006 (the member distribution for 2007 is shown in red)

Category	Units in	Number	Number	Paid 2006
Category	countries	of units	numbers	units
A	0	7/8	0	
1	1	22/20	22/20	13
2	2	13	26	11
3	3	5	15	3
4	5	7	35	6
5	7	4	28	4
6	10	4	40	3
7	15	1	15	1
8	20	3	60	3
9	25			
10	30			
11	35	1	35	1
12	40			
Total	67/66	275/274	45	242 (number of units from paid-up members only)
USD (2006 values)		440.000 /446.620		384.000

Special consideration:

D.R. Congo did not pay for 2004 - 2006, they will get a new invoice for 2007, although they are considered A-member in 2007 until payment is received.

In 2007 Algeria is taken out of the table, therefore only 66 members on January 1st.

2) Countries in Observer Status (countries in arrears for 2006 and/or earlier) **January 1:** (later changes shown in blue)

Cat.	Units	Countries
1	7*1	Colombia, Venezuela, Mozambique, Croatia, Iran, Slovak Rep., Vietnam
2	2*2	Pakistan, Mexico
3	2*3	Philippines, South Africa
4	2*5	Argentina, Academia Sinica-Taipei
6	1*10	Russia
7	1*15	France
Total	52 units	15 countries

At the time of the writing of this report France and Academia Sinica, Taipei, have paid their dues for 2006.

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In the next table we can see that the members in observer status are owing a total of \$89,424. as compared to \$108,937. one year earlier to IUGG. All the debt is for 2003 through 2006.

For the whole period 2000-06 the amount "lost" by members converting to Associate status or withdrawing from the union is a substantial amount of money that will not be recovered. As an example Algeria withdrew in 2007 from IUGG leaving behind a debt of app. US\$ 6,000. that is now lost.

3) Dues in arrears

	2003	2004	2005	2006	Total	
Colombia		1.455	1.485	1.525	1600	6.065
Mozambique			1.525	1600	3.125	
Venezuela		1.455	1.485	1.525	1600	6.065
Philippines		947	4.575	4800	10.322	
Old observers	2.910	3.917	9.150	9.600	25.577	
				2006	Total	
Croatia				1.600	1.600	
Iran				1.600	1.600	
Slovak Rep.				1.600	1.600	
Vietnam				1.600	1.600	
Pakistan				3.200	3.200	
Mexico				3.200	3.200	
South Africa				4.800	4.800	
Argentina					8.000	8.000
Academica Sinica-Taipei				8.000	8.000	(February 12: paid)
Russia				10.230	10.230	
France				20.017	20.017	(February 12: paid)
New observers in 2007				63.847	63.847	
Total				73.447	89.424	

IUGG Members, January 1, 2007

Member Country	Category	
8 adhering bodies in	A	
Bolivia		
Ghana		
Morocco		
Peru		
Serbia and Montenegro	separated ?	
Bulgaria		
Mauritius		
D. R. Congo		
1 adhering body in	11	35 units
USA		
3 adhering bodies in	8	60 units
Germany		
Great Britain		
Japan		
1 adhering body in	7	15 units
France		
4 adhering bodies in	6	40 units
Canada		
China		

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Italy			
Russia		observer	
4 adhering bodies in	5		28 units
Australia			
India			
Spain			
Switzerland			
7 adhering bodies in	4		35 units
Academy Sinica, Taipei			
Argentina		observer	
Belgium			
Denmark			
Netherlands			
Norway			
Sweden			
5 adhering bodies in	3		15 units
Austria			
Brazil			
Finland			
Philippines		observer	
South Africa		observer	
13 adhering bodies in	2		26 units
Chile			
Czech Republic			
Egypt			
Hungary			
Ireland			
Korea, South			
Mexico		observer	
Nigeria			
Pakistan		observer	
Poland			
Portugal			
Thailand			
Turkey			
Member Country	Category		
20 adhering bodies in	1		21 units
Albania			
Armenia			
Bosnia & Herzegovina			
Colombia		observer	
Croatia		observer	
Estonia			
Iceland			
Indonesia			
Iran		observer	
Israel			
Jordan			
Luxembourg			
Monaco			
Mozambique		observer	
New Zealand			
Romania			
Slovak Republic		observer	
Slovenia			
Venezuela		observer	
Vietnam		observer	

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Countries withdrawn 2000-2004		Category
In 2003		
Malaysia		1
Greece		3
In 2004		
Myanmar		1
Lebanon	1	
In 2007		
Algeria		1
New members		
In 2003		
Bosnia-Herzegovina		A
Albania	A	
Mauritius		A
In 2004		
D. R. Congo		1
Until the end of 2007 considered A-member		
In 2006		
Ghana		A
Bolivia		A

**QUADRENNIAL REPORT OF THE INTERNATIONAL ASSOCIATION OF GEODESY
24TH GENERAL ASSEMBLY, PERUGIA, ITALY, 2-13 JULY 2007**

(1) Central Bureau activities.

Since the adoption of the new statutes and by-laws at the Sapporo General Assembly, IAG has both, National Members and individual (personal) members. A main function of the Central Bureau is now related to the contact with these personal members. The Central Bureau maintains and updates a database of addresses of individual members and it keeps track of their membership fees. It maintains the accounts related to the IUGG allocation.

The function of the Central Bureau has changed due to the establishment of a Communication and Outreach Branch (see section (5)), which since November 2003 publishes a monthly Newsletter, maintains the IAG home-page (<http://www.iag-aig.org>) and promotes IAG and geodesy as such.

The Geodesists Handbook, 2004, edited by Dr. O.B. Andersen was published. (Journal of Geodesy, Vol. 77, no. 10-11, April 2004).

The Central Bureau has prepared the EC meetings and it participated in the IUGG EC meeting.

(2) The Executive Committee (EC).

At a meeting of the IAG Council in September 2001 new statutes and by-laws were adopted by the IAG Council. Since 2003 it was a major task of the EC to implement the new structure. This structure is based on the research-oriented Commissions, on the monitoring-oriented IAG Services, and on a new structural element, the Communication and Outreach branch (COB). Furthermore so-called inter-commission committees (ICC's) and one IAG project (see section (7)) have been established.

The EC held several meetings, where the main topic was the implementation of the new IAG structure. The first of these meetings took place on April 11, 2003 in Nice, France, where in addition the IUGG/IAG General Assembly in Sapporo was prepared. The EC prepared the establishment of three ICC's, namely on Standards, on Planetary geodesy and on Theory, and it initiated the IAG Project called "Integrated Global Geodetic Observing System" (IGGOS), later on renamed as GGOS (for more information see section (7)).

The EC met 2004 in Nice, in 2005 in Cairns, Australia, in connection with the IAG Scientific Assembly, and 2006 in Vienna, Austria, in connection with the EGU General Assembly.

(3) IUGG/IAG General Assembly, July 2003, Sapporo, Japan.

The IAG General Assembly 2003 in Sapporo was considered to be too long, which is why IAG reduced its own program to only 4+4 weekdays. This program covered presentations of reports and scientific papers for the five IAG Sections in the seven first days; the last day was devoted to a symposium on IGGOS. The section symposia were reviewed and have been published in the IAG Symposium Series by the Springer Verlag. All the national reports had been published before the General Assembly in the "Travaux de l'Association Internationale de Géodésie", on a CD-ROM.

The national reports were distributed at the IAG general assembly. Many of them were available in electronic form. They are now available through links on the IAG homepage.

During the IAG General Assembly the Council had 2 meetings. The auditors reported on the IAG accounts, and the new budget was approved. The council also adopted a number of resolutions, which subsequently were adopted as general IUGG resolutions. The council also approved the establishment of the above mentioned ICCT's and strongly endorsed the IGGOS project. The council did not conduct any elections, because the elections had been performed prior to the general assembly by e-mail ballot.

The outcome of the elections and of the essential decisions of the administrative meetings have been published in the Geodesists Handbook 2004,

(4) Individual membership.

With the new statutes and by-laws individual membership has been introduced. The individual members receive a newsletter and they have various other benefits. The membership fee is USD 50, with a discount of 1 year, if the membership fee is paid for 3 (4) years. Institutions may pay the institutional membership fee for a number of coworkers. Students and retired colleagues do not have to pay the membership fee, provided that they were able to receive the IAG newsletter by e-mail. By the end of the year 2006 260 scientists had signed up as IAG members, of which about 150 paid the regular membership fee.

(5) Communication and Outreach.

Based on two responses to a call for participation the EC decided to establish the new COB under the leadership of Prof. Joseph Adam at the Budapest University of Technology and Economics. The COB has established a modern web-page: <http://www.iag-aig.org> and prepares material for the promotion of IAG activities. Part of the information is password-protected and only available to the individual members.

The following outreach workshops and schools were organized:

IAG-IASPEI Joint Capacity Building Workshop, 17-23 January 2005, Miramare-Trieste, Italy.

The “School on the determination and use of the geoid”, was conducted first in Budapest, Hungary in February 2005 and then in June 2006 in Copenhagen, Denmark.

A Geoid School for our colleagues of French tongue took place 27 June – July 1 in France.

A “Summer School on Microgravimetric methods: static and dynamic aspects” took place 23-28 October 2005 in Lanzarote, Canary Islands, Spain.

(6) Coordination with organizations in the field of surveying, cartography and remote sensing.

The JB-GIS (Joint Board of the Geospatial Information Societies) meets annually on the occasion of the general assembly of one of the participating organizations (IAG, FIG, ISPRS, ICA, IHO, IMTA). The IAG president participated in these annual meetings in the time period 2003-2006 (2003 in Durban, South Africa; 2004 in Istanbul, Turkey; 2005 in Cairo, Egypt, and 2006 in Vienna, Austria).

(7) GGOS Activities

GGOS stands for Global Geodetic Observing System. According to the IAG Statutes and ByLaws, this IAG Project is viewed as IAG’s flagship, focusing the work of all IAG entities (Commissions, ICCs, Services) to generate IAG’s contribution to the field of Earth Sciences. The GGOS activities were a (if not the) central element of all IAG activities in the 2003-2007 period. The GGOS activities are based on the IUGG Resolution No. 3 taken at the IUGG General Assembly 2003 in Sapporo.

Prof. Christoph Reigber (GFZ, Germany), as Chair, and Prof. Hermann Drewes (DGFI, Germany), as secretary, led the so-called definition phase of the GGOS project from 2003 to 2005 (between the IUGG General Assembly in Sapporo and the IAG Scientific Assembly in Cairns). The result of their work was presented at the IAG

Scientific Assembly in Cairns, Australia, in the form of the report “GGOS Implementation Plan”. The document and the associated plan were endorsed by the IAG Executive Committee at its meeting in Cairns. Moreover the IAG EC, appointed Prof. Markus Rothacher (GFZ, Potsdam) as Chair, Prof. Hans-Peter Plag (University of Reno) and Ms. Ruth Neilan (Director, IGS (=International GNSS Service) Central Bureau) as Co-Chairs of GGOS project for the next four years, a time period which is now called the GGOS implementation phase. The IAG Services, the IAG Commissions, and the ICC on Theory are now developing the strategy document “the Global Geodetic Observing System: Meeting the requirements of a global society on a changing planet in 2020”. This document contains the GGOS specifications, in particular the underlying concepts, the conventions, the required infrastructure, and the key products; it lists the participating IAG services and the required new entities (services or bureaus). The document shall be presented to the IAG EC at its first meeting at the IAG/IUGG General Assembly in Perugia and provide the basis for the future development of GGOS.

(8) Participation of IAG in the Group on Earth Observation, GEO.

GEO was established by a declaration of 33 nations plus the European Commission during the Earth Observation Summit held in Washington, DC, on July 31, 2003. Since May 2004 IAG is a so-called participating organization in GEO. The IAG EC decided that GGOS should act on behalf of IAG in the GEO. Since 2004 IAG has been very active in GEO, in particular with respect to the development of the GEOSS (System of Systems) and the 10-Year Implementation plan. The GGOS Chair is coordinating IAG’s work in GEO.

(9). IAG organized or sponsored Meetings:

10 Years IGS Workshop and Symposium, March 1-5, 2004, Berne, Switzerland.

Second International GOCE User Workshop, “GOCE, The Geoid and Oceanography”, ESA-ESRIN, Frascati (Rome), Italy, 8-9-10 March 2004. (IAG Sponsored).

14th (2004) EUREF Symposium of the IAG Sub-commission for Europe, 2-5 June 2004, Bratislava, Slovakia and the 15th EUREF Symposium, 1-4 June 2005 in Vienna, Austria. The EUREF 16 Symposium, June 14-17, 2006. Riga, Latvia.

1st FIG International Symposium on Engineering Surveys for Construction Works and Structural Engineering, Nottingham 28 June – 1 July, 2004. (IAG Sponsored).

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15th International Symposium on Earth Tides, 2-6 August 2004, Ottawa, Canada.

Gravity, Geoid and Space Missions – GGSM2004, 30 August –3 September 2004, Porto, Portugal

XII General Assembly of the WEGENER project, 21-23 September 2004, Tangier, Morocco and XIII Assembly, 4-7 September, 2006, Nice, France.

Int. Workshop on “Deformation and Gravity Change: Indicators of isostasy, tectonics, volcanism and climate change”, Lanzarote, Canary Islands, Spain. 2004.

International Symposium on Geodetic Deformation Monitoring. From geophysical to engineering roles, 17-19 March 2005 in Jaen, Spain.

IAG/IAPSO Scientific Assembly “Dynamic Planet 2005”, 22-26 August 2005 in Cairns, Australia.

7th Conference on optical 3-D measurements took place 3-5 October 2005 in Vienna, Austria.

3rd IAG Symposium for geodetical and Structural Engineering and 12th FIG Symposium on Deformation Measurements, May 22-14, 2006, Baden, Austria.

VI Hotine-Marussi Symposium of Theoretical and Computational geodesy: Challenge

and role of modern geodesy. 29 May – 2 June 2006, Wuhan, PR China.

Int. Workshop “Height systems, geoid and gravity of the Asia-Pacific”, June 6-8, 2006, Ulaanbaatar, Mongolia.

Understanding Sea-level rise and variability WCRP Workshop, 6-9 June 2006, Paris, France (IAG Sponsored).

AFREF Technical Workshop, 9-13 July 2006, Cape Town, South Africa.

International Workshop on quality improvement and coastal-land applications of satellite altimetry, July 21-22, 2006, Beijing, PR China.

“Gravity Field of the Earth” – 1st Int. Symposium of the IGFS, 28 Aug.-1 Sep. 2006, Istanbul, Turkey.

Symposium “Geodetic reference Frames”, GRF2006, 9-13 October 2006, Munich, Germany.

(10). Services.

The International Gravity Field Service (IGFS) has included a new center, the International Center of Global Earth Models (ICGEM). The establishment of a Satellite Radar Altimetry service is in progress in cooperation with IAPSO.

Christian Tcherning

Secretary General, IAG

QUADRENNIAL REPORT OF THE INTERNATIONAL ASSOCIATION OF GEOMAGNETISM AND AERONOMY

24TH GENERAL ASSEMBLY, PERUGIA, ITALY, 2-13 JULY 2007

Outstanding frontiers of research in geomagnetism and aeronomy in the period 2003-2006 have included 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 Research" in securing continuous satellite mapping of the Earth's magnetic field, culminating in the SWARM mission; geomagnetic precursors and signals associated with earthquakes and volcanoes; progress in understanding the origin and behaviour of the main field 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 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: In 2003 the XXIIIrd IUGG General Assembly in Sapporo took place with a major IAGA involvement (53 IAGA-led symposia, 1601 papers) and in 2005 the Xth IAGA Scientific Assembly was held in Toulouse (61 symposia, 1390 papers). Most of the preparations for the XXIVth IUGG General Assembly to be held in Perugia in July 2007 (57 IAGA-led symposia) have also been made in this period.

Strategic directions for IAGA: a process of determining future priorities for IAGA, involving both young and more experienced scientists, was undertaken during the 2003-2006 period. The changes listed below are examples of the results of this exercise. To make IAGA more attractive to younger scientists, the EC is recommending that the Past-President and second Vice-President positions on the EC be replaced by new, younger members. This change will require acceptance by the IAGA Conference of Delegates at the Perugia General Assembly.

Important decisions by the Conference of Delegates in Toulouse: (1) The duration of future IAGA Assemblies, General as well as Scientific, will be 6 full working days for the scientific programme (generally Monday to Saturday) and one preceding day (Sunday) for administrative meetings. (2) The next IAGA Scientific Assembly will take place in Sopron, Hungary, in late August 2009.

Topical meetings: In the four-year period 2003-2006, IAGA sponsored 22 topical meetings covering large parts of the IAGA science. The IAGA financial contributions amounted to a total of USD 27 000, directed mainly at helping needy scientists attend.

IGY+50 and eGY: The 50-year anniversary of IGY will be celebrated by IUGG and IAGA in Perugia. IAGA is 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. eGY will be officially launched in Perugia on 7th July 2007. 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, 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: IAGA Medals for Outstanding Long Service have been awarded by the IAGA Executive Committee to Raghav Chandra Deka (India) and to Toyohisa Kamei (Japan).

At the IAGA Assembly in Toulouse in 2005, an IAGA Young Scientist Presentation Award was established. The three first awards of this kind were agreed during the fall of 2006: to Anna Khanukhina (Russia), Annika Seppälä (Finland), and Tracy Moffat-Griffin (United Kingdom). The award consists of support to participate in the next IAGA/IUGG Assembly.

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To add balance to the small list of IAGA awards, the Executive Committee decided in 2006 to prepare the case for establishing a new medal for outstanding scientific services to IAGA by a scientist who is prominent, and who would not, therefore, qualify for the Long Service Medal.

For the Executive Committee of IAGA
Bengt Hultqvist
Secretary General

QUADRENNIAL REPORT OF THE INTERNATIONAL ASSOCIATION OF HYDROLOGICAL SCIENCES

24TH GENERAL ASSEMBLY, PERUGIA, ITALY, 2-13 JULY 2007

The main activities involving IAHS as a whole have been the IAHS General Assembly (**Sapporo, Japan, 2003**), the IAHS Scientific Assembly (**Foz do Iguaçu, Brazil, 2005**) and the preparation of the **Perugia** IAHS General Assembly.

In **Sapporo**, in the framework of the **IUGG General Assembly**, IAHS has been the lead Organization for 9 Symposia and 8 Workshops and co-convened 15 events together with other IUGG Associations. IAHS also contributed to the Union Symposia “**State of the Planet**”. The IAHS Bureau met two times and the nine IAHS Commissions held their Assembly. More than twenty countries participated to the election of the new IAHS Officers. **Arthur Askew** from Australia is the New President-elect and **Pierre Hubert** (France) has been elected as Secretary General. **Louise Heathwaite** (UK), **Xia Jun** (China) and **Chris Leibundgut** (Germany) are the new Vice-Presidents. 45 Officers of the Commissions, including 7 women have also been elected.

The **VIIth Scientific Assembly** has been held in **Foz do Iguaçu (Brazil)** from 3 to 9 April 2005, first IAHS Assembly in South America. This Assembly attracted 459 participants from 56 countries. The venue offered by our Brazilian colleagues was perfect from all points of view. On the scientific side 7 Symposia and 7 workshops have been held under the overall theme of “**Freshwater : Sustainability within Uncertainty**”. At the beginning of the Assembly occurred the transfer of Presidency from **Kuni Takeuchi** to **Arthur Askew**, elected two years before in Sapporo.

During the past four years, the IAHS Bureau met in **Sapporo**, Japan (2003), **Paris**, France (2004), **Foz do Iguaçu**, Brazil (2005) and again **Paris**, France (2006). It has been decided to hold the IAHS VIIth Scientific Assembly in **Hyderabad** (Andhra Pradesh, India) in September 2007. It will be an event jointly organized with the IAH (International Association of Hydrogeologists). First Inputs for the Scientific Program of this Assembly have been requested from Indian Scientific Bodies and from IAHS Commissions.

An important decision for IAHS has been the approval of the movement to transform the IAHS International Commission for Snow and Ice (ICSI), first into a Union Commission on Cryospheric Sciences (decided in **Boulder**, September 2004), then into a full International Association for Cryospheric Sciences within IUGG, planned to be

launched in **Perugia** in July 2007. This transformation gives a happy end to a long standing problem within IAHS. A new IAHS International Commission, the International Commission for Snow and Ice Hydrology (ICSIH), created in **Foz do Iguaçu** in 2005, deals with purely Hydrological Snow and Ice matters, in full cooperation with the new Cryospheric IUGG Body.

The **Hydrology 2020** Working Group, launched in **Maastricht** (2001), and led by **Taikan Oki**, has presented the present advancement of his Work in **Sapporo** (2003) and in **Foz do Iguaçu** (2005). The Synthesis of the Hydrology 2020 Working Group has been gathered in a Red Book (IAHS Publ. 300) published early 2006 which has been officially presented during a devoted Symposium held in **Delft**, The Netherlands (June 2006) and during a special session organized during the UNESCO-IHP Council in **Paris** (July 2006).

The **PUB** (Prediction in Ungauged Basins) Working Group has been officially launched during a Meeting held in **Brasília**, Brazil in November 2002 after a preparatory Meeting held in **Kofu** (Japan) in March of the same year. The development of the initiative has been approved during the **Sapporo** Assembly and his “**Science and Implementation Plan**” has been finalized and published in the 2003 December issue of **Hydrological Sciences Journal**. A first regional meeting has been held in **Paris** (November 2003) and an Australian-Japanese meeting is supposed has been held in **Perth** (Australia) in February 2004, followed by many others like **Predicting Ungauged Streamflow in the Mackenzie River Basin, Today's Techniques & Tomorrow's Solutions (Yellow Knife**, Canada, March 2004), **Modelling Hydrological Responses in Ungauged Catchments (Osnabrück**, Germany, June 2004), **International IAHS-PUB Workshop on Uncertainty Analysis in Environmental Modeling (Menaggio**, Italy, July 2004), **PUB Session on Methodology of Trans-regional Application of Hydrological Models (Colombo**, Sri Lanka, November 2004). First led by **Murugesu Sivapalan**, the PUB Working Group is led by **Jeff Mc Donnell** since the **Foz do Iguaçu** Assembly and until the **Perugia** Assembly. A Permanent Secretariat has been created, managed by **Saman Weerakoon** and **Vladimir Smatkhin**, hosted by the International Water Management Institute in Colombo (Sri Lanka). This secretariat manages a devoted Web Site and publishes a regular Newsletter.

The International Prize of Hydrology, awarded annually on an individual basis in recognition of an outstanding contribution to the science (A joint IAHS, UNESCO and WMO initiative) has been awarded to **Dr Alan Gustard** (UK) in 2003, **Dr John Rodda** (UK) in 2004, **Pr Gert A. Schultz** (Germany) in 2005 and **Pr W.J. Shuttleworth** (USA) in 2006

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 2003 it has been awarded to **Drs Y. Agata, S. Kanae, T. Oki, T. Saruhashi and D. Yang** (Japan), in 2004 to **Dr F. Chiew** (Australia), in 2005 to **Dr F. Sheng Yue** (China) and in 2006 to **Dr Özgür Kişi** (Turkey / *Turquie*)

Publication is an important sector of activity for IAHS. This activity is undertaken in 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 *Hydrological Sciences Journal* with 4 issues a Year and now about 12 papers per issue. The Journal is directed by **Z.W. Kundzewicz** (IAHS Editor) assisted since 2006 by **D. Koutsoyannis**. We can notice with satisfaction the continuous increasing of the Impact Factor of our Journal, reaching 1.6 at the level of the best Water related Journals. In the 2003-2006 period IAHS Press also published 32 Red Books which give a general and synthetic view of the IAHS Scientific Activity:

Calibration and Reliability in Groundwater

Modelling: A Few Steps Closer to Reality, Edited by *K. Kovar & Z. Hrkal*, IAHS Publication 277.

Hydrology in Mediterranean and Semiarid

Regions, Edited by *Eric Servat, Wajdi Najem, Christian Leduc & Ahmed Shakeel*, IAHS Publication 278.

Erosion Prediction in Ungauged Basins (PUBs):

Integrating Methods and Techniques, Edited by *Dirk H. de Boer, Wojciech Froehlich, Takahisa Mizuyama & Alain Pietroniro*, IAHS Publication 279.

Water Resources Systems Global Change, Risk Assessment and Water Management, Edited by *Stewart Franks, Günter Blöschl, Michio Kumagai, Katumi Musiaka & Dan Rosbjerg*, IAHS Publications 280 & 281.

Weather Radar Information and Distributed Hydrological Modelling, Edited by *Yasuto Tachikawa, Baxter E. Vieux, Konstantine P. Georgakakos & Eiichi Nakakita*, IAHS Publ. 282.

Erosion and Sediment Transport Measurement in Rivers: Technological and Methodological Advances, Edited by *J. Bogen, T. Fergus & D. E. Walling*, IAHS Publication 283.

World Catalogue of Maximum Observed Floods / Répertoire mondial des crues maximales observées, Compiled by *Reg Herschy*, IAHS Publication 284.

Wastewater Re-use and Groundwater Quality, Edited by *Joop Steenvoorden & Theodore Endreny*, IAHS Publication 285

The Basis of Civilization – Water Science? Edited by *John C. Rodda & Lucio Ubertini*, IAHS Publ. 286

Scales in Hydrology and Water Management / Echelles en hydrologie et gestion de l'eau, Edited by *Ioulia Tchiguirinskaia, Mike Bonell & Pierre Hubert*, IAHS Publ. 287

Sediment Transfer Through The Fluvial System, Edited by *Valentin Golosov, Vladimir Belyaev & Des E. Walling*, IAHS Publ. 288.

GIS and Remote Sensing in Hydrology, Water Resources and Environment, Edited by *Yangbo Chen, Kaoru Takara, Ian D. Cluckie, & F. Hilaire De Smedt*, IAHS Publ. 289

Northern Research Basins Water Balance, Edited by *Douglas L. Kane & Daqing Yang*, IAHS Publ. 290

Sediment Budgets 1, Edited by *Des E. Walling & Arthur J. Horowitz*, IAHS Publ. 291.

Sediment Budgets 2, Edited by *Arthur J. Horowitz & Des E. Walling*, IAHS Publ. 292.

Sustainable Water Management Solutions for Large Cities, Edited by *Dragan A. Savic, Miguel A. Mariño, Hubert H. G. Savenije & Juan Carlos Bertoni*, IAHS Publ. 293.

Dynamics and Biogeochemistry of River Corridors and Wetlands, Edited by *Louise Heathwaite, Bruce Webb, Don Rosenberry, David Weaver & Masaki Hayashi*, IAHS Publ. 294.

Regional Hydrological Impacts of Climatic Change : Impact Assessment and Decision Making, Edited by *Thorsten Wagener, Stewart Franks, Hoshin V. Gupta, Eva Bøgh, Luis Bastidas, Carlos Nobre & Carlos de Oliveira Galvão*, IAHS Publ. 295.

Regional Hydrological Impacts of Climatic Change : Hydroclimatic Variability, Edited by *Stewart Franks, Thorsten Wagener, Eva Bøgh, Hoshin V. Gupta, Luis Bastidas, Carlos Nobre & Carlos de Oliveira Galvão*, IAHS Publ. 296.

Bringing Groundwater Quality Research to the Watershed Scale, Edited by *Neil R. Thomson*, IAHS Publ. 297.

Permeable Reactive Barriers, Edited by *Genevieve A. Boshoff & Brian D. Bone*, IAHS Publ. 298.

Geomorphological Processes and Human Impacts in River Basins, Edited by Ramon J. Batalla & Celso Garcia, IAHS Publ. 299.

Hydrology 2020 : An Integrating Science to Meet World Water Challenges, Edited by Taikan Oki, Caterina Valeo & Kate Heal, IAHS Publ. 300.

Predictions in Ungauged Basins: International Perspectives on the State of the Art and Pathways Forward, Edited by Stewart Franks, Murugesu Sivapalan, Kuniyoshi Takeuchi & Yasuto Tachikawa, IAHS Publ. 301.

Sustainability of Groundwater Resources and its Indicators, Edited by Bruce W. Webb, Ricardo Hirata, Eduardo Kruse & Jaroslav Vrba, IAHS Publ. 302.

Predictions in Ungauged Basins: Promises and Progress, Edited by Murugesu Sivapalan, Thorsten Wagener, Stefan Uhlenbrook, Erwin Zehe, Venkat Lakshmi, Xu Liang, Yasuto Tachikawa & Praveen Kumar, IAHS Publication 303

Calibration and Reliability in Groundwater Modelling : From Uncertainty to Decision Making, Edited by M. F.P. Bierkens, J.C. Gehrels & K. Kovar, IAHS Publication 304.

Frontiers in Flood Research / Le point de la recherche sur les crues, A joint IAHS / IHP-UNESCO publication, Edited by Ioulia Tchiguirinskaia, Khin Ni Ni Thein & Pierre Hubert, IAHS Publ. 305.

Sediment Dynamics and the Hydromorphology of Fluvial Systems, Edited by John S. Rowan, Robert W. Duck & Alan Werritty, IAHS Publ. 306.

Large Sample Basin Experiments for Hydrological Model Parameterization: Results of the Model Parameter Experiment – MOPEX, Edited by Vazken Andréassian, Alan Hall, Nanée Chahinian & John Schaake, IAHS Publ. 307.

Climate Variability and Change : Hydrological Impacts, Edited by Siegfried Demuth, Alan Gustard, Eduardo Planos, Fred Scatena & Eric Servat, IAHS Publ. 308

In addition, IAHS Press regularly publishes the *IAHS Newsletter* (4 issues per year) and also published **Hydrology: A Question of Balance**, by J.V. Sutcliffe, (IAHS Special Publication no. 7) in the “*Blue Books*” Series. A New Series “*Benchmark Papers in Hydrology*”, directed by Jeff Mc Donnell has been launched by IAHS Press, the first title of this series published in 2006 being “*Streamflow Generation Processes*” edited by K.J. Beven. An important effort has been undertaken to make freely available on line all “Old” (More than 5 years old) IAHS Publications. This effort has been first concentrated on the Red

Books and 94 Red Books are presently available on line, representing more than 35000 pages of hydrologic literature. The effort has been extended in 2006 to the *Hydrological Sciences Journal*. At the present time 20 volumes (1956-1975) 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 of Africa, Asia, South-America and Eastern Europe.

Our close and traditional cooperation with different Agencies of the UN System has been continued during the last 4 years. We participate to the Work of the *UNESCO-WMO* Standing Group on the International Glossary of Hydrology and to the steering Committee of the *UNESCO-WMO World Climate Program - Water*. We have been involved in the definition and implementation of the new *International Flood Initiative* led by *UNESCO and WMO* and have been invited to contribute to the 2005-2015 UN International Decade “*Water for Life*”. *UNESCO, WMO and IAEA* generously supported the attendance of participants from developing countries to the IAHS General Assembly of *Sapporo* and to the IAHS Scientific Assembly of *Foz do Iguaçu*.

An IAHS representative or delegation has been invited and attended the different meetings of the *UNESCO International Hydrological Program* : IHP Bureau (*Paris*, 2003), IHP Council (*Paris*, September 2004), IHP Bureau (*Paris*, 2005), IHP Bureau (*Delft*, 2006), IHP Council (*Paris*, July 2006). *IAHS* and *UNESCO* also jointly organized two sessions of the traditional Kovacs Colloquium : -7th Kovacs Colloquium (*Paris*, September 2004) “*Scales in Hydrology and Water Management, Echelles en hydrologie et gestion de l’eau*” (Red Book 287) -6th Kovacs Colloquium (*Paris*, 30 June – 1st July 2006) « *Frontiers in Flood Research / Le point de la recherche sur les crues* » (Red Book 305)

An IAHS representative or delegation has also been invited and attended major *WMO* events like the WMO XIVth Congress (*Geneva*, 2003), the Commission of Hydrology meeting (*Geneva*, November 2004), the CHy Advisory Working Group meeting and the WMO Executive Council (*Geneva* 2005), the CHy Advisory Working Group meeting (*Melbourne*, 2006) meeting and WMO Executive Council (*Geneva*, 2006). IAHS also contributed to the new edition of the WMO “Guide to Hydrological Practices”. A joint IAHS-WMO

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conference on “Advances in Hydrometry” is planned to be held in *Manaus* (Brazil) early 2008.

We would like also to notice our membership to the World Water Council Board of Governors and our contributions to the 2003 *Kyoto* World Water Forum and to the 2006 *Mexico* World Water Forum.

P. Hubert, IAHS Secretary General

All information about IAHS activities is available on the WEB at <http://iahs.info>

**QUADRENNIAL REPORT OF THE INTERNATIONAL ASSOCIATION OF METEOROLOGY AND
ATMOSPHERIC SCIENCES
24TH GENERAL ASSEMBLY, PERUGIA, ITALY, 2-13 JULY 2007**

The International Association of Meteorology and Atmospheric Sciences exists to promote the study of the science of the atmosphere and to support international cooperation, presentation of results, and education and public awareness. With significant governmental and public interest in meteorology and atmospheric sciences arising because of issues such as climate change, air pollution, extreme weather events, recovery of the stratospheric ozone layer, intensification of tropical cyclones, and more, this has been a particularly exciting time for research in meteorology and atmospheric sciences.

During the period 2003-2006, among a number of other activities, IAMAS participated in the quadrennial IUGG/IAMAS Assemblies in Sapporo, Japan in July 2003 and organized an IAMAS Scientific Assembly in Beijing, China in August 2005. Both of these events were very successful. Detailed information and minutes of IAMAS activities are available on the IAMAS website, <http://www.iamas.org>.

The IUGG/IAMAS Scientific Assemblies in Sapporo were held 30 June - 11 July 2003. Approximately 1700 abstracts were received for 43 IAMAS-led symposia, and IAMAS scientists led two of six Union Symposia. Of the IAMAS-led symposia, eighteen were Joint Symposia with other Associations, one was a Joint Workshop, nine were Inter-Commission Symposia within IAMAS, and fifteen were led by one of the 10 IAMAS Commissions; IAMAS also co-sponsored 19 Joint Symposia led by other Associations. Regarding registrations, 823 of 4151 IUGG participants were from IAMAS. The threat of SARS did complicate provision of financial support for scientists from some needy countries. In the end the Local Organizing Committee and IUGG awarded \$82,685.53, of which IAMAS provided \$42,000.

In addition to the scientific symposia, two special events organized by the IAMAS SG deserve mention: (1) a series of daily "Sushi-Lunch" lectures given by leading scientists in the field; and (2) a special Saturday morning "Celebration of Profs. Nakaya and Magono," which recognized significant contributions of these former professors at Hokkaido University. Also notable was that several IAMAS scientists participated in the outreach program organized by IUGG to student groups in the Sapporo region, and were greatly

impressed with the interest and knowledge that the students showed.

IAMAS also held its General Assembly during the Sapporo meeting, convening two Bureau and three Executive Committee meetings along with two meetings of the IAMAS Assembly. The IAMAS President and SG also attended three meetings of the IUGG Executive Committee and two sessions of the IUGG General Assembly. A resolution proposed to WMO Congress by IUGG Representative, IAMAS SG R. List, initiated a similar resolution in IUGG on an assessment of the effects of aerosol pollution and biomass burning on precipitation, with recommendations for joint WMO/IUGG action on this issue of importance for the world and the developing nations in particular,

IAMAS elections held in Sapporo, led to the election of: Dr. M. MacCracken, USA, as President, Dr. R. Vincent, Australia, as Vice President (second term), Prof. Wu Guoxiong, China, as Vice President, Prof. R. List, Canada, for a last term as SG, and Dr. J. Turner, UK, as Deputy Secretary General. Prof. H. Davies, Switzerland, became Past President. Dr. Len Barrie, UN-WMO, Prof. I. I. Mokhov, Russia, and Prof. A. Sumi, Japan, were re-elected as Members-at-large, and Dr. P. Bougeault, France and Dr. V. Ivanovici, Romania were elected as new Members-at-large. Appreciation was expressed to the retiring EC members: Past President R. Duce, Vice President R. Carbone, and Member-at-large Dr. J.-L. Fellous.

The major association-wide activity following the Sapporo Assembly involved making preparations for the IAMAS Scientific Assembly that was held in Beijing from 2-11 August 2005. The theme for the Assembly was "The Fascinating Atmosphere; Changeable and Changing". It was organized by the Chinese Academy of Sciences and the China Meteorological Organization, with strong support from the political authorities and the leading scientific organizations. The Local Organizing Committee, led by IAMAS vice-president Dr. Guoxiong Wu, did a perfect job in ensuring a very nice venue and productive scientific setting. The Assembly was attended by 841 scientists from 54 countries who submitted 1377 abstracts and presented papers in 45 symposia (3 with the Union Commission on Cryospheric Sciences, UCCS). In addition, there was a special series of noontime lectures by leading scientists. Two special events were held: (1) honoring the 90th birthday of Senior

Academician Prof Ye Duzheng, and (2) a special evening symposium covering scientific preparations for the IPCC's Fourth Assessment Report. Drawing from the IUGG allocations to IAMAS and from a head tax imposed on registrants for the Scientific Assembly (plus a \$5000 contribution from WMO), IAMAS was able to distribute grants totaling \$63,400 to participants from needy countries and young scientists.

In joint planning with the leadership of IGBP's PAGES project, the IAMAS Assembly was held in coordination with PAGES' 2nd Open Science Meeting, which met from 10-12 August and attracted over 200 participants. Coordination of these two international meetings broadened the participation in both meetings and helped to improve IAMAS coordination with scientists involved in paleoclimatic research.

The IAMAS Executive Committee held two business meetings during the Beijing Assembly. Of greatest import, the EC accepted the invitation of Canada to hold a joint IAMAS/IAPSO Assembly in Montreal from 19-29 July 2009 (we also will be joined by the UCCS, now IACS, in organizing the Assembly). IAMAS EC appointed a committee to consider possible revisions and updates to the IAMAS statutes. In addition, a number of IAMAS scientists participated in outreach efforts to young scientists in Beijing, finding them very enthusiastic and interested in atmospheric and climate sciences.

Since the Beijing Assembly, the death of IAMAS Member-at-large Dr. V. Ivanovici, Romania has taken place, and the IAMAS EC has accepted the nomination of Prof. Dr. Sabina Stefan as an "ad interim" Member-at-large.

During the Beijing Assembly, the IAMAS SG also convened a program-planning meeting in preparation for the IUGG/IAMAS 2007 Assemblies in Perugia. Following this initial planning session, additional proposals for symposia were invited and this collection of proposed sessions was brought to the meeting of the IUGG Program Committee in Perugia, Italy in September 2005. The following components comprise the events for which IAMAS will be responsible for in Perugia: (i) two Union Symposia, (ii) two special IUGG events (one on the newest IPCC Report and one on the Joint IUGG/WMO Assessment Report on the Effects of Pollution on Precipitation), (iii) 30 Joint Symposia [5 of which are organized by the UCCS] and (iv) 21 IAMAS Symposia.

Additional Activities

During the period 2003-2006, five of the IAMAS commissions held major meetings. These included: (a) Quadrennial Ozone Symposium (1-8 June 2004

in Kos, Greece); (b) the 14th International Conference on Clouds and Precipitation (18-23 July 2004 in Bologna, Italy); (c) the Quadrennial Radiation Commission Meeting (23-28 August 2004 in Busan, Korea); (d) the International Commission on the Middle Atmosphere's series of workshops and co-sponsorship of several symposia at the tenth IAGA Scientific Assembly (18-29 July 2005 in Toulouse, France); and (e) the Quadrennial Symposium of ICACGP (International Commission on Atmospheric Chemistry and Global Pollution), jointly sponsored by IGAC (International Global Atmospheric Chemistry) and the WMO (18-23 September 2006 in Cape Town, South Africa). All of the meetings were well attended and very successful.

The assessment of the effects of aerosol emissions on precipitation was started and coordinated by IAMAS SG and the WMO representative L. Barrie (a Member-at-large of IAMAS EC) by forming an IUGG/WMO International Aerosol-Precipitation Science Assessment Group, IAPSAG. Prof. Peter Hobbs, University of Washington, USA, agreed to serve as the chair, and the members were drawn from leaders of a number of relevant subject areas. Although an application to ICSU for funding was highly rated, funding was not secured; as a result, IAMAS and WMO together accepted responsibility for funding. The panel made good progress during 2004 and 2005, including holding a symposium and roundtable on the subject at the Beijing Assembly. IAPSAG's progress was then slowed somewhat by the death of its Chair, who had sacrificed so much of his remaining precious time for this scientific cause. Without significant delay, the VP of IAPSAG, Prof. Zev Levin, Israel, took over as chair, and Prof. William R. Cotton, USA, as the new VP. During 2006, drafts of all of the report's chapters were close to finalized and discussed at a meeting near Toulouse, France, followed by an independent review by a group under the leadership of Dr. George Isaac of Canada. IAPSAG's Report, now finalized, is an impressive epic "Review" of 482 pages, mostly on the background science and related technology. The leaders, and all contributors and reviewers deserve our gratitude and admiration for this Herculean task. A special evening event will be convened at the Perugia Assembly to report on the results of the assessment.

During the quadrennium, IAMAS also continued its active liaisons with related international programs and organizations. These included:

- The IAMAS President served as one of the two IUGG liaisons to the Scientific Committee for Oceanic Research (SCOR). The status of this activity is reported separately.

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- The IAMAS President served as a member of the planning committee for the ICSU workshop on the Significance to Society of Potential Impacts by Comets and Asteroids. Its report was published in 2007 by Springer (Bobrowsky and Rickman, editors).
- The IAMAS President served as the liaison to the Joint Scientific Committee (JSC) of the World Climate Research Programme (WCRP), also participating on behalf of both SCOR and IAMAS; see the separate report on this activity.
- The IAMAS SG served as the IUGG liaison to the World Meteorological Organization (see separate report), including participating in Congress and EC meetings, and serving as the IAMAS member of the WMO meeting of the WG on the Physics and Chemistry of Clouds and Weather Modification.
- The IAMAS SG helped the Union Commission on Cryospheric Sciences in its preparations to become an IUGG Association (the International Association on Cryospheric Sciences).
- The IAMAS SG attended the first organizational meeting of the Canadian Committee responsible for the organization of the joint IAMAS/IAPSO/IACS Assembly to be held in July 2009 and the IAMAS leadership met with representatives of the organizing committee at the IUGG Assembly in Perugia.
- Dr. Michael Kuhn, former IAMAS SG, was chair of the IUGG planning committee on the International Polar Year.
- Dr. Gerd Tetzlaff of Germany served as the IAMAS liaison to the IUGG Commission on Geophysical Risk—GeoRisk.
- Dr. Richard Peltier of Canada served as the IAMAS liaison to the IUGG Commission on Mathematical Geophysics.
- Dr. Karen Labitzke of Germany served as the IAMAS liaison to SPARC, which is WCRP's project on Stratospheric Processes And their Role in Climate.
- Dr. Toshitaka Tsuda of Japan served as the IAMAS liaison to SCOSTEP, which is ICSU's Scientific Committee on Solar-Terrestrial Physics.

- Dr. Deon Terreblanche represented IAMAS at the quadrennial meeting of the WMO Commission of Atmospheric Research.
- IAMAS nominated a number of technical reviewers to participate in the review of Working Group I draft of the Fourth Assessment Report of the Intergovernmental Panel on Climate Change.

Over the last two years, Deputy SG John Turner upgraded the IAMAS Web site (<http://www.iamas.org>) and, with Dr. Gareth Marshall of the British Antarctic Survey, initiated a semiannual newsletter that has been reporting on both IAMAS and commission activities.

With respect to IAMAS finances, IAMAS income comes mainly from the IUGG allocations, which totaled \$120 000 for the quadrennium, and from a head tax on registrants at IAMAS assemblies [\$56 000]. Grants to participants amounted to \$105 000 (2/3 to scientists from needy countries. 1/3 to young scientists independent of origin) [WMO provided a grant of \$5 000]. IAMAS Commissions received \$37 000 from the income of IAMAS. Office expenses were \$1300. Travel support needed for the participation of the IAMAS officers was mostly provided by their home countries. Other IAMAS expenditures were: in 2006 \$7700 in support of the joint IUGG/WMO IAPSAG (compensated largely by a \$7000 grant from IUGG), and a \$3000 contribution to the Union Commission on Cryospheric Sciences, UCCS, for start-up expenses. In this quadrennial period, the assets of IAMAS increased by \$77 000 to \$272 800.

The IAMAS leadership expresses particular thanks to Dr. JoAnn Joselyn, IUGG SG, who was always available to provide guidance.

Submitted 18 February 2006 by: Michael MacCracken, president; Roland List, Secretary General; and John Turner, Deputy Secretary General.

**QUADRENNIAL REPORT OF THE INTERNATIONAL ASSOCIATION FOR THE PHYSICAL
SCIENCES OF THE OCEANS
24TH GENERAL ASSEMBLY, PERUGIA, ITALY, 2-13 JULY 2007**

The International Association for the Physical Sciences of the Oceans (IAPSO) promotes the study of the physical sciences of the oceans and the interactions taking place at the sea floor, coastal, and atmospheric boundaries. IAPSO provides basic services such as the Permanent Service for Mean Sea Level, in cooperation with IAG, and the IAPSO Standard Seawater Service (operated by Ocean Science International, Limited). IAPSO sponsors Inter-Association Commissions of IUGG, including Tsunami Commission (with IASPEI and IAVCEI) and GeoRisk Commission (with IAMAS, IAHS, IASPEI and IAVCEI). IAPSO collaborates closely with the Intergovernmental Oceanographic Commission (IOC) of UNESCO and the Scientific Committee on Oceanic Research (SCOR) of International Council for Science (ICSU). See the IAPSO website, <http://www.iugg.org/iapso>, for detailed information about all the meetings, workshops and other activities.

IAPSO's principal activity during the past four years was participation in the 2003 IUGG General Assembly, and participation in the Joint IAG/IAPSO/IABO Assembly in Cairns, Australia in 2005; IABO stands for the International Association for Biological Oceanography of ICSU.

At the IUGG General Assembly in Sapporo, Japan on 30 June–11 July 2003, IAPSO convened 6 Association symposia and 11 joint symposia. The Prince Albert I Medal was presented to Dr. Klaus Wyrtki (USA). Dr. Walter Munk (USA), the first recipient of the Medal in 2001, delivered the memorial lecture. The Prince Albert I Medal is awarded biannually to a scientist who has made outstanding contributions to the enhancement and advancement of the physical and chemical sciences of the oceans. The Medal is named for the late Prince Albert I of Monaco, who organized the Oceanography Section of IUGG in 1919; the Medal was established in partnership with Prince Rainier of Monaco. The Eugene LaFond Medal for the best paper from a developing country was presented to Margarita V. Chikina (Russia).

IAPSO participated in the Joint IAG/IAPSO/IABO Assembly in Cairns, Australia on 22–26 August 2005. IAPSO participated in 17 symposia including 7 Association symposia, 7 Joint IAPSO/IABO symposia, and 3 Joint IAG/IAPSO symposia. The Joint Assembly drew a total of 724 delegates from 62 countries. The Prince Albert I Medal was presented to Dr. Friedrich Schott

(Germany), who delivered the memorial lecture. The Eugene LaFond Medal was presented to Maria del Carmen Grados (Peru).

IAPSO sponsored a workshop entitled "International Workshop on Forecasting and Data Assimilation in the Benguela and Comparable Systems" held in Cape Town, South Africa on 8–11 November 2004. There were over 100 invited participants in the workshop including 35 from overseas and 25 from neighboring African countries. An important objective of the workshop was the development of a strong base for an effective and affordable forecasting capability for the Southeast Atlantic within the global network. A product of the workshop was a peer-reviewed book entitled "The Benguela: Predicting a Large Marine Ecosystem" published in 2005 by Elsevier.

IAPSO's Commission on Mean Sea Level and Tides, and the Permanent Service for Mean Sea Level, co-sponsored a workshop entitled "Understanding Sea-Level Rise and Variability" held in Paris, France in June 2006. The workshop was organized by the World Climate Research Program (WCRP) and hosted by IOC. 163 scientists from 29 countries attended the workshop bringing together all relevant scientific expertise with a view towards identifying the uncertainties associated with past and future sea level rise and variability. The WCRP issued a summary report of the workshop.

IAPSO continued its joint activities with SCOR, mostly establishing working groups. The Joint Working Group on Ocean Mixing held a meeting entitled "Conference on Ocean Mixing" in Victoria, Canada on 11–14 October 2004. There were more than 120 attendees representing 14 countries. A Proceedings volume was published as a special issue entitled "Ocean Mixing" of Deep-Sea Research Part 2. The Working Group on Mechanisms of Sediment Retention in Estuaries was organized in 2003, the Working Group on Thermodynamics and Equation of State of Seawater was organized in 2005, and the Working Group on Deep Ocean Exchange with the Shelf was organized in 2006. Activities of these working groups continue into 2007.

In other activities, IAPSO co-sponsored the AGU Ocean Sciences meeting in January 2004, and the symposium at the Committee on Space Research (COSPAR) meeting held in 2004. In other ICSU

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related actions, IAPSO participated with the Scientific Committee on Problems of the Environment (SCOPE) on a proposal to ICSU for PACKMEDS which was funded successfully.

Several of IAPSO's activities underpin the climate projections of the Intergovernmental Panel on Climate Change (IPCC), the fourth report of which was issued in 2007. IAPSO's support of work on sea level is an obvious contribution. Without the activities of the Standard Seawater Service, IPCC would be unable to infer changes in precipitation over the oceans. The outcomes of Working Groups on Ocean Mixing and on the Equation of State of Seawater are likely to influence the climate models used in IPCC's 5th assessment due in 2014.

General business meetings of representatives of the Adhering Bodies were held during the 2003 IUGG General Assembly and the Joint Assembly in Cairns in 2005. Revisions of the Statutes and By-Laws were intensively discussed. One of the main items is the separation of the duties of the Secretary General by the creation of an IAPSO Treasurer. The position of Deputy Secretary General is eliminated, with the Executive Committee remaining the same size. The primary reason for this was to resolve a problem with the selection of Secretaries General; i.e., many potential candidates are in locations where it might be difficult to handle receipt and disbursement of funds. This

change in the Executive Committee would take effect with the 2007 elections. The representatives of the Adhering Bodies requested more interaction with a formal meeting at all IAPSO Assemblies. Various other changes define the intent of Statutes and By-Laws more properly. The revisions were transmitted to the IAPSO representatives of the Adhering Bodies for final approval by e-mails, and formal adoption will be an agenda item at IAPSO's 2007 business meeting.

The next IAPSO Assembly will be held as the Joint Assembly with IAMAS and the Union Commission on Cryosphere Sciences, which is planned to become the International Association for Cryospheric Sciences (IACS), in Montreal, Canada on 19–29 July 2009.

IAPSO officers during the past quadrennium are Dr. Shiro Imawaki (Japan), President; Dr. Fred E. Camfield (U.S.A.), Secretary General; Dr. Paola Rizzoli (U.S.A.), Past President; Drs. S. Krishnaswami (India) and Lawrence A. Mysak (Canada), Vice Presidents; and Dr. Maria Cintia Piccolo (Argentina), Deputy Secretary General. Members of the Executive Committee are Drs. Kentang Le (China), Eugene G. Morozov (Russia), Denise Smythe-Wright (U.K.), W. John Gould (U.K.), Claude Roy (France) and John F. Middleton (Australia).

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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 on the IASPEI website, <http://www.iaspei.org/>.

IASPEI organized its 33rd General Assembly in Santiago, Chile, from October 2 to 8, 2005. It was held in a most suitable venue, the centrally located Diego Portales Conference Centre in Santiago de Chile. The Local Organizing Committee under the leadership of Diana Comte, consisted of members of the University of Chile and Instituto Geografico Militar (IGM). There were 15 scientific symposia covering all parts of the scientific fields of IASPEI, with 220 talks given and about 200 posters shown. In addition, a large number of planning and 'business' meetings were held. 360 persons from 42 countries attended.

A IASPEI Training School has been organized during the week following the General Assembly by the Commission on Education and Outreach. The School was held at the Departamento de Geofisica of the University of Chile, which proved to be an excellent venue. About 20 participants from all over Latin America attended the School. The next IASPEI General Assembly, after the IUGG one in Perugia, Italy, will be held in Capetown, South Africa, in January 2009.

The Asian Seismological Commission (ASC) had two meetings in the past Quadrennium. At the Fifth General Assembly in Yerevan, Armenia, in 2004, representatives from most Asian countries and from Africa, Europe, America, and Australia offered the results of their scientific achievements in the field of seismology, earthquake hazard assessment, and topics related to the Earth's interior. A well-prepared and well-attended International Training Course on Seismology and Mitigation of Seismic Disasters preceded the assembly.

ASC's Sixth General Assembly and the Symposium on Earthquake and Tsunami Disaster Preparedness and Mitigation was held in Bangkok, Thailand, during 7-10 November 2006. The conference was hosted by the Thai Meteorological Department in the Siam City Hotel. About 200 participants from 35 countries and regions attended the conference, highlighted by a welcome evening with local music and dances and by a dinner cruise along the river. Two field trips have been arranged:

one to the Srinagarind Dam (NW Thailand) and a post-field trip to the tsunami-hit areas around Phuket. The conference underscored the need to strengthen connections of scientists, earthquake engineers, disaster risk reduction specialists, policy-makers, and administrators to reduce the impact of earthquakes. Much attention was devoted to the great Sumatra 2004 event and the following tsunami both in science and social aspects.

ASC's Seventh General Assembly will be in Tsukuba, Japan, in 2008.

A pilot project, "Seismic Hazard and Risk Assessment in Asia," adopted at the ASC Fourth General Assembly, focuses on improving hazard evaluation, assessing and reducing seismic risk, and early warning and notification. Due to the unfortunate and premature demise of prof, Serguey Balassanian, the Project leader, the related activities have undergone a considerable slowing down.

With IASPEI's financial support, the European Seismological Commission (ESC) has Organized, in the past Quadrennium, two Training Courses for Young Seismologists to expose them to state-of-the-art moment tensor inversion and seismic hazard and risk assessment procedures.

The training course in Potsdam, 2004, took place in the four days before the ESC General Assembly. Thirty students from twenty countries attended the course.

The primary aim of the Young Seismologist Training Course in Potsdam was to provide some basic requirements on moment tensor inversion, the techniques and programs used to perform manipulation and analysis of the data. Facilities for the course were well organized by the University of Potsdam, Germany.

The 2006 Training Course on "Seismic Hazard and Risk Assessment" was organized at ETH-Zurich, Switzerland, from September 11 to 14, 2006, following the ESC Geneva General Assembly. This time the course was addressed not only to young seismologists but also to young engineers. The course lasted four days and was attended by 40 participants.

The ESC Bureau endorsed a proposal to hold a seventh training course in Hersonissos, in September 2008.

The ESC 29th General Assembly was held in Potsdam, Germany during 12-17 September 2004, jointly organized by the University of Potsdam and the GeoForschungsZentrum Potsdam. About 400

participants attended the conference. A comprehensive report is to be found on the ESC website.

The European Association of Earthquake Engineering (EAEE) and the European Seismological Commission (ESC) have held in common the First European Conference on Earthquake Engineering and Seismology (1st ECEES) - 13th ECEE and the 30th ESC General Assemblies - during 4-6 September 2006 in Geneva, Switzerland. The conference was well attended by about 1,200 participants. A comprehensive state-of-the-art volume on topical themes of the conference was published. During the ESC General Assembly the ESC Statutes have been extensively revised. Please see the ESC homepage for details: <www.esc.bgs.ac.uk>
The next general assembly will be held in Hersonissos, Crete (Greece), 7-12 September 2008.

The Third International Symposium on the effects of Surface Geology on Seismic Motion, has been held in Grenoble from August 30, to September 1, 2006, under the international umbrella of the ESG working group created jointly by IASPEI (International Association of Seismology and Physics of the Earth's Interior) and IAEE (International Association of Earthquake Engineering) two decades ago.

Third in the series, following the two previous in Odawara (Japan, 1992), and Yokohama (Japan, 1998), this ESG2006 symposium has been an opportunity to picture both the state-of-the-art and state-of-practice, in the very diverse aspects of ground motion estimation. A number of invited key-note papers, and a large number of "regular" papers as well, depicted the advances and issues in various domains: strong motion data and processing techniques, non-linearity in soils, microtremor techniques, site surveys, numerical simulation, empirical estimates of ground motion and case studies. One ESG peculiarity is also to be built around benchmarking exercises on ground motion prediction. Two such benchmarks have been proposed for ESG2006. The first one has

addressed the simulation of ground motion in the peculiar 3D Grenoble basin for local weak and moderate size earthquakes, while the second one investigated the capability of array noise measurements to provide reliable and robust estimates of the shear wave velocity profile.

In order to favor the exchanges and discussions, it was decided to have only plenary sessions with keynotes, benchmarks, and a few representative oral presentations spanning as much as possible the range of present-day issues in ground motion estimation. All posters have been exposed for the whole 3-day duration.

The numerous written contributions (about 150) are gathered in a two-volume Proceedings book.

The Publications Transfer Program of IASPEI's Committee for Developing Countries (CDC) has made material on seismology available to institutions in need, in particular those located in Africa, South and Latin America and Asia.

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.

Finally, IASPEI uses a bulk E-Mail System to broadcast timely announcements about forthcoming meetings and other information of interest to IASPEI members.

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Memberships:

IAVCEI individual memberships for the period 2003-2007 varied from 700 to 840 with the high coming just after the 2004 General Assembly. Thirty-nine members have chosen to become Life Members, including three members who were awarded Life Membership as Honorary Members in 2003-4. The IAVCEI web page is frequently revised and updated. The web site url is www.iavcei.org. The volcano listserver

administered by Arizona State University remains the official IAVCEI listserver. It has >2700 people listed, which exceeds the IAVCEI membership. Two or three issues of the newsletter "IAVCEI News" were mailed to members each year.

Meetings:

A number of highly successful meetings were held in 2003-2007, most with partial support from IAVCEI:

2003 Cities on volcanoes 3	Hilo Hawaii	350 people
2003 IUGG General Assembly	Sapporo, Japan	378 " (IAVCEI)
2003 State-of-the-Arc	Cascades, USA	50
2003 Basement volcanoes	Petropavlovsk, Russia	30
2003 Plume IV	Hveragerdi, Iceland	50
2003 South Aegean Arc	Milos Island, Greece	50
2004 Neogene Volcanic Belt	Mexico City, Mexico	100
2004 Volcanic Ash Aviation	Washington, DC	200
2004 2nd Intl. Maar Conf.	Hungary-Slov.-Germany	108
2004 IAVCEI General Assbly.	Pucon, Chile	936
2005 Ocean Island Volc.	Cape Verde Islands	60
2005 Caldera Volcanism	Tenerife, Spain	40
2006 Cities on Volcanoes 4	Quito, Ecuador	550
2006 Continental Volcanism	Guangzhou, China	200
2006 Walker Symposium	Reykjavik, Iceland	98
2007 State-of-the-arc	Chile	50 est
2007 Volc. and Tectonics	Havana, Cuba	100 "
2007 El Chichon, 25 y later	Chiapas, Mexico	100 "
2007 Magmas and Volc Gases	Taipei	60 "
2007 IUGG General Assembly	Perugia, Italy	400 "

The next IAVCEI General Assembly has been scheduled for August 2008 and will be held in Reykjavik, Iceland. The first circular was printed and distributed in December 2006.

Meetings of the IAVCEI Executive Committee were held in July 2003, November 2004, and December 2006.

Preparations are well under way for what is sure to be a successful IUGG meeting in July 2007 in Perugia.

Officers of IAVCEI for 2003-2007 were:

President	Oded Navon (Israel)
Vice-President	Jocelyn McPhie (Australia)
Vice-President	Toshitsugu Fujii (Japan)
Secretary-General	Steve McNutt (USA)
Members of Executive Committee	Anita Grunder (USA) Renato Solidum (Philippines) Hugo Moreno (Chile) Jean-Christophe Komorowski (France)
Past President	Steve Sparks (UK)
Editor Bull Volc	John Stix (Canada)

A nominations committee was formed in 2006 to determine qualified candidates for IAVCEI officers for the term July 2007 to July 2011. The committee was chaired by former IAVCEI president Grant Heiken and completed its work in early January 2007. The election will be a true contested election, with 3 candidates for the SG position and 3 for two vice-president positions, as well as 1 for president and 4 for the four EC positions. The election will be held in spring 2007 by mail vote of IAVCEI individual members and national correspondents.

Commission activities:

The Commission of Mitigation of Volcanic Disasters has begun a new Atlas series, the first volume of which covers the Caribbean region and was prepared under the leadership of Jan Lindsay. The IAVCEI Executive Committee authorized \$4000 to support the first volume of the series.

The Commission on Subduction Zone Magmatism held a highly successful workshop on the State-of-the-Arc (SOTA) in the Cascades in September, 2003. Another State-of-the-Arc workshop just took place in Chile in January-February 2007.

The Commission on Explosive Volcanism is continuing to work on compilation of a comprehensive database of all eruptions with volume >10 km³ for the last 2 million years. Two commissions held workshops in September 2004: The Second International Maar Conference in Hungary, and the MEEMSV IV International workshop in France.

A monograph based on all of the Symposia under the Sapporo 2003 Union theme "State of the Planet: Frontiers and Challenges," was published in 2004 (Dr. R.S.J. Sparks (IAVCEI), co-editor). IAVCEI received a grant of \$5000 from IUGG to distribute 137 copies of the book to scientists in developing countries.

A new book series was begun in 2005 with Grant Heiken as series editor. The series is called "IAVCEI Special Publications in Volcanology" and includes academic works as well as titles of a more practical nature, such as hazards assessments. The first title was published in 2006, "Statistics in Volcanology" edited by H.M. Mader, S.G. Coles, C.B. Connor, and L.J. Connor and is available from The Geological Society, London. IAVCEI members receive a 50 percent discount when ordering the books.

Awards:

Three outstanding volcanologists were awarded with IAVCEI Honorary Memberships. One was awarded at Sapporo 2003: Prof Shigeo Aramaki

(Japan); the other two in Pucon: Prof Hans-U. Schmincke (Germany), and Dr Robert Tilling (USA). The Thorarinsson medal was awarded to Wes Hildreth (USA), and two Wager medals to Andy Harris (USA) and Oleg Melnik (Russia). Two new awards were given for the first time in 2004: the Krafft medal to Tom Simkin (USA) and the Young Scientist award to Costanza Bonadonna (Italy). No medals or awards were given in 2005 or 2006.

Video and calendar sales:

IAVCEI sold several educational products in 2003-2007. Two videos on 1) understanding volcanic hazards and 2) reducing volcanic risk were produced professionally under contract with IAVCEI. Over 70 videos were sold in 2003, 60 in 2004, 60 in 2005, and 40 in 2006. We note that video sales are down somewhat as DVD becomes the preferred format. We plan to produce the IAVCEI videos in DVD format some time in early 2007.

Also, volcano calendars for each year from 2003 to 2007 were produced by IAVCEI members and were printed and marketed by a professional calendar company. Over 5,000 calendars were sold in 2003, 5000 in 2004, 8000 in 2005 with a second printing needed, and 8000 in 2006. An additional 800 were distributed each year by IAVCEI to various scientific, educational, and governmental organizations. IAVCEI received a small royalty payment (1 percent) for the calendars.

Fundraising:

IAVCEI recognized that its activities could be significantly expanded by improved fundraising. Towards this end, former President Steve Sparks wrote a series of articles on fundraising for IAVCEI News in 2002, and the issues were discussed in detail at the July 2003 meeting of the Executive Committee. Secretary-General Steve McNutt worked with a lawyer and submitted forms for incorporation as a non-profit corporation in fall 2003; the non-profit status was granted in December 2003. After meeting with a consultant, McNutt also submitted a full application for tax exempt status under section 501(c)3 with the Internal Revenue Service of the US. The application was approved by the IRS in June 2004 and IAVCEI now has tax exempt status. This status is important so that contributions may be received with a tax benefit to contributors. Over \$10,000 in contributions have been received as of February 16, 2007. The largest portion has been proceeds from the sale of books previously owned by IAVCEI member George P.L. Walker.

The 2003-2007 quadrennium included significant growth, improved fundraising, a variety of

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successful meetings covering many areas of the science of volcanology, continuation of video and calendar sales, and the introduction of several new awards. Some commissions have been active while others need to be restructured or refocussed. We

entrust this reform to the new Executive Committee who will be elected in spring 2007.

Steve McNutt
Secretary-General for IAVCEI

**REPORT OF THE IUGG COMMISSION ON GEOPHYSICAL RISK AND SUSTAINABILITY
 24TH GENERAL ASSEMBLY, PERUGIA, ITALY, 2-13 JULY 2007**

This report serves to inform the IUGG Council of the activities of the Commission over the quadrennium since the last IUGG General Assembly. It reports on the membership, the public statement that the Commission issued, the meetings and symposia organised and endorsed, the publications produced, and the project-based activities undertaken.

The IUGG Commission on Geophysical Risk and Sustainability (IUGG GeoRisk Commission) established by the IUGG Bureau in August 2000 is dedicated (i) to promoting scientific studies applied to the reduction of risk from natural hazards in an

increasingly urbanized world and sustainability and (ii) to reducing death and destruction from natural and technological hazards by providing hazards data and information to emergency managers, policy-makers, scientists and the general public in the most timely and effective manner as possible. This includes the integration of knowledge concerning environmental, social and economic processes. The fundamental scope of this Commission is to facilitate communications – between scientists via meetings, workshops and publications, as well as between scientists and decision makers, between scientists and the public, and between scientists and schools.

IUGG GeoRisk Commission Membership

Name	Duty	Association	Country
Tom Beer	President (2000-2004), Past-President (2004-)	IUGG	Australia
Alik Ismail-Zadeh	President (2004-), Vice-President (2000-2004)	IASPEI/CMG	Germany/Russia
Kuniyoshi Takeuchi	Vice-President (2000-)	IAHS	Japan
Ramesh Singh	Vice-President (2004-)	IASPEI/IAPSO	India
Grant Heiken	Secretary General (2000-2004)	IAVCEI	USA
Gerd Tetzlaff	Secretary General (2004-)	IAMAS	Germany
Paula Dunbar	Treasurer (2000-)	IASPEI	USA
Hermann Drewes	Commissioner (2000-)	IAG	Germany
Harsh Gupta	Commissioner (2000-)	IUGG	India
Slava Gusiakov	Commissioner (2000-)	IASPEI	Russia
Kosuke Heki	Commissioner (2003-)	IAG	Japan
Amithirigala Jayawardena	Commissioner (2003-)	IAHS	Hong Kong/China
Evgeny Kontar	Commissioner (2000-)	IAPSO	Russia/USA
Volodya Kossobokov	Commissioner (2000-)	IASPEI	Russia/France
Susan McLean	Commissioner (2000-)	IAGA	USA
Uri Shamir	Commissioner (2000-)	IUGG	Israel
Zhongliang Wu	Commissioner (2003-)	IASPEI	China

Statement of the Commission

On 7th January 2005 the GeoRisk Commission adopted the Statement on the *Greatest Earthquake and Tsunami of the Early XXI Century and the Need for Urgent Action to Reduce Natural Disasters in the Indian Ocean Region and Elsewhere*. Among major recommendations of the Commission were the following:

1. The countries around the Indian Ocean to set up a Disaster Management Center in order to monitor land, ocean and atmosphere in relation to all kinds of natural hazards, especially those related to coastal regions. Such Centers should be established in any disaster-prone coastal regions where they do not already exist (e.g., Mediterranean Sea and Atlantic Ocean).
2. A Tsunami Warning System to be set up in the region. Before such systems are in operation in

the region, the Pacific Tsunami Warning Center in Hawaii should extend its warnings to cover all vulnerable areas in the Indian Ocean.

3. Multidisciplinary and multinational research programs and research networks on geophysical hazards and risks to be developed in the Indian Ocean countries in order to integrate diverse data streams, to improve understanding of the natural phenomena associated with the disasters, to develop predictive modeling capability, and to generate and to disseminate timely and accurate information needed by decision makers and the public (URL: http://www.iugg-georisk.org/reports/IUGG_GeoRisk_st_full.pdf)

Based on the Statement of the GeoRisk Commission, on 10th January 2005 IUGG issued a

Resolution on the Sumatra earthquake and tsunami (<http://www.iugg.org/tsunamiresolution05.pdf>). On 17th January 2005 International Council for Science (ICSU) produced a Position Statement based on the materials of the IUGG GeoRisk Commission's Statement (http://www.icsu.org/3_mediacentre/INSIGHT_SI_01_2005.html)

Scientific Meetings Organized by the Commission

1. 2nd IUGG GeoRisk Commission Advanced Research Workshop on Risk Science, Society and Sustainability, 26-27 August 2004, Stockholm, Sweden

The major scientific goals of this workshop were (i) to provide insight into the relationship between risk science, society and sustainable development; (ii) to search for new possibilities in risk science that focus on the major responsibility of the scientific community; and (iii) to address the problem of implementation of scientific initiatives as elements of public policy. The workshop focused on the question: can sustainable development be successful without taking into account the risk of hazards and their impacts? To this end, the workshop brought together experts from the fields of geophysics and mathematics with experts in social science and law specifically to deal with problems of risk and sustainability. Prof. G. Papadopoulos delivered the Rammal Award lecture. Other presentations were made by E. Kontar (Russia/USA), A. Makarenko (Ukraine), U. Shamir (Israel), T. Beer (Australia), P. Wiedemann (Germany), and J. Paterson (UK). The workshop was sponsored by EuroScience, IUGG, and NATO. A report of the meeting was published in EOS, Transactions of the American Geophysical Union, 85 (44) 453 (2 November 2004).

2. 3rd IUGG GeoRisk Commission Symposium on Geophysical Risk and Hazards, 2-4 December 2004, Hyderabad, India

Hazards 2004 was the name given to the combined meeting that constitutes the Third Workshop of the IUGG Commission on Geophysical Risk and Sustainability & the Tenth International Symposium on Natural and Human-Induced Hazards of the Natural Hazards Society. The meeting was held in Hyderabad, India 2-4 December 2004. There were 120 attendees comprising 40 foreign scientists and 80 Indian scientists. The conference itself was excellently organized. Dr R.K. Chadha and Dr. D. Srinagesh – the Chair and Secretary-General of the Local Organizing Committee – had the full support of Dr. V.P. Dimri, their employer and the Director of the National Geophysical Research Institute (NGRI) – one of the Indian CSIR research institutes and the location where the conference was held.

3. 4th IUGG GeoRisk Commission Workshop on Recent Geodynamics, Georisk and Sustainable Development of the Black Sea to Caspian Sea Region, 3-6 July 2005, Baku, Azerbaijan

The Workshop organized by the IUGG Commission on Geophysical Risk and Sustainability in association with the International Hydrological Program of UNESCO, American Geophysical Union, Azerbaijan National Academy of Sciences, Heidelberg Academy of Sciences and Humanities, and Earthquakes and Megacities Initiative, was held in Baku, Azerbaijan from 3 to 6 July 2005. About fifty scientists from 12 countries attended, and 19 invited speakers delivered talks at the workshop. The workshop was supported by IUGG, UNESCO, and ExxonMobil. The Workshop brought people of natural, social and political sciences together with the representatives of industry, governments, and mass media to prepare the social and political background for sustainable development in the Black Sea to Caspian Sea region. The invited and contributed presentations dealt with the recent geodynamics of the region, natural hazards (earthquakes, mud volcanoes, landslides, rapid sea level changes), associated risks, and mitigation of the impacts of geohazards on society.

4. Symposium “Marine Risk and Sustainability”, IAG/IAPSO/IABO Joint Scientific

Assembly, 22-25 August 2005, Cairns, Australia
This symposium was organized by the IUGG GeoRisk Commission (conveners: T. Beer and E. Kontar) at the 2005 IAG/IAPSO/IABO Scientific Assembly. K. Satake (AIST, Japan) opened the session with his talk on “Lessons learned from the 2004 Sumatra earthquake and the Asian tsunami”. The tsunami theme was followed by a number of speakers: D. King (James Cook University); Y. Tyupkin and V. Morozov (both Russian Academy of Sciences, Moscow); C. Pattiaratchi (University of Western Australia); R. Othman (Universiti Teknologi Malaysia). The second theme of the session was that related to coastal contamination from submarine groundwater. Detailed investigations in diverse geographic locations were presented by J. Zhang (Toyama University); C. Schrum (Schrum & Wehde Ecosystem Modeling); G. Kim (Seoul National University); M. Schlueter (Alfred Wegener Institut). The third theme of the session was sustainability issues. Speakers: D. McDonald, T. Beer, and E. Grist (all CSIRO Marine and Atmospheric Research), F. Rack (JOI Deep Sea Drilling Programme), E. Kontar (Russian Academy of Sciences, Moscow), E. Stanev (University of Sofia, Bulgaria), J. De (Indian National Institute of Oceanography), and F. Wang (Institute of Oceanology, Chinese Academy of Sciences).

5. Special Session on Mathematical Aspects of Geohazard Research, IUGG Conference on Mathematical Geophysics, 5th June 2006, Sea of Galilee, Israel

The scientific session was focused on several topics: (i) non-linear dynamics of the lithosphere, predictions of extreme natural events and limitations of the predictability (V. Keilis-Borok, UCLA); (ii) mathematical descriptions of physical phenomena associated with geohazards (B. Malamud, King's College London, UK, and M. Ghil, ENS Paris, France); (iii) mathematical and numerical modeling of extreme natural events (E. Aharonov, Weizmann Institute of Science, Rehovot, Israel; A. Ismail-Zadeh, Karlsruhe University, Germany; and J. Zvelebil, Geological Survey, Prague, Czech Republic), and (iv) quantitative analysis and compilations of geophysical data related to geohazards (V. Gusiakov Russian Academy of Sciences, Novosibirsk, Russia; and S. Sobolev, GFZ-Potsdam, Germany).

6. 5th IUGG GeoRisk Commission Symposium "Riding the storm: Can science keep us in the saddle?", 16th July 2006, Munich, Germany

The third joint symposium of the IUGG GeoRisk Commission and the European Association for Promotion of Science and Technology entitled "Riding the storm: Can science keep us in the saddle?" was held July 15-19 in Munich, Germany, during the EuroScience Open Forum. The meeting's topics were extreme natural events and humanitarian disasters (F. Wenzel, Karlsruhe University, Germany), the role of geoscience in preventive disaster management of catastrophic natural events (A. Ismail-Zadeh, IUGG GeoRisk Commission), integrated global observation strategy for disaster reduction (H. Moderassi, IGOS Geohazards and French Geological Survey, Orleans, France), prediction of extreme natural events (V. Kossobokov, Russian Academy of Sciences, Moscow), disaster risk management from an insurance perspective (A. Smolka, Munich Reinsurance), and relationship between disaster risk management and governance (J. Paterson, University of Aberdeen, UK). The symposium was followed by a press briefing.

Scientific Meetings Endorsed by the Commission OR Attended by GeoRisk Commissioners as session conveners or invited speakers

- Second Annual Meeting of the Asia-Oceania Geoscience Society, Singapore, 20-24 June 2005.
- 2nd International Geohazards Workshop, Orléans, France, 27-29 June 2005.

- 2nd International Conference of The Nigerian Union of Planetary and Radio Sciences, Port Arthur, Nigeria, 24-26 August 2005.
- 8th Workshop on Nonlinear Dynamics and Earthquake Prediction, Trieste, Italy, 3-15 October 2005.
- IOC/UNESCO International Workshop on Post-Disaster Assessment and Monitoring of Changes in Coastal, Ocean, and Human Systems in the Indian Ocean and Asian Waters, Phuket, Thailand, February 20-24, 2006.
- 3rd International Conference on Early Warning: From Concept to Action, Bonn, Germany, 27-29 March 2006.
- OECD Global Science Forum Workshop on Earthquake Science and its Contribution to Society, Potsdam, Germany, 1-2 June 2006.
- 11th International Symposium on Natural and Human Induced Hazards and 2nd Workshop on Earthquake Prediction, Patras, Greece, 22-25 June, 2006.
- 36th COSPAR Scientific Assembly, Beijing, China, 16-23 July 2006.
- General Assembly of the Asian Seismological Commission and Symposium "Earthquake and Tsunami Disaster Preparedness and Mitigation", Bangkok, Thailand, 7-10 November 2006.
- International Conference on Climate Change and Earthquakes, Islamabad, Pakistan, 13-17 November 2006.

Business meetings

- On 2 December 2004 the business meeting of the GeoRisk Commission was held in Hyderabad, India. New Executives of the Commission took the office after the meeting.
- On 29 March 2005 A. Ismail-Zadeh met in Paris A. Szollosi-Nagy, Secretary General, International Hydrological Program, UNESCO and discussed topics related to Webcyclopedia and Baku international workshop.
- On 19 June T. Beer and A. Ismail-Zadeh met in Paris H. Modaresi, S. Hosford, and G. Le Cozannet of the IGOS GeoHazards Bureau to discuss cooperation between IUGG (GeoRisk Commission), IGOS Geohazards team and GeoUnion Hazards Initiative.
- On 21 June 2006 T. Beer and A. Ismail-Zadeh met in Paris P. Dube (Botswana), a member of the ICSU Planning Group on Natural and Human Induced Environmental Hazards and Disasters, to discuss possibilities of cooperation on the topic of natural hazards in Africa.
- On 10 July 2006, A. Ismail-Zadeh met in Paris A. Gvishiani, Vice President of ICSU CODATA, to discuss cooperation between IUGG GeoRisk Commission and ICSU CODATA on the development of Webcyclopedia.
- On 15 January 2007 A. Ismail-Zadeh met in Kyoto K. Sassa, President of the International

Consortium on Landslides (ICL), Kyoto to discussed ways of cooperation between the GeoRisk Commission and ICL.

- At the invitation of International Consortium on Landslides, A. Ismail-Zadeh attended the First Session of the International Program on Landslides (IPL) held in United Nations University, Tokyo, Japan, January 22-25, 2007. The IUGG and GeoRisk Commission are invited to co-sponsor the First World Landslide Forum to be held 18-21 November 2008, Tokyo, Japan.
- On 30 January 2007 A. Ismail-Zadeh and T. Beer met in Tokyo Dr. Haruyama of the International Geographical Union (IGU) and discussed the topics related to cooperation between the IGU Commission on Hazards and Risks and IUGG GeoRisk Commission. Also they met Dr. M. Kono, IUGG Past-President, and discussed several aspects of the relationship between IUGG with Union Associations and Commissions.

Commission Projects

- “Near Earth Orbit Objects”, co-partner, funded by ICSU (2004)
- “Dark Nature”, co-partner, funded by ICSU (2004)
- Workshop in Stockholm (Sweden), funded by NATO and IUGG (2004)
- “Comprehensive historical earthquake and tsunami database for the South-West Pacific”, funded by IUGG (2004).
- Workshop in Baku (Azerbaijan), funded by IHP/UNESCO, IUGG, and ExxonMobil (2005).
- Symposium in Munich (Germany), funded by IUGG (2006).
- Workshop in Kampala (Uganda), funded by IUGG (2007).

The GeoRisk Commission submitted two ICSU project proposals, but the projects were not funded because of ICSU financial problems:

1. Geohazards: Extreme Natural Events and Societal Implications (led by IUGG / GeoRisk Commission). Sponsoring partners: ICSU GeoUnions.
2. The Role of Science and Data in Disaster Risk Management (led by ICSU CODATA). Supporting partner: IUGG / GeoRisk Commission

Webcyclopedia of Natural Hazards, Risks and Sustainability

The web-page of the Commission is maintained at the new site: <http://www.iugg-georisk.org>

The Webcyclopedia at: <http://www.iugg-georisk.org/webcyclopedia/index.html> continues to collate information. The Webcyclopedia is a matrix, ordered in terms of cities, hazards and risks, and authors. The hazards is determined by the

scientific skill base, as determined by the IUGG Associations - hydrological, meteorological, marine, tsunamis, volcanoes, seismic, geodetic (landslides), geomagnetic. The risks are determined by the sustainability issues such as infrastructure issues (building vulnerability, robustness of infrastructure), and health issues (air quality, water quality, contaminated land). The Webcyclopedia entities are varied, ranging from the traditional scientific paper through to interactive hazard maps, real time data, models of the phenomena, or merely hyperlinks to other sites providing information on the topic. The presentations, given at the meetings organized by the Commission or endorsed by the Commission, have been incorporated into the Webcyclopedia. The Commission continues to search for an editor for the project.

Publications

- Ismail-Zadeh, A. T., and T. Beer (Eds.) *Georisk: Interactions between Science and Society*, special issue of *Natural Hazards*, Springer, 2007 (peer-reviewed articles based on the Stockholm and Hyderabad workshops of the IUGG GeoRisk Commission).
- Singh, R. (Ed.), *Sumatra Tsunami and Earthquake*, special issue of the *International Journal of Remote Sensing* (Taylor and Francis), 2007.
- Ismail-Zadeh, A. T. (Ed.) *Recent Geodynamics, Georisk and Sustainable Development in the Black Sea to Caspian Sea Region*, American Institute of Physics Conference Proceedings, vol. 825, Melville, New York, 2006. 162 p. (peer-reviewed articles based on the Baku workshop of the IUGG GeoRisk Commission)
- Ell, R., Riding the storm: can science keep us in the saddle? *ESOF Newsletter*, No. 10, Feature article, http://www.esof2006.org/blog_article.php4?ID=24&what=Feature, 24 May 2006.
- Gupta, H., Mega –Tsunami of 26th December 2004: Indian Initiative for Early Warning system and Mitigation of Oceanogenic Hazards, *Episodes*, Vol. 28, No.1, 2-5, 2005.
- Ismail-Zadeh, A.T., Science for mitigation of natural disasters, *EuroScience News*, 30, 1, 2005.
- Ismail-Zadeh, A., and Beer, T., A focus on risk science and sustainable development, *EOS, Transactions of the American Geophysical Union*, vol. 85, No. 44, 453, 2004.
- Beer, T. and Ismail-Zadeh, A.T. (Eds.) *Risk Science and Sustainability*, Kluwer Academic Publishers, Dordrecht, 2003. 256 p. (peer-reviewed articles based on the Budapest workshop of the IUGG GeoRisk Commission).

Planned Activity

XXIV General Assembly of the International Union of Geodesy and Geophysics
Quadrennial Reports of the IUGG Associations and Union Commissions

IUGG GeoRisk Commission is involved in the organization of the following scientific meetings in 2007:

1. EGU Symposium "Earthquake Prediction: What can be done with the best science available?" The Union symposium will be held at the European Geophysical Union General Assembly, Vienna, Austria, 15-20 April 2007. The symposium is co-sponsored by UNESCO. Principal organizer: V. Kossobokov.
2. Union Symposia at the IUGG General Assembly, July 2-13, 2007, Perugia, Italy: US007 High-Performance Computations in Geosciences and US012 Early Warning of Natural Hazards. The symposia are co-sponsored by IASPEI. Principal organizers: A. Ismail-Zadeh, R. Singh, and Z. Wu.
3. Mini-Symposium "Strategy of Reducing Predictive Uncertainty of Geophysical Hazards", 30 July – 4 August 2007, Bangkok, Thailand. The symposium is co-sponsored by the Asia Pacific Geophysical Society. Principal organizers: K. Takeuchi and H. Gupta.
4. Workshop "Natural and Human-induced Hazards and Disasters in Africa", Kampala, Uganda, August 2007. The workshop is organized by ICSU Regional Office for Africa and co-sponsored by the GeoRisk Commission (principal contact A. Ismail-Zadeh).
5. Third International Geohazards Workshop, 6-9 November 2007, Frascati, Rome, Italy. The workshop is organized by the IGOS

Geohazards team and co-sponsored by the GeoRisk Commission (principal contact A. Ismail-Zadeh).

IUGG GeoRisk Commission intends to strengthen its cooperation with the

- IGOS-Geohazards Team and ICSU CODATA on the development of the Commission's project "Webcyclopedia of Natural Hazards, Risks and Sustainability";
- International Consortium for Landslides and International Program for Landslides and consider possibilities to take part in the organization of the First World Forum on Landslides, UNU Tokyo, January 2008;
- UNESCO International Hydrological Program and UNESCO section on Disaster Reduction;
- International Year of Planet Earth in organization of a conference on Geohazards, Georisks and Disasters, 2008-2009; and
- ICSU GeoUnions Hazard Initiative.

The next business meeting is to be held in Perugia, on *Friday 6 July, 12:00 a.m. to 2:00 p.m.* The President, Secretary General and Treasurer will report on the activity between December 2004 (the last business meeting) and June 2007.

The report is prepared by Alik Ismail-Zadeh.
February 15, 2007

REPORT OF THE COMMITTEE ON MATHEMATICAL GEOPHYSICS
24TH GENERAL ASSEMBLY, PERUGIA, ITALY, 2-13 JULY 2007

1 The 2006 CMG meeting

In the past year the CMG sponsored the the 26th International Conference on Mathematical Geophysics, which had the theme “Coupling in Earth Systems: Solids, Fluids, Life.” The conference was held June 4–8, 2006 near Tiberias, Israel on the Sea of Galilee. The conference was widely held to be a great success. A formal conference report was submitted to IUGG this past fall. The program, the book of abstracts, and a photo gallery is available at the conference website, <http://www.weizmann.ac.il/conferences/CMG2006/>.

2 The 2008 CMG meeting

The 27th International Conference on Mathematical Geophysics will be held from June 16–20, 2008 in Longyearbyen on Spitsbergen. The tentative theme for the meeting is “Dynamics in Earth Systems: Flow, Fracture and Waves.” The local organizers include Eirik Flekkoy of the University of Oslo and Alex Hansen of The Norwegian University of Science and Technology (NTNU) in Trondheim. Flekkoy and Hansen are currently consulting the officers of the CMG for suggestions concerning the program. Their specific interests are in featuring problems concerning the coupling of field observations and experiments to theoretical models, including computer simulations, the formulation of simple concepts, and analytic theory. Of particular interest are problems of coupled, evolving Earth systems. We expect to reach an agreement shortly (within weeks) concerning the overall construction of the scientific program. We shall then poll the CMG

representatives in the IUGG associations for specific suggestions. Shortly thereafter we shall start advertizing the meeting.

3 CMG symposium at the Perugia meeting

Augusto Neri, in collaboration with G.Bergantz, E. Aharonov O. Melnik, is organizing a CMG-sponsored Union symposium at the IUGG XXIV General Assembly in Perugia, entitled “Modelling and Simulation of Geophysical Flows: Present and Future.” Currently, four members of the CMG, including the President and Secretary, expect to participate in the Symposium.

4 Committee membership

This past fall our Secretary, Marc Spiegelman, resigned from our committee. Prof. Claudia Pasquero of the University of California–Irvine is now the new Secretary. The current lineup of CMG officers is listed below.

President: Daniel H. Rothman,
MIT

Secretary: Claudia Pasquero,
University of California–Irvine

Vice-president: Einat Aharonov,
Weizmann Inst. of Science

Vice-president: Ray Pierrehumbert,
University of Chicago

Vice-president: Antonello Provenzale,
CNR-ISAC, Torino, Italy

Vice-president: Eli Tziperman,
Harvard University

Daniel H. Rothman, CMG Chair
Claudia Pasquero, CMG Secretary

**REPORT OF THE COMMITTEE ON STUDIES OF THE EARTH'S DEEP INTERIOR
24TH GENERAL ASSEMBLY, PERUGIA, ITALY, 2-13 JULY 2007**

The principal function of SEDI is to foster cross-disciplinary research on the dynamics and structure of the Earth's deep interior. SEDI works to achieve this goal by organizing biennial scientific meetings, distributing an electronic newsletter, *Deep Earth Digest* through www.sedigroup.org, and maintaining an email list for scientific exchange. Currently, the mailing list includes about 550 members.

During the past quadrennium, SEDI has organized two meetings, and a third is now in the planning stage. Professor Uli Christensen hosted the 9th SEDI meeting in Garmisch-Partenkirchen, Germany, 4-9 July 2004. Over 150 papers in 8 diverse sessions were presented over 5 days. The proceedings of this meeting were published in a special issue of *Physics of Earth and Planetary Interiors* (Volume 153, November 30, 2005). The 10th SEDI meeting was hosted by Professor Pavel Hejda in Prague, The Czech Republic, July 9-14, 2006. Nearly 200 participants were registered at this meeting and more than 160 papers were presented. Proceedings from the meeting are currently being edited and are scheduled to appear in either *Geophysical and Astrophysical Fluid Dynamics* or *Studia Geophysica et Geodetica*. Planning for the 11th SEDI meeting is under way.

SEDI is committed to promoting the interests and activities of young researchers. In addition to

supporting student travel, SEDI also supports two awards for young researchers. The Doornbos Memorial Prize was set up in 1994 following the tragic death of seismologist Durk Doornbos. The fund is managed by IASPEI and the prize is awarded for outstanding scientific contributions at the biennial SEDI meeting.

The Prize was awarded to Arwen Deuss of the University of Cambridge and Cinzia Farnetani of the Institut de Physique du Globe, Paris at the 2004 meeting. Julien Aubert of the Institut de Physique du Globe, Paris, Keith Koper of Saint Louis University and Jon Mound of Harvard University received the Prize in 2006. SEDI has also initiated the Zatman Lecture to honour the memory of Dr. Stephen Zatman, a dynamic and innovative young researcher who died under tragic circumstances in 2002. The inaugural Zatman Lecture was given by Dr. Richard Holme of the University of Liverpool at the 2004 meeting. Dr. John Aurnou of the University of California, Los Angeles gave the Zatman lecture in 2006.

SEDI has played a role in supporting the 24th General Assembly in Perugia, Italy. Professor Dave Loper and Professor Phillipe Cardin are co-convenors of special session JAS001, *Planetary Dynamos: theory, models, observations and experiments*. SEDI co-sponsored 3 additional special sessions at the 24th General Assembly.

**REPORT OF THE UNION COMMISSION ON CRYOSPHERIC SCIENCES
24TH GENERAL ASSEMBLY, PERUGIA, ITALY, 2-13 JULY 2007**

ICSI/UCCS activities in 2003–2006

In July 2003, during the IUGG General Assembly in Sapporo, the President of the International Commission on Snow and Ice (ICSI), Gerry Jones, the ICSI Secretary Georg Kaser, and Roger Barry presented an ICSI proposal to attain the status of an Association within IUGG, to the IUGG Executive Committee.

In September 2004, the IUGG Executive Committee established the IUGG Commission for the Cryospheric Sciences (UCCS). UCCS is an interim stage in the change of status of ICSI from that of a commission of the International Association of Hydrological Sciences (IAHS) to that of an Association (International Association for Cryospheric Sciences, IACS) of IUGG. The IUGG Council will bring down the final decision on the formation of IACS at the IUGG General Assembly in Perugia, 2007.

In the meanwhile UCCS has continued the work initiated by ICSI and further developed its activities as a Union Commission. UCCS maintains its activity under the statutes and by-laws of the former ICSI/IAHS with the addition of obligations to its new mother organisation, the IUGG. The current UCCS bureau, which is identical to the ICSI bureau elected during the IUGG Assembly in Sapporo, 2003, consists of Georg Kaser (President); Gerald Jones (Past President); Peter Jansson (Secretary/Treasurer); Jon Ove Hagen, Kumiko Goto-Azuma, Konrad Steffen (Vice Presidents); Julian Dowdeswell, Charles Fierz, Manfred Lange (Heads of Divisions).

Bureau meetings were held in

Cambridge (UK), November 2003

Paris (UNESCO, F), June 2004

Quebec City (CAN), December 2004

Paris (UNESCO, F), November 2005

Karthus (I), UCCS retreat meeting, June 2006

Geneva (WMO, CH), October 2006

The respective minutes are available at

<http://www.cryosphericciences.org/docs/documents.html>

UCCS web site

UCCS has organized a permanent web site with a new URL:

www.cryosphericciences.org

The web site is hosted at CIRES, Boulder Colorado (where the IUGG site is also hosted) with the kind assistance and support of CIRES Director Dr. Konrad Steffen and associates at CIRES.

Meetings

IAHS 7th Scientific Assembly, Foz de Iguassu, Brazil, 4–9 April 2005

UCCS participated in the IAHS Scientific Assembly 2005 by hosting the Symposium ‘*Contribution from Glaciers and Snow Cover to Runoff from Mountains in Different Climates*’(S5). The two-day Symposium, organized by Regine Hock assisted by Mark Williams, Edson Ramirez and Gwyn Rees as co-conveners, consisted of 27 oral and 10 poster presentations by participants from 17 countries. In addition, the workshop ‘*Andean Glaciology*’(W4) was convened by Jefferson Simoes with assistance from Georg Kaser, Gino Casassa, Pierre Ribstein, and Alberto Aristarain. Seventeen papers covering a wide spectrum of Andean glaciology from mass balance studies of small tropical glaciers to the morphology of Patagonian Fjords were discussed.

IAMAS 9th Scientific Assembly, Beijing, China, 2–11 August 2005

UCCS participated in the IAMAS Scientific Assembly 2005 by co-hosting the Joint Symposium ‘*Snow and ice covers feedback to interactions with forest, atmosphere and environment*’ (J1–J3). The first session ‘*Modelling forest snow processes*’ was chaired by Richard Essery and Shufen Sun, the second session ‘*Glacier mass balance and its coupling to atmospheric circulation*’ was chaired by Peter Jansson and Charles Fierz, and the third session ‘*Mountain snow and ice cover*’ was chaired by Manfred Staehli.

Conference on Glacial Sedimentary Processes and Products, University of Wales, Aberystwyth, 23–27 August 2005

The UCCS Division of Glaciers and Ice Sheets Working Group on Debris Transport in Glaciers organised an international symposium on Glacial Sedimentary Processes and Products in Wales 2005. The meeting was well attended; an abstract volume of 139 abstracts is accessible at <http://www.lboro.ac.uk/research/phys-geog/dtg/past.html>

International Symposium on Cryospheric Indicators of Global Climate Change: a joint WCRP–CliC/IGS/UCCS Symposium, Cambridge, England, 21–25 August 2006

The first event organized by the newly formed UCCS was the ‘*International Symposium on Cryospheric Indicators of Global Climate Change*’ held in Cambridge, UK, 21–25 August 2006. The Symposium, which was held jointly by UCCS, the International Glaciological Society (IGS), and the WCRP core project Climate and Cryosphere (CliC), attracted a large number of attendees and abstracts. A total of 224 delegates attended the meeting, 292 abstracts were submitted before the symposium, and by the time of the symposium some 111 talks and 105 posters were scheduled; approximately 80 papers were finally submitted for the proceedings volume to be published in the *Annals of Glaciology* 46.

Other activities

Field course on Methods of Glacier Observations, New Delhi, Chhota Shigri Glacier, India, 1–11 August 2003.

The field course ‘*Methods of Glacier Observations*’ was organised and held by ICSI and the HKH-Friend Snow and Glacier Group. It was sponsored by UNESCO/IHP, ICSI being the contractor. The French Institut de recherche pour le développement (IRD) supported the course. Preparatory work started with a workshop organised by HKH-FRIEND and ICSI in Kathmandu in March 2001. It was at this workshop that the decision to produce a glacier fieldwork manual was taken; the manual was subsequently prepared and published by ICSI (see publication list below). The field course was held on Chhota Shigri Glacier, Himachal Pradesh, India and attended by 20 trainees from India, Nepal and Bhutan and 7 trainers from ICSI and IRD (2). Local organisation was provided by the Glaciology Group of Jawaharlal Nehru University, New Delhi, India. Since the field course, the Chhota Shigri Glacier has remained the first and only benchmark glacier of a Regional HKH Glacier Mass Balance Network (HKH-GMN).

Field course on Methods of Glacier Observations, La Paz, Bolivia, 1–11 August 2005.

The field course ‘*Methods of Glacier Observations*’ was initiated and co-sponsored by UCCS together with the French Institut de recherche pour le développement (IRD/GREATICE), the Instituto de Hidráulica e Hidrología (IHH) of Universidad Mayor de San Andrés, Bolivia, Alliance Française (AF), and IHP/UNESCO. It was held in La Paz and on Glaciario Zongo, Bolivia. Financial support was provided by UNESCO IHP and IRD. The course organized by Dr. Bernard Francou (IRD) and Dr. Edson Ramirez (IHH) attracted 20 participants from Argentina, Bolivia, Brazil, Chile, Ecuador, Mexico, and Peru. Trainers came from Bolivia, France and Norway. The training course was organized to support the development of the Andean Glacier Mass Balance Network. It consisted of lectures on both general methodology of mass balance measurements and on those methodologies suitable for local conditions in the Andes. Results from existing (16 glaciers) and past investigations in the regions were also discussed as well as the important and particular climate glacier relationships. The course also contained field experience on the Zongo Glacier (5060 m a.s.l.). The workshop was concluded by setting goals for collection, analysis, exchange and scientific communication of results from the region through web-media, publications and scientific symposia.

World Glacier Monitoring Service

UCCS, as was the former ICSI, is responsible for the UNESCO/UNEP/FAGS activity of maintaining a glacier monitoring service. The service is currently housed at the University of Zürich. The service collects glacier monitoring data produces both bi-annual and five year reports of glacier data as well as maintains a data base of glacier-related data.

Division activities

Glacier and Permafrost Hazards in Mountains

The joint UCCS/IPA working group on glacier and permafrost hazards in mountains (GAPHAZ) organized its third scientific session on glacier and permafrost hazards ‘*Climate change impacts on glaciers, permafrost and related hazards*’ at the European Geosciences Union (EGU) General Assembly 2006 held in Vienna. Further information and abstracts can be found at <http://www.copernicus.org> (go to EGU, assembly 2006, programme, Cryospheric Sciences, session CR12). A similar session has been proposed also for the EGU'07. A special issue of “Global and Planetary Change” resulting from the EGU'05 session is in press.

Division of Glaciers and Ice Sheets

Glacial debris transport and deposition

The main activity over the past year has been the acquisition of papers arising from the August 2005 conference in Aberystwyth and editing them. The full work was sent to the IAS Special publications editor in August 2006, and publication is expected in mid-2007. A Working Group website has been developed, thanks to the design

skills of the new Work Group Secretary, Dr David Graham of Loughborough University, UK. Please see: <http://www.lboro.ac.uk/research/phys-geog/dtg/index.html>.

Division of Snow and Avalanches

Snow Classification

The activity has progressed and is currently in a phase of revising the classification; the (shape) classification is augmented by a proper characterisation of a snow layer as a whole and not just through the grain types found in that layer. The revised classification will thus include guidelines on how to use other properties such as density, hardness, liquid water content etc. to characterise snow. The final goal of the WG is a revised classification to be presented at the General assembly in Perugia, 2007.

Intercomparison of Forest Snow Process Models (SnowMIP2)

Following on from the Snow Model Intercomparison Project (SnowMIP) for simulations of snowcovers without exposed vegetation, SnowMIP2 was commissioned by ICSI as an intercomparison of models simulating snow processes in forested environments. Following its inception, SnowMIP2 was also adopted as an activity of the GEWEX Land Atmosphere System Study (GLASS) and the WCRP Climate and Cryosphere project (CliC). Extending the original plan for an intercomparison of simulations at three sites, driving and evaluation datasets have been obtained for five sites (in Switzerland, Canada, Japan, the USA and Finland), each with a pair of nearby coniferous forest and open plots. The modelling phase of SnowMIP2 began in June 2006 with the release of finalized instructions and driving, initialization and calibration data. A remarkable response was received, with more than 30 centres in 12 countries registering to participate; the deadline for completion of simulations is December 2006, so it remains to be seen how many models will return results. More information on SnowMIP2 can be obtained from the project website <http://users.aber.ac.uk/rie/SnowMIP2.html>.

Publications

The following are publications produced as an outcome of ICSI/UCCS sponsored activities and workshops/Symposia 2003–2006:

2007

Annals of Glaciology, 46. Proceedings from the International Symposium on Cryospheric Indicators of Global Climate Change.

2006

Casassa, G., W. Haeberli, G. Jones, G. Kaser, P. Ribstein, A. Rivera, C. Schneider (eds). Proceedings of the Symposium on Andean Mass Balance, Valdivia, March 2003, Global and Planetary Change. doi:10.1016/j.gloplacha.2006.

Hock, R., Rees, G., Williams, M., and Ramirez, E. (eds.), 2006. Contribution from Glaciers and Snow to Runoff from the Mountains in Different Climates. *Hydr. Proc.* 20 (10).

2005

IUGG (CCS)-UNEP-UNESCO, 2005. Fluctuation of glaciers 1995-2000 (Vol. VIII).

IUGG (CCS)-UNEP-UNESCO-WMO, 2005. Glacier mass balance bulletin. Bulletin No. 8 (2002-2003).

2004

Pomeroy, J.W. (eds.), 2004. Snow processes and modeling: Recent advances. *J. Hydrometeorol.* 5 (5).

2003

Kaser, G., Fountain, A., and Jansson, P., 2003. A Manual For Monitoring the Mass Balance of Mountain Glaciers. IHP-VI Technical Documents in Hydrology No. 59. UNESCO, Paris.

Lang, H., and Kaser, G., (eds.), 2003. High mountain regions: hydrological processes and cryospheric processes, models and the variability of available water resources; in anticipation of the 'Year of the Mountains 2002'. *J. Hydrol.* 282 (1-4).

IAHS (ICSI)-UNEP-UNESCO-WMO, 2003. Glacier mass balance bulletin. Bulletin No. 7 (2000-2001).

The future

As stated above, UCCS is an interim organisation. The immediate future and the possibilities for the Cryospheric Sciences are highly dependent on the outcome of the IUGG General Assembly and decisions to be taken there by the IUGG council. UCCS activities, however, will continue to develop. Planning for the IUGG General Assembly is in progress. A total of 13 symposia and workshop activities are planned in conjunction with and will be hosted by IAG, IAHS, IAMAS, IAPSO and IAVCEI. UCCS is also collaborating on the plans for a joint IAMAS/IAPSO/UCCS Assembly in Montreal 2009. Workshops are also planned for the 33rd International Geological Congress in Oslo 2008. Both activities will be published in international journals. UCCS will continue to sponsor glacier monitoring efforts in less well investigated areas such as the Himalayas, the South American Andes and the tropical regions. The responsibility of the Cryospheric community to produce and improve data products for climate change assessments will also remain a strong focus for the

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Quadrennial Reports of the IUGG Associations and Union Commissions

Commission, The World glacier Monitoring Service (WGMS) is one example how such monitoring data is collected and distributed for assessments such as the IPCC.

Peter Jansson, Feb 13, 2007

Secretary/Treasurer



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Perugia, Italy July 2-13, 2007



COMPTES RENDUS

**PART II:
STATUTES AND BY-LAWS OF
THE UNION AND THE ASSOCIATIONS**



UNION GEODESIQUE ET GEOPHYSIQUE INTERNATIONALE
INTERNATIONAL UNION OF GEODESY AND GEOPHYSICS

XXIV GENERAL ASSEMBLY
2-13 JULY 2007
PERUGIA, ITALY

COMPTES RENDUS

IUGG XXIV GENERAL ASSEMBLY
2 – 13 JULY 2007 PERUGIA, ITALY

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Part II

Statutes and By-Laws of the Union and the Associations

STATUTES OF THE UNION

INTERNATIONAL UNION OF GEODESY AND GEOPHYSICS

STATUTES

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.
5. The General Assembly shall consist of the duly accredited Delegates of the Member Countries and guests invited in accordance with the By-Laws.

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

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Statutes and By-Laws of the Union

each meeting of the Council. Adhering Bodies in Associate status are not entitled to appoint a Council Delegate.

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.

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 a special category, called A.
 - 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.
13.
 - 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 shall cease to be a Member Country following the next Council meeting after its request to the Bureau for a transfer.
 - h) Every Associate Membership shall be reviewed at each General Assembly. Member Countries which have been Associates from the beginning of their membership will be asked to consider entering a paying category.
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.

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 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.
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.

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 by Member Countries for a change of any article of the Statutes of the Union 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 Member Countries of any proposed change at least four months before the announced date of the Council meeting.
25. 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.
26. 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.
27. 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 OF THE UNION

COMPOSITION

1. The following are the constituent Associations of the Union:
The International Association for 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.

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.

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.

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 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. If there are insufficient candidates from the previous Finance Committee, then an additional member or members shall be elected from among 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;
 - 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;
 - 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. Any admission accepted by a simple majority is provisional until approved by the 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) 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.

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.
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;
 - 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:

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- 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.

END OF BY-LAWS

**STATUTS DE L'UNION
UNION GEODESIQUE ET GEOPHYSIQUE INTERNATIONALE**

STATUTS

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.
5. L'Assemblée générale est constituée des Délégués, dûment accrédités, des Pays membres et des invités, conformément aux règlements.

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 comptent douze catégories, numérotées de 1 à 14, plus une catégorie spéciale, appelée catégorie A.
- 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.

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 ayant le statut d'Observateur depuis quatre ans, 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 après la réunion du Conseil qui fait suite à sa demande de transfert auprès du Bureau.
 - h) Chaque adhésion en tant qu'Associé fera l'objet d'un examen à chaque Assemblée générale. On demande aux Pays membres ayant le statut d'Associé depuis le début de leur adhésion, d'envisager de passer dans une catégorie payante.
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 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. Les propositions de modification d'un article des statuts de l'Union formulées par un Pays membre, doivent parvenir au Secrétaire général au moins six mois avant la date fixée pour la réunion du Conseil au cours de laquelle elles 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

REGLEMENT INTERIEUR DE L'UNION

RÈGLEMENTS

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 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 membres issus de l'actuelle ou de la précédente Commission des finances et deux membres choisis parmi les délégués accrédités du conseil de l'Assemblée Générale présente ou de toute Assemblée précédente. S'il n'y pas assez de candidats issus de la précédente Commission des finances, un ou plusieurs membres supplémentaires peuvent être élus parmi les membres du 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 ;
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) élit 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) étudie 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) étudie 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) étudie les propositions de modification des 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 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 « Guidelines on IUGG Administration ». Il prépare les programmes des réunions du Conseil et du Comité exécutif.

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. 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 déféré 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 « Guidelines on IUGG Administration », se charge de la correspondance et assure la conservation des archives ;
- c) distribue toutes les informations relatives à l'Union ;
- d) établit 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) 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 Contribution	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.

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 « Guidelines on IUGG Administration », 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.

FIN DES RÈGLEMENTS

STATUTES AND BY-LAWS OF THE ASSOCIATIONS

STATUTES AND BY-LAWS OF THE INTERNATIONAL ASSOCIATION FOR CRYOSPHERIC SCIENCES

PROPOSED STATUTES OF THE INTERNATIONAL ASSOCIATION OF CRYOSPHERIC SCIENCES (IACS)

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.
- 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.
- 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.

PROPOSED BY-LAWS OF THE INTERNATIONAL ASSOCIATION OF CRYOSPHERIC SCIENCES

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 or President-Elect, 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;
- 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.
 - 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 DE L'ASSOCIATION INTERNATIONALE DES SCIENCES CRYOSPHERIQUES (AISC)

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 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 :
- a) la question est clairement définie dans l'ordre du jour définitif communiqué à l'avance aux membres conformément aux règlements;
 - b) le fond de la question n'a pas été modifié;
 - c) 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 CRYOSPHERIQUES

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 ou le Président désigné, 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;

- 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

IAG STATUTES AGREED BY COUNCIL, JULY 9, 2007, PERUGIA

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 5(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 the 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 the 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 Decisions 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:

- (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.

IAG Bylaws agreed by Council
July 9, 2007
Perugia

1

Definition of Terms

- (a) **Association Components** or **Components** means Commissions, Services and the Global Geodetic Observing System (GGOS).
- (b) **Commissions** represent major fields of activity in the IAG which, together, cover the whole of 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 subcomponents** 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, 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, the 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
 - (ii) the programs for the forthcoming period for those subcomponents 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 modeling.
- (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~~only~~.
- (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 38 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 Center for Earth Tides
- (g) International Earth Rotation and Reference Systems Service
- (h) International DORIS Service.
- (i) International Gravity Field Service.
- (j) International Center for Global Earth Models
- (k) International DEM Service. (TBC).
- (l) Permanent Service for Mean Sea Level
- (m) Time Section of the International Bureau of Weights and Measures.
- (n) International Altimetry Service (IAS)
- (o) IAG Bibliographic Service.

15 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 ~~sub-groups~~ 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 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 (provided IUGG laws are observed).
 - (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 24(j), 25(d) and 26(c) (Check numbers).
- (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 19(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 19(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 20(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 20(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 convenor or co-convenor, 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 19(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 19(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 members of the Bureau and of the Executive Committee, and the Presidents of Commissions.

- (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) Accept individuals as Members of the Association.
 - (vii) Appoint planning groups for Inter-commission Committees and IAG Projects.
 - (viii) Establish Inter-commission Committees and IAG Projects.
 - (ix) Appoint an IAG Review Committee every eight years.
 - (x) Appoint the Assistant Secretaries of the Association.
 - (xi) Confirm the links between Commissions and Services.
 - (xii) Adopt the suggested membership fee
 - (xiii) Appoint the Vice-president of Commissions.
 - (xiv) Appoint representatives to external bodies.
 - (xv) 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.
 - (iv) Recommend to the Executive Committee Candidate Members, individual Members, and Fellows.
- (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 Services 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 subclause (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, 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.

**STATUTES AND BY-LAWS OF THE INTERNATIONAL ASSOCIATION OF GEOMAGNETISM AND
AERONOMY**

**(Revised 19 July 1999, IUGG, Birmingham, UK, plus 28 July to accommodate changes to
the IUGG statutes)**

**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, two Vice-Presidents, the Secretary-General, five additional Members, and the retiring President (*ex-officio*). Except for the retiring President, 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. The Vice-Presidents shall be elected for one Period and may be re-elected once. A retiring Vice-President may be elected President. Each of the five additional Members shall be elected for one Period and may be re-elected for successive single Periods, but may not hold office as an additional Member for more than three consecutive Periods. The retiring President is a member *ex-officio* for one Period. With the exception of the election of the Secretary-General, no person who has served on the

Committee for four Periods shall be eligible for further election to any position on the IAGA Executive Committee.

- 8.3 The Secretary-General shall be elected for eight years and may be re-elected for successive four-year terms.
- 8.4 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.
- 8.5 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 Executive Committee shall appoint one of the two Vice-Presidents to 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 IAGA

I. COMPOSITION

By-Law 1. Component Bodies of IAGA

The Component Bodies of IAGA shall be called Divisions and Interdivisional Bodies 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.
- 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 jointly by the Vice-Presidents 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 Executive Committee shall appoint one of the Vice-Presidents to preside at a Conferences of Delegates or an Executive Committee meeting, and one of the Vice-Presidents or the Secretary-General to represent the President at an IUGG Executive Committee Meeting in accordance with IUGG By-Laws. The President may designate one of the Vice-Presidents 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. FINANCE

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;
- 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.

*Adopted at IUGG'99, Birmingham, UK
28 July 1999*

**STATUTS ET REGLEMENT INTERIEUR DE L'ASSOCIATION INTERNATIONALE DU
GÉOMAGNETISME ET DE L'AERONOMIE**
(Modifiés durant la XXII^{ème} Assemblée Générale de l'UGGI, le 19 Juillet 1999 et le 28 Juillet
pour tenir compte des modifications des statuts de l'UGGI)

STATUTS DE L'AIGA

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), de deux Vice-Présidents, du Secrétaire-général, de cinq membres supplémentaires, et du (de la) Président(e) sortant(e) (*ex officio*). A l'exception du (de la) Président(e) sortant(e), 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 à la même fonction. Les Vice-Présidents sont élus pour une Période, et ils peuvent être réélus une fois. Un(e) Vice-Président(e) sortant(e) peut être élu Président(e). Chacun des cinq membres supplémentaires est élu pour une Période, et il peut être réélu pour des Périodes simples successives, mais il ne peut avoir un mandat de membre supplémentaire pour plus de trois Périodes consécutives. Le (la) Président(e) sortant est membre *ex officio* pour une Période. A l'exception de l'élection du Secrétaire-général, toute personne ayant été membre du Conseil durant quatre Périodes ne peut être candidate à une élection pour un des postes du Conseil exécutif de l'AIGA.
- 8.3 Le Secrétaire-général est élu pour huit ans, et peut être réélu pour des mandats successifs de quatre ans.
- 8.4 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 ou la Secrétaire-général qui est normalement élu au cours d'une Conférence des délégués tenue durant une Assemblée scientifique.
- 8.5 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 un(e) des deux Vice-présidents 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. GÉNÉRALITÉS

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.

*Adoptés le 28 juillet 1999
durant la XXII^{ème} Assemblée Générale de l'UGGI,
Birmingham, Royaume Uni.*

STATUTES AND BY-LAWS OF THE INTERNATIONAL ASSOCIATION OF HYDROLOGICAL SCIENCES

- 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 By-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 By-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 By-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.
- 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 and the Treasurer shall be eligible for re-election, but not for more than two additional terms.
- 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 By-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 By-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.
- 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.
- BY-LAWS: AMENDMENTS**
- 16. Within the framework of these Statutes, the Plenary Administrative Session of the Association shall have the power to adopt or amend By-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.
- 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 By-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 By-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, the Secretary General and the Treasurer.
- 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 Bye-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.
- 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 By-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.

- 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 r,union, 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 dot,s 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, le trésorier 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.
- 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 assemblés,es 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 d,but 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 et le trésorier sont rééligibles, le nombre de mandats supplémentaires étant limité à deux.
- L'éditeur doit être désigné par le bureau et son 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'Editeur 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.
- Règlement intérieur**
- 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.
- 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 les postes de secrétaire général et de trésorier.
- 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 le 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.
- Généralités**
- 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.

Regulations of the Scientific Commissions Règlements des Commission Scientifiques (Revised 1999/révisés en 1999)

There are nine Scientific Commissions in IAHS:

International Commission on Surface Water (ICSW)

International Commission on Groundwater (ICGW)

International Commission on Continental Erosion (ICCE)

International Commission on Snow and Ice Hydrology (ICSIH)

International Commission on Water Quality (ICWQ)

International Commission on Water Resources Systems (ICWRS)

International Commission on Remote Sensing (ICRS)

International Commission on the Coupled Land-Atmosphere System (ICCLAS)

International Commission on Tracers (ICT)

Each Commission has the following terms of reference.

ICSW, ICGW, ICCE, ICSIH, ICWQ, ICWRS, ICRS, ICCLAS and ICT

Terms of Reference

The Commission shall be responsible for the advancement of the science of the water cycle as a whole and for the topics of specific focus of the Commission within the International Association of Hydrological Sciences (IAHS), a constituent body of the International Union of Geodesy and Geophysics (IUGG).

The Commission shall also explore possibilities for expanding the scientific basis for utilizing water. Emphasis should be given to the extension of knowledge in the specific field pertinent to the focus of the

L'AISH comprend neuf Commissions scientifiques:

Commission internationale des eaux de surface (CIES)

Commission internationale des eaux souterraines (CIES)

Commission internationale d'érosion continentale (CIEC)

Commission internationale de l'hydrologie des neiges et glaces (CIHNG)

Commission internationale de la qualité de l'eau (CIQE)

Commission internationale des systèmes de ressources en eau (CISRE)

Commission internationale de teledetection (CIT)

Commission internationale sur le système couplé sol-atmosphère (CISCSA)

Commission internationale des traceurs (CIT)

Le mandat de chaque Commission est le suivant.

CIES, CIES, CIEC, CINGH, CIQE, CISRE, CIT, CISCSA et CIT

Mandat/attribution

La Commission est responsable de l'avancement de la recherche concernant le cycle de l'eau dans son ensemble ainsi que du thème spécifique de ladite Commission dans le cadre de l'Association Internationale des Sciences Hydrologiques (AISH), membre constitutif de l'Union Géodésique et Géophysique Internationale (UGGI).

La Commission doit aussi rechercher les possibilités de rationaliser l'usage de l'eau à partir de critères scientifiques. L'accent doit être mis sur l'extension du savoir dans les domaines particulier relevant de la Commission; les

**STATUTES AND BY-LAWS OF THE INTERNATIONAL ASSOCIATION OF METEOROLOGY AND
ATMOSPHERIC SCIENCES**

STATUTES

I - Objectives of the Association

1. The objectives of the International Association of Meteorology and Atmospheric Sciences are:

- 1.1. to promote the study of the science of the atmosphere;
- 1.2. to initiate, facilitate, and coordinate international cooperation.
- 1.3. to stimulate discussion, presentation and publication of scientific results.
- 1.4. to promote education and public awareness.

II - Membership of the Association

2. The International Association of Meteorology and Atmospheric Sciences (IAMAS) is one of the constituent Associations of the International Union of Geodesy and Geophysics. All countries which adhere to the Union, including Associate Countries (Members), are Adhering (Member) Countries of the Association and are qualified to appoint delegates to the Association's General Assemblies.

- 2.1. Adhering Countries may participate in the Association through a number of mechanisms, e.g., directly through their National Committee for the Union, or they may appoint a National Correspondent for the Association or they may appoint a National Committee for the Association.
- 2.2. Associate Countries have restricted rights, which are defined in Article XI, paragraph 33 and Regulation I, paragraph 2.

III - Organs of the Association

3. The International Association of Meteorology and Atmospheric Sciences comprises :

1. the Bureau
2. the Secretariat
3. the Executive Committee
4. the General Assembly of Delegates
5. the Special Scientific Commissions (hereafter referred to as Commissions)
6. the Joint Scientific Committees

3.1. The members of the Bureau and of the Executive Committee will be chosen, as far as possible, from those who are from Adhering Countries on the basis of competence, experience, and geographical coverage.

IV - Time Schedule of the Association

4. The Association will meet in Ordinary General Assembly at the time and place of the Ordinary General Assembly of the Union.

4.1. The Association arranges General Assemblies, composed of National Delegates of the Adhering Countries, to conduct the business of the Association. The Association also arranges Scientific Assemblies for the exchange of scientific information.

4.2. The Bureau will have the responsibility for deciding on the schedule of business during the General Assembly. In general, however, an opening Plenary Session should be scheduled during which the President may announce business matters, appoint appropriate committees to function during the General Assembly, and may call for such reports as may be appropriate at this first Plenary. A second Plenary should in general be arranged towards the close of the General Assembly, during which the financial reports will be made, reports of the Commissions heard, resolutions or recommendations adopted, nominations for Officers and members of the Executive Committee presented, elections held, and other appropriate business conducted.

4.3. Extraordinary and Scientific Assemblies may also be called, as outlined in appropriate Articles below.

4.4. For the purposes of discussions in these Statutes, a period is defined as the interval elapsing between the final Plenary Session of one Ordinary General Assembly and the termination of the final Association Plenary Session of the succeeding Ordinary General Assembly (i.e., generally four years).

V - The Bureau

5. The Bureau of the Association will direct and coordinate all scientific and related activities of the Association, and it will function on a continuing basis, as required, in the interval between Ordinary General Assemblies. It will consist of a President, two Vice-Presidents, and a Secretary General (who is also the Treasurer), elected by the General Assembly.

6. The President will be elected at the final Plenary Session of the Ordinary General Assembly; his/her term of office will be for one period following his/her election, and he/she will not be eligible for immediate re-election.

7. The Vice-Presidents will be elected at the final Plenary Session of the 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. The Secretary General will be elected at the final Plenary Session of the Ordinary General Assembly. His/Her term of office will be for two periods. A retiring Secretary General will be eligible for immediate re-election, but only for one additional period.

9. 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 General Assembly), the Executive Committee will decide which Vice-President will become President.

10. If the office of the Secretary General becomes vacant under the same circumstances, a Secretary General will be nominated by the President to occupy the office until the next Ordinary or Extraordinary 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.

VI - Secretariat

11. The Secretary General will expedite the current business of the Association in agreement with the President. He/She will be responsible for:

1. the administrative and scientific correspondence;
2. the management of the resources at the disposal of the Association;
3. the preparation, printing, and distribution of the publications;
4. the arrangements for the Ordinary General Assemblies, Extraordinary General

Assemblies, and Scientific Assemblies;

5. the execution of the decisions of the Association at General Assemblies.

The management of resources will be understood to include the right to open a banking account in the name of the Association, to authorize the borrowing or the purchase of moveable properties and to dispose of them, in whole or in part, to the benefit of the Association.

12. The Executive Committee may, at its discretion, appoint a Deputy Secretary General who will take over specific functions of the Secretariat and also share duties with the Secretary General. Normally he/she will be from an area of science complementary to that of the Secretary General.

13. The Executive Committee may, at its discretion, appoint an Assistant Secretary General, normally resident in the same general area as that of the Secretary General, who will:

1. become familiar with the routine operations of the Secretariat;
2. have signing authority (together with the President and Secretary General) for cheques on the Association bank account, to be used on instruction from the President or Secretary General;
3. assist the Secretary General as appropriate.

VII - Executive Committee

14. The Executive Committee will be composed, in addition to the members of the Bureau, of five elected members from five different countries. They will be elected at the final Plenary Session of the Ordinary General Assembly, and their term of office will be for two periods. They will not be eligible for immediate re-election.

15. The Executive Committee will also include, ex-officio, the Presidents of the Commissions and the retiring President of the Association. 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.

16. If a vacancy occurs among the elected members of the Executive Committee, 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 so replaced would have terminated his/her office.

17. The Executive Committee will appoint a Nominating Committee. The governing procedures for the Nominating Committee are presented in Regulation 1.

18. The Executive Committee will be consulted by the Bureau, by correspondence, on every new question of importance, administrative or scientific, which arises between two General Assemblies.

19. Meetings of the Executive Committee may be convened by the Bureau in the interval between two General Assemblies.

20. All decisions of the Executive Committee will be taken following a simple majority vote of those voting. If the votes are equally divided, that of the President will decide.

VIII - General Assemblies

21. The General Assembly of the Association will be composed of Delegates appointed by the National Committees of the Adhering Countries. 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 Delegate who, in case of voting by countries, will hold the right to vote for his/her country.

22. As given in Article 4.1, the Association will meet in Ordinary General Assembly at the time of the Ordinary General Assembly of the Union.

23. If the need should arise, the Association may also meet in Extraordinary General Assembly during the interval between two Ordinary General Assemblies of the Union.

23.1. The President of the Association, with the concurrence of the Executive Committee, may convene an Extraordinary General Assembly of the Association, which will have the same powers and be subject to the same rules as the Ordinary General Assemblies.

23.2 An Extraordinary General Assembly must also be convened by the President upon the request of at least half of the Adhering Countries.

23.3 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 Adhering Countries at least six months in advance. The date and time will likewise be communicated in good time to the Bureau of the Union and to those of the other Associations of the Union.

24. The Ordinary and Extraordinary General Assemblies will be open to the public. All interested scientists may participate in the discussions, and may take the floor if recognized by the President or Presiding Officer, whether those scientists be formally accredited Delegates or not, or whether they are from Adhering Countries or not. However, voting will be conducted according to the procedures outlined in Article 24 below.

25. At the General Assemblies, the Delegates present will have individually the right to vote on questions of scientific interest.

25.1. In the elections mentioned in Articles 6, 7, 8 and 13, the vote will be by country and each country will have one vote.

25.2. On administrative matters, without financial implications, voting within the Association will be by country and each country will have one vote, always subject to the condition that the country will have paid its subscription up to the end of the year preceding the voting.

25.3. On financial questions, voting within the Association will likewise be by country, provided that the above-mentioned condition is satisfied. The number of votes assigned to each country will be one greater than the number of its category of membership in the Union.

25.4. 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.

25.5. In the event that a Chief Delegate from a country cannot be present for voting, he may designate in writing a Delegate from another country to cast the votes on behalf of the country of the aforementioned Chief Delegate.

25.6. No Delegate will represent more than two countries.

25.7. An Adhering Country not represented by a Delegate may forward by post its vote on any specific agenda question that has been distributed in advance. The postal ballot must be received by the Bureau in advance of the Plenary Session in which the voting takes place.

25.8. The decision on all voting matters will be by simple majority of those Delegates or those countries present, including postal ballots, 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.

26. The agenda of a Plenary Session of a General Assembly of the Association will be determined by the Bureau, which will have previously invited the National Committees of the Adhering Countries to submit proposals. This agenda will be agreed upon and communicated to the Committees at least four months before the opening of the General Assembly.

26.1. Questions not contained in the agenda may be considered during the sessions only with the previous 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.

27. At Ordinary Sessions of the General Assembly the Secretary General will present a report comprising in particular:

1. a statement of receipts and expenditure of the Association for the period from 1st. January, prior to the preceding Ordinary General Assembly, to 31st. December, prior to the current General Assembly (the financial year being from 1st. January to 31st. December).
2. an approximate estimate of expenses for the financial years up to that of the next Ordinary General Assembly.

IX - Scientific Assemblies

28. The Association may, upon decision taken at an Ordinary or Extraordinary General Assembly, conduct Scientific Assemblies at times other than the General Assemblies. These Scientific Assemblies may be arranged by the Association alone, or they may be held jointly with other Associations of the Union, or with other bodies of the International Council of Scientific Unions. Plans for such Scientific Assemblies will be communicated to the Bureau of the Union and to those of the other Associations in good time.

X - Financial Arrangements

29. A Finance Committee, nominated by the President and approved by the General Assembly at its first Plenary Session, will verify the accounts for the preceding years and examine the provisional estimates, both of which having been prepared by the Secretary General. The Committee will approve the financial statements which the Secretary General prepares prior to the submission of these reports, by the Secretary General, to the General Assembly at the Final Plenary Session. The Finance Committee can request that the accounts be audited by a qualified accountant.

30. The Association will draw its resources from that part of the subscriptions of the Adhering Countries which is allotted to it by the Union. To this main income may be added other receipts from the sale of publications, interest on bank accounts, contributions made by other interested organizations to support symposia or other meetings, registration fees at Assemblies, etc.

31. The income will be assigned in the first place for the payment of the expenses of the Secretariat, namely:

1. all costs of publications;
2. office equipment, expenses of correspondence, shipping;
3. if necessary, the rents of the Secretariat, costs of purchase and maintenance of equipment, and incidental expenses.

31.1 Traveling expenses may also be paid by the Secretary General, but only:

1. in connection with meetings on specific Association business, and
2. when those concerned represent the Association and not Adhering Countries or other organizations, and
3. in cases where those concerned cannot draw proper allocations from their own national sources.

Such payments may cover traveling costs and a reasonable contribution to other expenses while attending such meetings.

31.2 The balance of receipts will be devoted to grants for scientific activity, e.g., to Commissions and to Joint Committees (In this case subject to the provisions of Statute 44 for conduct of symposia or special scientific meetings, and to participants as far as possible, to Association General or Scientific Assemblies, who cannot obtain adequate travel allocations from other sources. In general, it will be expected that such participants will obtain partial support from the Association's funds, the balance coming from national or other sources.)

XI - Commissions

32. Commissions for the study of particular questions may be constituted by the General Assembly.

32.1 The objectives of the Commissions will be reviewed every four years by the Executive Committee. This will make appropriate recommendations at a Plenary Session of each Ordinary General Assembly, which decides on the continuation of the research and works of the Commission or on its termination.

33. The members of these Commissions will be recognized and interested scientists.

33.1 The Commissions may elect new members by a simple majority vote of the members voting in the election. These members must be from Adhering Countries. Members may also be appointed from 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 reported to the General Assembly.

34. Each Commission will elect a President and a Secretary from among their membership; and 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 Adhering Countries, except Associate Countries.

35. When a new Commission is constituted, the first President will be appointed by the Executive Committee. The Commission President will invite appropriate scientists to be members. These appointments will be voted upon by the Commission at its first meeting.

36. The Commission 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 correspondence. The General Assembly will have the right to comment on the work of the Commission, which the Commissions may wish to consider at subsequent business sessions.

37. The Commissions may meet and have symposia when convened by their President outside the meetings of the General Assemblies. Such symposia may be arranged jointly between interested Commissions, or jointly with other appropriate bodies of the International Council of Scientific Unions, or with other relevant organizations (e.g., the World Meteorological Organization).

38. A Commission may, at the discretion of its President, appoint Sub-Commissions, Committees, or Working Groups, to undertake special studies or to devote specialist attention to a part of the general area of concern. 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 before promulgation.

39. 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.

XII - Joint Committees

40. Joint Committees between the Association and other Associations on scientific questions of mutual interest may be constituted by the Associations concerned. In the case of IAMAS, formal approval will be given by a General Assembly, although approval in principle may be granted at an earlier date by the Executive Committee.

41. The members of the Joint Committee will be appropriate scientists nominated by the respective Associations, each of which will normally nominate the same number of members.

42. The Joint Committees may propose new members whose nomination must be ratified by the respective Association 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.

43. Each Joint 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 once.

44. The Joint Committees will formulate their program 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 Committees will be appended to the minutes of the Associations concerned.

44.1. The Joint Committees may meet when convened by their President outside the meetings of the General 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 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.

45. Requests from a Joint Committee for subsidies must be presented and supported by the Associations concerned.

46. Every Joint Committee may refer in a consultative capacity to experts who are not members of the Joint Committee.

47. All decisions of Joint 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.

48. The IAMAS Executive Committee will review the continued participation of IAMAS in each Joint Committee every four years.

XIII - Dissolution of the Association

49. 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, such as the organization of scientific meetings and symposia, the dissemination of scientific information, and the coordination of international research activities.

XIV - Changes in the Statutes of the Association

50. Only Adhering Countries or members of the Executive Committee may propose changes to any article in these Statutes and Regulations. 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 all Adhering Countries and Executive Committee members of any proposed change at least four months before the General Assembly meeting.

51. The Statutes and Regulations can be modified by a simple majority vote of the Adhering Countries present at a General Assembly Plenary Session. Such changes will come into effect at the close of the General Assembly at which they are approved.

XV - Official Languages of the Association

52. The Association will observe the official languages recognized by the Union, namely French and English. Abstracts or reports may be submitted in either of these languages for publication.

53. For the interpretation of the Statutes, the English text and the French text will both be considered authoritative.

Statutes amended by the IAMAS General Assembly in Oerugia, July, 2007
Roland List SG IAMAS

REGULATIONS

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 and two other members plus the President as an ex-officio member.

2. The Nominating Committee will contact the Adhering 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. The Nominating Committee will consider nominees from Adhering Countries, from Commissions and from other sources; it may select a single slate of candidates. The nominees will be from Adhering Countries, except Associate Countries. This slate will be communicated to Adhering Countries and the Executive Committee at least two months before the General Assembly.

3. Any nominations for President or Secretary General should be accompanied by an indication of available resources for the operation of the respective offices.

4. At the first Plenary Session of the General Assembly the Nominating Committee will 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.

Newly formatted 27 Nov. 2006
R. List, SG

**STATUTS ET REGLEMENT INTERIEUR DE L'ASSOCIATION INTERNATIONALE DE LA
METEOROLOGIE ET DES SCIENCES DE L'ATMOSPHERE
STATUTS**

I - Objectifs de l'Association

1. Les objectifs de l'Association internationale de météorologie et des sciences de l'atmosphère consistent à :

- 1.1. encourager l'étude de la science de l'atmosphère de la Terre;
- 1.2. amorcer, faciliter et coordonner la coopération internationale;
- 1.3. stimuler la discussion, la présentation et la publication des résultats scientifiques.
- 1.4 promouvoir l'éducation et la sensibilisation du public.

II - Membres de l'Association

2. L'Association internationale de météorologie et des sciences de l'atmosphère (IAMAS) est une des associations constitutives de l'Union géodésique et géophysique internationale. Tous les pays qui adhèrent à l'Union sont membres de l'Association et sont habilités à désigner des délégués aux Assemblées générales de l'Association.

2.1. Les pays adhérents peuvent participer à l'Association suivant plusieurs mécanismes, par exemple soit directement par leur Comité national de l'Union, soit par la désignation d'un correspondant national pour l'Association, soit par la nomination d'un Comité national pour l'Association.

III - Organes de l'Association

3. L'Association internationale de météorologie et des sciences de l'atmosphère comprend :

1. le Bureau
2. le Secrétariat
3. le Comité exécutif
4. l'Assemblée générale des délégués
5. les Commissions scientifiques spéciales (appelées ci-après les Commissions)
6. les Comités scientifiques mixtes

3.1. Dans la mesure du possible, les membres du Bureau et du Comité exécutif sont choisis parmi les membres des pays adhérents d'après des critères de compétence, d'expérience et de couverture géographique.

IV - Calendrier de l'Association

4. L'Association se réunit en Assemblée générale ordinaire au moment et au lieu de l'Assemblée générale ordinaire de l'Union.

4.1. L'Association organise des Assemblées générales, composées des délégués nationaux des pays adhérents, pour conduire ses affaires. Elle organise aussi des Assemblées scientifiques pour l'échange d'informations scientifiques.

4.2. Le Bureau a la responsabilité de fixer le plan de travail de l'Assemblée générale. En général, une Séance plénière d'ouverture doit être programmée ; pendant cette séance, le Président peut

annoncer des questions d'activité, désigner des comités compétents fonctionnant pendant l'Assemblée générale et demander tous les rapports qui lui paraissent appropriés pour cette première Séance plénière. Une Séance plénière de clôture est en général organisée vers la fin de l'Assemblée générale; on y établit les rapports financiers, entend les rapports des Commissions, adopte les résolutions ou recommandations, présente les désignations des responsables et des membres du Comité exécutif, tient les élections et traite de questions diverses.

4.3. Des Assemblées extraordinaires et scientifiques peuvent aussi être convoquées, comme le signalent les articles pertinents ci-dessous.

4.4. On entend par période normale l'intervalle qui s'écoule entre la Séance plénière de clôture d'une Assemblée générale ordinaire et la fin de la Séance plénière de clôture de l'Association de la prochaine Assemblée générale ordinaire.

V - Bureau

5. Le Bureau de l'Association dirige et coordonne toutes les activités scientifiques et connexes de l'Association et fonctionne continûment, comme requis, dans l'intervalle qui s'écoule entre les Assemblées générales ordinaires. Il est composé du président, de deux vice-présidents et d'un secrétaire général (qui sera aussi le trésorier), élus par l'Assemblée générale.

6. Le Président (femme ou homme) est élu à la Séance plénière clôturant l'Assemblée générale ordinaire; la durée de son mandat est d'une période, suivant son élection. Il n'est pas immédiatement rééligible.

7. Les Vice-Présidents sont élus à la Séance plénière clôturant l'Assemblée générale ordinaire. La durée de leur mandat est d'une période. Ils sont rééligibles pour la période suivante, mais seulement pour une période additionnelle.

8. Le Secrétaire général est élu à la Séance plénière clôturant l'Assemblée générale ordinaire. La durée de son mandat est de deux périodes. Le Secrétaire général sortant est éligible pour la période suivante, mais seulement pour une autre période.

9. Si le poste de Président devient vacant entre deux Assemblées générales ordinaires, le Doyen des Vice-Présidents devient Président. Dans le cas où les deux Vice-Présidents auraient la même ancienneté, c'est-à-dire auraient été élus pour la première fois à la même Assemblée générale, le Comité exécutif déciderait lequel des Vice-Présidents deviendrait Président.

10. Si le poste de Secrétaire général devient vacant dans les mêmes circonstances, le Président désigne un Secrétaire général pour lui faire occuper le poste jusqu'à la prochaine Assemblée générale ordinaire ou extraordinaire. Dans le cas d'élection à une Assemblée générale extraordinaire, la durée initiale du mandat sera en conséquence un peu plus courte que deux périodes entières.

VI - Secrétariat

11. Le Secrétaire général expédie les affaires courantes de l'Association en accord avec le Président. Il est responsable de :

1. la correspondance administrative et scientifique;
2. la gestion des ressources à la disposition de l'Association;
3. la préparation, l'impression et la diffusion des publications ;
4. l'organisation des Assemblées générales ordinaires ou extraordinaires, ainsi que des assemblées scientifiques;
5. l'exécution des décisions prises par l'Association aux Assemblées générales.

La gestion des ressources est comprise comme incluant le droit d'ouvrir un compte en banque au nom de l'Association, le droit de souscrire à un emprunt, d'acheter des valeurs mobilières et de réaliser ces valeurs, en tout ou partie, au profit de l'Association.

12. Le Comité exécutif peut, à sa discrétion, désigner un Secrétaire général adjoint qui peut prendre des responsabilités pour des affaires spécifiées ou prendre part dans d'autres affaires du Secrétaire général. Normalement, le Secrétaire adjoint est d'une branche des sciences différente de celle du Secrétaire général.

13. Le Comité exécutif peut, à sa discrétion, désigner un Sous-Secrétaire général résidant normalement dans la même région que le Secrétaire général, qui :

1. se familiarise avec les opérations courantes du Secrétariat ;
2. a le pouvoir de signer (avec le Président et le Secrétaire général) des chèques sur les comptes bancaires de l'Association, sur instructions du Président ou du Secrétaire général ;
3. assiste le Secrétaire général, comme il convient.

VII - Comité exécutif

14. Le Comité exécutif comprend, en plus des membres du Bureau, cinq membres élus originaires de cinq pays différents. Ces membres sont élus à la Séance plénière clôturant l'Assemblée générale ordinaire; la durée de leur mandat est de deux périodes. Ils ne sont pas immédiatement rééligibles.

15. Le Comité exécutif comprend aussi, d'office, les présidents des Commissions et le président sortant de l'Association. Le président d'une Commission peut déléguer au vice-président ou au secrétaire de cette Commission le droit de participer à une réunion du Comité exécutif, si le Président en est empêché.

16. Si une vacance se produit parmi les membres du Comité exécutif, l'Assemblée générale choisira un remplaçant au cours de la prochaine séance plénière pertinente et ce, pour une période qui prendra fin quand le membre ainsi remplacé aurait terminé son mandat.

17. Le Comité exécutif nomme un Comité des désignations. Les modalités qui régissent le Comité des désignations figurent au règlement 1.

18. Le Comité exécutif doit être consulté par le Bureau, par correspondance, pour toute nouvelle question importante, administrative ou scientifique, qui se pose dans l'intervalle de deux Assemblées générales.

19. Des réunions du Comité exécutif peuvent être provoquées par le Bureau dans l'intervalle de deux Assemblées générales.

20. Toutes les décisions du Comité exécutif sont prises à la majorité simple des votants. En cas de partage des voix, la voix du Président est prépondérante.

VIII - Assemblées générales

21 L'Assemblée générale de l'Association comprend les délégués désignés par les Comités nationaux des pays adhérents. Ces désignations doivent être officiellement portées à la connaissance

du Bureau avant la première Séance plénière de l'Assemblée générale. Les Comités nationaux doivent désigner le délégué qui, en cas de vote par pays, détient le droit de vote pour son pays.

22. Comme l'indique l'article 4.1, l'Association se réunit en Assemblée générale ordinaire au moment de l'Assemblée générale ordinaire de l'Union.

23. Si le besoin s'en fait sentir, l'Association peut aussi se réunir en Assemblée générale extraordinaire dans l'intervalle qui sépare deux Assemblées générales ordinaires de l'Union.

23.1. Le Président de l'Association peut, avec l'assentiment du Comité exécutif, provoquer une Assemblée générale extraordinaire de l'Association qui aura les mêmes pouvoirs et sera soumise aux mêmes règles que les Assemblées générales ordinaires.

23.2. Une Assemblée générale extraordinaire peut aussi être convoquée par le Président à la demande d'au moins la moitié des Pays adhérents.

23.3. Si la date et le lieu d'une telle Assemblée générale extraordinaire n'ont pas été arrêtés au cours de la précédente Assemblée générale ordinaire ou extraordinaire, cette date et ce lieu doivent être déterminés par le Comité exécutif de l'Association et doivent être communiqués aux Pays adhérents au moins six mois à l'avance. La date et le lieu doivent être de même communiqués en temps utile au Bureau de l'Union et à ceux des autres Associations de l'Union.

24. Les Assemblées générales ordinaires et extraordinaires sont publiques. Tous les scientifiques intéressés peuvent participer aux discussions et prendre la parole, s'ils sont reconnus par le Président ou la personne qui préside, que ces scientifiques soient des Délégués formellement accrédités ou non, qu'ils soient originaires de Pays adhérents ou non. Cependant, les votes sont conduits suivant les procédures mentionnées à l'article 24 ci-dessous.

25. Aux Assemblées générales, les Délégués présents ont individuellement le droit de vote sur les questions d'intérêt scientifique.

25.1. Dans les élections mentionnées aux articles 6, 7, 8 et 13, le vote est fait par pays et chaque pays a une voix.

25.2. Pour les questions administratives, sans implications financières, le vote au sein de l'Association se fait par pays et chaque pays a une voix, à condition toutefois que le pays ait payé sa cotisation jusqu'à la fin de l'année précédant le vote.

25.3. Pour les questions financières, le vote dans l'Association se fait aussi par pays, sous réserve que la condition susmentionnée soit satisfaite. Le nombre de voix assignées à chaque pays est supérieur d'une voix au nombre de sa catégorie de Membre de l'Union.

25.4. En cas de doute concernant le classement d'une question et dans tous les cas d'égalité de votes sur une question, la décision incombera au Président ou au Président de séance.

25.5. Lorsqu'un chef de délégation d'un pays ne peut être présent pour voter, il peut désigner par écrit un délégué d'un autre pays pour voter au nom du pays du chef de délégation susmentionné.

25.6. Aucun délégué ne représente plus de deux pays.

25.7. Un Pays adhérent non représenté par un Délégué peut voter par correspondance sur une question bien définie de l'ordre du jour. Celui-ci doit avoir été distribué à l'avance. Le vote par correspondance doit être reçu par le Bureau avant la Séance plénière pendant laquelle le vote aura lieu.

25.8. La décision sur toutes les questions soumises au vote est obtenue à la majorité simple des Délégués ou des pays votants, votes par correspondance compris, en ne comptant pour la majorité que les suffrages exprimés pour ou contre une question particulière. En cas de partage des voix, la voix du Président ou du Président de séance est prépondérante.

26. L'ordre du jour d'une Séance plénière d'une Assemblée générale de l'Association est déterminé par le Bureau qui a invité auparavant les Comités nationaux des Pays membres à lui soumettre des propositions. Cet ordre du jour doit être arrêté et communiqué aux Comités au moins quatre mois avant la séance d'ouverture de l'Assemblée générale.

26.1. Les questions non prévues à l'ordre du jour ne peuvent être prises en considération pendant les séances qu'avec l'accord préalable d'au moins la moitié des pays représentés ou des Délégués présents à l'Assemblée générale, suivant que la question est administrative (question financière incluse) ou scientifique.

27. Aux séances ordinaires de l'Assemblée générale, le Secrétaire général présente un rapport comprenant en particulier :

1. un état des recettes et dépenses de l'Association pour la période allant du 1^{er} janvier avant la précédente Assemblée générale ordinaire, au 31 décembre avant l'Assemblée générale en cours (l'exercice budgétaire va du 1^{er} janvier au 31 décembre) ;
2. une estimation approximative des dépenses pour les exercices financiers à venir jusqu'à la prochaine Assemblée générale ordinaire.

IX - Assemblées scientifiques

28. L'Association peut, sur décision prise à une Assemblée générale ordinaire ou extraordinaire, tenir des Assemblées scientifiques à des moments autres que ceux des Assemblées générales. Ces Assemblées scientifiques peuvent être organisées par l'Association seule ou être tenues conjointement avec d'autres Associations de l'Union ou avec d'autres organismes du Conseil international des unions scientifiques. Les plans de telles Assemblées scientifiques doivent être communiqués en temps utile au Bureau de l'Union et à ceux des autres Associations.

X - Gestion Financière

29. Un Comité des Finances, désigné par le Président et approuvé par l'Assemblée générale à la première Séance plénière, vérifie les comptes pour les années précédentes et examine le budget prévisionnel, comptes et budget prévisionnels ayant été préparés par le Secrétaire général. Le Comité approuve l'état des comptes que le Secrétaire général a préparé avant la soumission de ces rapports, par le Secrétaire général, à l'Assemblée générale lors de la Séance plénière de clôture. Le Comité des finances peut demander que les comptes soient vérifiés par un expert comptable qualifié.

30. L'Association tire ses ressources de la part des cotisations des Pays adhérents qui lui est accordée par l'Union. A cette ressource principale peuvent s'ajouter d'autres recettes provenant de la vente de publications, des intérêts des fonds déposés en banque, des contributions apportées par des Organisations pour appuyer des colloques ou d'autres réunions, des droits d'inscription aux Assemblées, etc.

31. Les recettes sont affectées en premier lieu au paiement des dépenses de Secrétariat, nommément :

1. tous les coûts des publications ;
2. l'équipement de bureau, les dépenses de correspondance et d'expédition;
3. si nécessaire, le loyer du Secrétariat, les frais d'achat et d'entretien de

l'équipement, ainsi que les dépenses annexes.

31.1. Des frais de voyage peuvent aussi être payés par le Secrétaire général, mais seulement :

1. en relation avec des réunions d'affaires propres à l'Association;
2. quand les personnes concernées représentent l'Association et non pas un Pays membre, ni une autre organisation;
3. quand les personnes concernées ne peuvent pas obtenir des allocations suffisantes de leurs propres sources nationales.

De tels paiements peuvent couvrir les frais de voyage et une contribution raisonnable aux autres dépenses contractées pendant la participation à de telles réunions.

31.2. L'excédent des recettes est consacré à des bourses pour des activités scientifiques; ces bourses peuvent être accordées, par exemple, à des Commissions ou des Comités mixtes (dans ce cas, sous réserve du Statut 44) pour tenir des symposiums ou des réunions scientifiques spéciales ; elles peuvent être accordées, aussi loin que possible, à des participants aux Assemblées scientifiques ou générales de l'Association, qui ne peuvent pas obtenir d'allocations de voyage suffisantes auprès d'autres sources. En général, on s'attend que de tels participants obtiendront un appui partiel en provenance des fonds de l'Association, le reste provenant de sources nationales ou autres.

XI - Commissions

32. Des Commissions peuvent être formées par l'Assemblée générale pour l'étude de questions particulières.

32.1. Les objectifs des Commissions doivent être revus tous les quatre ans par le Comité exécutif. Celui-ci doit faire des recommandations pertinentes à la Séance plénière de chaque Assemblée générale ordinaire, qui décide de la poursuite de la recherche et du travail des Commissions ou de la dissolution de celles-ci.

33. Les Membres des Commissions sont des scientifiques reconnus intéressés par la question.

33.1. Les Commissions peuvent élire de nouveaux Membres à la majorité simple des Membres participant à l'élection. Les Membres peuvent provenir de Pays adhérents ou de Pays non-adhérents à l'Union. Une certaine représentation géographique doit être prise en considération dans la composition des Commissions. La durée des mandats des Membres des Commissions est normalement de deux périodes entières. Les résultats des élections des Membres doivent être communiqués à l'Assemblée Générale.

34. Chaque Commission élit un Président et un Secrétaire parmi ses Membres. On peut aussi élire un Vice-président si la Commission le désire. La durée de leur mandat est normalement d'une période de quatre ans. Le Président, le Vice-Président, le Vice-Président et le Secrétaire sont rééligibles pour une autre période. Ces officiers doivent provenir de pays adhérents sauf lorsque concerne les pays associés.

35. Quand une nouvelle Commission est constituée, le premier Président est nommé par le Comité exécutif. Le Président de la Commission invite les scientifiques appropriés à être Membres. La Commission vote ces nominations à sa première réunion.

36. En général, les Commissions doivent tenir leurs élections des responsables et des membres au moment des Assemblées générales ordinaires de l'Association. Dans ce cas, ces élections doivent avoir lieu avant la Séance plénière de clôture de l'Assemblée générale, de telle sorte que les résultats

puissent être rapportés à l'Assemblée générale en même temps que les autres questions traitées par les Commissions. Les Commissions peuvent aussi décider d'élire leurs responsables à une réunion ou à un symposium de la Commission indépendant de l'Assemblée générale ordinaire. L'Assemblée générale a le droit de commenter le travail des Commissions et de présenter des suggestions que les Commissions peuvent prendre en considération lors de réunions administratives ultérieures.

37. Les Commissions peuvent se réunir en symposiums sur convocation de leur Président, en dehors des périodes des réunions des Assemblées générales. De tels symposiums peuvent être organisés conjointement entre des Commissions intéressées, conjointement avec des organismes compétents du Conseil international des unions scientifiques ou avec d'autres Organisations concernées (par exemple l'Organisation météorologique mondiale).

38. Une Commission peut, à la discrétion de son Président, désigner des Sous-Commissions, Comités ou Groupes de travail pour entreprendre des études spéciales ou attirer l'attention de spécialistes sur une partie du domaine général de sa compétence. Les membres de tels sous-groupes n'ont pas besoin d'être membres de la Commission. Ils doivent être nommés par le Président de la Commission, après mûre consultation de ses Membres. Les conclusions ou recommandations de tels sous-groupes doivent être approuvées par la Commission mère avant leur promulgation.

39. Toutes les décisions des Commissions sont prises à la majorité simple des voix des Membres participant au vote (vote individuel). En cas de partage des voix pour ou contre, la voix du Président est prépondérante.

XII - Comités mixtes

40. Des Comités mixtes entre l'Association de météorologie et des sciences de l'atmosphère et d'autres Associations peuvent être constitués sur des questions d'intérêt mutuel pour les Associations concernées. Dans le cadre de l'Association, l'accord officiel sera donné par une Assemblée générale, bien qu'un accord de principe puisse être obtenu du Comité exécutif à une date antérieure.

41. Les membres du Comité mixte doivent être des scientifiques compétents désignés par leurs Associations respectives, chacune d'entre elles devant en principe désigner le même nombre de Membres.

42. Les Comités mixtes peuvent proposer de nouveaux Membres, dont la désignation devra être ratifiée par leurs Associations respectives à l'occasion de leur Assemblée générale. La durée du mandat de ces Membres est d'une période. Ces Membres sont rééligibles.

43. Chaque Comité mixte élit un Président et un Secrétaire qui ne doivent pas être désignés tous deux par la même Association et dont la durée du mandat est d'une période. Ce Président et ce Secrétaire sont rééligibles une seule fois.

44. Les Comités mixtes formulent leur programme de travail et organisent leurs réunions, autant que possible, pendant les séances de l'Assemblée générale de l'Union. Les actes des Comités mixtes sont annexés au procès-verbal des Associations concernées.

44.1. Les Comités mixtes peuvent se réunir sur convocation de leur Président, en dehors des périodes des réunions des Assemblées générales, à condition d'en avoir saisi au préalable le Bureau de leurs Associations respectives. Ils peuvent se réunir aux mêmes dates que les Commissions ou Comités mixtes correspondants, constitués par d'autres Associations de l'Union ou par d'autres Unions, afin d'étudier et de résoudre ensemble des problèmes qui intéressent plus d'une Association de l'Union ou plus d'une Union.

45. Les demandes de subsides en provenance d'un Comité mixte doivent être présentées et appuyées par les Associations concernées.
46. Chaque Comité mixte peut s'adresser à titre consultatif à des experts non Membres du Comité mixte.
47. Toutes les décisions des Comités mixtes sont prises à la majorité simple des voix des Membres participant au vote (votes individuels). Dans le cas de partage des voix pour ou contre, la voix du Président est prépondérante.
48. Tous les quatre ans, le Comité exécutif de l'IAMAS examine la participation continue de l'IAMAS à chaque Comité mixte.

XIII - Dissolution de l'Association

49. Si l'Association devait être dissoute, ses avoirs financiers retourneraient à l'Union et seraient employés au maintien des activités scientifiques et d'éducation, telles que l'organisation de symposiums et de réunions scientifiques, la diffusion de l'information scientifique et la coordination des activités internationales de recherche.

XIV - Modification des Statuts de l'Association

50. Les propositions des Membres ou des membres du Comité exécutif visant la modification d'un article des Statuts et du Règlement doivent parvenir au Secrétaire général au moins six mois avant la date annoncée de l'Assemblée générale où elles seront étudiées. Le Secrétaire général informera tous les Membres et tous les membres du Comité exécutif de toute proposition de modification et ce, au moins quatre mois avant la réunion de l'Assemblée générale.
51. Les Statuts et le Règlement peuvent être modifiés par un vote à majorité simple des Membres à une séance plénière de l'assemblée générale. De tels changements entrent en vigueur à la clôture de l'Assemblée générale à laquelle ils sont approuvés.

XV - Langues officielles de l'Association

52. L'Association respecte les langues officielles reconnues par l'Union, notamment le français et l'anglais. Les résumés et les rapports peuvent être soumis pour publication dans l'une quelconque de ces langues.
53. Pour l'interprétation des Statuts, le texte français et le texte anglais sont tous deux considérés comme faisant autorité.

Statutes as amended by the IAMAS Assembly in Perugia, July 2007.
Roland List, SG

RÈGLEMENT

I - Modalités régissant le Comité des désignations

1. Le Comité exécutif nomme un Comité des désignations à l'Assemblée scientifique deux ans avant une Assemblée générale. Ce comité est responsable de la désignation d'un président, de deux vice-présidents, des membres élus du Comité exécutif et d'un secrétaire général, si nécessaire. Le Comité des désignations se compose d'un président et de deux autres membres, ainsi que du Président, membre d'office.
2. Le Comité des désignations communique avec les membres de l'Association et du Comité exécutif au moins six mois avant l'Assemblée générale et demande que les désignations du poste susmentionné lui parviennent au moins quatre mois avant l'Assemblée générale. Le Comité des désignations examine les personnes désignées parmi les Membres, les Commissions et d'autres sources. Il peut décider de ne choisir qu'une liste de candidats, laquelle doit être communiquée aux Membres et au Comité exécutif au moins deux mois avant l'Assemblée générale.
3. Toutes désignations de président ou de secrétaire général doivent s'accompagner de l'indication des ressources disponibles pour le fonctionnement des bureaux respectifs.
4. À la première séance plénière de l'Assemblée générale, le Comité des désignations dépose officiellement sa liste de candidats. C'est à ce moment qu'on pourra prendre la parole pour proposer des candidats pour tous les postes, sauf ceux de Président et de Secrétaire général. Pour toutes les désignations, il faut que la candidate ou le candidat ait consenti à remplir sa charge au cas où elle/il serait élu(e). L'élection aura lieu pendant la dernière séance plénière de l'Assemblée générale.

**STATUTES AND BY-LAWS OF THE INTERNATIONAL ASSOCIATION FOR THE PHYSICAL
SCIENCES OF THE OCEANS**

**STATUTES OF THE ASSOCIATION
Adopted by the IAPSO Council on 4 July 2007**

Adopted by the General Assembly at Berne, October 1967, modified at Canberra, December 1979, modified by mail ballot, 1998, modified by mail ballot 2004, and **modified by mail ballot 2006**. Underlines show revisions after the 2006 mail ballot.

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.**

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 OF THE ASSOCIATION
Adopted by the IAPSO Council on 4 July 2007

Adopted by the General Assembly at Berne, October 1967, modified at Canberra, December 1979, modified at Honolulu, August 1995, modified by mail ballot, 1998, modified by mail ballot 2004, **modified by mail ballot 2006. Underlines show revisions after the 2006 mail ballot.**

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:

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- approval;
- (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
 - (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 chemical sciences of the oceans.

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(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.

(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 by the General Assembly of the Association, Grenoble, 1975, and amended
by the General Assembly, London, Canada, 1981.**

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 of researches which depend on co-operation between different countries, and to provide for their scientific discussion;
 - c. To facilitate particular researches on scientific and applied seismology, such as the comparison of instruments used in different countries, researches on blasting and generally all matters to which seismology is related.

II. Members of the Association

2. Each country having adhered to the Union is a member of and has the right to send representatives to the Association. The word "country" has the same sense as in the statutes of the Union.

III. National Committees

3. Each National Committee for the IUGG should include a section, or sub-committee, of Seismology and Physics of the Earth's Interior. The functions of this Committee and of its section or sub-committee are to facilitate and co-ordinate in their respective countries the study of the different questions relating to Seismology and Physics of the Earth's Interior in accordance with the objects of the Association. The Committee and the Section or Sub-Committee shall be empowered to propose to the Association for discussion questions falling within the competence of the Association.

The National Committee on the recommendation of the Section nominates the delegate or the 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 in all questions except the purely scientific ones (see article 18).

Official communications sent by the International Association of Seismology and Physics of the Earth's Interior to an adhering country shall be addressed to the Seismological Section or in default to the National Committee of Geodesy and Geophysics.

IV. Administration of the Association

4. The work of the Association shall be directed by the General Meeting of the delegates of the Member countries of the Association.

5. The General 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. It is desirable that each of these four be Chairman of a Commission. These, plus the immediate past President shall constitute the voting members of the Executive Committee of the Association.

A single person may, with the approval of the Executive Committee, be elected both Secretary General and Treasurer.

The President, the Vice-Presidents, the Secretary General and the Treasurer shall constitute the Bureau of the Association.

6. Elections shall be held at each Ordinary General Meeting held in conjunction with a General Assembly of the International Union of Geodesy and Geophysics. The President may not be reelected to the same office, and no person may hold any one office for more than twelve consecutive years.

7. The transfer of duties takes place at the close of the General Meeting at which the election occurs. The interval between successive elections is called a period.

8. The National Committee, or in default the adhering organization, names in each country a correspondent, whose duty is to provide liaison between the Association and the Section in each country.

9. The Executive Committee may appoint members to such committees and working groups as may be needed and may approve their terms of reference.

Urgent matters arising in the interval between General Assemblies shall be referred by the Bureau to the Executive Committee.

The Executive Committee may appoint an Associate Secretary who will be ex-officio a member of the Executive Committee, but without vote.

Should a vacancy occur among the elected officerships, the Bureau shall fill the position provisionally and an election shall be held for this office at the next General Meeting of the Association.

V. Secretariat

10. A Secretariat placed under the direction of the Secretary General shall conduct the correspondence, preserve the administrative archives, arrange the General and other meetings, and prepare and distribute the Comptes-Rendus of the Assemblies.

VI. Finance

11. The resources of the Association are derived from:

- a. The allocation by the Union;
- b. The sales of publications, subscriptions, advertisements, etc.;
- c. Grants.

12. 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 which have been opened in the name of the Association in different countries.

As a precaution, 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 Bureau of the Association.

But the Treasurer shall alone retain responsibility toward the Association for all banking operations.

VII. General Meetings of the Association

13. Ordinary General Meetings shall be held in conjunction with General Assemblies of the International Union of Geodesy and Geophysics and normally at least once between each such meeting. Business sessions shall be held at all General Meetings, but elections shall normally be held only at General Meetings held in conjunction with General Assemblies of the Union.

The Bureau of the Association may, with the approval of the Executive Committee, summon an extraordinary General Meeting. It must do so at the request of one-third of the votes of the members of the Executive Committee.

14. Members of a National Committee who are not delegates may attend the meetings of the Association and take part in the discussion, but shall have no power of voting.

The Bureau of the Association may invite representatives of scientific organizations and also scientists not officially delegated by the National Committees of their respective countries, but only after having obtained the approval of these Committees. Such invited guests may take part in the discussion, but shall have no power of voting.

15. The agenda of business to be transacted at a meeting are prepared by the Bureau and sent to the adhering organizations together with the notices of the meeting.

No question which has not been placed on the agenda shall be discussed without the consent of at least one-half of the votes of the countries represented at the General Meeting.

16. In the intervals between the General Meetings and by agreement with the Bureau of the Union, the Association may, either separately or jointly with other Associations, hold additional meetings. But in any case the Association shall hold a General Meeting at the same time as the Union itself.

VIII. Budget

17. The Executive Committee shall prepare for each period and submit to the General Meeting an estimate of the budget relative to the expenses of the Secretariat.

A committee, nominated by the General Assembly shall examine the accounts for the preceding years and the estimate for the next period. It shall give discharge to the Treasurer for the accounts prepared by the Treasurer for the preceding period and submitted to the General Meeting.

IX. Voting Power

18. In a General Meeting, resolutions concerning purely scientific questions shall be decided by a majority of the votes cast by all the delegates present.

In all other questions which appear on the agenda, the voting shall be by Member countries, each member country having one vote; a country not represented may forward its vote to the Secretary General in writing. Such votes shall be counted only if received before the result of the ballot is ascertained.

In case of doubt as to the category to which a question belongs, the President shall decide.

When there is an equal division of votes, the President shall have a deciding vote.

The election of the Bureau and of the Executive Committee is counted as an administrative question.

X. Validity of Statutes

19. These statutes may be revised by any of the following means:

a. At any business meeting, by the approval of two-thirds of the member countries.

b. By the approval of a majority of the member countries using a mail ballot authorized by the Executive Committee, provided that the revision is favoured by two-thirds of those countries which vote.

c. By a two-thirds majority vote of the member countries represented in person at a business meeting of an ordinary General Meeting, plus those who have forwarded their vote to the Secretary General in writing, provided that the proposed modification was read at a plenary session of the preceding General Meeting or was included in the agenda mailed in advance to all member countries.

20. In voting on revisions of the statutes, a delegate may represent only one country.

21. The English text shall be used exclusively in interpreting these statutes.

XI. Commissions

22. Establishment of Commissions

a. The Association may establish commissions to study scientific topics and to stimulate and coordinate research on these topics or research related to a specific region.

b. The Association may also establish joint commissions with other organizations.

23. Officers of commissions shall not hold the same office for more than two periods.

By-Laws*

*** Adopted by the General Assembly of the Association, Grenoble, 1975 and amended by the General Assembly, London, Canada, 1981.**

The following by-laws are established in order to provide for continuing guidance in conducting the affairs of the Association. Their revision comes under the purview of Article 19 of the Statutes.

I. Resolutions Committee.

At the first business meeting, the President shall appoint a Resolutions Committee consisting of one officer of the Association and two other persons. All resolutions to be presented at the last general business meeting must be transmitted in writing to the Resolutions Committee at least four 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. The Committee shall post all Resolutions, and its recommendations on each of them at least one day before the final business meeting.

II. Nominating Committee

Not later than the opening day of each ordinary General Meeting of the Association at which an election is to be held, the President of the Association, with the approval of the Executive Committee, should appoint a Nominating Committee to bring before the Business Meeting of the Association a slate of officers for the ensuing four years including the four elected members of the Executive Committee besides the officers. The names of this Committee should be announced at the first Business Session of the Association.

This Committee should be charged with finding the persons best able and willing to direct the work of the Association, keeping in mind the need for persons of executive ability, comprehensive scientific interests and broad national representation. The Nominating Committee should consult with all former Presidents of the Association present at the meeting. At the business meeting, additional nominations for each office may be made from the floor.

Where there is only one nominee for an office, the election may be conducted by acclamation. If there are additional nominations, the elections should be by written ballot, one ballot passed out to the delegate of each member country or to an official alternate.

III. Meetings of the Bureau and of the Executive Committee

The Bureau of the Association should meet at least every year. The Executive Committee should meet as often as necessary and at least once every Ordinary General Assembly.

Payment of the travel expenses of members to these meetings is a high-priority Association expense.

IV. Conduct of Meetings

Except if otherwise provided in the Statutes, business meetings shall be conducted according to Robert's Rules of Order. A copy thereof shall be provided to each officer of the Association.

**STATUTES AND BY-LAWS OF THE INTERNATIONAL ASSOCIATION OF VOLCANOLOGY AND
CHEMISTRY OF THE EARTH'S INTERIOR**

Adopted in July 1995 at the IUGG General Assembly, Boulder, Colorado, USA

S T A T U T E S

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:

(1) to promote the study of volcanoes and volcanic processes, past and present, and of the chemistry of the Earth's interior;

(2) to encourage, initiate, and coordinate research and to promote international cooperation in these studies;

(3) to arrange for the discussion and publication of the results of scientific research on volcanology and on the chemistry of the Earth's interior;

(4) 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 Affiliates of the Association, Affiliates pay an annual subscription fee.

III. Administration

5. The authority of the Association shall be vested in the general Assembly which is formed by

(1) Affiliates from member countries who have paid the annual subscription fee, and

(2) National Correspondents of member countries of the Union. All the members of the General Assembly are eligible to hold office. All 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 financial and Union matters.

6. General Assemblies of the Association normally shall be held in conjunction with General Assemblies of the Union. They can be held also between successive General Assemblies of the Union at the discretion of the Association's Executive Committee.

7. The business of the Association between General Assemblies shall be carried on by the Bureau (President, two Vice-Presidents, Secretary-General, and Deputy Secretary) of the Association.

8. The Executive Committee of the Association shall consist of the five members of the Bureau and four other members. All nine members shall be elected by postal vote of the current Affiliates and National Correspondents. The Past President and the Executive Editor of the Bulletin of Volcanology shall be ex officio, members 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.

9. The Executive Committee shall have the power to fill any vacancy that arises on the Executive committee during the interval between successive periods of postal 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

10. Affiliates from member countries who have paid their dues for the current year and National Correspondents shall receive ballots for new office-bearers and for any proposed changes to the Association's Statutes and By-Laws.

11. Ballots will be distributed at least three months before, and must be returned no later than one month before. IUGG General Assemblies.

12. Any Affiliate or National Correspondent may nominate in writing any other current Affiliate or National Correspondent as an office-bearer of the Association provided (1) the nomination is seconded by three other current Affiliates or National Correspondents each from countries other than that of the nominee and (2) the nominee, nominator, and seconders are all from a country belonging to the union. All nominations must be received no later than six months before the General assemblies of the Union.

13. All nominations shall be considered by a Nominating Committee which will produce a shortlist of at least two, 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 Affiliates or National Correspondents, one of whom will be nominated by the Executive Committee as a Receiving Officer for postal votes. The outgoing Executive Committee has the power to appoint candidates of its own where only one, or no, candidates are nominated by Affiliates and National Correspondents.

14. Voters shall be required to rank candidates in order of their preference. The candidate with the largest number of first-place votes will be elected in cases where there are only two candidates. In cases where there are three candidates and none has a majority of first-place votes, then the candidate with the fewest first-place votes will be eliminated. The one of the two remaining candidates having the higher number of second-place votes will be elected. The third-place votes will be used in cases where the second-place votes are equal.

V. Alteration and Interpretation of Statutes

15. These statutes shall be changed only by a majority of at least two thirds of postal 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) provided that the total number of members of the General Assembly voting (affirmative, negative, abstention) is not less than one third of the total number of Affiliates and National Correspondents forming the General Assembly.

16. The English text of the present Statutes shall be regarded as the authoritative version.

17. If these Statutes are found to be in conflict with those of the Union, the latter shall have priority.

B Y - L A W S

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:

(1) to further the aims of the Association within their own country;

(2) 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;

(3) 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;

(4) 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. Its duties include the following: to consider proposals for changes to the Statutes and By-Laws;

to determine the annual subscription fee for Affiliates; to fill office-bearing vacancies arising between successive periods of postal 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 editors 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 function of the Bureau is to carry on the business of the Association between General Assemblies and to take on the particular responsibility of proactively fostering the objectives and interests of the Association and the effectiveness of the Commissions and Task Groups. The Bureau 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 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.

5. The duties of the Vice-Presidents are to preside at General 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 Bureau, they must foster proactively 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 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; (4) 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; (5) to ensure that the annual reports of the Association are published and distributed; (6) to prepare a budget for the ensuing four-year term.

7. The duties of the Deputy Secretary are to assist the Secretary General, to maintain a mailing list of members of the Association, and to receive and process Affiliate applications. The Deputy Secretary normally would be appointed Secretary General in the event of that position becoming vacant between General Assemblies.

8. 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 eight years. The Executive Editor is empowered to sign documents on behalf of the Association that are pertinent to the Bulletin of Volcanology and any other Association-sponsored publications. The Executive

Editor and the Executive Committee jointly will appoint Associate Editors who will serve for periods not exceeding eight years.

III. Commissions, Task Groups, and Sub-Committees

9. The Executive Committee may establish any Commission devoted to the international promotion of research in any specialty 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 on approval by the Executive Committee. Leaders normally will serve for periods not exceeding four years.

10. 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.

11. The Bureau 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, Wager Medal, Krafft Medal, and the George Walker Awards

IV. Alteration and interpretation of By-Laws

12. These By-Laws shall be changed only by a simple majority of postal votes by current 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 Affiliates and National Correspondents of the Association. Any 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 Affiliates or National Delegates. The Executive Committee shall have the power to decide whether the proposal will be distributed to members as a postal vote.



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Perugia, Italy July 2-13, 2007



COMPTES RENDUS

**PART III:
ASSEMBLY REGISTRANTS**



UNION GEODESIQUE ET GEOPHYSIQUE INTERNATIONALE
INTERNATIONAL UNION OF GEODESY AND GEOPHYSICS

XXIV GENERAL ASSEMBLY
2-13 JULY 2007
PERUGIA, ITALY

COMPTES RENDUS

IUGG XXIV GENERAL ASSEMBLY
2 – 13 JULY 2007 PERUGIA, ITALY

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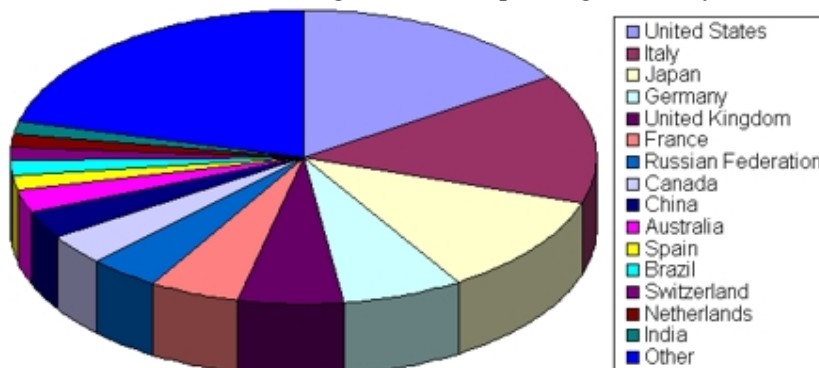
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Part III

Assembly Registrants

ASSEMBLY REGISTRATION BY COUNTRY
IUGG 2007 Perugia - Arrivals per origin country



United States	697
Italy	618
Japan	487
Germany	285
United Kingdom	262
France	218
Russian Federation	172
Canada	144
China	133
Australia	107
Spain	75
Brazil	67
Switzerland	65
Netherlands	58
India	57
Czech Republic	46
Rep. Sud Korea	44
Austria	43
Poland	43
Taiwan	42
Greece	40
Turkey	35
Romania	33
Hungary	32
Sweden	32
Denmark	31
New Zealand	31
Israel	30
Norway	29
Portugal	29
Belgium	25

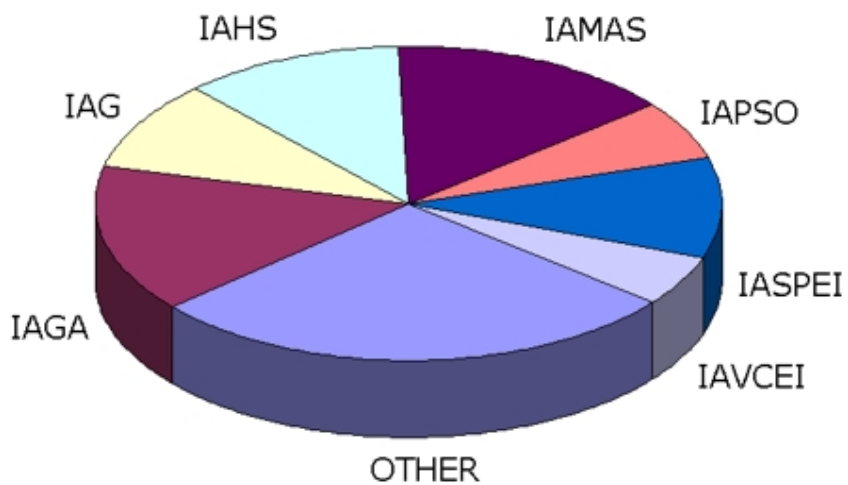
Slovakia	25
South Africa	25
Argentina	24
Finland	23
Iran	21
Nigeria	19
Mexico	18
Chile	17
Egypt	12
Indonesia	12
Ireland	12
Bulgaria	11
Croatia	10
Iceland	10
Slovenia	8
Ukraine	7
Viet Nam	7
Colombia	6
Estonia	6
Serbia Montenegro	6
Tunisia	6
Algeria	5
Luxembourg	5
Thailand	5
Jordan	4
Kenya	4
Saudi Arabia	4
Pakistan	3
Sudan	3
Un. Arab Emirates	3
Albania	2

Bosnia Herzegovina	2
Costa Rica	2
Ghana	2
Jamaica	2
Kazakhstan	2
Morocco	2
Peru	2
Singapore	2
Sri Lanka	2
Uruguay	2
Uzbekistan	2
Zimbabwe	2
Armenia	1
Burkina Faso	1
Congo	1
Ecuador	1
Ethiopia	1
Guatemala	1
Kyrgyzstan	1
Malaysia	1
Mauritius	1
Mongolia	1
Nepal	1
Oman	1
Rep. Of Congo	1
Rep. Of Tanzania	1
Syrian	1
Trinidad And Tobago	1
Venezuela	1

ASSEMBLY REGISTRATION BY ASSOCIATION

IUGG 2007 Perugia – Summary

	OTHER	IAGA	IAG	IAHS	IAMAS	IAPSO	IASPEI	IAVCEI	Total
Web-site users	2347	1014	648	1106	1049	394	797	368	7723
People arrived at Perugia	1216	669	399	505	636	265	458	227	4375
- Participants	537	531	278	302	454	201	338	146	2787
- Students	453	134	119	183	179	62	114	78	1322
- Free admittances (staff, exhibitor, press, etc)	226	3	2	20	3	2	6	3	265



- People arrived at Perugia per association -



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