

**Annuaire U.G.G.I.  
Janvier 2003**

**Published by Secretary General  
J.A. Joselyn**

**I.U.G.G. Yearbook  
January 2003**

**Union Géodésique et Géophysique Internationale  
International Union Geodesy and Geophysics**

**No ISSN: 1038-3846**

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# I. UNION GÉODÉSIQUE ET GÉOPHYSIQUE INTERNATIONALE (U.G.G.I.)

## HISTORIQUE

L'Union Géodésique et Géophysique Internationale (U.G.G.I.) est un organisme international non gouvernemental à but non lucratif fondé à Bruxelles le 28 juillet 1919. L'U.G.G.I. se consacre à l'étude scientifique de la Terre et à l'utilisation au profit de la société des connaissances acquises grâce à cette étude. L'U.G.G.I. est l'une des trois Unions scientifiques ayant participé en 1931 à l'Assemblée constitutive du Conseil International des Recherches, connu aujourd'hui sous le nom de Conseil international pour la science (C.I.U.S.). Le C.I.U.S. est un forum planétaire des scientifiques. Il leur permet d'échanger des idées et des informations, et de définir des méthodes et procédures normalisées dans tous les domaines de recherche. L'U.G.G.I., l'une des 26 Unions scientifiques actuellement réunies dans le C.I.U.S., fournit son savoir-faire concernant les études terrestres effectuées par les chercheurs dans ses Associations internationales et Commissions inter-associations.

Les neuf premiers pays membres de l'U.G.G.I. étaient l'Australie, la Belgique, le Canada, la France, l'Italie, le Japon, le Portugal, le Royaume-Uni et les États-Unis. En 1925, l'U.G.G.I. comptait 31 pays membres. En 2002, elle en compte 66.

Au début, l'Union chapeautait six sections : Géodésie, Séismologie, Météorologie, Magnétisme et électricité terrestre, Océanographie physique et Volcanologie. Une septième section, « Hydrologie Scientifique », fut créée en 1922. Le terme « Section » a été remplacé par celui d'« Association » lors de la cinquième Assemblée générale tenue à Lisbonne, en 1933.

Les langues officielles de l'U.G.G.I. sont l'anglais et le français.

# I. INTERNATIONAL UNION OF GEODESY AND GEOPHYSICS (I.U.G.G.)

## BACKGROUND

The International Union of Geodesy and Geophysics (IUGG) is an international, non-governmental, non-profit organization established in Brussels on July 28, 1919. IUGG is dedicated to the scientific study of the Earth and the application of knowledge gained by such studies to benefit society. IUGG was one of the first three Scientific Unions established during the Constitutive Assembly of the International Research Council, the predecessor of the International Council of Scientific Unions (ICSU) created in 1931. ICSU provides a global forum for scientists to exchange ideas and information and to develop standard methods and procedures for all fields of research. IUGG, one of the 26 scientific Unions presently grouped within ICSU, brings expertise on Earth studies from researchers in its International Associations and Inter-Association Commissions.

The first nine member countries of IUGG were Australia, Belgium, Canada, France, Italy, Japan, Portugal, the United Kingdom, and the United States. By 1925, there were 31 Member Countries, and in 2002, IUGG had 66 member countries.

The original Union encompassed six Sections: Geodesy, Seismology, Meteorology, Magnetism and Terrestrial Electricity, Physical Oceanography, and Volcanology. A seventh section "Scientific Hydrology" was created in 1922. The term "Section" was replaced by "Association" at the 5th General Assembly held in Lisbon in 1933.

The official languages of IUGG are English and French.

## **OBJECTIFS ET ACTIVITÉS DE L'U.G.G.I.**

L'U.G.G.I. est une organisation purement scientifique, qui a été fondée afin de promouvoir et de coordonner les études sur les propriétés physiques, chimiques et mathématiques de la Terre et sur son environnement spatial. Ces études concernent la forme de la Terre; la nature de ses champs gravitationnel et magnétique; la dynamique de la Terre en tant qu'entité et de celle de ses composants; la structure interne, la composition et la tectonique de la Terre; la formation des magmas; la volcanologie et la genèse des roches; le cycle hydrologique, dont la neige et la glace; la physique et la chimie des océans; l'atmosphère, l'ionosphère, la magnétosphère et les relations Soleil-Terre; ainsi que les problèmes analogues propres à la Lune et aux autres planètes. Les activités de l'U.G.G.I. comprennent l'observation de la Terre par satellite et par d'autres techniques de mise en place d'instruments à haute altitude.

## **Programmes de recherche interdisciplinaire**

L'U.G.G.I. a inauguré et activement soutenu les efforts de collaboration qui ont permis de mettre en œuvre des programmes de recherche interdisciplinaire internationaux de grande valeur, dont l'Année géophysique internationale (1957-1958), le Projet du manteau supérieur (1964-1970), le Projet géodynamique (1972-1979), le Programme international de recherche atmosphérique (1967-1980), le Programme international d'étude de la lithosphère (1981-), le Programme mondial de recherches climatiques, le Programme Géosphère-Biosphère et la Décennie internationale de prévention des catastrophes naturelles. Ces programmes ont servi de modèle de coopération internationale et interdisciplinaire. L'une des contributions majeures de l'U.G.G.I. a été la création, par l'entremise du C.I.U.S., du système de la Banque de données mondiale, qui a fourni aux chercheurs du monde entier l'information recueillie dans le cadre de ces grands programmes et de la mettre à la disposition des chercheurs du monde entier.

## **Recherche internationale en coopération**

L'U.G.G.I. collabore avec U.N.E.S.C.O. à l'étude des catastrophes naturelles. Elle attache aussi une grande importance aux problèmes scientifiques des pays en voie de développement, en parrainant des activités liées aux besoins scientifiques du tiers monde (par exemple, Géodésie en Afrique, Ressources hydrauliques, etc.). L'U.G.G.I. co-parraine également la Fédération des Services d'analyse des données astronomiques et géodésiques (FAGS). Elle est un partenaire d'autres Unions du CIUS, par le biais des Commissions inter-unions.

## **OBJECTIVES AND ACTIVITIES OF IUGG**

IUGG is a purely scientific organisation established to promote and co-ordinate studies of physical, chemical, and mathematical properties of the Earth and its environment in space. These studies include the shape of the Earth; the nature of its gravitational and magnetic fields; the dynamics of the Earth as a whole and of its component parts; the Earth's internal structure, composition, and tectonics; the generation of magmas; volcanism and rock formation; the hydrological cycle including snow and ice; the physics and chemistry of the oceans; the atmosphere, ionosphere, magnetosphere and solar-terrestrial relations; and analogous problems associated with the Moon and other planets. IUGG activities embrace studies of the Earth by artificial satellites and other techniques for deploying instruments at high altitude.

### **Interdisciplinary Research Programmes**

IUGG has initiated and vigorously supported collaborative efforts that have led to highly productive world-wide interdisciplinary research programmes, such as the International Geophysical Year (1957-58), the Upper Mantle Project (1964-70), the Geodynamics Project (1972-79), the Global Atmospheric Research Programme (1967-80), the International Lithosphere Programme (1981- ), the World Climate Research Programme, the Geosphere- Biosphere Programme and the International Decade for Natural Disaster Reduction. These programmes have set a model for international, interdisciplinary co-operation. One major contribution has been the creation, through ICSU, of the World Data Centre system, from which the data gathered during these major programmes are available to research workers everywhere.

### **Worldwide Co-operative Research**

IUGG co-operates with UNESCO in the study of natural catastrophes. It also gives particular emphasis to the scientific problems of Developing Countries by sponsoring activities relevant to the scientific needs of the Third World (e.g. Geodesy in Africa, Water Resources, etc.). IUGG also co-sponsors the Federation of Astronomical and Geophysical Data Analysis Services (FAGS) and is a partner with other Unions of ICSU in inter-Union Commissions.

## **STRUCTURE**

De par leur nature même, les études géodésiques et géophysiques requièrent une importante coopération internationale, de même qu'une coordination efficace. L'U.G.G.I., heureusement, compte 64 pays membres (Tableau 1). Les pays membres sont répartis dans le monde entier, comme le montre le Tableau 2.

### **Comités nationaux**

La grande majorité des pays membres participent aux activités de l'U.G.G.I. à travers leur Comité National de l'U.G.G.I., mis en place par l'Académie nationale ou une autre institution officielle du pays adhérent à l'Union (il existe d'autres méthodes d'adhésion). Chaque Comité national de l'U.G.G.I. est représenté aux Assemblées Générales de l'U.G.G.I. par un délégué nommé par l'entité adhérente.

### **Assemblées générales**

Les Assemblées générales de l'U.G.G.I. ont lieu tous les quatre ans et elles utilisent la numérotation romaine. La prochaine Assemblée générale de l'U.G.G.I. sera la XXIII<sup>e</sup>(23<sup>e</sup>). Elle se tiendra à Sapporo, au Japon, en 2003. L'U.G.G.I. tient des Assemblées Générales depuis 1922. Depuis 1963, elles ont lieu tous les quatre ans. Le Tableau n 3 indique les années et les localisations des Assemblées générales de l'U.G.G.I.

Au cours de ces Assemblées générales, on adopte les politiques régissant l'U.G.G.I. et on définit et coordonne les programmes nécessitant une participation internationale. De plus, on élabore les plans d'exécution de ces programmes de recherche. Les résultats scientifiques des programmes en cours font l'objet de discussions lors d'un grand nombre de symposiums, de réunions de commissions, de groupes de travail ou de rencontres réunissant les scientifiques assistant aux Assemblées.

### **Le Conseil, le Bureau et les Comités de l'U.G.G.I.**

L'U.G.G.I. est dirigée par le Conseil de l'U.G.G.I., lequel est régi par les statuts et le règlement intérieur de l'Union. Le Conseil de l'U.G.G.I. est composé des délégués accrédités des pays membres. Le Conseil de l'U.G.G.I. se réunit lors de l'Assemblée Générale de l'U.G.G.I., où il est procédé à l'élection des membres du Bureau de l'U.G.G.I. et du Comité des finances de l'U.G.G.I.. Les membres du Conseil de l'U.G.G.I. qui ont assisté à la XXII<sup>e</sup> Assemblée Générale, en 1999, seront présentés ci-dessous.

Le Bureau de l'U.G.G.I. traite des affaires administratives entre les rencontres du Conseil. Ses membres, élus par le Conseil, sont au nombre de sept – quatre responsables (Président, Vice-président, Secrétaire général et Trésorier) et trois membres associés. Les membres du Bureau doivent provenir de pays membres dont les cotisations sont à jour.

## STRUCTURE

By their very nature, geodetic and geophysical studies require a high degree of international co-operation as well as effective central co-ordination. IUGG is fortunate in having 64 Member Adhering Bodies (Table 1). The Members are distributed throughout the world as shown in Table 2.

### National Committees

The great majority of Member Countries participate through IUGG National Committees set up by the national academy or another body in their country that adheres to the Union (other methods of adherence do occur). Each IUGG National Committee is represented at the IUGG General Assemblies by a Delegate appointed by its Adhering Body.

### General Assemblies

IUGG General Assemblies are held every four years and are numbered with Roman numerals. The next IUGG General Assembly will be number XXIII (23<sup>rd</sup>) in Sapporo, Japan, in 2003. IUGG General Assemblies have been held since 1922. Since 1963, they are held every four years. Table 3 lists the years and locations of IUGG General Assemblies.

During these General Assemblies, policies governing IUGG are adopted, research programmes requiring international participation are formulated and coordinated. In addition, plans are drawn for the execution of research programmes. The scientific results of programmes in progress are discussed at the numerous Symposia, Commission and Working Group meetings, and other gatherings of scientists that are convened during these assemblies.

### The IUGG Council, Bureau, and Committees

IUGG's affairs are directed by the IUGG Council governed by the Statutes and By-laws of the Union. The IUGG Council is composed of one credentialed delegate from each Member Country. The IUGG Council meets during the IUGG General Assembly and elects the IUGG Bureau and the IUGG Finance Committee. The IUGG Council delegates attending the 22<sup>nd</sup> General Assembly in 1999 are listed below.

The IUGG Bureau handles administrative affairs between Council meetings. It is elected by the Council and consists of seven members - four officers (President, Vice President, Secretary-General, and Treasurer) and three members at large. Bureau members must represent countries with dues paid in full.

Le Comité directeur de l'U.G.G.I. travaille en vue d'atteindre les objectifs scientifiques de l'Union et des Associations internationales grâce à une coordination et une définition efficace des politiques générales. Il regroupe les membres du Bureau de l'U.G.G.I., le président sortant de l'Union et les présidents des Associations internationales.

Le Comité des finances de l'U.G.G.I. traite des affaires budgétaires avec le Trésorier de l'U.G.G.I.. Il regroupe cinq personnes élues par le Conseil de l'U.G.G.I.. Les membres du Comité des finances ne peuvent être membres ni du Bureau de l'U.G.G.I., ni du Comité directeur de l'U.G.G.I..

## **Les Associations internationales**

Les sept Associations internationales semi-autonomes de l'U.G.G.I. assument, chacune, les responsabilités relatives à une série de sujets ou de thèmes spécifiques, relevant des activités générales de l'Union. Chaque Association possède sa propre sous-structure, comme il sera expliqué ci-dessous. Les Associations internationales définissent des normes de recherche et conviennent de définitions et d'algorithmes, tels que le *Manual of Seismological Observatory Practice* ou le *Guide for Magnetic Repeat Station Surveys*. Pour les sujets importants les résolutions doivent être adoptées à l'unanimité. Ils transmettent dans le cadre de leur mission éducative les résultats de leurs recherches à la communauté scientifique internationale, aux agences gouvernementales, aux entreprises et au grand public. Les sept Associations internationales sont les suivantes:

Association Internationale de Géodésie (AIG)  
International Association of Geodesy (IAG)

Association Internationale de Géomagnétisme et d'Aéronomie (AIGA)  
International Association of Geomagnetism and Aeronomy (IAGA)

Association Internationale des Sciences Hydrologiques (AISH)  
International Association of Hydrological Sciences (IAHS)

Association Internationale de Météorologie et des Sciences de l'Atmosphère  
(AIMSA)  
International Association of Meteorology and Atmospheric Sciences  
(IAMAS)

Association Internationale des Sciences Physiques de l'Océan (AISPO)  
International Association of the Physical Sciences of the Ocean (IAPSO)

Association Internationale de Séismologie et de Physique de l'Intérieur de la  
Terre (AISPI)  
International Association of Seismology and Physics of the Earth's Interior  
(IASPEI)

Association Internationale de Volcanologie et de Chimie de l'intérieur de la  
Terre (AIVCIT)  
International Association of Volcanology and Chemistry of the Earth's Interior  
(IAVCEI)

The IUGG Executive Committee works to further the scientific objectives of the Union and International Associations by effective co-ordination and formulation of general policies. It consists of the IUGG Bureau, the retiring president of the Union, and the Presidents of the International Associations.

The IUGG Finance Committee interacts with the IUGG Treasurer regarding budgetary matters. It consists of five persons elected by the IUGG Council. The members of the Finance Committee are not members of the IUGG Bureau or the IUGG Executive Committee.

## **The International Associations**

The seven semi-autonomous International Associations within IUGG are each responsible for a specific range of topics or themes within the overall scope of the Union's activities. Each has a sub-structure as discussed below. The International Associations work to set standards for research and agree on definitions and algorithms, such as the Manual of Seismological Observatory Practice or the Guide for Magnetic Repeat Station Surveys. Participants pass resolutions on important issues where all agree. They make research visible to the international scientific community, to governmental agencies, to industry, and to the general public through their education activities. These seven International Associations are as follows:

International Association of Geodesy (IAG)

Association Internationale de Géodésie (AIG)

International Association of Geomagnetism and Aeronomy (IAGA)

Association Internationale de Géomagnétisme et d'Aéronomie (AIGA)

International Association of Hydrological Sciences (IAHS)

Association Internationale des Sciences Hydrologiques (AISH)

International Association of Meteorology and Atmospheric Sciences

(IAMAS)

Association Internationale de Météorologie et des Sciences de l'Atmosphère  
(AIMSA)

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

Association Internationale des Sciences Physiques de l'Océan (AISPO)

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

Association Internationale de Séismologie et de Physique de l'Intérieur de la  
Terre (AISPIT)

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

Association Internationale de Volcanologie et de Chimie de l'Intérieur de la  
Terre (AIVCIT)

Les Associations internationales jouent également un rôle particulier en faisant bénéficier tous les pays du monde des dernières avancées scientifiques, grâce à des rencontres, des ateliers et des assemblées. Les Associations internationales tiennent leurs propres Assemblées scientifiques tous les quatre ans environ, généralement deux ans avant la tenue de l'Assemblée générale de l'U.G.G.I.. En 2001, six des sept Associations internationales ont tenu une Assemblée scientifique, la dernière ayant tenu son assemblée à la fin de 2000. Lors des Assemblées scientifiques, les Associations internationales parrainent des symposiums sur des sujets particuliers, souvent en partenariat.

Les géodésiens et les géophysiciens de tous les pays du monde sont invités à participer aux nombreux symposiums et ateliers des Associations internationales et des Assemblées générales de l'U.G.G.I.. Lors de ces rencontres, les scientifiques ont l'occasion de discuter de leurs méthodologies, résultats et hypothèses respectifs, et de planifier des projets de recherche en collaboration.

Les symposiums ont vocation à s'adresser tout particulièrement aux jeunes scientifiques des pays en voie de développement. L'U.G.G.I. a prévu un budget particulier pour assurer leur participation aux symposiums organisés sous l'égide de l'Union et de ses Associations.

Comme l'U.G.G.I., les Associations internationales sont gérées par un Bureau et un Comité directeur, dont les membres sont élus pendant leurs Assemblées générales. Dans son domaine respectif, chaque Association est responsable de la définition de son propre programme et de soutenir les activités de ses propres composantes.

### **Commissions et Comités inter-associations**

En raison de la nature interdisciplinaire des domaines traités par les Associations internationales, trois Commissions inter-associations ont été créées pour assister l'Union et la communauté géophysique internationale par la promotion de l'étude de problèmes interdisciplinaires particuliers. Ces organisations sont habilitées par le Comité directeur de l'U.G.G.I. à mener des recherches conjointes entre les Associations. Les commissions inter-associations font l'objet d'un examen et d'un remaniement lors de chaque Assemblée générale de l'U.G.G.I.. En 2002, les trois Commissions ci-dessous étaient actives:

- Géophysique mathématique; Mathematical Geophysics (CMG)
- Étude des profondeurs terrestres; Study of the Earth's Deep Interior (SEDI)
- Commission sur les risques géophysiques et le développement durable; Geophysical Risk and Sustainability (GEORISK)

En outre, deux ou plusieurs Associations internationales peuvent créer et soutenir des groupes de travail conjoints chargés de sujets scientifiques spécifiques.

Par l'entremise de l'U.G.G.I., des représentants d'une Association internationale participent à la direction de projets interdisciplinaires internationaux comme le *ICSU Scientific Committee on the Lithosphere / International Lithosphere Program (SCL/ILP)*.

The International Associations also play a special role in bringing state-of-the-art science to all the countries of the world through meetings, workshops, and assemblies. The International Associations convene their own Scientific Assemblies approximately every four years, generally two years following the IUGG General Assembly. In 2001, six of the seven International Associations held scientific assemblies. The other held a scientific assembly at the end of 2000. At Scientific Assemblies the International Associations sponsor Syposia on a particular topic, often in partnership with one another.

Geodesists and geophysicists from all countries of the world are encouraged to attend the numerous Symposia and Workshops of the International Associations and the General Assemblies of IUGG. At these meetings scientists have the opportunity to discuss their respective methodologies, results, and hypotheses and to plan collaborative research projects.

The Symposia are intended to be particularly helpful to younger scientists from developing countries of the world. The IUGG has made special financial provision for them to participate in the Symposia organised under the aegis of the Union and its Associations.

Like IUGG, International Associations, are managed by a Bureau and Executive Committee whose members are elected during their General Assemblies. Within its own discipline each Association is responsible for determining its own programme of investigations and for supporting the activities of its own component parts.

### **Inter-Association Commissions and Committees**

Owing to the interactive nature of the subject fields managed by the International Associations, three Inter-Association Commissions have been established which serve the Union and the international geophysical community by promoting the study of particular interdisciplinary problems. These bodies are chartered by the IUGG Executive Committee to conduct inter-association science. Inter-association commissions are reviewed and renewed at each IUGG General Assembly. In 2002 the following three Commissions were active.

- Mathematical Geophysics (CMG); Géophysique mathématique
- Study of the Earth's Deep Interior (SEDI); Étude des profondeurs terrestres
- Geophysical Risk and Sustainability (GEORISK); Commission sur les risques géophysiques et développement durable

In addition, two or more International Associations may set up and support joint working groups to address specific scientific topics.

Through IUGG, International Association representatives help direct worldwide interdisciplinary projects such as the ICSU Scientific Committee on the Lithosphere International Lithosphere Program (SCL/ILP).

## FINANCES

L'U.G.G.I. collecte les cotisations annuelles pour financer les projets scientifiques inter-unions, les initiatives inter-associations et les activités administratives de l'U.G.G.I., y compris les publications de l'U.G.G.I.. La moitié du revenu net de l'U.G.G.I. pour l'exercice précédent est remis aux Associations internationales qui peuvent décider de l'utilisation de ces fonds.

Le revenu de l'Union provient des contributions annuelles des pays membres. Les pays membres ont le choix entre le statut de membre régulier ou de membre associé (ne payant pas de cotisation). Les pays membres peuvent envoyer un délégué aux rencontres quadriennales du Conseil de l'U.G.G.I. et voter sur les affaires administratives. Les scientifiques des pays membres peuvent occuper un poste de responsabilité dans les Associations internationales et ils ont un droit de vote lors des séances de travail. Les membres associés ne versent pas de cotisation, n'ont pas de droit de vote et leurs scientifiques ne peuvent pas occuper de poste de responsabilité. Les scientifiques des pays membres associés sont toutefois les bienvenus aux activités scientifiques et sociales tenues lors de toutes les rencontres de l'U.G.G.I. et des Associations internationales. Les données scientifiques collectées et les recherches effectuées par les pays membres associées sont prises en considération par les autres scientifiques, et nombreuses sont les occasions de rencontres et de collaboration avec d'autres participants de l'U.G.G.I.. Si la situation économique d'un pays ne lui permet pas l'adhésion de plein droit à l'U.G.G.I., le statut de membre associé peut être une étape vers l'adhésion de plein droit.

Les cotisations qu'un pays membre régulier paye sont calculées selon un barème (en fonction de la 'catégorie - Table 1') défini par le Comité des finances de l'U.G.G.I.. Les catégories reflètent la situation économique du pays et à sa participation aux Assemblées Générales de l'U.G.G.I.. Les détails figurent dans le titre III des statuts et le titre III du règlement intérieur de l'U.G.G.I.. Chaque catégorie correspond à un nombre d'unités permettant de calculer la cotisation. En 2002 la valeur d'une unité de cotisation était de 1.430 dollars. Le Comité des finances utilise un algorithme pour déterminer le montant de l'unité. Le Comité des finances examine également la catégorie d'adhésion de chaque pays membre au moins une fois tous les quatre ans.

Tout défaut de paiement d'une cotisation par un pays entraîne son passage dans une catégorie particulière de membres sans droit de vote, dits « observateurs ». Le défaut prolongé de paiement des cotisations peut entraîner l'expulsion d'un pays de l'U.G.G.I..

## FINANCES

IUGG collects annual contributions to carry out its support for Inter-union science, Inter-association initiatives, and IUGG administration, including IUGG publications. One half of IUGG's net income from the previous year is passed to the International Associations to use as they see fit.

The income of the Union comes from annual contributions of the Members. Member Adhering Bodies can choose to be regular paying Members or Associate (non-paying) Members. Members may send a delegate to quadrennial meetings of the IUGG Council and vote on matters of business. Scientists from regular Members may hold office in the International Associations and vote at their business meetings. Associate Members pay no contributions, have no voting rights, and their scientists may not hold offices. However, scientists from Associate Member countries are welcome to attend all scientific and social activities at all IUGG and International Association meetings. The scientific data collected and research performed within Associate Member countries is valued by other scientists and the opportunities for networking and collaboration with other IUGG participants are abundant. Associate Membership can be a first step toward regular membership, if a country's economic condition does not currently permit the payment of annual dues.

A regular Member Adhering Body pays dues according to a scale ("the category number - See Table 1") established by the IUGG Finance Committee. Categories are related to the economic condition of the country and its participation in IUGG General Assemblies. Details are specified in Statute III and by-Law III of IUGG. Each category has an associated number of Units used to determine the dues to be paid. The value of a single Unit of membership in 2002 was \$1,430. The Finance Committee uses an algorithm to determine the price of a Unit. The Finance Committee also reviews the category of membership for each Member Adhering Body at least every four years.

Failure to pay fees in a timely manner places a country into a special class of non-voting membership known as "observers." Continued failure to pay fees is grounds for expulsion from IUGG.

**Table 1: Member Adhering Bodies of IUGG**

Category A denotes Associate Membership as defined by the IUGG Statutes and By Laws adopted at the XXII IUGG General Assembly in Birmingham, U.K., 1999.

<b>MEMBERS</b>	<b>Dates of ADMISSION &amp; TERMINATION</b>	<b>CATEGORY</b>	<b>UNITS</b>
ALBANIA	1997		
ALGERIA	1971	1	1
ARGENTINA	1927	4	5
ARMENIA	2000	A	0
AUSTRALIA	1919	5	7
AUSTRIA	1948	3	3
BELGIUM	1919	4	5
<i>BOLIVIA</i>	<i>1960-2000</i>		
BRAZIL	1922	3	3
BULGARIA	1930	1	1
<i>BURUNDI</i>	<i>1987-1995</i>		
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
CROATIA	1992	1	1
<i>CUBA</i>	<i>1960-1996</i>		
CZECH REPUBLIC	1993	2	2
<i>CZECHOSLOVAKIA</i>	<i>1924-1993</i>		
DENMARK	1923	4	5
<i>DOMINICAN REP.</i>	<i>1957-1971</i>		
EGYPT	1924	2	2
ESTONIA	1991	1	1
<i>ETHIOPIA</i>	<i>1952-2000</i>		
FINLAND	1927	3	3
FRANCE	1919	8	20
<i>GERMANY /DEM.REP/</i>	<i>1964-1990</i>		
GERMANY F.R.	1951	8	20
<i>GHANA</i>	<i>1957-1987</i>		
GREECE	1922	3	3
<i>GUATEMALA</i>	<i>1957-2000</i>		
<i>GUINEA</i>	<i>1987-1995</i>		

**Table 1 (continued): Member Adhering Bodies of IUGG**

MEMBERS	Dates of ADMISSION & TERMINATION	CATEGORY	UNITS
<i>HAITI</i>	<i>1956-1971</i>		
HUNGARY	1930	2	2
ICELAND	1967	1	1
INDIA	1947	5	7
INDONESIA	1951	1	1
IRAN	1957	1	1
<i>IRAQ</i>	<i>1983-1996</i>		
IRELAND	1946	2	2
ISRAEL	1951	1	1
ITALY	1919	6	10
<i>IVORY COAST</i>	<i>1975-1996</i>		
JAPAN	1919	8	20
JORDAN	1979	1	1
<i>KENYA</i>	<i>1975-1997</i>		
KOREA	1960	2	2
<i>KOREA /DEM.REP./</i>	<i>1967-2000</i>		
LEBANON	1967	1	1
<i>LIBYA</i>	<i>1979-1996</i>		
LUXEMBOURG	1971	1	1
<i>EX-YUGOSLAVIAN REPUBLIC OF MACEDONIA</i>	<i>1995-2001</i>		
MADAGASCAR	1967-1995		
<i>MALAYSIA</i>	<i>1967-2002</i>		
MEXICO	1922	2	2
MONACO	1967	1	1
<i>MONGOLIA</i>	<i>1995-2001</i>		
MOROCCO	1924	A	0
MOZAMBIQUE	1983	1	1
MYANMAR (BURMA)	1957	1	1
<i>NEPAL</i>	<i>1975-1987</i>		
NETHERLANDS	1925	4	5
NEW ZEALAND	1927	1	1
NIGERIA	1971	A	0
NORWAY	1923	4	5
PAKISTAN	1952	2	2
PERU	1925-1979, 2000	A	0
PHILIPPINES	1951	3	3

**Table 1 (continued): Member Adhering Bodies of IUGG**

MEMBERS	Dates of ADMISSION & TERMINATION	CATEGORY	UNITS
POLAND	1924	2	2
PORTUGAL	1919	2	2
ROMANIA	1930	1	1
RUSSIA	1992	6	10
<i>SAUDI ARABIA</i>	<i>1971-2001</i>		
<i>SENEGAL</i>	<i>1960-1995</i>		
<i>SIERRA LEONE</i>	<i>1967-1983</i>		
SLOVAK REPUBLIC	1993	1	1
SLOVENIA	1994	1	1
SOUTH AFRICA	1924	3	3
SPAIN	1922	5	7
<i>SUDAN</i>	<i>1955-2000</i>		
SWEDEN	1923	4	5
SWITZERLAND	1923	3	3
<i>SYRIA</i>	<i>1948-1995</i>		
<i>TANZANIA</i>	<i>1975-2000</i>		
THAILAND	1923	2	2
<i>TUNISIA</i>	<i>1927-2001</i>		
TURKEY	1949	2	2
U.K.	1919	8	20
<i>URUGUAY</i>	<i>1924-2000</i>		
U.S.A.	1919	11	35
<i>U.S.S.R.</i>	<i>1954-1992</i>		
VENEZUELA	1975	1	1
VIETNAM	1931	1	1
<i>YUGOSLAVIA (*)</i>	<i>1924-1991</i>		
YUGOSLAVIA, F.R.	1996	A	0
<i>ZAIRE</i>	<i>1991-1997</i>		
ZIMBABWE	1967-2000		

(\*) Adhesion in 1924 under the name of « Royaume des Serbes Croates et Slovènes » becoming Yugoslavia in 1929. Membership terminated in 1991 considering the geo-political changes.

**Table 2: Regional Distribution of Members**

<b>REGION</b>	<b># OF MEMBERS</b>
Africa	5
Asia	16
Europe	32
North and Central America	4
Oceania	2
South America	5

**Table 3: IUGG General Assemblies**

	<b>Assembly</b>	<b>Year</b>	<b>National</b>	<b>Foreigners</b>	<b>Total</b>
IV.*	Stockholm	1930	91	240	331
V.	Lisbon	1933	40	160	200
VI.	Edinburgh	1936	80	264	344
VII.	Washington	1939	580	225	805
VIII.	Oslo	1948	46	322	368
IX.	Bruxelles	1951	60	858	918
X.	Rome	1954	163	760	923
XI.	Toronto	1957	293	872	1165
XII.	Helsinki	1960	121	1254	1375
XIII.	Berkeley	1963	1124	814	1938
XIV.	Zurich	1967	151	2049	2200
XV.	Moscow	1971	1070	1507	2577
XVI.	Grenoble	1975	413	2151	2564
XVII.	Canberra	1979	469	1475	1944
XVIII.	Hamburg	1983	495	2709	3204
XIX.	Vancouver	1987	539	3400	3939
XX.	Vienna	1991	162	4169	4331
XXI.	Boulder	1995	2066	2415	4481
XXII.	Birmingham	1999	647	3405	4052
XXIII.	Sapporo	2003			

\*The figures given do not take into account the accompanying persons.

## CURRENT OFFICIALS OF IUGG

### Bureau of the Union

<i>President:</i>	M. Kono (Japan)
<i>Vice-President:</i>	U. Shamir (Israel)
<i>Secretary General:</i>	J.A. Joselyn (U.S.A.)
<i>Treasurer:</i>	A.W. Hansen (Denmark)
<i>Members:</i>	J. Chen (China), H.K. Gupta (India), T. Beer (Australia)

The following Officers are not voting Members of the Bureau:

<i>Assistant Secretary General:</i>	R. Aucone (U.S.A.)
<i>Assistant Treasurer:</i>	A. Svensson (Denmark)
<i>Honorary Secretary General:</i>	Baron P. Melchior (Belgium)

### 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, P.J. Wyllie (U.S.A.)
- the Presidents of the International Associations:

IAG:	F. Sanso (Italy)
IAGA:	D.J. Kerridge (U.K.)
IAHS:	K. Takeuchi (Japan)
IAMAS:	H. Davies (Switzerland)
IAPSO:	P. Rizzoli (U.S.A.)
IASPEI:	B.L.N. Kennett (Australia)
IAVCEI:	R.S.J. Sparks (U.K.)

### Finance Committee of the Union

<i>President:</i>	A.F. Spilhaus (U.S.A.)
<i>Members:</i>	V.K. Gaur (India), E. Groten (Germany), M.J. Hamlin (U.K.)
<i>Secretary:</i>	P. Pinet (France)

### IUGG Advisory Board on Scientific Policy

<i>President:</i>	U. Shamir (Israel)
<i>The Associations Presidents</i>	

## IUGG Electronic Bulletin Board

*Webmaster:* J. McKie (U.S.A.)

## IUGG Liaison Officers With Intergovernmental Organizations

Cartographic Office of the United Nations: J. Kakkuri (Finland).

United Nations Educational, Scientific and Cultural Organization (UNESCO):

Solid Earth and Geodesy: R.D. Adams (U.K.):

International Oceanographic Commission: P. Rizzoli (U.S.A.).

World Meteorological Organization (WMO): R. List (Canada). IAHS

President or Secretary for Hydrology affairs.

## IUGG Representatives on ICSU Committees

Committee on Space Research (COSPAR): E. Friis -Christensen (Denmark).

Committee on Science and Technology in Developing Countries -

incorporating International Biosciences and other Scientific Networks  
(COSTED/IBN): V.K. Gaur (India).

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

M. Feissel (France), D.T. Pugh (U.K.).

Scientific Committee for the International Geosphere-Biosphere Programme

(IGBP): C.J.E. Schuurmans (The Netherlands).

Scientific Committee on Antarctic Research (SCAR): R. Schlich (France).

Scientific Committee on the Problems of the Environment (SCOPE):

N.J. Peters (U.S.A.).

Scientific Committee on Oceanic Research (SCOR): P. Rizzoli (President,

IAPSO); H.C. Davies (President, IAMAS)

Scientific Committee on Solar-Terrestrial Physics (SCOSTEP):

W. Baumjohann (Austria).

World Climate Research Programme (WCRP): R. List (Canada).

**IUGG Representatives on Inter-Union Commissions**

Inter-Union Scientific Committee on the Lithosphere (SCL):

S. Gregersen (Denmark).

**IUGG Representatives on Other Bodies**

International Civil Aviation Organization (IOCA): G. Heiken (U.S.A.)

Instituto Panamericano de Geografia e Historia (IPGH): W. Torge (Germany)

**NATIONAL REPRESENTATIVES ACCREDITED TO THE COUNCIL OF THE IUGG**

22nd G.A., Birmingham (United Kingdom), July 18-30, 1999

A.K. Yelles-Chaouche (Algeria), K. Lambeck (Australia), H. Suenkel (Austria), B. Ducarme (Belgium), P. Paquet (Belgium), D. Blitzkow (Brazil), R. Stewart (Canada), Chen Yun-Tai (China), V. Cermark (Czech Republic), A. Hansen (Denmark), C.C. Tscherning (Denmark), R. Room (Estonia), A.A. Ashour (Egypt), J. Kakkuri (Finland), P. Hubert (France), R. Schlich (France), E. Grafarend (Germany), E. Groten (Germany), J. Adam (Hungary), A. Snorrason (Iceland), R.N. Singh (India), J. Kahar (Indonesia), A.W.B. Jacob (Ireland), F. Mariani (Italy), C. Morelli (Italy), S. Aramaki (Japan), C. Baag (Korea, South), N. D'Oreye (Luxembourg), V. Mihailov (Ex-Yugoslavian Rep. of Macedonia), C. Van den Akker (Netherlands), F.C. Zuidema (Netherlands), D. Rhoades (New Zealand), O. Coker (Nigeria), T.A. Blix (Norway), B. J. Harsson (Norway), L. W. Baran (Poland), L. Mendes-Victor (Portugal), A. Torres (Portugal), C. S. Sava (Romania), G. Sobolev (Russia), P. Moczo (Slovak Republic), M. Brilly (Slovenia), C. L. Merry (South Africa), F. Vidal (Spain), O. Kulhanek (Sweden), H.C. Davies (Switzerland), H. Lang (Switzerland), Cheng-Hong Chen (Taipei, Acad. of Sciences), Yih-Hsiung Yeh (Taipei, Acad. of Sciences), T. Thambumroong (Thailand), H. Meteris (Turkey), C. Mooers (United States), M. Hamlin (United Kingdom), T.K.T Nguyen (Vietnam), D.L. Jones (Zimbabwe), F. Podmore (Zimbabwe)

## Past Officers of IUGG and Associations Since 1919

### PAST IUGG PRESIDENTS

1919-1933	C. Lallemand (France)
1933-1936	W. Bowie (U.S.A.)
1936-1942	D. La Cour (Denmark)
1946-1948	B. Helland-Hansen (Norway)
1948-1951	F.A. Vening-Meinesz (Netherlands)
1951-1954	S. Chapman (U.K.)
1954-1957	K.R. Ramanathan (India)
1957-1960	J.T. Wilson (Canada)
1960-1963	V.V. Belousov (U.S.S.R.)
1963-1967	J. Kaplan (U.S.A.)
1967-1971	J. Coulomb (France)
1971-1975	H. Charnock (U.K.)
1975-1979	A. Ashour (Egypt)
1979-1983	G.D. Garland (Canada)
1983-1987	D. Lal (India)
1987-1991	V.I. Keilis-Borok (U.S.S.R.)
1991-1995	H. Moritz (Austria)
1995-1999	P.J. Wyllie (U.S.A.)
1999-2003	M. Kono (Japan)

### PAST IUGG GENERAL SECRETARIES

1919-1930	Sir Henry Lyons (U.K.)
1930-1946	H. St. J.L. Winterbotham (U.K.)
1946-1951	J.M. Stagg (U.K.)
1951-1963	G.R. Laclavère (France)
1963-1973	G.D. Garland (Canada)
1973-1991	P. Melchior (Belgium)
1991-1999	G. Balmino (France)
1999-	J.A. Joselyn (U.S.A.)

### PAST IUGG TREASURERS

1960-1971	E. Andersen (Denmark)
1971-1979	E. Kejlsø (Denmark)
1979-1987	O. Bedsted Andersen (Denmark)
1987-1999	S. Gregersen (Denmark)
1999-	A.W. Hansen (Denmark)

**PAST IUGG VICE-PRESIDENTS**

1919-1922	S.A.S. Prince Albert Ie de Monaco, W. Bowie (U.S.A.), Sir Napier Shaw (U.K.), M. Tanakadate (Japan)
1922-1948	The Presidents of the Associations
1948-1951	S. Chapman (U.K.), L.H. Adams (U.S.A.)
1951-1954	G. Cassinis (Italy), J. Bjerknes (U.S.A.)
1954-1957	J.T. Wilson (Canada)
1957-1960	V.V. Belousov (U.S.S.R.), W. Heiskanen (Finland)
1960-1963	J. Bartels (F.R.G.), J. Kaplan (U.S.A.)
1963-1967	K.E. Bullen (Australia), J. Coulomb (France)
1967-1969	H. Kuno (Japan)
1969-1971	L. Constantinescu (Romania)
1971-1975	A. Ashour (Egypt)
1975-1979	G.D. Garland (Canada)
1979-1983	N.V. Shebalin (U.S.S.R.)
1983-1991	C. Kisslinger (U.S.A.)
1991-1995	P.J. Wyllie (U.S.A.)
1995-2003	U. Shamir (Israel)

**PAST MEMBERS OF THE IUGG BUREAU**

1957-1960	G.Deacon (U.K.), J.W.Joyce (U.S.A.), C.Tsuboi (Japan)
1960-1963	M.S. Krishnan (India), T. Nagata (Japan)
1963-1967	B. Bolin (Sweden), V.A. Troitskaya (U.S.S.R.)
1967-1971	L. Constantinescu, T. Malone (U.S.A.), A.M. Oboukhov (U.S.S.R.)
1971-1975	W.C. Ackermann (U.S.A.), L. Constantinescu (Romania), N.V. Shebalin (U.S.S.R.)
1975-1979	N.V. Shebalin (U.S.S.R.), H. Lacombe (France), C. Kisslinger (U.S.A.)
1979-1983	J.C.I. Dooge (Ireland), H. Lacombe (France), C. Kisslinger (U.S.A.)
1983-1987	J.C.I. Dooge (Ireland), V.I. Keilis-Borok (U.S.S.R.), H. Moritz (Austria)
1987-1991	G. McBean (Canada), H. Moritz (Austria), Ye Duzheng (China)
1991-1995	G. McBean (Canada), Ye Duzheng (China), A.S.Monin (Russia)
1995-1999	J. Chen (China), A.S. Monin (Russia), S. Uyeda (Japan)
1999-2001	J. Chen (China), H.K. Gupta (India), L.V. Shannon (South Africa)
2001-2003	T. Beer (Australia), J. Chen (China), H.K. Gupta (India)

**PAST IUGG FINANCE COMMITTEE PRESIDENTS**

1948-1954	J.T. Wilson (Canada)
1957-1957	A.T. Doodson (U.K.)
1957-1963	K.H. Beij (U.S.A.)
1963-1967	M. Doperto (Ireland)
1967-1971	T.J. Kukkamäki (Finland)
1971-1975	J.M. Stagg (U.K.)
1975-1979	C.A. Whitten (U.S.A.)
1979-1983	H.I.S. Thirlaway (U.K.)
1983-1995	J.O. Cardus (Spain)
1995-1999	A.A. Ashour (Egypt)
1999-2003	A.F. Spilhaus (U.S.A.)

**PAST IUGG FINANCE COMMITTEE SECRETARIES**

1948-1957	K.H. Beij (U.S.A.)
1957-1960	M. Goldschmidt (Israel)
1960-1967	T.J. Kukkamäki (Finland)
1967-1975	C.A. Whitten (U.S.A.)
1975-1979	H.I.S. Thirlaway (U.K.)
1979-1987	A.E. Maxwell (U.S.A.)
1987-1989	J. Somogyi (Hungary)
1989-1999	A.F. Spilhaus (U.S.A.)
1999-2003	P. Pinet (France)

**PAST IUGG FINANCE COMMITTEE MEMBERS**

1948-1951	G. Dianderas (Peru), A.T. Doodson (U.K.), J. Vignal (France)
1951-1954	A.T. Doodson (U.K.), M. Goldschmidt (Israel), J. Vignal (France)
1954-1957	M.J. Goldschmidt (Israel), J. Vignal (France), F. Gassmann (Switzerland)
1957-1960	J.M. Rayner (Australia), A. Romana (Spain), J. Vignal (France)
1960-1963	M. Doperto (Ireland), J.M. Rayner (Australia), A. Romana (Spain)
1963-1967	C.A. Whitten (U.S.A.), S. Krynski (Poland), A. Romana (Spain)
1967-1971	S. Krynski (Poland), J.M. Stagg (U.K.), E. Walzer (Switzerland)
1971-1975	S. Krynski (Poland), E. Walser (Switzerland), G. Yamamoto (Japan)
1975-1979	S. Krynski (Poland), G. Yamamoto (Japan), P.K. Das (India)
1979-1983	J.O. Cardus (Spain), J. Rais (Indonesia), J. Somogyi (Hungary)
1983-1987	A. Ashour (Egypt), J. Rais (Indonesia), J. Somogyi (Hungary)
1987-1991	A. Ashour (Egypt), J. Rais (Indonesia), A.F. Spilhaus (U.S.A.)
1991-1995	A. Ashour (Egypt), A.F. Spilhaus (U.S.A.), M.J. Hamlin (U.K.)
1995-1999	V.K. Gaur (India), E. Groten (Germany), M.J. Hamlin (U.K.)
1999-2003	V.K. Gaur (India), E. Groten (Germany), M.J. Hamlin (U.K.)

## INTER-ASSOCIATION COMMITTEES AND COMMISSIONS

### **Inter Associations Committee on Mathematical Geophysics**

<i>Chair:</i>	Daniel H. Rothman (U.S.A.)
<i>Vice-Chair – Russia:</i>	George Molchan (Russia)
<i>Vice-Chair – North America:</i>	Ray Pierrehumbert (U.S.A.)
<i>Vice-Chair – Europe:</i>	Antonello Provenzale (Italy)
<i>Vice-Chair – Middle East:</i>	Eli Tziperman (Israel)
<i>Secretary:</i>	Marc Speigelman (U.S.A.)

### **Inter Associations Committee on the Study of Earth's Deep Interior (SEDI): [www.sedigroup.org](http://www.sedigroup.org)**

<i>Chair:</i>	David Gubbins (U.K.)
<i>Vice-Chair:</i>	Henri-Claude Nataf (France)
<i>Secretary General:</i>	Michael I. Bergman (U.S.A.)
<i>Advisory Committee:</i>	Reini Boehler (Germany), Bruce Buffett (Canada), Cathy Constable (U.S.A.), Ivan Cupal (Czech Republic), Ibrahim Eltayeb (Oman), Rongshan Fu (China), K. Kurita (Japan), Philippe Gillet (France), Gary Glatzmaier (U.S.A.), H.K. Gupta (India), François Guyot (France), S.-I. Karato (U.S.A.), Ban-Yuan Kuo (Taiwan), Kurt Lambeck (Australia), David Loper (U.S.A.), Guy Masters (U.S.A.), Jerry Mitrovica (Canada), Andrew Soward (U.K.), Satoru Tanaka (Japan), Lev Vinnik (Russia), Kathy Whaler (U.K.), Vladimir Zharkov (Russia)

### **Inter Associations Commission on Geophysical Risk and Sustainability (GeoRisk): [www.mitp.ru/georisk](http://www.mitp.ru/georisk)**

<i>Chair:</i>	Tom Beer (Australia)
<i>Vice-Chairs:</i>	Kuniyoshi Takeuchi (Japan), Alik Ismail-Zadeh (Russia)
<i>Secretary:</i>	Grant Heiken (U.S.A.)

**Scientific Committee on the Lithosphere and the International  
Lithosphere Program (SCL/ILP)****SCL/ILP EXECUTIVE AND BUREAU MEMBERS**

*President:* A. Taira (Japan)  
*Secretary General:* K.M. Shedlock (U.S.A.)  
*Bureau Members:* H. Drewes (Germany)  
S. GregerSEN (Denmark)  
Q. Wang (China)  
*Past President:* A.G. Green (Switzerland)

*Chair - Committee of National Representatives:* A.K. Sinha (India)

*IUGG Representative:* E.R. Engdahl (U.S.A.)  
*IUGS Representative:* W.R. Janoschek (Austria)  
*UNESCO Representative:* F.W. Eder (France)

## II. INTERNATIONAL ASSOCIATIONS

IUGG comprises seven semi-autonomous International Associations, each responsible for a specific range of topics or themes within the overall scope of the Union's activities and each with a sub-structure discussed below. The International Associations hold Scientific Assemblies such as those since 1969 listed in Table 4.

The seven International Associations are:

International Association of Geodesy (IAG)

Association Internationale de Géodésie (AIG)

International Association of Geomagnetism and Aeronomy (IAGA)

Association Internationale de Géomagnétisme et d'Aéronomie (AIGA)

International Association of Hydrological Sciences (IAHS)

Association Internationale des Sciences Hydrologiques (AISH)

International Association of Meteorology and Atmospheric Sciences

(IAMAS)

Association Internationale de Météorologie et des Sciences de  
l'Atmosphère (AIMSA)

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

Association Internationale des Sciences Physiques de l'Océan (AISPO)

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

Association Internationale de Séismologie et de Physique de l'Intérieur de  
la Terre (AISPIT)

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

Association Internationale de Volcanologie et de Chimie de l'Intérieur de  
la Terre (AIVCIT)

**Table 4:**  
**Scientific Assemblies of the International Associations**

International Association	Year	Meeting Location	Number of Participants
IASPEI	1969	Madrid, Spain	NA
IAGA	1969	Madrid, Spain	475
IAPSO	1970	Tokyo, Japan	602
IASPEI	1973	Lima, Peru	250
IAGA	1973	Kyoto, Japan	613
IAMAP	1974	Melbourne, Australia	596
IAPSO	1974	Melbourne, Australia	596
IAG	1975	Grenoble, France	398
IASPEI	1977	Durham, U.K.	500
IAVCEI	1977	Durham, U.K.	500
IAGA	1977	Seattle, U.S.A.	950
IAMAP	1977	Seattle, U.S.A.	950
IASPEI	1981	London, Canada	448
IAGA	1981	Edinburgh, U.K.	747
IAMAP	1981	Hamburg, Germany	921
IAG	1982	Tokyo, Japan	200
IAVCEI	1982	Reykjavik, Iceland	190
IAHS	1982	Exeter, U.K.	530
IAPSO	1982	Halifax, Canada	759
IASPEI	1984	Hyderabad, India	285
IASPEI	1985	Tokyo, Japan	651
IAGA	1985	Praha, Czechoslovakia	994
ISMAP*	1985	Hawaii, U.S.A.	450
IAPSO*	1985	Hawaii, U.S.A.	450
IAHS	1986	Budapest, Hungary	310
IAPSO	1988	Acapulco, Mexico	543
IAG	1989	Edinburgh, U.K.	NA
IASPEI	1989	Istanbul, Turkey	611
IAGA	1989	Exeter, U.K.	1200
IAMAP*	1989	Reading, U.K.	1020
IAPSO*	1989	Reading, U.K.	1020
IAHS	1989	Baltimore, U.S.A.	440
IASPEI	1990	Nairobi, Kenya	132
IAVCEI	1991	Naples, Italy	800

**Table 4 (continued):**  
**Scientific Assemblies of the International Associations**

International Association	Year	Meeting Location	Number of Participants
IAG	1993	Beijing, China	350
IAVCEI	1993	Canberra, Australia	600
IAMAP/S*	1993	Yokohama, Japan	450
IAHS*	1993	Yokohama, Japan	450
IAGA	1993	Buenos Aires, Argentina	505
IASPEI	1994	Wellington, New Zealand	483
IAPSO	1995	Hawaii, U.S.A.	700
IAG	1997	Rio de Janeiro, Brazil	350
IASPEI	1997	Thessaloniki, Greece	1040
IAVCEI	1997	Puerto Vallarta, Mexico	600
IAGA	1997	Uppsala, Sweden	1200
IAHS	1997	Rabat, Morocco	500
IAMAS/IAPSO	1997	Melbourne, Australia	1100
IAG	2001	Budapest, Hungary	461
IASPEI/IAGA	2001	Hanoi, Vietnam	1078
IAVCEI	2000	Bali, Indonesia	490
IAMAS	2001	Innsbruck, Austria	851
IAHS	2001	Maastricht, Netherlands	400
IAPSO**	2001	Mar del Plata, Argentina	430
IAG	2005		
IAGA	2005	Toulouse, France	
IAHS	2005	Foz de Iguassu, Brazil	
IAMAS	2005	Beijing, China	
IAPSO**	2005	Perugia, Italy	
IASPEI	2005	Santiago, Chile	
IAVCEI	2004	Pucon, Chile	

\* Joint Scientific Assemblies

\*\* With International Association for Biological Oceanography (IABO)

### **III. International Association Of Geodesy (IAG) Association Internationale De Géodésie (AIG)**

<http://www.gfy.ku.dk/~iag>

The International Association of Geodesy (IAG) was created in 1864 under the name of Europäische Gradmessung. In 1886 it became the Association Géodésique Internationale. At the first General Assembly of IUGG (Rome, 2-10 May 1922) it became one of the five constituent sections of the Union. It took its present name at the Stockholm General Assembly of IUGG (1930).

#### **IAG BUREAU 1999 - 2003**

<i>President:</i>	F. Sanso (Italy)
<i>First Vice-President:</i>	G. Beutler (Switzerland)
<i>Secretary-General:</i>	C.C. Tscherning (Denmark)
<i>Second Vice-President:</i>	D. Blitzkow (Brazil)

#### **IAG EXECUTIVE COMMITTEE 1999 - 2003**

##### *The Bureau and the Second Vice-President*

<i>The Past President:</i>	K.P. Schwarz (Canada)
<i>The Section Presidents:</i>	
I.	A. Dodson (U.K.)
II.	C.K. Shum (U.S.A.)
III.	M.G. Sideris (Canada)
IV.	B. Heck (Germany)
V.	C. Wilson (U.S.A.)

#### **OTHER IAG OFFICERS 1999 - 2003**

<i>Editor in Chief of the Journal of Geodesy:</i>	P.J.G. Teunissen (Netherlands)
---	--------------------------------

<i>Assistant Secretaries of the Association:</i>	O. Baltazar Andersen (Denmark)
	K. Keller (Denmark)

<i>Honorary Presidents:</i>	H. Moritz (Austria)
	I.I. Mueller (U.S.A.)
	W. Torge (Germany)
	K.P. Schwarz (Canada)

<i>Honorary Secretary General:</i>	M. Louis (France)
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[The Secretaries of the Sections and the other officers may attend any meeting of the Executive Committee of the Association in an advisory capacity].

**IAG SECTIONS****IAG Section I: Positioning**[www.lareg.ensg.ign.fr/grgn](http://www.lareg.ensg.ign.fr/grgn)*President:* A. Dodson (U.K.)*Secretaries:* C. Rizos (Australia), Claude Boucher (France)**Commission X: Global and Regional Geodetic Networks***President:* C. Boucher (France)**Special Commission:****SC4: Applications of Geodesy to Engineering***President:* H. Kahmen (Austria)**Special Study Groups:****SSG1.179: Wide area Modeling for Precise Satellite Positioning***Chairman:* S. Han (Australia)**SSG1.180: GPS as an Atmospheric Remote Sensing Tool***Chairman:* H. Van der Marel (Netherlands)**SSG1.181: Regional Permanent Arrays***Chairman:* R. Weber (Austria)**SSG1.182: Multipath Mitigation***Chairman:* M. Stewart (Australia)**IAG Section II: Advanced Space Technology**[http://geodesy.eng.ohio-state.edu/iag\\_sectionII/](http://geodesy.eng.ohio-state.edu/iag_sectionII/)*President:* C.K. Shum (U.S.A.)*Secretary:* P. Willis (France)**Commission VIII: International Coordination of Space Techniques for Geodesy and Geodynamics (CSTG)***President:* H. Drewes (Germany)**Special Commission:****SC7: Satellite Gravity Field Missions***President:* K.H. Ilk (Germany)**Special Study Groups:****SSG2.162: Precise Orbits Using Multiple Space Techniques***Chairman:* R. Scharroo (Netherlands)**SSG2.183: Spaceborne Interferometry Techniques***Chairman:* R. Hanssen (Netherlands)**SSG2.192: Spaceborne GNS Atmospheric Sounding***Chairman:* E.R. Kursinski, Jr. (U.S.A.)

SSG2.193: Gravity Field Missions: Calibration and Validation

*Chairman:* P. Visser (Netherlands)

SSG2.194: GPS Water Level Measurements

*Chairman:* G. Mader (U.S.A.)

### **International Services**

International GPS Service (affiliated to FAGS)

*Chairman:* C. Reigber (Germany)

*Director of the Central Bureau:* R. Neilan (U.S.A.)

The International Laser Ranging Service – ILRS

*Chair of the Governing Board:* J. Degnan (U.S.A.)

*Director of the Central Bureau:* J. Bosworth (U.S.A.)

International VLBI Service for Geodesy and Astrometry – IVS

(affiliated to FAGS)

*Chair of the Governing Board:* W. Schlüter (Germany)

### **IAG Section III: Determination Of The Gravity Field**

<http://www.ucalgary.ca/~sideris/IAG/sectionIII.html>

*President:* M.G. Sideris (Canada)

*Secretary:* G. Boedecker (Germany)

### **Commission XIII: International Gravity and Geoid Commission**

*President:* M. Vermeer (Finland)

### **Special Study Groups:**

SSG3.167: Regional Land and Marine Geoid Modelling

*Chairman:* I. Tziavos (Greece)

SSG3.177: Synthetic Modelling of the Earth's Gravity Field

*Chairman:* W. Featherstone (Australia)

SSG3.184: Use of Remote Sensing Techniques for Validating  
Heights and Depths

*Chairman:* P. Berry (U.K.)

SSG3.185: Merging Data from Dedicated Satellite Missions with  
other Gravimetric Data

*Chairman:* N. Sneeuw (Canada)

SSG3.186: Altimetry Data Processing for Gravity, Geoid and Sea  
Surface Topography Determination

*Chairman:* C. Hwang (Taiwan)

**International Services**

International Gravimetric Bureau -BGI- (affiliated to FAGS)  
*Director:* J.P. Barriot (France)

International Geoid Service -IGeS  
*Director:* F. Sanso (Italy)

**IAG Section IV: General Theory And Methodology**

*President:* B. Heck (Germany)

*Secretaries:* C. Jekeli (U.S.A.)

Y. Yang (China)

**Special Commission:**

SC1: Mathematical and Physical Foundations of Geodesy  
*President:* P. Holota (Czech Republic)

**Special Study Groups:**

SSG4.187: Wavelets in Geodesy and Geodynamics  
*Chairman:* W. Keller (Germany)

SSG4.188: Mass Density from Integrated Inverse Gravity  
 Modeling  
*Chairman:* G. Strykowski (Denmark)

SSG4.189: Dynamic Theories of Deformation and Gravity Field  
*Chairman:* D. Wolf (Germany)

SSG4.190: Non-probabilistic Assessment in Geodetic Data  
 Analysis  
*Chairman:* H. Kutterer (Germany)

SSG4.191: Theory of Fundamental Height Systems  
*Chairman:* C. Jekeli (U.S.A.)

**IAG Section V: Geodynamics**

[www.astro.oma.be/IAG/index.html](http://www.astro.oma.be/IAG/index.html)

*President:* C. Wilson (U.S.A.)

*Secretaries:* V. Dehant (Belgium)

**Commission V: Earth Tides**

<http://www-geod.kugi.kyoto-u.ac.jp/iag-etc/>

*President:* S. Takemoto (Japan)

**Commission XIV: Crustal Deformation**

<http://www.df.unibo.it/commXIV/>

*President:* S. Zerbini (Italy)

**Special Commissions:**

SC3: Fundamental Parameters

*President:* I.E. Groten (Germany)

SC8: Sea Level and Ice Sheets

*President:* M. Bevis (U.S.A.)

**Working Group: IAG/IAPSO Working Group: Geodetic effects of  
Non-tidal Oceanic Processes**

*President:* R.S. Gross (U.S.A.)

**International Services**

International Center of Earth Tides -ICET- (affiliated to FAGS)

[www.oma.be/ICET/index.html](http://www.oma.be/ICET/index.html)

*Director:* B. Ducarme (Belgium)

International Earth Rotation Service -IERS- (affiliated to FAGS)

<http://www.iers.org>

*Chairman of the Directing Board:* C. Reigber (Germany)

*Director of the Central Bureau:* D. Gambis (France)

Permanent Service for Mean Sea Level -PSMSL- (affiliated to  
FAGS)

<http://www.pol.ac.uk>

*Director:* P.L. Woodworth (U.K.)

Bureau International des Poids et Mesures -BIPM- Time Section:

<http://www.bipm.org>

*Director:* E.F. Arias (France)

**Out of Section**

**Committee on Geodetic Aspects of the Law of the Sea (GALOS)**

*Chair:* B.G. Harsson (Norway)

**Working Group on Education**

*Chair:* C.C. Tscherning (Denmark)

### PAST IAG OFFICERS

1864-1885	J.J. Baeyer (Prussia)
1886-1891	C. Ibanez de Ibero (Spain)
1892-1902	H. Faye (France)
1903-1918	L. Bassot (France)
1919-1933	W. Bowie (U.S.A.)
1933-1945	F.A. Vening Meinesz (Netherlands)
1945-1951	W.D. Lambert (U.S.A.)
1951-1954	C.F. Baeschlin (Switzerland)
1954-1957	J. de Graaf Hunter (U.K.)
1957-1960	G. Cassinis (Italy)
1960-1963	C.A. Whitten (U.S.A.)
1963-1967	G. Bomford (U.K.)
1967-1971	A. Marussi (Italy)
1971-1975	Y.D. Boulanger (U.S.S.R.)
1975-1979	T.J. Kukkamäki (Finland)
1979-1983	H. Moritz (Austria)
1983-1987	P.V. Angus-Leppan (Australia)
1987-1991	I.I. Mueller (U.S.A.)
1991-1995	W. Torge (F.R. Germany)
1995-1999	K.P. Schwarz (Canada)
1999-2003	F. Sanso (Italy)

### PAST IAG GENERAL SECRETARIES

1886-1900	A. Hirsch (Switzerland)
1900-1918	H.G. Van de Sande-Bakhuyzen (Netherlands)
1919-1945	G. Perrier (France)
1946-1960	P. Tardi (France)
1960-1975	J.J. Levallois (France)
1975-1991	M. Louis (France)
1991-1995	C. Boucher (France)
1995-	C.C. Tscherning (Denmark)

## IV. International Association of Geomagnetism and Aeronomy (IAGA) Association Internationale de Géomagnétisme et d'Aéronomie (AIGA)

<http://www.ngdc.noaa.gov/IAGA>

At the First IUGG General Assembly (Rome, 1922), the *Section de Magnétisme et Electricité Terrestres* became one of the constituent sections of the Union. At the IV IUGG General Assembly (Stockholm, 1930), it became the *International Association of Terrestrial Magnetism and Electricity*. It took its present name at the X IUGG General Assembly (Rome, 1954).

### IAGA EXECUTIVE COMMITTEE 1999-2003

<i>President:</i>	D. Kerridge (Scotland, U.K.)
<i>Vice-Presidents:</i>	C. Barton (Australia) J. Lastovicka (Czech Republic)
<i>Secretary-General:</i>	B. Hultqvist (Sweden)
<i>Past-President:</i>	M. Kono (Japan)
<i>Members:</i>	E. Friis-Christensen (Denmark) Y. Kamide (Japan) G. Lakhina (India) M. Menvielle (France)

### IAGA DIVISIONS

#### IAGA Division I - Internal Magnetic Fields

<i>Chair:</i>	I.A. Eltayeb (Sudan/Oman)
<i>Co-chair:</i>	A. Jones (Canada)

#### Working Group I-1: Theory of Planetary Magnetic Fields and

#### Geomagnetic Secular Variation

<i>Chair:</i>	J. Bloxham (U.S.A.)
<i>Co-Chair:</i>	I. Cupal (Czech Republic)

#### Working Group I-2: Electromagnetic Induction and Electrical

#### Conductivity

<i>Chair:</i>	P. Tarits (France)
<i>Co-Chair:</i>	A. Junge (Germany)

#### Working Group I-3: Palaeomagnetism

<i>Chair:</i>	M. Dekkers (Netherlands)
<i>Co-Chair:</i>	H. Boehnel (Mexico)

**Working Group I-4: Rock Magnetism**

*Chair:* B. Maher (UK)  
*Co-Chair:* E. Petroovsky (Czech Republic)

**IAGA Division II - Aeronomic Phenomena**

*Chair:* S. Fukao (Japan)  
*Co-Chair:* R.W. Schunk (U.S.A.)

**Working Group II-A: Electrodynamics of the Middle Atmosphere**

*Chair:* R.A. Goldberg (U.S.A.)  
*Co-Chair:* T.A. Blix (Norway)

**Working Group II-B: Thermospheric Dynamics**

*Chair:* A.D. Aylward (U.K.)  
*Co-Chairs:* T.L. Killeen (U.S.A.)  
R. Sridharan (India)

**Working Group II-C: Meteorological Effects on the Ionosphere**

*Chair:* D. Pancheva (U.K.)  
*Co-Chairs:* W. Singer (Germany)  
.N. Fahrutdinova (Russia)

**Working Group II-D: External Forcing of the Middle Atmosphere**

*Chair:* E.S. Kazimirovsky (Russia)  
*Co-Chairs:* C.H. Jackman (U.S.A.)  
P. Stauning (Denmark)

**Working Group II-E: Ionospheric Irregularities, Fields, and Waves**

*Chair:* R.A. Greenwald (U.S.A.)  
*Co-Chair:* J.P. St. Maurice (Canada)

**Working Group II-F: Long-term Trends in the Mesosphere,****Thermosphere and Ionosphere (IAGA/ICMA/SCOSTEP)**

*Chair:* J. Lastovicka (Czech Republic)  
*Co-Chair:* G. Thomas [ICMA] (U.S.A.)

**Working Group II-G Polar Research**

*Chair:* A. Weatherwax (U.S.A.)

**IAGA/URSI Working Group: (VERSIM) VLF/ELF Remote Sensing  
of the Ionosphere and Magnetosphere**

*IAGA Chair:* A.J. Smith (U.K.)  
*URSI Chair:* M. Parrot (France)

**IAGA Division III - Magnetospheric Phenomena**

*Chair:* M. Lockwood (U.K.)  
*Co-Chair:* B. Anderson (U.S.A.)

**Working Group III-1: ULF Waves in Magnetospheres**

*Chair:* F. Menk (Australia)

**Working Group III-5: Polar Research (joint with Division II Working Group II-G)**

*Chair:* A. Weatherwax (U.S.A.)

**IAGA Division IV - Solar Wind and Interplanetary Field**

*Chair:* S. Schwartz (U.K.)  
*Co-Chair:* R. Schwenn (Germany)

**IAGA Division V - Geomagnetic Observatories, Surveys and Analyses**

*Chair:* V.O. Papitashvili (U.S.A.)  
*Co-Chair:* T. Iyemori (Japan)

**Working Group V-1: Geomagnetic Observatories, Instruments and Standards**

*Chair:* J.L.J. Rasson (Belgium)  
*Co-Chair:* H.J. Linthe (Germany)

**Working Group V-2: Geomagnetic Data, Indices and Applications**

*Chair:* S. McLean (U.S.A.)  
*Co-Chairs:* T. Kamei (Japan)  
T.D.G. Clark (U.K.)

**Working Group V-3: Analysis and Modeling of Geomagnetic Field Variations**

*Chair:* N. Olsen (Denmark)  
*Co-Chair:* A.W.P. Thomson (U.K.)

**Working Group V-7: Earth and Planetary Magnetic Survey Satellites**

*Chair:* Y. Cohen (France)  
*Co-Chair:* M. Purucker (U.S.A.)

**Working Group V-8: Analysis of the Global and Regional Geomagnetic Field and Secular Variation**

*Chair:* M. Mandea (France)  
*Co-Chair:* S. Macmillan (U.K.)

**Working Group V-9: Magnetic Anomalies (Land and Sea)***Chair:* M. Korte (U.S.A.)*Co-Chair:* M. Rajaram (India)**IAGA Interdivisional Commissions****History***Chair:* A. Orozco (Mexico)*Co-Chair:* W. Schröder (Germany)**Developing Countries***Chair:* B.R. Arora (India)*Co-Chair:* P. Muralikrishna (Brazil)**International Services**International Service of Geomagnetic Indices, ISGI (affiliated to  
FAGS)*Director:* M. Menvielle (France)

International Space Environment Service, ISES (affiliated to FAGS)

*Director:* D. Boteler (Canada)*Deputy* H. Lundstedt (Sweden)*Director:***IAGA/IASPEI/IAVCEI Working Group on Electromagnetic Studies of  
Earthquakes and Volcanoes**<http://yochi.iord.u-tokai.ac.jp/emsev/>*Chair:* S. Uyeda (Japan)*Secretary:* T. Nagao (Japan)*IAGA Liaison:* J. Zlotnicki (France)*IAGA WG I-2 Liaison:* Y. Ogawa (Japan)

### PAST IAGA PRESIDENTS

1919-1922	A. Tanakadate (Japan)
1922-1927	C. Chree (U.K.)
1927-1930	L.A. Bauer (U.S.A.)
1930-1948	J.A. Fleming (U.S.A.)
1948-1951	S. Chapman (U.K.)
1951-1954	J. Coulomb (France)
1954-1957	J. Bartels (F.R. Germany)
1957-1960	J. Kaplan (U.S.A.)
1960-1963	V. Laursen (Denmark)
1963-1967	M. Nicolet (Belgium)
1967-1971	T. Nagata (Japan)
1971-1975	V.A. Troitskaya (U.S.S.R.)
1975-1979	J. Roederer (U.S.A.)
1979-1983	K.D. Cole (Australia)
1983-1987	D.I. Gough (Canada)
1987-1991	R.E. Gendrin (France)
1991-1995	D. J. Williams (U.S.A.)
1995-1999	M. Kono (Japan)
1999-2003	D.J. Kerridge (U.K)

### PAST IAGA GENERAL SECRETARIES

1919-1927	L.A. Bauer (U.S.A.)
1927-1933	Ch. Maurain (France)
1933-1936	M.D. La Cour (Denmark)
1936-1939	A.H.R. Goldie (U.K.)
1939-1951	J.W. Joyce (U.S.A.)
1951-1957	V. Laursen (Denmark)
1957-1963	J.O. Cardus (Spain)
1963-1975	L. Alldredge (U.S.A.)
1975-1983	N. Fukushima (Japan)
1983-1995	M. Gadsden (U.K.)
1995-1999	J.A. Joselyn (U.S.A.)
1999-2001	H.W. Kroehl (U.S.A.)
2001-	B. Hultqvist (Sweden)

## V. International Association of Hydrological Sciences (IAHS) Association Internationale des Sciences Hydrologiques (AISH)

<http://www.cig.ensmp.fr/~jahs>

At the First IUGG General Assembly (Rome, 1922), the *Section d'Hydrologie Scientifique* became one of the constituent *sections* of the Union. At the IV IUGG General Assembly (Stockholm, 1930) it became the *International Association of Scientific Hydrology*. It took its present name at the XV IUGG General Assembly (Moscow, 1971).

### IAHS OFFICERS, 1999-2003

<i>President:</i>	K. Takeuchi (Japan) (2001-2005)
<i>Vice-Presidents:</i>	L. Gottschalk (Norway) L. Oyebande (Nigeria) C. Tucci (Brazil)
<i>Secretary-General:</i>	P. Hubert (France)
<i>Past-President:</i>	J. Rodda (U.K.)
<i>Treasurer:</i>	C. Onstad (U.S.A.)
<i>Editor:</i>	Z. Kundzewicz (Poland)
<i>Hon. President:</i>	A.I. Johnson (U.S.A.)
<i>Chair IAHS Ltd:</i>	D.E. Walling (U.K.)

### IAHS INTERNATIONAL COMMISSIONS

#### International Commission on Surface Water (ICSW)

<i>President:</i>	A. Gustard (U.K.)
<i>Vice-Presidents:</i>	E. Servat (France), M. Shiiba (Japan), I. Shiklomanov (Russia)
<i>Secretary:</i>	S. Demuth (Germany)

#### International Commission on Groundwater (ICGW)

<i>President:</i>	Y. Rubin (U.S.A.)
<i>Past President:</i>	E.A. Sudicky (Canada)
<i>Vice-Presidents:</i>	D. Lerner (U.K.), M. Bierkens (Netherlands), A. Fiore (Italy)
<i>Secretary:</i>	N. Tase (Japan)

**International Commission on Continental Erosion (ICCE)**

*President:* W. Froehlich (Poland)  
*Past President:* B. Hasholt (Denmark)  
*Vice-Presidents:* J. Bogen (Norway), P. Stanciu (Romania),  
W. Summer (Austria)  
*Secretary:* D. De Boer (Canada)

**International Commission on Snow and Ice (ICSI)**

*President:* H.G. Jones (Canada)  
*Past President:* E.M. Morris (United Kingdom)  
*Vice-Presidents:* E. Brun (France), J. Hagen (Norway),  
D. Qin (China)  
*Secretary:* G. Kaser (Austria)

**International Commission on Water Quality (ICWQ)**

*President:* J. Steenvoorden (Netherlands)  
*Past President:* N.J. Peters (U.S.A.)  
*Vice-Presidents:* P.J. Ashton (South Africa), J.R. Davis (Australia),  
V. Krysanova (Germany)  
*Secretary:* B. Webb (U.K.)

**International Commission on Water Resources Systems (ICWRS)**

*President:* D. Rosbjerg (Denmark)  
*Past President:* S. Simonovic (Canada)  
*Vice-Presidents:* G. Bloeschl (Austria), M. Marino (U.S.A.),  
Xia Jun (China)  
*Secretary:* A. Schumann (Germany)

**International Commission on Remote Sensing (ICRS)**

*President:* A. Rango (U.S.A.)  
*Vice-Presidents:* T. Koike (Japan), M. Menenti (France),  
M. Lointier (France)  
*Secretary:* A. Pietroniro (Canada)

**International Commission on Atmosphere-Soil-Vegetation Relations**

**(ICASVR)**

*President:* C. Vörösmarty (U.S.A.)  
*Past President:* K.H. Jensen (Denmark)  
*Vice-Presidents:* H. Dolman (Netherlands), T. Illangasekare  
(U.S.A./Sri Lanka), S. Franks (Australia)  
*Secretary:* J. Simunek (U.S.A./Czech Rep.)

**International Commission on Tracers (ICT)**

*President:* J. McDonnell (U.S.A.)  
*Past President:* A. Dassargues (Belgium)  
*Vice-Presidents:* T. Tanaka (Japan), A. Coudrain-Ribstein (France),  
J. Turner (Australia)  
*Secretary:* C. Leibundgut (Germany)

**Joint Commission on Groundwater Seawater Interactions (with IAPSO)**

*President:* E.A. Kontar (Russia)

**World Glacier Monitoring Service, WGMS** (affiliated to FAGS, program  
 administered by ICSI)

*Director:* W. Haeberli (Switzerland)

**PAST IAHS PRESIDENTS**

1922-1933	E. Wade
1933-1936	J. Smetana (Czechoslovakia)
1936-1947	O. Lütschg (Switzerland)
1947-1948	G. Slettenmark (Sweden)
1948-1951	M. Bernard (U.S.A.)
1951-1957	J. Th. Thijssse (Netherlands)
1957-1960	H.G. Wilm (U.S.A.)
1960-1963	W. Friedrich (F.R. Germany)
1963-1967	A. Volker (Netherlands)
1967-1970	K. Szezstay (Hungary)
1970-1971	W.C. Ackermann (U.S.A.)
1971-1975	J. Rodier (France)
1975-1979	J.C.I. Dooge (Ireland)
1979-1983	M.F. Meier (U.S.A.)
1983-1987	G. Kovacs (Hungary)
1987-1991	V. Klemes (Canada)
1991-1995	U. Shamir (Israël)
1995-2001	J.C. Rodda (U.K.)
2001-2005	K. Takeuchi (Japan)

**PAST IAHS GENERAL SECRETARIES**

1922-1933	G. Magrini (Italy)
1933-1947	F. Diénert (France)
1947-1948	A. Vibert (France)
1948-1971	L.J. Tison (Belgium)
1971-1975	G. Kovacs (Hungary)
1975-1979	J. Rodier (France)
1979-1987	J.C. Rodda (U.K.)
1987-1995	H.J. Colenbrander (Netherlands)
1995-2000	G.J. Young (Canada)
2000-	P. Hubert (France)

## **VI. International Association of Meteorology and Atmospheric Sciences (IAMAS) Association Internationale de Météorologie et des Sciences de l'Atmosphère (AIMSA)**

<http://iamas.org>

At the First IUGG General Assembly (Rome, 1922), the *Section de Météorologie* became one of the constituent *sections* of the Union. At the IV IUGG General Assembly (Stockholm, 1930) it became the *International Association of Meteorology*. It took the name of *International Association of Meteorology and Atmospheric Physics* at the XI IUGG General Assembly (Toronto, 1957), which later became the *International Association of Meteorology and Atmospheric Sciences*, (Association Internationale de Météorologie et des Sciences Atmosphériques) in 1993.

### **IAMAS BUREAU, 1999-2003**

<i>President:</i>	H.C. Davies (Switzerland)
<i>Secretary-General:</i>	R. List (Canada)
<i>Vice-Presidents:</i>	R.A. Vincent (Australia)
	R.E. Carbone (U.S.A.)

### **IAMAS EXECUTIVE COMMITTEE AND BUREAU, COMMISSION PRESIDENTS, 1999-2003**

<i>Past-President:</i>	R.A. Duce (U.S.A.)
<i>Past Secretary General:</i>	M. Kuhn (Austria)
<i>Members:</i>	G. Wu (China), A. Sumi (Japan), L. Barrie (U.S.A.), I. Mokhov (Russia),

### **IAMAS COMMISSIONS**

#### **Atmospheric Chemistry and Global Pollution (ICACGP)**

<i>President:</i>	H. Akimoto (Japan)
<i>Vice President:</i>	L. Barrie (U.S.A.)
<i>Secretary:</i>	P. Artaxo (Brazil)

#### **Atmospheric Electricity (ICAE)**

<i>President:</i>	P. Laroche (France)
<i>Secretary:</i>	S. Chauzy (France)

**Climate (ICCL)**

*President:* M.C. MacCracken (U.S.A.)  
*Secretary:* K. McGuffie (Australia)

**Clouds and Precipitation (ICCP)**

*President:* G.A. Isaac (Canada)  
*Vice-President:* Z. Levin (Israel)  
*Secretary:* D.O'C. Starr (U.S.A.)

ICCP - Committee on Nucleation and Atmospheric Aerosols

*Chairman:* M. Kulmala (Finland)

**Dynamic Meteorology (ICDM)**

*President:* N.O. Jensen (Denmark)  
*Secretary:* M.J. Alexander (U.S.A.)

**Middle Atmosphere (ICMA)**

<http://imina.soest.hawaii.edu/~kph/ICMA.html>

*President:* K. Hamilton (U.S.A.)  
*Secretary:* F.J. Luebken (Germany)

**Planetary Atmospheres and Their Evolution (ICPAE)**

*President:* F.W. Taylor (U.K.)  
*Secretary:* T. Johnson (U.S.A.)

**Polar Meteorology (ICPM)**

*President:* J. Turner (U.K.)  
*Secretary:* A. Carleton (U.S.A.)

**Ozone (IOC)**

*President:* R.D. Hudson (U.S.A.)  
*Vice President:* T. Ogawa (Japan)  
*Secretary:* C. Zerefos (Greece)

**Radiation (IRC)**

<http://cimss.ssec.wisc.edu/irc/>  
<http://www.ccsr.u-tokyo.ac.jp/~ishii/IRC/>

*President:* H. Fischer (Germany)  
*Vice President:* T. Nakajima (Japan)  
*Secretary:* R. Ellingson (U.S.A.)

### PAST IAMAS PRESIDENTS

1919-1930	N. Shaw (U.K.)
1930-1936	A. Wallen (Sweden)
1936-1948	S. Chapman (U.K.)
1948-1951	J. Bjerknes (U.S.A.)
1951-1954	K.R. Ramanathan (India)
1954-1957	C.G. Rossby (Sweden)
1957-1960	J. Van Mieghem (Belgium)
1960-1963	H.R. Byers (U.S.A.)
1963-1967	A.M. Oboukhov (U.S.S.R.)
1967-1971	R.C. Sutcliffe (U.K.)
1971-1975	S. Fritz (U.S.A.)
1975-1979	Ch. Junge (F.R.Germany)
1979-1983	W.L. Godson (Canada)
1983-1987	H.J. Bolle (Austria)
1987-1991	G.B. Tucker (Australia)
1991-1995	B.J. Hoskins (U.K.)
1995-1999	R.A. Duce (U.S.A.)
1999-2003	H.C. (Huw) Davies (Switzerland)

### PAST IAMAS GENERAL SECRETARIES

1919-1922	M. Marvin
1922-1927	F. Eredia (Italy)
1927-1936	Ph. Werhlé (France)
1936-1948	J. Bjerknes (U.S.A.)
1948-1954	J. Van Mieghem (Belgium)
1954-1960	R.C. Sutcliffe (U.K.)
1960-1975	W.L. Godson (Canada)
1975-1987	S. Ruttenberg (U.S.A.)
1987-1995	M. Kuhn (Austria)
1995-	R. List (Canada)

## VII. International Association of the Physical Sciences of the Ocean (IAPSO) Association Internationale des Sciences Physiques de l'Océan (AISPO)

<http://www.IUGG.org/IAPSO>

At the First IUGG General Assembly (Rome, 1922), the *Section d'Océanographie* became one of the constituent Sections of the Union. At the IV IUGG General Assembly (Stockholm, 1930) it became the *International Association of Physical Oceanography*. It took its present name at the XIV IUGG General Assembly (Zurich, 1967).

### IAPSO EXECUTIVE BUREAU 1999-2003

<i>President:</i>	P. Rizzoli (U.S.A.)
<i>Secretary-General:</i>	F.E. Camfield (U.S.A.)

### IAPSO EXECUTIVE COMMITTEE 1999-2003

<i>Vice-Presidents:</i>	J.A. Johnson (U.K.), S. Krishnaswami (India)
<i>Deputy Secretary General:</i>	M.C. Piccolo (Argentina)
<i>Members:</i>	M. Astraldi (Italy) K. Le (China) S. Imawaki (Japan) A. Zielinski (Poland) E.G. Morozov (Russia) D. Smythe-Wright (U.K.)
<i>Past-President:</i>	L.V. Shannon (South Africa)

### IAPSO COMMISSIONS

#### Mean Sea-Level & Tides

<i>President:</i>	C. Le-Provost (France)
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#### Cooperation with Developing Countries

<i>President:</i>	S.R.V. Durvasula (Canada)
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### JOINT COMMISSIONS

#### Tsunami Commission (Joint with IASPEI and IAVCEI)

<i>President:</i>	V.K. Gusakov (Russia)
<i>Liaison:</i>	F. Camfield (U.S.A.)

**Commission on Groundwater Seawater Interactions (Joint with IAHS)**

*President:* E.A. Kontar (Russia)

**IAPSO/SCOR Working Group 121 on Deep Ocean Mixing**

*Chairperson:* R.D. Muench (USA)

**SERVICES**

**Permanent Service for Mean Sea Level (affiliated to FAGS)**

*Director:* P.L. Woodworth (U.K.)

**IAPSO Standard Seawater Service**

*Director:* P.S. Ridout (U.K.)

**PAST IAPSO PRESIDENTS**

1919-1922	S.A.S. Prince Albert 1er (Monaco)
1924-1930	Odon de Buen (Spain)
1930-1936	M. Knudsen (Denmark)
1936-1946	B. Helland-Hansen (Norway)
1946-1951	H.U. Sverdrup (Norway)
1951-1954	J. Proudman (U.K.)
1954-1960	H. Mosby (Norway)
1960-1963	G.E.R. Deacon (U.K.)
1963-1967	R. Revelle (U.S.A.)
1967-1970	G. Dietrich (F.R. Germany)
1970-1975	H. Lacombe (France)
1975-1979	R.W. Stewart (Canada)
1979-1983	D. Lal (India)
1983-1987	W.M. Krauss (F.R. Germany)
1987-1991	J.-J. O'Brien (U.S.A.)
1991-1996	R.D. Muench (U.S.A.)
1996-1999	L.V. Shannon (South Africa)
1999-2003	P. Rizzoli (U.S.A.)

**PAST IAPSO GENERAL SECRETARIES**

1919-1930	G. Magrini (Italy)
1930-1948	J. Proudman (U.K.)
1948-1951	H. Mosby (Norway)
1951-1954	R.H. Fleming (U.S.A.)
1957-1963	B. Kullenberg (Sweden)
1963-1967	I. Hela (Finland)
1967-1970	A.E. Maxwell (U.S.A.)
1970-1987	E.C. LaFond (U.S.A.)
1987-1995	R.E. Stevenson (U.S.A.)
1995-	F. E. Camfield (U.S.A.)

## VIII. International Association of Seismology and Physics of the Earth's Interior (IASPEI) Association Internationale de Séismologie et de Physique de l'Intérieur de la Terre (AISPI)

<http://www.iaspei.org>

At the Sixth International Congress of Geography (London, 1895), Professor G. Gerland (Germany) pointed out the necessity of an international cooperation in seismology. At the Seventh Congress (Berlin, 1899) a *Commission séismologique permanente* was created. The first meeting of the Commission was held in Strasbourg in 1901 under the name of *Première Conférence Séismologique Internationale*. Subsequent conferences were held in Strasbourg (1903) and Berlin (1905). The *Association Internationale de Séismologie* was created at the Strasbourg meeting. It consisted of a *Bureau* and of a *Commission Permanente*. The latter met in Rome (1906), The Hague (1907), Zermatt (1910), Manchester (1911), and Strasbourg (1922). General Assemblies were held jointly in The Hague, Manchester, and Strasbourg. The Association was dissolved by the Strasbourg General Assembly. At the first IUGG General Assembly (Rome, 1922), it became one of the constituent Sections of the Union. It changed its name to *International Association of Seismology* at the IV IUGG General Assembly (Stockholm, 1930). It took its present name at the IX IUGG General Assembly (Bruxelles, 1951). For a detailed account of the history of the International Association of Seismology and Physics of the Earth's Interior, see : J.H. Hodgson, *Our Association, its Past as a Guide to its Future*, published in Comptes Rendus de l'AISPI, n° 15, Première Partie, pp. 12-28, and *Fifty Years of the International Association of Seismology* (1901-1951) by J.-P. Rothé (18 pages).

### IASPEI BUREAU 1999-2003

<i>President:</i>	B.L.N. Kennett (Australia)
<i>First Vice-President:</i>	D. Giardini (Switzerland)
<i>Second Vice-President:</i>	T. Yagi (Japan)
<i>SecretaryGeneral/Treasurer:</i>	E.R. Engdahl (U.S.A.)
<i>Associate Secretary General</i>	P. Suhadolc (Italy)

### IASPEI EXECUTIVE COMMITTEE 1999-2003

<i>Members:</i>	U. Christensen (Germany), D. Comte (Chile), E.R. Engdahl (U.S.A.), C. Froidevaux (France), D. Giardini (Switzerland), B.L.N. Kennett (Australia), B. Romanowicz (U.S.A.), T. Yagi (Japan), Z. Wu (China)
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## **IASPEI REPRESENTATIVES TO OTHER GROUPS**

IAGA/IASPEI Working Group on the Re-Use of Submarine Telephone Cables:  
Representative: J. Kasahara (Japan)

IAPSO/IASPEI/IAVCEI Joint Tsunami Commission:  
Representative: K. Satake (Japan)

IAU/IUGG Working Group on Non-Rigid Earth Mutations:  
Representative: B.A. Buffett (Canada)

ICSU Panel on World Data Centers:  
Representative: T. Ahern (U.S.A.)

ISC Executive Committee:  
Representative: O.Y. Starovoit (Russia)

IUGG Committee for Mathematical Geophysics:  
Representative: Y. Ben-Zion (U.S.A.)

SCAR (Solid Earth Geophysical Working Group):  
Representative: S.K. Verma (India)

## **IASPEI COMMISSIONS**

### **Commission on Physics and Chemistry of Earth Materials**

#### **(Joint with IAVCEI)**

*Chair:* D.B. Dingwell (Germany)  
*Vice-Chair:* S. Franck (Germany)  
*Secretary:* S.L. Webb (Germany)

### **Commission on Volcano Seismology (Joint with IAVCEI)**

*Acting Co-Chairs:* B. Chouet (U.S.A.), Y. Ida (Japan)

### **International Heat Flow Commission**

*Chair:* I.T. Kukkonen (Finland)  
*Vice-Chair:* D.S. Chapman (U.S.A.)  
*Past Chair:* V. Cermak (Czech Republic)  
*Secretary:* C. Clauser (Germany)  
*Vice-Secretary:* J. Safanda (Czech Republic)

### **Commission on Tectonophysics**

*Acting Chair:* D. Comte (Chile)

### **Task Group on World Stress Map Project**

*Chair:* K. Fuchs (Germany)

### **Commission on Earthquake Hazard, Risk and Strong Ground Motion**

*Chair:* Z. Wu (China)  
*Members:* Y.T. Chen (China), G.F. Panza (Italy),  
K. Shedlock (U.S.A.)

### **Commission on Earth Structure and Geodynamics**

*Co-Chairs:* U. Christensen (Germany)  
 B. Romanowicz (U.S.A.)

### **Working Group on Reference Earth Models**

*Chair:* G. Laske (U.S.A.)

### **Working Group on Subduction Zones Located in Developing Countries**

*Chair:* S. Widjiantoro (Indonesia)  
*Vice Chair:* J.C. Clavero (Chile)  
*Members:* D. Hidayat (USA), J.M. Lindsay (Trinidad),  
 D. Natawidjaja (USA), B. Bautista (Philippines)

### **Commission on Seismological Observation and Interpretation**

*Chair:* J. Havskov (Norway)  
*Secretary:* P. Bormann (Germany)

### **Working Group on Reference Events**

*Chair:* E.R. Engdahl (U.S.A.)  
*Members:* E.A. Bergman (U.S.A.), I. Bondar (U.S.A.),  
 P. Firbas (Austria)

### **Working Group on Standard Phase Names**

*Chair:* D.A. Storchak (UK)  
*Members:* P. Bormann (Germany), E.R. Engdahl (U.S.A.), J.  
 Havskov (Norway), B.L.N. Kennett (Australia), J.  
 Schweitzer (Norway)

### **Working Group on Magnitude Measurements**

*Chair:* J. Pewey (U.S.A.)  
*Members:* P. Bormann (Germany), S. Gregersen (Denmark)

### **Working Group on Multiple Event Location**

*Chair:* P.G. Richards (U.S.A.)  
*Members:* E.R. Engdahl (U.S.A.), Ray Willemann (UK)

### **Task Group on Scattering and Heterogeneity**

*Chair:* R.S. Wu (U.S.A.)

### **Commission on Earthquake Sources - Prediction and Modelling**

*Acting Chair:* K. Satake (Japan)

### **Commission on Education and Outreach**

*Acting Chair:* D. Jackson (U.S.A.)  
*Members:* P. Bormann (Germany), G. Gibson (Australia),  
 V.M. Hamza (Brazil), A. El-Sayed (Egypt),  
 J. Taber (U.S.A.)

**International Commission on Earth Sciences in Africa**

*Chair:* A. Kampunzu (Zaire)  
*Vice-Chair:* S. Abdelsalaam (Sudan)  
*Secretary-General:* F. Tembo (Zambia)  
*Treasurer:* S. McCourt (South Africa)

**Asian Seismological Commission**

*President:* S. Balassanian (Armenia)  
*First Vice-President:* D.A. Rhoades (New Zealand)  
*Second Vice-President:* M.R. Gheitanchi (Iran)  
*Secretary-General:* C. Zhu (China)

**European Seismological Commission**

*President:* C. Eva (Italy)  
*Vice-Presidents:* B. Feignier (France), J. Zschau (Germany)  
*Secretary-General:* M.G. Fernandez (Spain)  
*Asst. Secretary-General:* A.B. Walker (UK)

**Federation of Digital Broadband Seismograph Networks**

*Chair:* D. Giardini (Switzerland)  
*Secretary:* T. Ahern (U.S.A.)  
*Liaison:* R. van der Hilst (U.S.A.)

**International Ocean Network**

*Chair:* B. Romanowicz (U.S.A.)

**IAGA/IASPEI/IAVCEI Working Group on Electromagnetic Studies of  
Earthquakes and Volcanoes**

<http://yochi.iord.u-tokai.ac.jp/emsev/>

*Chair:* S. Uyeda (Japan)  
*Secretary:* T. Nagao (Japan)  
*IASPEI Liaison:* M. Johnston (U.S.A.)

### PAST IASPEI PRESIDENTS

1907	L. Palazzo (Italy)
1907-1911	A. Schuster (U.K.)
1911-1916	B. Galitzin (Russia)
1916-1922	G. Lecointe (Belgium)
1922-1930	H.H. Turner (U.K.)
1930-1936	E. Oddone (Italy)
1936-1940	N.H. Heck (U.S.A.)
1940-1951	R. Stoneley (U.K.)
1951-1954	B. Gutenberg (U.S.A.)
1954-1957	K.E. Bullen (Australia)
1957-1960	H. Jeffreys (U.K.)
1960-1963	P. Byerly (U.S.A.)
1963-1967	J. Hodgson (Canada)
1967-1971	K. Wadati (Japan)
1971-1975	V.A. Magnitsky (U.S.S.R.)
1975-1979	H. Berckhemer (F.R. Germany)
1979-1983	B.A. Bolt (U.S.A.)
1983-1987	Z. Suzuki (Japan)
1987-1991	St. Müller (Switzerland)
1991-1995	A.V. Nikolaev (Russia)
1995-1999	C. Froidevaux (France)
1999-2003	B.L.N. Kennett (Australia)

### PAST IASPEI GENERAL SECRETARIES

1907-1922	R. de Kovesligethy (Hungary)
1922-1942	E. Rothé (France)
1942-1971	J.P. Rothé (France)
1971-1979	J.C. de Bremaecker (U.S.A.)
1979-1991	R.D. Adams (U.K.)
1991-	E.R. Engdahl (U.S.A.)

## IX. International Association of Volcanology and Chemistry of the Earth's Interior (IAVCEI) Association Internationale de Volcanologie et de Chimie de l'Intérieur de la Terre (AIVCIT)

<http://www.iavcei.org>

At the First General Assembly of IUGG (Rome, 2-10 May 1922), the *Section de Vulcanologie* became one of the constituent sections of the Union. This name was changed into *Association Internationale de Vulcanologie* at the Fourth General Assembly (Stockholm 1930). It took its present name at the Moscow General Assembly (1971).

### IAVCEI BUREAU

<i>President:</i>	R.S.J. Sparks (U.K.)
<i>Vice-Presidents:</i>	J. Keller (Germany) T. Ui (Japan)
<i>Secretary-General:</i>	S. McNutt (U.S.A.)
<i>Members:</i>	T. Fujii (Japan) B. Houghton (New Zealand) J. McPhie (Australia) H. Moreno-Roa (Chile) R. Sukhyar (Indonesia)
<i>Past-President:</i>	G. Heiken (U.S.A.)
<i>Editor BV:</i>	T. Druitt (France)
<i>Deputy Sec.-Gen.:</i>	J. Gardner (U.S.A.)
<i>Membership</i>	C. Giddings (Australia)
<i>Secretariat:</i>	
<i>Administrative</i>	J. Risse (U.S.A.)
<i>Assistant:</i>	

### IAVCEI COMMISSIONS

#### Commission on Physics and Chemistry of Earth Materials (joint with IASPEI)

<i>Co-Leaders:</i>	D.B. Dingwell (Germany)
<i>Vice-Chair:</i>	S. Franck (Germany)
<i>Secretary:</i>	S.L. Webb (Australia)

#### Commission on Granites

<i>Leader:</i>	N. Petford (UK)
<i>Secretary:</i>	S. Singh (India)

**Commission on Large-Volume Basaltic Provinces**

*Leader:* M. Menzies (U.K.)  
*Secretary:* J.R. Hopper (Denmark)

**Commission on the Chemistry of Volcanic Gases**

*Leader:* M. Martini (Italy)  
*Secretary:* J. Hirabayashi (Japan)  
*Newsletter Editor:* H. Shinohara (Japan)

**Commission on Volcanic Lakes**

*Leader:* J.C. Varekamp (U.S.A.)  
*Secretary:* A. Bernard (Belgium)

**Commission on Explosive Volcanism**

*Co-Leaders:* P. Cole (U.K.)  
G. Giordano (Italy)

**Commission on Volcanogenic Sedimentation**

*Co-Leaders:* I. Skilling (South Africa)  
J. White (New Zealand)

**Commission on Volcanism and the Earth's Atmosphere**

*Leader:* G. Zielinski (U.S.A.)  
*Secretary:* A. Robock (U.S.A.)

**Commission on Remote Sensing**

*Leader:* D. Rothery (U.K.)  
*Secretary:* T. Kaneko (Japan)  
*Newsletter Editor:* S.K. Rowland (U.S.A.)

**Commission on Volcanic Seismology**

*Co-Leaders:* B Chouet (U.S.A.)  
Y Ida (Japan)  
*Secretary:* H Benz (U.S.A.)

**World Organization of Volcano Observatories**

*Leader:* C Newhall (U.S.A.)

**Commission on Mitigation of Volcanic Disasters**

*Leader:* G Orsi (Italy)  
*Secretary:* C Siebe (Mexico)

**Commission on Arc Magmatism**

*Co-Leaders:* J Davidson (U.K.)  
J Gamble (New Zealand)

**International Heat Flow Commission (joint with IASPEI and IAPSO)**

*Leader:* I.T. Kukkonen (Finland)  
*Secretary:* C. Clauser (Germany)

**Tsunami Commission (Joint with IAPSO and IASPEI)**

*President:* V.K. Gusiakov (Russia)  
*Liaisons:* Y. Nishimura (Japan)

**IAGA/IASPEI/IAVCEI Working Group on Electromagnetic Studies of  
Earthquakes and Volcanoes**

<http://yochi.iord.u-tokai.ac.jp/emsev/>

*Chair:* S. Uyeda (Japan)  
*Secretary:* T. Nagao (Japan)  
*IAVCEI Liaison:* M. Johnston (U.S.A.)

**PAST IAVCEI PRESIDENTS**

1919-1922	A. Ricco (Italy)
1922-1927	A. Lacroix (France)
1927-1933	A. Malladra (Italy)
1933-1936	C.A. Ktenas (Greece)
1936-1948	A. Michel-Lévy (France)
1948-1954	G.B. Escher (Netherlands)
1954-1963	A. Rittmann (Switzerland/Italy)
1963-1967	H. Kuno (Japan)
1967-1971	G.A. MacDonald (U.S.A.)
1971-1975	G.S. Gorshkov (U.S.S.R.)
1975-1979	R.W. Decker (U.S.A.)
1979-1983	S.A. Fedotov (U.S.S.R.)
1983-1987	I.G. Gass (U.K.)
1987-1991	S. Aramaki (Japan)
1991-1995	P. Gasparini (Italy)
1995-1999	G. Heiken (U.S.A.)
1999-2003	R.S.J. Sparks (U.K.)

**PAST IAVCEI GENERAL SECRETARIES**

1919-1936	A. Malladra (Italy)
1936-1960	F. Signore (Italy)
1960-1967	F. Penta (Italy)
1967-1975	P. Evrard (Belgium)
1975-1983	P.E. Baker (U.K.)
1983-1991	H.U. Schmincke (F.R. Germany)
1991-1999	R.W. Johnson (Australia)
1999-	S.R. McNutt (U.S.A.)

## **X. NATIONAL COMMITTEES, ADHERING ORGANIZATIONS, NATIONAL CORRESPONDENTS OF THE ASSOCIATIONS**

### **ANNUAIRE 2003 YEARBOOK**

The composition of the National Committees and, in consequence, the names of the officially accredited national representatives to the Union and its seven Associations are in conformity with what was communicated to us in 2002.

La composition des Comités Nationaux et par voie de conséquence les noms des représentants nationaux officiellement accrédités auprès de l'Union et de ses sept Associations sont conformes à ce qui nous a été communiqué en 2002.

**ALGERIA – ALGERIE****Adhering Organization**

Centre de Recherche en Astronomie Astrophysique et Geophysique  
 Boite Postale 63  
 16340 BOUZAREAH DZ

**NATIONAL COMMITTEE**

**President:** Abdelkarim YELLES-CHAOUCHÉ

**NATIONAL CORRESPONDENTS OF THE ASSOCIATIONS**

<b>IAG:</b>	Ali HALIMA-MANSOUR	<b>IAMAS:</b>	Athmane ZEHAR
<b>IASPEI:</b>	Abdelkarim YELLES-CHAOUCHÉ	<b>IAHS:</b>	Abdelmadjid DEMMAK
<b>IAVCEI:</b>		<b>IAPSO:</b>	Mustapha BOULAHIDID
<b>IAGA:</b>	Abdelkader ABTOUT		

**ARGENTINA - ARGENTINE****Adhering Organization**

Comite Nacional de la Union Geodesica y Geofisica Internacional  
 Cabildo 381  
 1426 Buenos Aires

**NATIONAL COMMITTEE**

**President:** Cnl. Ing. Mil. Agrim. Fernando Miguel GALBAN

**Executive Vice-President:** Dra. Corina RISSO

**Second Vice-President:** Lic. Nora C. SABBIONE

**Secretary General:** Agrim. Rubén Carlos RAMOS

**Assistant Secretary General:** Agrim. Sergio Rubén CIMBARO

**Treasurer:** Licenciada María Josefina FIORITI

[www.igm.gov.ar](http://www.igm.gov.ar)

**NATIONAL CORRESPONDENTS OF THE ASSOCIATIONS**

<b>IAG:</b>	Eduardo Andres LAURIA	<b>IAMAS:</b>	Manuel Hipólito PICASSO
<b>IASPEI:</b>	Nora SABBIONE	<b>IAHS:</b>	Maria Josefina FIORITI
<b>IAVCEI:</b>	Corina RISSO	<b>IAPSO:</b>	Gerardo M.E. PERILLO
<b>IAGA:</b>	Cristina POMPOSIELLO		

**REPUBLIC OF ARMENIA  
RÉPUBLIQUE DE ARMÉNIE**

**Adhering Organization**

National Survey for Seismic Protection  
 Government of the Republic of Armenia  
 Davidashen Massiv 4  
 375054 YEREVAN  
[office@nssp-gov.am](mailto:office@nssp-gov.am)  
<http://www.nssp-gov.am>

**NATIONAL COMMITTEE**

**President:** Serguei BALASSANIAN  
**Secretary:** Sergey NAZARETYAN

**NATIONAL CORRESPONDENTS OF THE ASSOCIATIONS**

<b>IAG:</b>		<b>IAMAS:</b>	Gennady KOJOYAN
<b>IASPEI:</b>	Avetis ARAKELYAN	<b>IAHS:</b>	Vladimir BOYNAGRIAN
<b>IAVCEI:</b>		<b>IAPSO:</b>	
<b>IAGA:</b>	Samvel HOVHANISSIAN		

**AUSTRALIA - AUSTRALIE**

**Adhering Organization**

Australian Academy of Science  
 Ian Potter House - Gordon Street  
 GPO Box 783  
 Canberra ACT 2601

T: 61 2 6247 5777

F: 61 2 6257 4620

**NATIONAL COMMITTEE**

**National Relations Officer:**

**NATIONAL CORRESPONDENTS OF THE ASSOCIATIONS**

<b>IAG:</b>	Richard COLEMAN	<b>IAMAS:</b>	A. HENDERSON-SELLERS
<b>IASPEI:</b>	David DENHAM	<b>IAHS:</b>	Jetse D. KALMA
<b>IAVCEI:</b>	Ray CAS	<b>IAPSO:</b>	Ian S.F. JONES
<b>IAGA:</b>	B.J. FRASER		

**AUSTRIA - AUTRICHE****Adhering Organization**

Österreichische Akademie der Wissenschaften  
 Dr. Ignaz-Seipel-Platz 2  
 A 1010 Vienna

**NATIONAL COMMITTEE**

**President:** Siegfried J. BAUER  
**Secretary:** Christoph TWAROCH

**NATIONAL CORRESPONDENTS OF THE ASSOCIATIONS**

<b>IAG:</b>	Erhard ERKER	<b>IAMAS:</b>	Michael KUHN
<b>IASPEI:</b>	Wolfgang LENHARDT	<b>IAHS:</b>	Franz NOBILIS
<b>IAVCEI:</b>	Gerhard MAYER	<b>IAPSO:</b>	Heinz LÖFFLER
<b>IAGA:</b>	Siegfried J. BAUER Peter STEINHAUSER		

**BELGIUM - BELGIQUE****Adhering Organization**

The Royal Academies of Science and the Arts of Belgium  
 Palais des Academies-Paleis der Academien  
 Hertogsstraat 1 rue Ducale  
 B-1000 BRUSSELS

**NATIONAL COMMITTEE**

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**BRAZIL - BRESIL****Adhering Organization**

Diretoria de Geociencias

Instituto Brasileiro de Geografia e Estatística

Avenida Brasil 15671, Bloco III-B

Parada de Lucas, Rio de Janeiro 21241-051

<http://www.ibge.gov.br>**NATIONAL COMMITTEE****Director:** Luiz Paulo Souto FORTES**NATIONAL CORRESPONDENTS OF THE ASSOCIATIONS****IAG:** Denizar BLITZKOW**IAMAS:****IASPEI:****IAHS:** Carlos E.M. TUCCI**IAVCEI:****IAPSO:****IAGA:** Luis Muniz BARRETO**BULGARIA - BULGARIE****Adhering Organization**

Bulgarian Academy of Sciences

ul. 15 Noemvri, 1

Sofia 1040

**NATIONAL COMMITTEE****President:** Dimitar JORDANOV**Secretary:** Ivan GEORGIEV**NATIONAL CORRESPONDENTS OF THE ASSOCIATIONS****IAG:** Ivan GEORGIEV**IAMAS:****IASPEI:****IAHS:****IAVCEI:****IAPSO:****IAGA:** Mary KOVACHEVA

**CANADA****Adhering Organization**

National Research Council of Canada  
Bureau of International Relations  
Ottawa Ontario K1A OR6

T: 613 993 0987 F: 613 952 9696

<http://www.cgu-ugc.ca/cnc-iugg/>

**NATIONAL COMMITTEE**

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<b>IAGA:</b>	Randy ENKIN		
	R.E. HORITA		

**CHILE - CHILI****Adhering Organization**

Instituto Geografico Militar  
Nueva Santa Isabel 1640  
Santiago

[igm@igm.cl](mailto:igm@igm.cl)

[www.igm.cl](http://www.igm.cl)

**NATIONAL COMMITTEE**

**President:** Pablo Gran LOPEZ  
**Secretary:** Luis Alegria MATTA

**NATIONAL CORRESPONDENTS OF THE ASSOCIATIONS**

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<b>IAVCEI:</b>	Jose A. NARANJO	<b>IAPSO:</b>	Fernando MINGRAM
<b>IAGA:</b>			

**CHINA - CHINE****Adhering Organization**

Chinese National Committee for IUGG  
 Institute of Geophysics, China Seismological Bureau  
 5 Minzu Daxue Nan Road  
 Beijing 100081

F: 86 10 6841 5372

[zhucz@public.fhnet.cn.net](mailto:zhucz@public.fhnet.cn.net)**NATIONAL COMMITTEE**

**President:** Junyong CHEN  
**Vice-President:** Yun-tai CHEN  
**Secretary General:** Chuanzhen ZHU

**NATIONAL CORRESPONDENTS OF THE ASSOCIATIONS**

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<b>IAGA:</b>	Zhenxing LIU		

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**The Academy of Sciences Located in TAIPEI**

**Adhering Organization**

Academia Sinica  
 128, Academy Road, Sec. 2  
 TAIPEI, TAIWAN

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**Executive Secretary:** Yih-Hsiung YEH

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<b>IAGA:</b>	Chao-Han LIU		

## **COLOMBIA - COLUMBIE**

### **Adhering Organization**

Colombian Committee of Geodesy and Geophysics (CCGG)  
 Instituto Geográfico Agustín Codazzi  
 Carrera 30 No. 48-51  
 Santafé de Bogotá, D.C.

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<b>IAGA:</b>	William Arias LÓPEZ		

## **CROATIA - CROATIE**

**Adhering Organization**  
 Croatian Academy of Sciences  
 Zrinski trg 11  
 10000 Zagreb

T: 385 1 4819 979

F: 385 1 4872 902

**NATIONAL COMMITTEE**  
**President:** Dragutin SKOKO  
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### **NATIONAL CORRESPONDENTS OF THE ASSOCIATIONS**

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<b>IAGA:</b>	Vladis VUJNOVIC		

**CZECH REPUBLIC - REPUBLIQUE TCHEQUE****Adhering Organization**

Academy of Sciences of the Czech Republic  
Narodni 3  
117 20 Praha 1

**NATIONAL COMMITTEE**

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**Secretary:** Petr HOLOTA

**NATIONAL CORRESPONDENTS OF THE ASSOCIATIONS**

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<b>IAVCEI:</b>	Jiri VANEK	<b>IAPSO:</b>	
<b>IAGA:</b>	Pavel HEJDA		

**DENMARK - DANEMARK****Adhering Organization**

Det Kongelige Danske Videnskabernes Selskab  
H.C. Andersens Boulevard 35  
1553 Kobenhavn V

**NATIONAL COMMITTEE**

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**Secretary:** Dorthe Dahl JENSEN

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<b>IAGA:</b>	E. FRIIS-CHRISTENSEN		

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### **Adhering Organization**

Academy of Scientific Research and Technology  
 101 Kasr El-Eini Street  
 Cairo

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<b>IAGA:</b>	H.A. DEEBESS		

## **ESTONIA - ESTONIE**

**Adhering Organization**  
 Estonian Academy of Sciences  
 Kohtu 6  
 10130 Tallinn

**NATIONAL COMMITTEE**  
**President:** Rein ROOM  
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<b>IAGA:</b>	Kalju EERME		

**FINLAND - FINLANDE****Adhering Organization**

Federation of Finnish Learned Societies

Mariankatu 5

F: 358 9 228 69 291

[tsv@tsv.fi](mailto:tsv@tsv.fi)**NATIONAL COMMITTEE****President:** Juhani KAKKURI**Secretary:** Heikki NEVANLINNA**NATIONAL CORRESPONDENTS OF THE ASSOCIATIONS**

<b>IAG:</b>	Juhani KAKKURI	<b>IAMAS:</b>	Mikko AESTALO
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<b>IAGA:</b>	Heikki NEVANLINNA		

**FRANCE****Adhering Organization**

Académie des Sciences

23, Quai de Conti

75006 Paris

<http://www.omp.obs-mip.fr/cnfgg/>**NATIONAL COMMITTEE****President:** Jean Louis CHEMINÉE**Secretary General:** Jean-Pierre BARRIOT**Treasurer:** Roland SCHLICH**NATIONAL CORRESPONDENTS OF THE ASSOCIATIONS**

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Bundesanstalt für Geowissenschaften und Rohstoffe  
 Alfred-Benz-Haus - Postfach 51 01 53  
 30631 Hannover

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	Erwin APPEL		

**GREECE – GRECE****Adhering Organization**

Hellenic National Committee for Geodesy and Geophysics  
 Evelpidon 4, Hellenic Military Geographic Service  
 Pedion Areos 113 62, Athens  
 T: 30 210 884 2812                            F: 30 210 881 7376

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**Adhering Organization**  
 Hungarian Academy of Sciences  
 PO Box 6, Nádor u. 7  
 H-1361 Budapest

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**ICELAND – ISLANDE**

**Adhering Organization**  
 Rannsoknarrad Íslands (The Icelandic Research Council)  
 Laugavegur 13  
 IS-101 Reykjavik  
 T: 354 515 5800                            F: 354 552 9814

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 Bahadur Shah Zafar Marg  
 New Delhi 110 002

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**IAHS:** S. CHANDER  
**IAPSO:** S.W.A. NAQVI

**INDONESIA - INDONESIE****Adhering Organization**

Indonesian Institute of Sciences (LIPI)  
 Jl. Jend. Gatot Subroto No. 10  
 Jakarta 12710, Indonesia

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**IAMAS:** Hery HERJANTO  
**IAHS:** Joesron LOEBIS  
**IAPSO:** Safwan HADI

**IRAN****Adhering Organization**

Institute of Geophysics

Tehran University, P.O. Box 14155  
6466 Tehran

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**IAHS:** Mohammad K. HAFIZI

**IAPSO:** H. ZOMORRODIAN

**IRELAND - IRLANDE****Adhering Organization**

Royal Irish Academy

19 Dawson Street

Dublin 2

T: 353 1 676 2570

F: 353 1 676 2346

[www.ria.ie](http://www.ria.ie)

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**IAGA:** Colin BROWN

**IAMAS:** Peter LYNCH

**IAHS:** Peter BENNETT

**IAPSO:** Peter BOWYER

**ISRAEL****Adhering Organization**

The Israel Academy of Sciences and Humanities

P.O.Box. 4040

Jerusalem 91040

T: 972-2-567-6222

F: 972-2-566-6059

[boblap@academy.ac.il](mailto:boblap@academy.ac.il)**NATIONAL COMMITTEE****Chair:** Uri SHAMIR**NATIONAL CORRESPONDENTS OF THE ASSOCIATIONS****IAG:** Gilad EVEN-ZUR**IAMAS:** Zev LEVIN**IASPEI:** Avi SHAPIRA**IAHS:** Haim GVIRTZMAN**IAVCEI:** Oded NAVON**IAPSO:** Yossi MART**IGA:** Boris GINZBURG**ITALY - ITALIE****Adhering Organization**

Consiglio Nazionale delle Ricerche

Piazzale Aldo Moro 7

0081 ROMA

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**JAPAN - JAPON**

**Adhering Organization**  
 Science Council of Japan  
 22-34 Roppongi, 7 Chome  
 Minato-ku, Tokyo 106-8555

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<b>IAGA:</b>	Yohsuke KAMIDE		

**JORDAN - JORDANIE**

**Adhering Organization**  
 Royal Jordanian Geographic Centre  
 P.O. Box: 414  
 AL-Jubayha 11941  
[Rjgc1@joinnet.com.jo](mailto:Rjgc1@joinnet.com.jo)

**NATIONAL COMMITTEE**  
**Contact Person:** Eng. Ahmed HIJAJ

**NATIONAL CORRESPONDENTS OF THE ASSOCIATIONS**

<b>IAG:</b>	<b>IAMAS:</b>
<b>IASPEI:</b>	<b>IAHS:</b>
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<b>IAGA:</b>	

**REPUBLIC OF KOREA  
RÉPUBLIQUE DE COREE**

**Adhering Organization**

The Korean Federation of Science and Technology Societies  
635-4 Yeoksam-dong, Gangnam-gu  
Seoul 135-703

**NATIONAL COMMITTEE**

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**Secretary:** Hong Sic YUN

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<b>IAVCEI:</b> Sung-Tack KWON	<b>IAPSO:</b> Yign NOH
<b>IAGA:</b> Byung-Ho AHN	

**LEBANON - LIBAN**

**Adhering Organization**

National Committee for Geophysics  
P.O.Box 16-5432  
Beirut 1100-2040

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**Treasurer:** Alexandre SURSOCK

**NATIONAL CORRESPONDENTS OF THE ASSOCIATIONS**

<b>IAG:</b> Alexandre SURSOCK	<b>IAMAS:</b> Mouin HAMZEH
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<b>IAVCEI:</b> Mouin HAMZEH	<b>IAPSO:</b> Hratch KUYMJIAN
<b>IAGA:</b> Alexandre SURSOCK	

**LUXEMBOURG****Adhering Organization**

Ministère des Affaires Culturelles

Musée National d'Histoire Naturelle, Centre des Sciences de la Terre  
 19, rue Josy Welter  
 L-7526 Walferdange

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**IAGA:** Nicolas SCHARES

**IAMAS:** Robert KIPGEN  
**IAHS:** Robert MAQUIL  
**IAPSO:** Olivier FRANCIS

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Instituto de Geofisica  
 Circuito Investigacion Cientifica  
 Ciudad Universitaria 04510, D.F.

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**IAVCEI:** S. DE LA CRUZ-REYNA      **IAPSO:** D.A. SALAS DE LEON  
**IAGA:** H. PEREZ DE TEJADA

**MONACO**

**Adhering Organization**  
Centre Scientifique de Monaco  
Villa Girasole  
16, Boulevard de Suisse  
Monte-Carlo

**NATIONAL COMMITTEE****NATIONAL CORRESPONDENTS OF THE ASSOCIATIONS**

<b>IAG:</b>	<b>IAMAS:</b>
<b>IASPEI:</b>	<b>IAHS:</b> Patrick VAN KLAVEREN
<b>IAVCEI:</b>	<b>IAPSO:</b>
<b>IAGA:</b>	

**MOROCCO – MAROC**

**Adhering Organization**  
Comité National Marocain de Géodésie et Géophysique  
Centre National de Coordination et de Planification de la  
Recherche Scientifique et Technique  
B.P. 8027 Agdal-Rabat

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**Secretary:** Lahsen TIKDIRINE

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<b>IAVCEI:</b>	M. BERAHMA	<b>IAPSO:</b> Agoumi ORBI
<b>IAGA:</b>	Driss NAJID	

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 Ministerio dos Recursos Minerais  
 Direccao Nacional de Geologia

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**Secretary:** Cristovao DA COSTA XAVIER, JR.

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<b>IASPEI:</b>	Joaquim Armando MIRA	<b>IAHS:</b>	C. DA COSTA XAVIER, JR. Marcos S. M'PONDA
<b>IAVCEI:</b>	André Moisés SIBAMBO	<b>IAPSO:</b>	Estevao Teofilo JAMES David Filipe CHEMANE
<b>IAGA:</b>	M. FARNELA KAMPINE		

### **MYANMAR**

**Adhering Organization**  
 Survey Department  
 Pyidaw Aye Avenue Lane, Kaba Aye Pagoda Road  
 Yankin Post Office  
 Yangon

**NATIONAL COMMITTEE**  
**National Contact Person:** U Maung Maung TIN

### **NATIONAL CORRESPONDENTS OF THE ASSOCIATIONS**

<b>IAG:</b>		<b>IAMAS:</b>	
<b>IASPEI:</b>		<b>IAHS:</b>	
<b>IAVCEI:</b>		<b>IAPSO:</b>	
<b>IAGA:</b>			

**THE NETHERLANDS - PAYS BAS****Adhering Organization**

Koninklijke Nederlandse Akademie van Wetenschappen  
P.O. Box 19121  
1000 GC Amsterdam

**NATIONAL COMMITTEE**

**President:** Floris C. ZUIDEMA  
**Secretary:** Peter J. G. TEUNISSEN

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<b>IAVCEI:</b>	R.D. SCHUILING	<b>IAPSO:</b>	W.P.M. DE RUIJTER
<b>IAGA:</b>	J.A. AS		

**NEW ZEALAND - NOUVELLE ZELANDE****Adhering Organization**

The Royal Society of New Zealand  
4 Halswell St., Thorndon  
P.O. Box 598, Wellington

**NATIONAL COMMITTEE**

**Convener:** Don B. GRANT  
**Correspondent:** Eddie DAVIS

**NATIONAL CORRESPONDENTS OF THE ASSOCIATIONS**

<b>IAG:</b>	D.B. GRANT	<b>IAMAS:</b>	D.S. WRATT
<b>IASPEI:</b>	M. REYNERS	<b>IAHS:</b>	Lindsay ROWE
<b>IAVCEI:</b>		<b>IAPSO:</b>	Steve CHISWELL
<b>IAGA:</b>	Tony HURST		

**NIGERIA****Adhering Organization**

Nigerian Union of Planetary and Radio Sciences  
 18 Odaliki Street - Ebute – Metta  
 P.O. Box 3660  
 Lagos

**NATIONAL COMMITTEE**

**President:** R. Oluwole COKER  
**Vice-President:** G.O. AJAYI  
**General Secretary:** H.A. BELLO

**NATIONAL CORRESPONDENTS OF THE ASSOCIATIONS**

<b>IAG:</b>	F.A. FAJEMIROKUN	<b>IAMAS:</b>	E.E. BALOGUN
<b>IASPEI:</b>	A.O. ALABI	<b>IAHS:</b>	Lekan OYEBAKU
<b>IAVCEI:</b>	J.E.A. OSEMEIKHIAN	<b>IAPSO:</b>	F. EGBERONGBE
<b>IAGA:</b>	Ebun ONI		

**NORWAY – NORVEGE****Adhering Organization**

Den Nasjonale Komite for Geodesi og Geofysikk  
 Statens Kartverk  
 Serviceboks 15  
 3504 Hønefoss

**NATIONAL COMMITTEE**

**Chairman:** Tom A. BLIX  
**Secretary:** Bjorn Geirr HARSSON

**NATIONAL CORRESPONDENTS OF THE ASSOCIATIONS**

<b>IAG:</b>	Bjorn Geirr HARSSON	<b>IAMAS:</b>	Sigbjørn GRONAS
<b>IASPEI:</b>	Tormod KVAERNA	<b>IAHS:</b>	Nils Roar SÆLTHUN
<b>IAVCEI:</b>	Harald FURNES	<b>IAPSO:</b>	Thomas A. McCLIMANS
<b>IAGA:</b>	Tom A. BLIX		

## **PAKISTAN**

### **Adhering Organization**

Government of Pakistan

Pakistan Meteorological Department  
 Met. Headquarters Office (Camp Office)  
 Meteorological Complex, PO Box No 8454  
 University Road, Karachi 75270

### **NATIONAL COMMITTEE**

**President:** Major General MAHBOOB-UL-MUZAFFAR

### **NATIONAL CORRESPONDENTS OF THE ASSOCIATIONS**

**IAG:**

**IAMAS:** Anjum Bari FAROOQI

**IASPEI:**

**IAHS:** M. ZAFARYAB

**IAVCEI:** Muhammed RAFIQ

**IAPSO:** Shahid AMJAD

**IAGA:** Salab-ud-Din MALIK

## **PERU - PEROU**

### **Adhering Organization**

Instituto Geofisico del Peru  
 Calle Calatrava 216  
 Urb. Camino Real, La Molina  
 Lima 12

### **NATIONAL COMMITTEE**

**President:** Ronald F. WOODMAN

**Secretary:** Hernán A MONTES

### **NATIONAL CORRESPONDENTS OF THE ASSOCIATIONS**

**IAG:**

Edmundo NORABUENA

**IAMAS:** Palo LAGOS

Ronald F. WOODMAN

**IASPEI:** L.C. OCOLA

**IAHS:** Antonio MABRES

**IAVCEI:** Orlando MACEDO

**IAPSO:** Héctor SOLDI

M. RIVERA,

Luis PIZARRO

L.C. OCOLA

**IAGA:** Ronald F. WOODMAN

## **PHILIPPINES**

**Adhering Organization**  
 Coast and Geodetic Survey Department  
 421 Barraca Street  
 San Nicolas  
 1010 Manila

**NATIONAL COMMITTEE**  
**President:** Roman L. KINTANAR  
**National Contact Person:** Renato B. FEIR

### **NATIONAL CORRESPONDENTS OF THE ASSOCIATIONS**

<b>IAG:</b> Renato B. FEIR	<b>IAMAS:</b> Roman L. KINTANAR
<b>IASPEI:</b>	<b>IAHS:</b> Leonardo Q. LIONGSON
<b>IAVCEI:</b>	<b>IAPSO:</b> Renato B. FEIR
<b>IAGA:</b> Victor L. BADILLO	

## **POLAND – POLOGNE**

**Adhering Organization**  
 Polish Academy of Sciences  
 Palace of Culture & Science  
 room 2306  
 00-901 Warsaw

**NATIONAL COMMITTEE**  
**President:** Lubomir-Włodzimierz BARAN  
**Secretary:** Adam LYSZKOWICZ

### **NATIONAL CORRESPONDENTS OF THE ASSOCIATIONS**

<b>IAG:</b> Jan KRYNSKI	<b>IAMAS:</b> Krysztof HAMAN
Lubomir-W. BARAN	Janusz BORKOWSKI
<b>IASPEI:</b> Slawomir T. GIBOWICZ	<b>IAHS:</b> Z. W. KUNDZEWICZ
A. GUTERCH	Witold STRUPCZEWSKI
<b>IAVCEI:</b>	<b>IAPSO:</b> Czeslaw DRUET
<b>IAGA:</b> Jerzy JANKOWSKI	
Andrzej WERNIK	

## **PORTUGAL**

**Adhering Organization**  
**Instituto Geográfico Português**  
**Rua Artilharia Um, n107**  
**1099-052 Lisboa**

**NATIONAL COMMITTEE**  
**President:** Luis Alberto MENDES-VICTOR  
**Vice-Presidents:** Carlos Manuel MOURATO NUNES  
**Secretary:**

### **NATIONAL CORRESPONDENTS OF THE ASSOCIATIONS**

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<b>IASPEI:</b>	L.A. MENDES-VICTOR	<b>IAHS:</b>	
<b>IAVCEI:</b>	Luis AIRES DE BARROS	<b>IAPSO:</b>	
<b>IAGA:</b>	Jorge M. A. MIRANDA		

## **ROMANIA – ROUMANIE**

**Adhering Organization**  
**Romanian Academy**  
**RNCGG Secretariat**  
**P.O. Box 31-54**  
**73250 Bucharest**

F: 40 21 345 2056      [savac@fx.ro](mailto:savac@fx.ro)

**NATIONAL COMMITTEE**  
**President:** Dorel ZUGRAVESCU  
**Secretary General:** Constantin Stefan SAVA

### **NATIONAL CORRESPONDENTS OF THE ASSOCIATIONS**

<b>IAG:</b>	Constantin SAVULESCU	<b>IAMAS:</b>	Vladimir IVANOVICI Sabina STEFAN
<b>IASPEI:</b>	Dumitru ENESCU	<b>IAHS:</b>	Petru SERBAN
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<b>IAGA:</b>	Alexandru SZAKACS Andrei SOARE		

**RUSSIA – RUSSIE**

**Adhering Organization**  
 Russian Academy of Sciences  
 14 Leninsky Prospekt  
 117901 Moscow V-71

<http://www.wdcb.ru/NGC/welcome.html>

**NATIONAL COMMITTEE**  
**President:** Guennadi A. SOBOLEV  
**Vice-Presidents:** Vladimir M. KOTLYAKOV  
 Vladimir V. MIGULIN  
**Secretary General:** Yuri S. TYUPKIN

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<b>IASPEI:</b>	Mikhail V. NEVSKY	<b>IAHS:</b>	Igor S. ZEKTSER
<b>IAVCEI:</b>	Sergey A. FEDOTOV	<b>IAPSO:</b>	Evgeny G. MOROZOV
<b>IAGA:</b>	Viktor N. ORAEVSKY		

**SLOVAK REPUBLIC - REPUBLIQUE SLOVAQUE**

**Adhering Organization**  
 Geophysical Institute  
 Slovak Academy of Sciences  
 Dubravská cesta 9  
 842 28 Bratislava

**NATIONAL COMMITTEE**  
**President:** Peter MOCZO  
**Vice-President:** Jan HEFTY  
**Secretary:** Miroslav BIELIK

**NATIONAL CORRESPONDENTS OF THE ASSOCIATIONS**

<b>IAG:</b>	Ladislav BRIMICH	<b>IAMAS:</b>	Ferdinand HESEK
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<b>IAVCEI:</b>		<b>IAPSO:</b>	
<b>IAGA:</b>	Jozef BRESTENSKY		

**SLOVENIA – SLOVENIE****Adhering Organization**

Slovenian Association of Geodesy and Geophysics – SZGG  
Jamova 2  
1115 Ljubljana

**NATIONAL COMMITTEE**

**President:** Mitja BRILLY  
**Vice-President:** Polona KOVIC-KRALJ  
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**NATIONAL CORRESPONDENTS OF THE ASSOCIATIONS**

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**IAGA:** Robert STOPAR

**IAMAS:** Tomaz VRHOVEC  
**IAHS:** Matja MIKOS  
**IAPSO:** Vlado MALACIC

**SOUTH AFRICA - AFRIQUE DU SUD****Adhering Organization**

SA ICSU Secretariat  
National Research Foundation  
P.O. Box 2600  
0001 Pretoria

T: 27 12 481 4114/4093

F: 27 12 481 4007/349 1179

[ina@nrf.ac.za](mailto:ina@nrf.ac.za)**NATIONAL COMMITTEE**

**Chairman:** R.J. KLEYWEGT  
**Secretary:** M. PILLAY  
**Members:** C.L. MERRY, G.C. SCHULZE, L.V. SHANNON

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**IAGA:** V. MUNSAM

**IAMAS:** M. MAJODINA  
**IAHS:** D. HUGHES  
**IAPSO:** H. VALENTINE

**SPAIN – ESPAGNE****Adhering Organization**

Comisión Española Geodesia y Geofísica  
General Ibáñez de Ibero 3  
28003 Madrid

F: 34 91 597 9616

[fvidal@mfom.es](mailto:fvidal@mfom.es)**NATIONAL COMMITTEE****President:** José A. CANAS-TORRES**Vice-President:** Ricardo VIEIRA**Secretary General:** Francisco VIDAL SÁNCHEZ**NATIONAL CORRESPONDENTS OF THE ASSOCIATIONS**

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**IGA:** Alicia GARCÍA

**IAMAS:** Manuel GIL  
**IAHS:** Emilio CUSTODIO  
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**SWEDEN - SUEDE**

**Adhering Organization**  
 Royal Swedish Academy of Sciences  
 104 05 Stockholm 50

**NATIONAL COMMITTEE**  
**President:** Goran MARKLUND  
**Secretary:** Birna OLAFSDOTTIR

**NATIONAL CORRESPONDENTS OF THE ASSOCIATIONS**

**IAG:** Lars E. SJOBERG  
**IASPEI:** Roland ROBERTS  
**IAVCEI:** Sune SVANBERG  
**IGA:** Birna OLAFSDOTTIR

**IAMAS:** Michael TJERNSTRÖM  
**IAHS:** Sten U. BERGSTRÖM  
**IAPSO:** Johan RODHE

## **SWITZERLAND – SUISSE**

### **Adhering Organization**

Académie Suisse des Sciences Naturelles  
 Bärenplatz 2  
 CH-3011 Berne

### **NATIONAL COMMITTEE**

**President:** H.C. (Huw) DAVIES  
**Secretary:** Martin FUNK

## **NATIONAL CORRESPONDENTS OF THE ASSOCIATIONS**

<b>IAG:</b>	Dieter SCHNEIDER	<b>IAMAS:</b>	Huw C. DAVIES
	Alain GEIGER		Peter BINDER
<b>IASPEI:</b>	Edward KISSLING	<b>IAHS:</b>	Martin FUNK
	Thomas KOHL		Rolf WEINGARTNER
<b>IAVCEI:</b>	Peter ULMER	<b>IAPSO:</b>	Thomas STOCKER
<b>IAGA:</b>	Pierre-André SCHNEGG		
	Peter WURZ		

## **THAILAND - THAILANDE**

### **Adhering Organization**

National Research Council of Thailand  
 196 Phaholyothin Road  
 10600 Bangkok

### **NATIONAL COMMITTEE**

**President:** Prasat BURINWATTANA  
**Secretary:** Thawatchal KHAYANSAMIRUAT

## **NATIONAL CORRESPONDENTS OF THE ASSOCIATIONS**

<b>IAG:</b>	Prasat BURINWATTANA	<b>IAMAS:</b>	Wanchai SALATHULTHAT
<b>IASPEI:</b>	Wanchai SALATHULTHAT	<b>IAHS:</b>	Chiraphandh ARTHACHINDA
<b>IAVCEI:</b>	Preecha LAOCHU	<b>IAPSO:</b>	Vichai CHANTAN
<b>IAGA:</b>	Prasat BURINWATTANA		

**TURKEY - TURQUIE****Adhering Organization**

Ministry of National Defense  
 General Command of Mapping  
 06100 Dikimevi, Ankara  
<http://www.hgk.mil.tr>

**NATIONAL COMMITTEE**

**President:** Bahtiyar TÜRKER  
**Vice-President:** E.Ömür DEMIRKOL  
**Secretary:** Onur LENK

**NATIONAL CORRESPONDENTS OF THE ASSOCIATIONS**

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<b>IASPEI:</b> Mustafa GUNAY	<b>IAHS:</b> Yalçın DIKMEN
<b>IAVCEI:</b> Ahmet TÜRKECAN	<b>IAPSO:</b> Ahmet TÜRKER
<b>IAGA:</b> Cemal GÖÇMEN	

**UNITED KINGDOM OF GREAT BRITAIN  
 ROYAUME UNI DE GRANDE BRETAGNE****Adhering Organization**

The Royal Society  
 6 Carlton House Terrace  
 London SW1Y 5AG

T: 44 (0) 20 7451 2589                    F: 44 (0) 20 7451 2692  
[ruth.cooper@royalsoc.ac.uk](mailto:ruth.cooper@royalsoc.ac.uk)

**NATIONAL COMMITTEE**  
**Chairman:** David COLLINS  
**Secretary:** Michael KENDALL

**NATIONAL CORRESPONDENTS OF THE ASSOCIATIONS**

<b>IAG:</b> Alan H. DODSON	<b>IAMAS:</b> Julia SLINGO
<b>IASPEI:</b> Michael KENDALL	<b>IAHS:</b> Bruce WEBB
<b>IAVCEI:</b> Nick PETFORD	<b>IAPSO:</b> John SIMPSON
<b>IAGA:</b> Alan RODGER	

## UNITED STATES OF AMERICA - ETATS UNIS D'AMÉRIQUE

### **Adhering Organization**

National Academy of Sciences  
 Office of International Affairs  
 2101 Constitution Avenue, N.W.  
 Washington DC 20418  
 F: 1 202 334 2231

[sspauldi@nas.edu](mailto:sspauldi@nas.edu)

<http://www.nas.edu>

### **NATIONAL COMMITTEE**

**Chairman:** David D. JACKSON  
**Vice-Chairman:** Kevin FURLONG  
**Secretary:** A.F. SPILHAUS  
**Staff Liaison:** Scott SPAULDING

## NATIONAL CORRESPONDENTS OF THE ASSOCIATIONS

**IAG:** Thomas A. HERRING  
**IASPEI:** Kerry SIEH  
**IAVCEI:** John J. MAHONEY  
**IAGA:** Daniel N. BAKER

**IAMAS:** Keith SEITTER  
**IAHS:** Hugo LOAICIGA  
**IAPSO:** Mark LUTHER

## **VENEZUELA**

### **Adhering Organization**

Instituto Geográfico de Venezuela Simón Bolívar (IGVS)  
 Av. Este 6, Edif. Camejo, Esq. Camejo  
 Centro Simón Bolívar-El Silencio  
 Caracas 1010

Coordinator of International Cooperation: Lic. Marlys Garcia SANDOVAL  
 T: 58 (212) 408 4836 F: 58 (212) 545 0374

[mgarcia@igvsb.gov.ve](mailto:mgarcia@igvsb.gov.ve)

### **NATIONAL COMMITTEE**

**President:** Romer MENA NAVA  
**Secretary:** Napolean HERNANDEZ  
**Members:** Angel DAAL, Gloria GONZALES

## NATIONAL CORRESPONDENTS OF THE ASSOCIATIONS

**IAG:**  
**IASPEI:**  
**IAVCEI:**  
**IAGA:**

**IAMAS:**  
**IAHS:**  
**IAPSO:**

## VIETNAM

**Adhering Organization**

Institute of Geophysics

National Center for Natural Science and Technology of Vietnam (VNNCST)

Hoang Quoc Viet, Cau Giay, Hanoi

T: 84 4 756 4380

F: 84 4 836 4696

[xuyen@igp.nest.ac.vn](mailto:xuyen@igp.nest.ac.vn)

**NATIONAL COMMITTEE**

**President:** Dinh Xuyen NGUYEN

**Secretary:** Van Giang NGUYEN

**Contact Person:** Prof. Nguyen Dinh XUYEN

### NATIONAL CORRESPONDENTS OF THE ASSOCIATIONS

<b>IAG:</b>	Hung Vo DANG	<b>IAMAS:</b>	Cong Thanh NGUYEN
<b>IASPEI:</b>	Dinh Xuyen NGUYEN	<b>IAHS:</b>	Cong Thanh NGUYEN
	Dinh Trieu CAO		
<b>IAVCEI:</b>	Trong Hue TRAN	<b>IAPSO:</b>	Cong Que BUI
<b>IAGA:</b>	Chau Ha DUYEN		
	Thi Kim Thoa NGUYEN		

**FEDERAL REPUBLIC OF YUGOSLAVIA**  
**RÈPUBLIQUE FÉDÉRATIVE DE YUGOSLAVIE**

**Adhering Organization**

University of Belgrade

Faculty of Civil Engineering

B. Revolucije 73/1

YU-11000 Beograd

**NATIONAL COMMITTEE**

**President:** Miroslav STARCEVIC

**Secretary:** Ivana VASILJEVIC

### NATIONAL CORRESPONDENTS OF THE ASSOCIATIONS

<b>IAG:</b>	Ivan ALEKSIC	<b>IAMAS:</b>	Mladen CURIC
<b>IASPEI:</b>	Branislav GLAVATOVIC	<b>IAHS:</b>	Zoran M. RADIC
<b>IAVCEI:</b>	Dragan MILOVANOVIC	<b>IAPSO:</b>	Dusan SLAVIC
<b>IAGA:</b>	Desanka SULIC		

**Please note.**

In compliance with the EU General Data Protection Regulation, the address data on pages 91-197 have been removed from the digital edition of the IUGG Yearbook 2003.

## LIST OF ACRONYMS

ABLOS	Advisory Board on Hydrographic, Geodetic and Marine Geo-Scientific Aspects of the Law of the Sea
AGU	American Geophysical Union
BGI	International Gravimetric Bureau
BIPM	Bureau International des Poids et Measures
CODATA	Committee on Data for Science and Technology
COPSSAR	Committee on Space Research
COSTED	Committee on Science and Technology in Developing Countries
EGS	European Geophysical Society
EMSEV	IASPEI/IAGA/IAVCEI Inter-Associations Commission on Electromagnetic Studies of Earthquakes and Volcanoes
FAGS	Federation of Astronomical and Geophysical Data Analysis Services
GALOS	Geodetic Aspects of the Law of the Sea
GOOS	Global Ocean Observing System
GTF	Geophysics: The Future, Inter-Associations Working Group
IAG	International Association of Geodesy
IAGA	International Association of Geomagnetism and Aeronomy
IAHS	International Association of Hydrological Sciences
IAMAS	International Association of Meteorology and Atmospheric Sciences
IAPSO	International Association for the Physical Sciences of the Ocean
IASPEI	International Association of Seismology and Physics of the Earth's Interior
IAU	International Astronomical Union
IAVCEI	International Association of Volcanology and Chemistry of the Earth's Interior
IBN	International Biosciences Networks
ICET	International Council of Earth Tides
ICSU	International Council for Scientific
IERS	International Earth Rotation Service
IGBP	International Geosphere-Biosphere Programme
IgeS	International Geoid Service
ILP	International Lithosphere Program
IPGH	Instituto Panamericano de Geografia Historia (also PAIGH)
ISGI	International Service of Geomagnetics Indices
IOCA	International Civil Aviation Organization
IUGG	International Union of Geodesy and Geophysics
IUGS	International Union of Geological Sciences
PAIGH	PanAmerican Institute of Geography and History

**LIST OF ACRONYMS (continued)**

PSMSL	Permanent Service for Mean Sea Level
SCAR	Scientific Committee on Antarctic Research
SCL	Scientific Committee on the Lithosphere
SCOPE	Scientific Committee on Problems of the Environment
SCOR	Scientific Committee on Ocean Research
SCOSTEP	Scientific Committee on Solar-Terrestrial Phycis
SCOWAR	Scientific Committee on Water Research
SEDI	Study of the Deep Interior of the Earth
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
URSI	Union Radio Scientifique Internationale
WCRP	World Climate Research Programme
WDC	World Data Centre
WGMS	World Glacier Monitoring Service
WMO	World Meteorological Organization