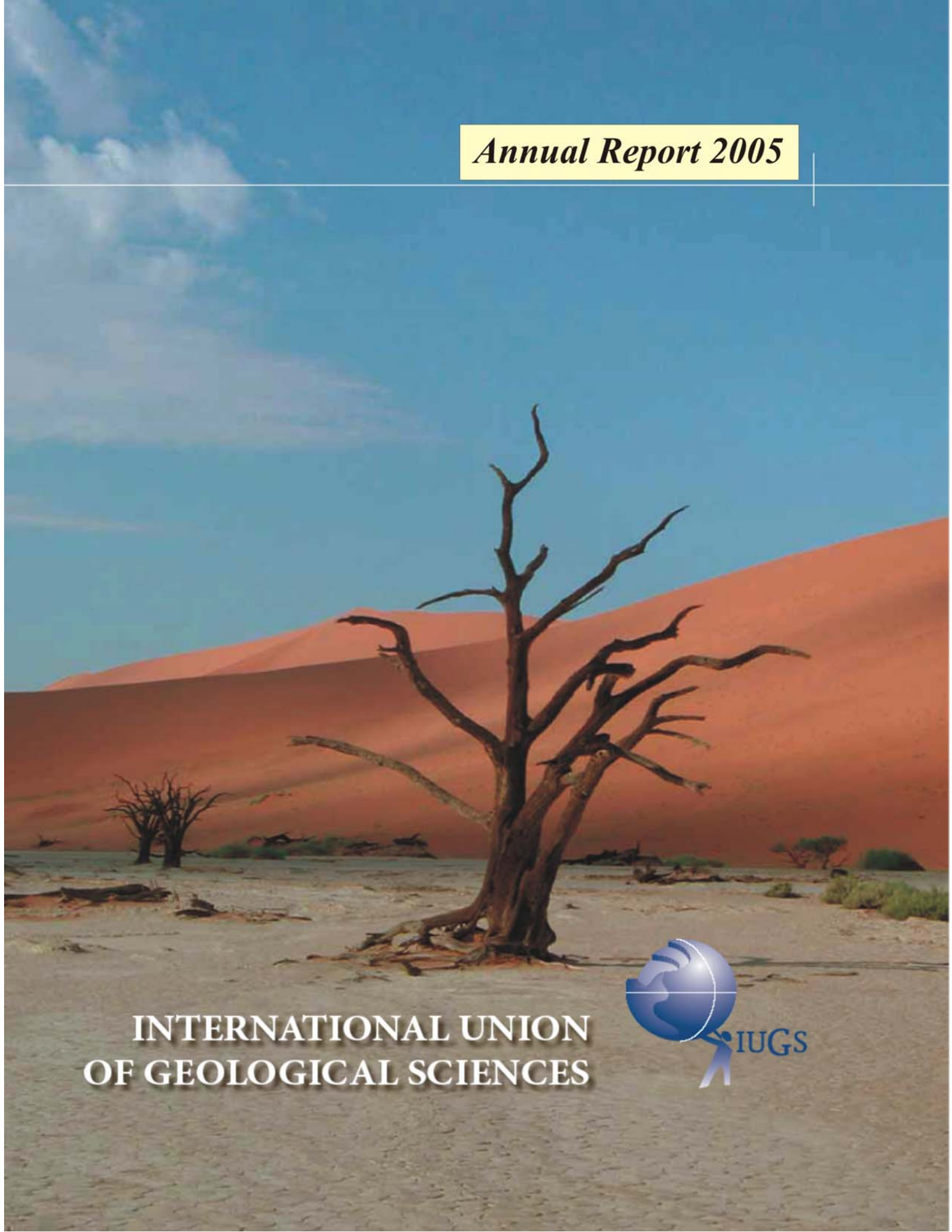
Annual Report 2005



INTERNATIONAL UNION OF GEOLOGICAL SCIENCES

IUGS

About the Front Cover

“Dead Pan at the end of the Tsauchab River, Namib Desert, Namibia”
The Tsauchab River is an ephemeral drainage that rises out of the Naukluft Mountains in the east and cuts westwards across the Namib Desert to end in the terminal pans within the main Namib Sand Sea. In recent geological history, the northward migrating dunes of the main Namib Sand Sea have blocked the middle reaches of the river forming impressive pans. The pans are composed largely of calcareous silts. Gravels characteristic of the catchment are exposed amongst the dunes to the west of the pans, indicating earlier extensions westwards to the Atlantic Ocean. In places, the silts of these former extensions harbour fossilised shells of freshwater gastropods. Run-off down the Tsauchab River is dependent on summer rainfall in the catchment area – an extremely variable factor in this marginal zone east of the Namib Desert. Remnants of former pans, such as Dead Pan can be found to the south, as well as to the west of the present active pan. Dead trees in these former pans gave a radiocarbon date of about 900 years before present, and are proof that water reached these parts during that time (Photo courtesy of Gabi Schneider).

INTERNATIONAL UNION OF GEOLOGICAL SCIENCES

Annual Report 2005

Contents

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Please note that a list of acronyms used in the report is given in Appendix 9, at the very end of the document, together with the Internet address of the organizations.

Foreword

This Annual Report of the International Union of Geological Sciences (IUGS) covers activities in 2005, an unusual year in the history of IUGS. Because of serious financial difficulty, UNESCO had to take restructuring measures and the Earth Science Division was terminated. As a result, the International Geoscience Programme (IGCP), a long-term program of UNESCO and IUGS faced substantial budget cut. The impact for IUGS was unprecedented and the actual consequence may be even greater, considering the indirect impact through the International Council of Science (ICSU).

IUGS has grown in membership, in number of affiliated organisations and public outreach initiatives, and in its ability to generate financial support for international science projects. The work of the new Executive Committee has started to build on the progress of earlier executive committees, including addressing the Statutes and Bylaws, IUGS-International Geological Congress (IGC), Strategic Plan and the International Year of Planet Earth (www.yearofplanetearth.org). The Union continues to unite the global geological community in: (a) Promoting development of the geoscience through the support of broad-based scientific studies relevant to the entire Earth-System; (b) Applying the results of these and other studies towards preserving Earth's natural environment, using all natural resources wisely, and improving the prosperity of nations and the quality of human life; and (c) Strengthening public awareness of geology and promoting geoscience education.

The strength of IUGS as a member of the International Council of Science (ICSU) is its broad coverage of geoscience fields under one umbrella, and its function as a forum for geoscientists acting to exchange ideas, develop scientific standards, and for the communication of geoscience information. Our links with other ICSU unions complies with the Mid-Term Vision and Strategic Action Plan for the International Union of Geological Sciences (http://www.iugs.org). IUGS is uniquely positioned to challenge and prompt and organize the world geological community to address the global research problems that require the collaboration of many disciplines as well as many countries. The challenge is to prompt and organize the global geoscience community and find socially and scientifically relevant and challenging collaborative projects.

International Year of Planet Earth

By Eduardo F. J. de MULDER
Past President of IUGS (2000-2004)

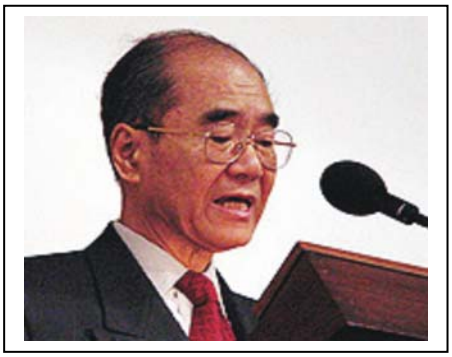
The International Year of Planet Earth (subtitle: Earth Sciences for Society) is an IUGS/UNESCO initiative aiming to demonstrate the great potential of the Earth Sciences in the building of a safer, healthier and wealthier society. The focus of the International Year is both on science and outreach so that society would apply geoscience knowledge more effectively in the future. After hard preparatory work by the Management Team, in April UNESCO's Executive Board adopted a Resolution by the United Republic of Tanzania to proclaim an International Year of Planet Earth, followed by its General Conference in October. On December 22nd, 2005, the United Nations General Assembly proclaimed 2008 as the International Year of Planet Earth, committing all 191 UN member countries to report on implementation of the goals and ambitions of the International Year. The International Year is a three year event (2007-2009) with the UN Year placed in the centre.

Until 2004, most of the international geoscientific organisations already expressed their support to the International Year of Planet Earth. In 2005, practically all other such bodies followed. As a result, 12 Founding Partners and 26 Associate Partners in the International Year were identified. In addition, plans were being developed to launch national committees for the Year in several countries. Japan was the first nation that launched such a national committee, already in 2005.

In 2005, the Science Programme of the Year was completed by the production of 10 science theme brochures. The first Expressions of Interest for the 10 science themes (Groundwater, Hazards, Health, Climate, Resources, Megacities, Deep Earth, Oceans, Soils, and Earth and Life) were received. Also the Outreach Programme received the first EoI's and plans were developed to make the International Year 'The Greatest GeoShow on Earth'. Flyers were produced in 6 languages and disseminated in particular among the UN diplomats aiming to collect their support for the initiative.

One of the highlights in 2005 for the International Year, but also in the international geoscience community at large, was the signing of the 'Celimontana Declaration' stating that all (geo-)science years (eGY, IPY, IHY and the International Year of Planet Earth) will jointly approach the public and will cooperate wherever possible. The first steps toward these goals were set by linking the websites and by advertising this cooperation in the new IUGS/ICS/International Year poster display

For the first time ever, the Earth Sciences gained world wide political attention and support. Through partnerships the entire international geoscience community support the International Year. It is our joint task to make this Year a complete success. All geoscientists are therefore invited to support the International Year, for example by assisting their national committees, or by developing such committees if they are not yet in place. We anticipate that at least 40 such committees will emerge in 2006 and 2007. Moreover, you are invited to submit project proposals on the 10 science themes of the year and to suggest outreach activities. Geoscientific organisations (such as Geological Surveys, Geological Societies, *et cetera*) are invited to express their support to the Year through partnerships.



All publicly available information can be downloaded from www.yearofplanetearth.org

Koichiro Matsura (Director General, UNESCO):
"Wish you well in your deliberations"
(Image source: http://www.esfs.org/)

Reports from the Executive Committee

THE INTERNATIONAL COUNCIL FOR SCIENCE (ICSU)

By Zhang HONGREN
President of IUGS 2004-2008

The International Council for Science (http://www.icsu.org), formerly known as the International Council of Scientific Unions (ICSU), was founded in 1931 to be the umbrella organization for the different unions in each scientific discipline. There are now almost 30 of these, including the seven Earth science related unions: the International Union of Geological Sciences (IUGS), the International Union of Geodesy and Geophysics (IUGG), the International Geographical Union (IGU), the International Union of Soil Sciences (IUSS), the International Union for Quaternary Research (INQUA), the International Astronomical Union (IAU) and the International Society for Photogrammetry and Remote Sensing (ISPRS). Much of ICSU's funding comes from its national members that are commonly the National Academy of Sciences for a given country.

ICSU has found a very useful niche in today's post-Cold War period. Together with its unions, it acts as the main representative and facilitator of international science. ICSU serves the scientific world and the general public in several areas:

1) Forming standing scientific committees that cross union disciplinary boundaries in order to encourage research and scholarship in those areas that require a multidisciplinary approach. Examples include Polar Regions, oceans and the environment. Large international interdisciplinary programmes launched by ICSU include the International Geosphere-Biosphere Programme (IGBP; http://www.icsu.org) and DIVERSITAS.

2) Acting as a lighthouse in the enforcement of freedom of access for all scientists to international meetings, workshops, and visits; and listing behavioural standards of scientific ethics.

3) Capacity building, especially in developing countries, by working with its unions to ensure that scientists in developing countries are included in projects, made aware that they can contribute, and are not left out.

4) Issuing position statements on topics that are controversial to some, but in which scientists have a firm opinion. Examples of this are the topics of "creationism" which has recently morphed into "intelligent design", and genetic engineering.

5) Conducting a small but useful cross-disciplinary grants programme, funded mainly by UNESCO, in which ICSU's unions and scientific committees can apply for up to US $100,000. Grants usually involve several unions and/or scientific committees, and the topics chosen are of societal importance.

6) ICSU increasingly finds UNESCO as a partner in such activities as the World Science Conference in Budapest several years ago, and the Sustainability Meeting in Johannesburg, 2001. These large meetings show the decision-makers and the press the increasing relevance science has to today's problems.

As a result of the change in the funding policy of UNESCO and the loss of ICSU income due to the exchange rate, the ICSU Grants Programme was significantly reduced in 2005. Despite a US$ 10 million budget, there was no funding for grants. This announcement was not well received and there was considerable opposition from ICSU Unions.

As a result of the recent cooperation between the geoscientific unions in ICSU, many issues were discussed and common stances were taken in preparation of ICSU's General Assembly in Shouzhou, China, in October 2005. Among these were the cooperation in the science themes of the International Year of Planet Earth, the nomination of members in ICSU's Executive Board and the criticism of the ICSU report on Natural Hazards. Other results include that IUGS intends to investigate the possibility of a GeoUnions Clearing House for publications. GeoUnion Secretary Generals will generate a Mission Statement and Terms of Reference. IUGG has written a statement on the lack of transparency within ICSU to be tabled to ICSU EB on behalf of the GeoUnions. ISPRS to launch collective new Polar

GeoUnion Theme targeted specifically on participation in IPY, with each GeoUnion appointing a representative.

IUGS / IGC UPDATE – STATUTES AND BYLAWS

By Eldridge Moores

(Vice President)

Following the recommendations of the IUGS Strategic Planning Committee report in 2000, the IUGS-IGC Councils suggested that the Union and International Geological Congress (IGC) develop a much closer relationship. The IUGS Council and IGC General Assembly were officially combined in August 2004 at the 32nd IGC in Florence, Italy. The combined body is the IUGS/IGC Council. The advantages of this combination will be a clear and simple representation of the global geological community by a unified body and a more effective management of both IUGS and IGC.

The newly established joint Council of IGC and IUGS requested in Florence to combine and "streamline" the existing statutes and byelaws for IGC and IUGS. It was agreed to form a special Task Group to address this issue. The Task Group consists of Eldridge Moores and Alberto Riccardi appointed by the Executive Board of IUGS and Arne Bjorlykke and Jacques Charvet appointed by the IGC Steering Committee; Wolfgang Eder was collectively appointed as Chair since he had no previously held direct position in either IUGS or the IGC.

In 2005, steps were taken by the Task Group to address conflicting passages from the new Definitions, Statutes and Bylaws for IGC and IUGS. Changes to Definitions; Statutes Aims, Objectives and Fiscal Policy; Working Structure of the Union, Council, Nominating Committee and Affiliated Organisations were recommended. In the Bylaws section, slight changes were made to sections on the Executive Council, The Officers, The Nominating Committee and Commissions of the Union. The first draft of the new Definitions, Statutes and Bylaws will be critically reviewed by the IUGS and IGC early in 2006.

NEW IMAGE AND ACTIVITIES OF IUGS

By Peter Bobrowsky
(IUGS Secretary General)

Activities related to IUGS in the office of the Secretary General proved challenging during 2005. The IUGS Bureau managed the day-to-day activities of the Union, and met on several occasions (Paris in February, Vilnius in March, Vancouver in June, Trondheim in July, and Beijing in October). The full team of IUGS is now working smoothly and efficiently as it moves into the second year of cooperation.

Four high profile events dominated much of the year, in particular the Indian Ocean tragedy, elements surrounding the IGCP (and termination of the Earth Science Division in UNESCO), the International Year of Planet Earth and the Permanent Secretariat.

The December 2004 earthquake and tsunami in the Indian Ocean basin occupied IUGS from a number of perspectives. In January 2005, IUGS participated in the World Congress on Disaster Reduction in Japan in a session sponsored by the ICL (International Consortium on Landslides) in Kyoto. At this meeting, IUGS recommended GeoUnions share responsibilities in a new initiative on Hazards to be launched by ICSU.

The focus of all IGCP-related efforts has been to preserve the program, assist in the transition to a new identity and enhance IUGS presence and contribution towards the new IGCP. Since the Paris meeting in February 2005, IUGS has worked aggressively to keep IGCP alive through issuance of communiqués, special Bureau meetings, etc.

Another challenging issue has been the liaison and maintenance of the International Year of Planet Earth via the Management Team. Progress in the Year has been exceptional. IYPE passed a critical stage in 2005 obtaining all levels of political approval and recognition. The final most pressing concern was the issue of the Permanent Secretariat in Trondheim, Norway. The future of the Permanent Secretariat was discussed at meeting with the Norwegian National Committee for IUGS in Trondheim in May 2005.

Miscellaneous efforts included IUGS liaison with the IUGS Grant leaders (CGI and IPA); collaboration with the other GeoUnions within ICSU; promoting membership and membership upgrades to country representatives and increasing our presence in Africa (via upcoming Bureau meeting in Morocco; potential integration of the African Association of Women Geoscientists and participation in the Maputo regional conference on geology); and dealing with Publication related concerns via the PC and Episodes.

The new image of IUGS

The new IUGS logo represents a person accepting the burden of responsibility for the Earth. A large full-colour panel display now highlights IUGS' journal, Episodes, and the many activities and Affiliated Organisations in IUGS. The new IUGS display was unveiled at the Geological Society of America annual meeting in Salt Lake City October 2005. The booth gave visibility to IUGS, the 33rd IGC and the International Planet Earth Year. Dr. Gabi Schneider's photo of the deadpan dunes attracted a lot of attention (front cover of this IUGS Annual Report). Many organizations and individuals visited the booth expressed their thanks for the presence of IUGS, the IYPE Initiative and IGC 33.

As a supplement to this panel display, IUGS now has a small information flyer that is widely distributed both at meetings and by mail when the opportunity arises. Perhaps the most successful and important avenues for information dissemination and visibility enhancement is the restructured IUGS website (http://www.iugs.org) which is regularly updated and cross-linked with a number of other important geoscience websites. The website remains IUGS' most critical modern link to the outside world.

IUGS continues to support the educational importance of the geosciences, for example through activities with IGEO, facilitating cooperation amongst individuals, organizations and groups involved in the promotion and preservation of our geological heritage. IUGS is instrumental in the launching of the UNESCO International Year of Planet Earth (2007-2009), described \in detail elsewhere in this Annual Report.

"Corporate accountability" is maintained through the publication of the Annual Report and Minutes of the Executive Committee Meeting. These formal documents create a more professional and structured image to non-geologists and are welcomed by government politicians and bureaucrats, non-geological organizations and societies. In 2005, the Annual Report for 2004 was released as a digital file downloadable on the IUGS homepage.

The release of electronic Bulletins to its Adhering Organisations, scientific bodies and Affiliated Organisations has been widely lauded. These short, informal "news bites" briefly convey the activities and accomplishments within the Union and are meant to keep others abreast of changes and events in the community at large. The IUGS Permanent Secretariat distributed five e-Bulletins (Numbers 9–13) in 2005 and they were sent to over 2,000 addresses. The issues have been partly thematic, partly a collection of different small news, with the most popular one being Bulletin #12 focusing on IYPE (written in collaboration with Edward Derbyshire).

Collectively, the accomplishments and efforts summarized above indicate that the Executive Committee is proactive and striving to meet the demands and needs expressed by the members. Great achievements have been made in the past few years, although much more work and time is required to fully benefit from these changes. We trust that those who have experienced any of the above support our philosophy.

IGCP UPDATE

By Sylvi Haldorsen (Vice-President) and Eduardo de Mulder (Past President)

IUGS and UNESCO jointly initiated the International Geological Correlation Programme in 1972 with the aim of providing funding for promoting research in the Earth sciences. The current objectives of IGCP are to increase understanding of the environment, to assist in the improvement of human welfare, to establish better methods for finding and assessing the natural resources of the world, to further our understanding of geological processes and to improve research methods and techniques in the geosciences.

Because of serious financial difficulty, UNESCO had to take restructuring measures and the Earth Science Division was merged into the Division of Ecological and Earth Sciences, late in 2004. As a result, IGCP, the joint program of UNESCO and IUGS, with continuous remarkable success in more than 30 years was faced with a substantial budget cut. This situation created a major storm in the geoscience community.

In an attempt to mitigate the setbacks, IUGS and UNESCO launched an Ad Hoc Committee, chaired by Past President Eduardo de Mulder. That committee explored options for increasing the budget from other resources, including IUGS, and for reducing costs. Through this action and successive follow-up actions mainly by IUGS and UNESCO bodies, the initial budget cuts could be addressed, approximately to pre-2004 levels. Moreover, several structural modifications in the IGCP Programme were proposed. These included making IGCP more relevant to society by giving special attention to themes as Hazards, Groundwater, Sustainable Development, Health, Climate Change, Ecosystem and Biodiversity. However, fundamental research will maintain within the IGCP funding realm. The current system of Working Groups is proposed to be replaced. Along another line, the IGCP Scientific Board also produced a plan for reformation. Both plans were discussed in IUGS and UNESCO in the last few months of 2005, leading to a transition period of a new IGCP in 2006.

TREASURER'S REPORT

By Antonio Brambati (Treasurer)

Briefly, the financial situation of IUGS in 2005 saw an accumulated balance in December of US$ 729,526.81, with an income of US$ 573,737.51 covering expenses of US$ 528,957.16 to a positive balance of US$ 44,780.35.

IUGS expenditures often do not reflect the real costs. Our annual contribution of USD 23,000 to EPISODES for editing, lay-out, printing and distribution, is relatively small in comparison with the actual costs incurred by the Chinese Ministry of Land and Resources which hosts the Journal. The same holds true for the costs related to IUGS meetings, which are covered, at least in part, by the countries hosting such meetings and for a very substantial part by the Parent Organisations of the Bureau members (President, Secretary-General and Treasurer and their supporting staff) which covers salary and all their travel costs. These forms of support save IUGS at least an estimated USD 100,000 per year. A comparable amount is further saved by IUGS having been given the continuous generous contribution of the Norwegian government to fully financially support the IUGS Permanent Secretariat in Trondheim. IUGS is extremely grateful to the Chinese, the Norwegian, the Canadian and the Italian governments for this generous support that enables the Union to invest significantly more in science development than would be otherwise possible.

Publications from IUGS

By Godfrey S. Nowlan
(Chair, IUGS Publications Committee)

A formal agreement between IUGS and the Geological Society of London (GSL) has been in effect since April 2003 for the publication of books arising from the work of IUGS bodies. Under this agreement, proposals for new books and monographs have been submitted to GSL. A total 15 books are currently accepted under the agreement. Four of these directly result from IUGS programs and, when published, will provide modest royalties to IUGS. The remainder are the result of GSL actively seeking out leaders of sessions at the IGC in Florence in 2004. The manuscript for two of these, one on Cold-Water Carbonates and the other on Geomaterials in Cultural Heritage, have been received and publication is due in 2006. IUGS will receive royalties from GSL for IUGS publications and a finder's fee for those IGC sessions that result in GSL publications.

The Publications Committee is currently operating under the new Memorandum of Understanding established between IUGS and the China Ministry of Land and Resources signed in Beijing in April 2004 and covering the period of 2005-2008. Professor Zhenyu Yang a professor in the Department of Earth Sciences at Nanjing University has been appointed as the new editor. The PC continues to have close communication with the staff working on Episodes. As an on-going commitment, the Chair looks over the proofs for each issue and provides feedback on the content. The Chair has also been providing critiques of the brochures prepared for the International Year of Planet Earth.

The PC has been addressing the suggestion that Episodes be placed on line. In order to position the journal for on-line publishing, there are several steps required. IUGS needs to establish whether or not expertise exists within the Episodes staff to effect the transition to a web-based journal. At a minimum, we need to create PDF Normal files of all our articles. Another major step is deciding on the access control system and whether or not a print subscription entitles the subscriber to the on-line version. There is also need to organize subscriber list in a way that allows ready access by e-mail and make arrangements to visit the site.

In March 2005, the PC met in Vilnius, Lithuania to deal with current business and also to discuss possible paths to the future. In 2004, the IUGS Executive Committee had expressed divided opinion on the need for a Publications Committee (PC) in the future. The argument of those opposed to the PC was that the new agreement with the Geological Society of London covered all the requirements for Union publications. Others thought that there was value in having a fully functioning PC. Following extensive discussions, the PC members assembled in Lithuania saw several potential roles for the committee that they thought could have importance for the future of IUGS. This was presented to the EC in Vilnius and received general support. However, following the 2005 meeting in Vilnius, the PC was reduced by two members. The Committee owes sincere thanks to Victor Mocanu (Romania) and Kaigala Subbarao (India) for their contributions to the PC over the past three years. In brief, these are outlined in the following table:

The Geological Society

Continuing Tasks	Proposed Future Roles
Continuous review of the publication policy and publication activities of the Union Monitor the status and quality of publications being produced under the MOU with GSL Review the quality of other (non GSL) IUGS publications Monitor the progress, publication schedule and content of Episodes Monitor the content of the IUGS website Review the MOU with GSL from time to time	Ensure publication of worthy IUGS material not selected by GSL • IUGS should facilitate publication of all IUGS projects • If not GSL, then either external or an internal electronic venue Develop an IUGS strategy on electronic publication • Apply to existing publications (Episodes) • Also apply to possible future ventures for IUGS Establish links with AESE, EASE and others in order to: • Represent IUGS publications better to the world • Promote publications from developing countries • Establish contacts with expertise that can help IUGS Establish better links with publications of IUGS affiliates to develop mutually beneficial programs • Advertising exchange • IUGS access to expertise • Access to new publishing venues for IUGS Advise on text content of IUGS brochures, advertising and displays Cooperate more closely with publications related to outreach activities of IYPE and IPY • Content, style, translation

IUGS – role, structure, membership

THE ROLE OF IUGS

The International Union of Geological Sciences is a member of the International Council of Science (ICSU; http://www.icsu.org) and has represented all geological scientists at the highest international level since its formation in 1961. Both fundamental research and applied aspects of the Earth sciences of an international and interdisciplinary nature are supported by the Union, through a number of Commissions, Task Groups and Initiatives, detailed below. IUGS collaborates with UNESCO (http://www.unesco.org) in supporting the International Geosciences Programme (IGCP), and also works with its Affiliated Organisations and with ICSU on topics of mutual interest. IUGS, which has 116 Adhering and 38 Affiliated Organisations, is the largest body within ICSU. IUGS keeps a non-political, and thus a non-governmental stance and is a non-profit making organisation.

STRUCTURE OF IUGS

The Council, which is the highest body of IUGS, meets every four years at the International Geological Congress, where the representatives of the active members vote on the direction the Union shall take in the next four years.

The Executive Committee comprises the ten elected Executive Officers of IUGS: (President, Secretary-General and Treasurer, the Past-President, two Vice-Presidents and four Councillors). The officers play an active role in running the Union, developing new science programmes, representing it at congresses, preparing the electronic-bulletin and acting on both standing and ad-hoc committees. The day-to-day work is carried out by the Bureau, comprising the President, Secretary General and Treasurer; these officers meet regularly throughout the year to discuss the progress of the various matters of concern and interest to the Union.

At the Council meeting in Rio de Janeiro (2000), it was decided that in order to expedite major decisions, the Council could be asked to vote electronically on matters submitted by the Executive Committee. This process was successfully used several times during the term of the last two Executive Committees.

Most of the present Executive Committee (Appendix 1) will serve until the 33rd IGC meeting in Oslo, Norway, in August 2008, but, as proposed in the Strategic Planning Committee, the two Councillors appointed in 2002 will remain in office until 2006, thus providing the Executive Committee with much needed continuity.

The Executive Committee is currently involved with the International Year of Planet Earth, which forms a major part of IUGS' plans to make both politicians and the community at large more cognisant of the significant role the Earth sciences can and should have in most large-scale planning decisions.

The Permanent Secretariat (Appendix 1) in Trondheim, which is generously funded by the Norwegian Government and based at the Norwegian Geological Survey, in Trondheim, is very important for the day-to-day operations of the IUGS, distributing to and collecting/collating documents from the Adhering Organisations. The Permanent Secretariat is also responsible for IUGS' archives.

The office of the IUGS Secretariat is located above the entrance to the Geological Survey of Norway (top left windows). Photo: NGU

Executive and Bureau Meetings in 2005

The 55th Executive Committee meeting was held in Vilnius, Lithuania in March 2005. A full list of Executive and Bureau meetings in 2005 is given in Appendix 1.

MEMBERSHIP OF IUGS

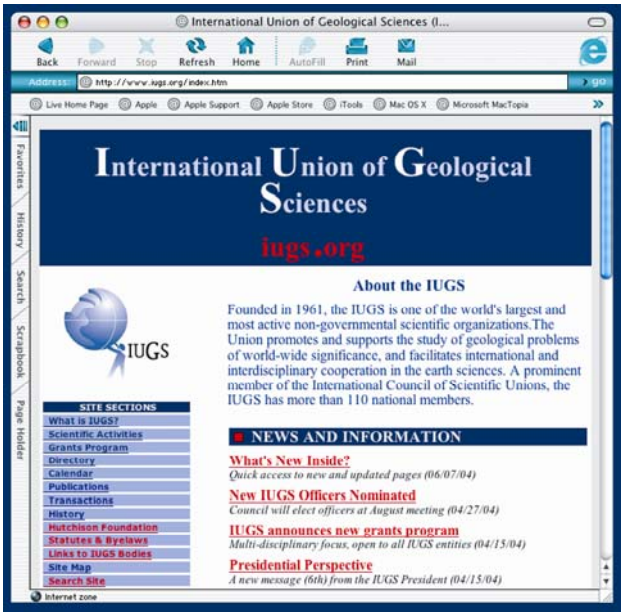
The Adhering Organisations of IUGS cover the majority geoscientists of the world. Appendix 2, gives a full list of the Adhering Organisations, together with their membership category and status during 2005. There are 77 active members and 40 inactive members, giving a total number of 117 adhering organizations (Appendix 2). Most Adhering Organisations and also most inactive Adhering Organisations lie within Category 1, with fewer members in the higher categories. There are only three Adhering Organisations in Category 8 (Japan, Russia and the USA), and relatively few countries in Category 7 (France, Germany, Italy, and the United Kingdom). Currently there are no Associate Members: KACST (Saudi Arabia) left in the summer of 2005, its last Associate Member.

In 2005, IUGS had two NEW Adhering Organisations: Latvia (Department of Geology of the University of Latvia) and Pakistan (PAGS of Pakistan on 2005 became a NEW IUGS Adhering Organisation, in category 1, instead of the Geological Survey of Pakistan that was Inactive for several years in category 2). Besides three Inactive Adhering Organisations became Active: Jamaica (Category 1), Greece (Category 2) and Bulgaria (Category 2).

Inactive Adhering Organisations must pay the Membership Fees for the previous two years as well as the current outstanding year (i.e., 2003-2005) in order to regain an active status. The Fees for 2003-2006 are given in Appendix 3. Members are classified as inactive if they have not paid for 3 years. Only those Adhering Organisations with an active status can vote on IUGS matters; inactive Adhering Organisations can participate as observers. Each category of membership has been assigned a number of units that acts as a multiplier of the basic unit of the Membership Fee (Appendix 3). The value of the unit follows the inflation rate based on the US Consumer Price Index CPI. In 2005, membership fee payments increased by a 2.0 % compared with the fee for 2004, giving a basic unit of US $ 469.

IUGS Website

A very considerable amount of information, including contact information, links to the Union's Committees, Commissions, Task Group, Initiatives and collaborative projects with UNESCO and ICSU, as well as copies of the minutes of recent Executive Committee and Council meetings, can be obtained from the IUGS homepage (http://www.iugs.org) which is run by the webmaster, John Aaron. The Union's quarterly journal, Episodes, also publishes much new scientific and general information stemming from IUGS; on-line back issues of the journal on-line are available for downloading at the journal's website (http://www.episodes.org).



IUGS Committees

Ad hoc Review Committee

Following the recommendation of the Strategic Planning Committee, the Executive Committee have made strenuous attempts to institute reviews of as many of the Committees and scientific bodies run by the Union as possible, during their term of office. In 2005, an Ad hoc Review Committee reviewed the International Commission on Stratigraphy. The Committee congratulated ICS for the important work it has done in promoting stratigraphic research. Main ARC recommendations were: 1) to establish a standing Advisory Committee on Stratigraphy or Stratigraphic Standards, to advise it on all stratigraphic matters, but exclusively with regard to the fulfilment of all legal procedural requirements of rules and procedures governing the establishment of international standards, 2) that ICS should be informed that all definitions on the International Stratigraphic Chart not formally approved by IUGS should be considered as having no official status.., 3) to request ICS to introduce changes, within the next six months, in its Statutes along several specified lines.. 4) All ICS official publications (i.e., those exhibiting the ICS logo) should be published according to the Statutes of IUGS and ICS, and in conformity with the provisions of the International Stratigraphic Guide. 5) IUGS must formally approve ICS official publications as far as compliance with constitutional requirements is concerned, although not as endorsement of their scientific or technical content. 6) New editions of the International Stratigraphic Guide should build on previous editions and in consultation with National and/or Regional Committees/Commissions on Stratigraphy. There was no decision taken by the EC with regard to the planned ARC on the Fossil Fuels Commission.

IUGS Grants Evaluation Committee

IUGS has established an internal grants program setting aside a maximum of US$ 50,000 per year to support this and to be shared amongst several in progress grants. The IUGS Grant Evaluation Committee comprises Zhang Hongren, Eduardo de Mulder, Peter Bobrowsky, Antonio Brambati, Eldridge Moores, Sylvi Haldorsen, along with two outsiders. In 2005, IUGS supported the GeoCrossBorder project from Poland (focusing on environmental geology) to the sum of US $19,000; this project will receive one more year of funding in 2006. IUGS put out a call for Expressions of Interest (EoI) and received 14 requests from IUGS Commissions, Task Groups and Committees, Affiliated Organizations and from Adhering Organizations. In the next stage, the Executive Committee will decide which EoIs to fund; and successful candidates will be invited to submit full proposals. Allocation of funding for three IUGS Grant Proposals has already been approved: 1) IPA (US$ 10,000, 2) IAGOD (US$ 10,000), and 3) CGI (US$ 10,000).

Nominating Committee

Eduardo de Mulder was appointed Chair of the Nominating Committee, by the IUGS Council in Florence. The Nominating Committee is responsible for making nominations for the positions on the Executive Committee. It becomes active if there are changes in the Executive Council, and will certainly be active before the next IGC Congress. The Nominating Committee proposed Sospeter Muhongo (Tanzania) to replace Henri Kampuzu, who passed away in 2004. Sospeter Muhongo is the current Chairman of IGCP and has a long-standing reputation in the IUGS family.

Publications Committee

The Publications Committee is charged with overseeing the material published directly or indirectly by IUGS. The PC had its annual meeting during the IUGS Executive Council Meeting in March 2005 in Vilnius, Lithuania. The Committee lost two members following a decision by the EC at this meeting, that the composition of the PC should be regularly changed, coinciding with appointment of a new EC. The current committee is therefore depleted and, while receiving helpful advice from the other members, the Chairman conducts most of the work at present. Current members are:

Godfrey Nowlan (Canada) – Chair
Fred Spilhaus (USA)
John Aaron (USA) *ex officio* IUGS Webmaster
Zhenyu Yang (China) *ex officio* Editor of Episodes

The Committee also keeps in close contact with John Aaron, Webmaster of the IUGS homepage. All geoscientists are advised to check the website regularly and to contribute to the Calendar of Forthcoming Events whenever the opportunity arises.

Scientific Activities of IUGS

The Union is scientifically active through a series of Commissions, Task Groups and Initiatives. IUGS is also active with UNESCO, through IGCP and in the Geological Applications of Remote Sensing (GARS) and the Mineral Resources Sustainability Project (MRSP) programmes. IUGS also collaborates with ICSU and IUGG in the Scientific Committee for the Lithosphere (SCL), which co-ordinates the International Lithosphere Programme (ILP). In these programmes, IUGS provides both financial support and scientific input. The results of these research activities are not only widely published, but also form a major part of the programme at the quadrennial IGC.

IUGS Commissions

Commissions undertake the main scientific work of the IUGS. Normally, a Commission lasts for two to three terms of the Executive Committee, after which it either regroups as a new Commission or is terminated.

Commission on Fossil Fuels (CFF)

This recently new Commission has evolved from the Task Group on Fossil Fuels and helps developing countries see how the region's fossil fuel deposits and the potential future supply are of vital importance for good resource management and sustainable economic growth. Natural resources can contribute to a region's economic growth and development but sadly can also lead to political strife, conflict and war.

In 2005, the CFF continued its efforts to promote geoscientific research in support of an effective exploitation of fossil fuels from environmental and resource management perspectives. CFF offers easy access to information on related geoscience issues and provides a forum for communication between countries and organisations within the fossil fuels field. Information on geo-intelligence methodology has been disseminated through the Web Portal (www.geointelligence.org). Current CFF membership has representation from 30 countries in the Americas, Europe, Asia and Africa. The IUGS allocation for 2005 was used for administrative and travel expenses. Other funds and support were obtained from the World Bank section of the Norwegian Ministry of Foreign Affairs, and the Norwegian Academy of Science and Letters. The French Embassies in Norway, Niger and Chad have supported the Central African Initiative, in cooperation with the Centre for the Study of Civil Wars (CSCW) at the International Peace Research Institute in Oslo (PRIO).

Commission for Geological Education, Training and Technology Transfer (COGE)

Spurred by the Executive Council's decision to develop a Commission on Education, Training and Technology Transfer, the Executive Committee spent much effort in developing such a body. In 2005, the Commission has completed the launch of its Website and will be promoting the site through COGE member's national organizations. COGE began assisting the International Geoscience Education Organization (IGEO) in undertaking a worldwide survey of the state of earth science education in schools and outreach education.

Commission for Geoscience in Environmental Management (GEM)

GEM, comprises 11 geoscientists presenting 11 countries, aims to provide guidance to geoscientists on how best to integrate geoscience into environmental policy and to communicate the concepts to potential interest groups such as policy makers, politicians, environmental organisations, scientists from other disciplines, and the general public. GEM builds on the excellent work of the former Commission on Geological Sciences for Environmental Planning (COGEOENVIRONMENT) that has completed its full term. GEM has developed its Terms of Reference, and in this attempt has attained precise objectives reached through Working Groups. Of special interest is the working group on International Borders-Geoenvironmental Concerns. Trans-boundary problems being a field in which international organisations are highly necessary.

For 2005, GEM reports that besides routine actions such as one Business Meeting, an active Website, GEM news (with a good broadcast of 300 recipients the world over), two main results are noticeable 1) Efficiency of the Working Groups who publish or disseminate the results of their activities, i.e., books for "Urban Geology" and "Geology and Ecosystems" and a workshop on Cross-Border Geoenvironmental Problems (in Nicaragua, December 2005) for the International Borders-Geoenvironmental Concerns Working Group, and 2) The organisation or active participation to seven Technical Meetings, mainly for capacity building purpose: GEM is now an unavoidable partner in this domain.

Commission on the Management and Application of Geoscience Information (CGI)

The aims of this Commission are to provide the means for exchanging knowledge on geoscience information and systems, to support the dissemination of best practices in geoscience information applications, to encourage the development of geoscience standards, to keep IUGS informed on geoscience information matters and to help bring interested bodies and persons together. CGI have well defined objectives and action plans, the leadership and council are dynamic and representative, outreach is excellent (flyers, website, etc.), and working groups are active. The Commission is lead by Kristine Asch (Kristine.Asch@bgr.de), Ian Jackson (Secretary; ij@bgs.ac.uk) and Max Fernandez (Treasurer; mfernandez@africamuseum.be). CGI made notable progress in 2005. The functioning of the Commission is efficient with two new council members from Russia and Africa (Namibia) and membership extended to 49 countries. A Council Meeting in Toronto focused on geoinformation, and was a good opportunity to set up closer relationships with IAMG (International Association Mathematical Geology). The Commission also maintains an updated and dynamic website (http://www.bgs.ac.uk/cgi_web/welcome.html)

Commission on Solid Earth Chemistry and Evolution (SECE)

The IUGS Council officially approved the reformulation of the Commission on Solid Earth Chemistry and Evolution (SECE) in August 2004 from the previous commission COPSCE (Physics and Chemistry of the Earth) and earlier CIMP (Commission on Igneous and Metamorphic Petrogenesis). SECE is a new commission comprising mostly younger researchers that aims to promote petrologic and geochemical investigation of the Earth's crust and mantle through organizing symposia, publishing proceedings of sponsored conferences; and supporting participation of young geologists in international conferences, symposia and workshops.

The highlight of 2005 was the great success of the IUGS-SECE Conference "The Origin, Evolution and Present State of Sub-continental Lithosphere" held at Peking University, Beijing, China, in June. A Special scientific volume resulting from the meeting was been organized for "Lithos." The volume is expected to include ~ 20 papers on the topic and will be published in 2006. Another success was "The Great Plume Debate: The Origin and Impact of LIPs and Hot Spots" held in Fort William, Scotland, UK, from late August to early September, co-sponsored by AGU and SECE. A special volume out of this conference has been organized for "Chemical Geology," although a date of publication is yet to be finalized. The IUGS-SECE website is soon to be completed (http://www.dur.ac.uk/sece/), and will be frequently updated in the future.

Commission on Systematics in Petrology (CSP)

This Commission (http://www.dmp.unipd.it/IUGS-CSP/IUGS-CSPindex.htm), chaired by Giuliano Bellieni (giuliano@dmp.unipd.it) with Raffaele Sassi as Secretary-General, seeks to provide a unified and standardised system of nomenclature for igneous, metamorphic and sedimentary rocks, in order to ease communication between geoscientists. A Sub-commission has been established for each of these three main branches of petrology. Close links are kept with other, related bodies, such as the Commission on the Management and Application of Geoscience Information (CGI), the Commission on New Mineral Names (part of IMA) and several IGCP Projects. The Commission aims to provide a unified and standardised system of nomenclature for igneous, metamorphic and sedimentary rocks in order to ease communication between geoscientists. A Sub-commission has been established for each of these three main branches of petrology. Close links are kept with other related bodies, such as the Commission on the Management and Application of Geoscience Information (CGI). Two Sub-commissions were active in 2005 (igneous and metamorphic) and work on a Website was started.

International Commission on the History of Geological Sciences (INHIGEO)

INHIGEO is a commission of both IUGS and the International Union on the History and Philosophy of Science (IUHPS), has 166 members in 40 countries, and 9 Honorary Senior Members, who receive the Commission's newsletter and may, if they wish, participate in INHIGEO activities, but have no formal obligations to the Commission. The overall objectives (studies in the history of geological sciences and publication of works on this subject) fit within the stated objectives of IUGS. The Commission attempts to be involved with other international projects such as the IUHPS. INHIGEO meets usually once each year to conduct a major symposium on the history of geology, produce an annual Newsletter and work with various publishing houses and journals, including EPISODES.

All objectives and strategies during 2005 were met. The Annual meeting, held in Prague, was a major success and led to plans for publication of selected papers in refereed journals having international distribution (Earth Sciences History and Centaurus). Several field trips were organised through Western Bohemia, into Moravia, and to the historic mining town of Kutna Hora. Production of

the guidebook was supported in part with funds from INHIGEO and IUGS. Editing of INHIGEO Newsletter No. 37 was distributed to approximately 200 members, representing 41 countries. With support from IUGS, and the constructive work of John Aaron, INHIGEO was able to communicate with a wide audience about their activities. In spite of the positive news coming out of 2005, because of the cutbacks, INHIGEO did not have any financial room to manoeuvre.

International Commission on Stratigraphy (ICS)

This Commission (http://www.stratigraphy.org) is charged with the important and complex task of establishing global stratotype sections and points (GSSPs) for the complete Earth's history. The ICS promotes and coordinates long-term international cooperation in a number of other related stratigraphic topics, is the largest and oldest body within IUGS. Felix Gradstein (felix.gradstein@geologi.uio.no) and James Ogg (jogg@purdue.edu) lead the Commission as Chairman and Secretary-General, respectively. It comprises fourteen Sub-commissions on Stratigraphy that determine where to fix the GSSPs defining the base of the Systems, Series and Stages (and thus the boundaries between) in the geological time-scale that comprise the stratigraphic column.

ICS maintains strong links with the NSF (USA) concerning the scientific database initiative CHRONOS (http://www.chronos.org), a multi-million dollar, 6-year developmental programme being considered. This aims to develop a global network of databases for Earth System history. This will link Life-through-Time, Climate-through-Time, Radiometric Ages, Palaeomagnetics, and the standard Geological Time Scale. ICS members also maintain active links with international research groups, including The (British) Micropaleontology Society, the North American Micropaleontology Society, and the Association of American Stratigraphic Palynologists, and international paleontological research groups on Graptolites, Conodonts, Ammonites, Radiolaria, Nannofossils, Foraminifera, etc.

In addition, there are many ICS stratigraphers involved with the Ocean Drilling Project (ODP). The standardization of the International Chronostratigraphic Scale (GSSP approvals) is ongoing. The new International Geologic Time Scale went to completion (GTS2004, published by Cambridge University Press). The entire time scale is illustrated by superior (colour) graphics at various scales, formats, and audiences. In addition to the main ICS website: **www.stratigraphy.org** most of the Sub-commissions have established websites that have placed an impressive amount of virtual information on geological time into the public domain.

Nearly all Sub-commissions of ICS publish regular newsletters or circulars of a high scientific calibre. ICS receives very little financial support from sources other than IUGS. ICS is internationally well linked and also very active concerning PR (e.g., launch of the Ediacaran and website). ICS has the mandate to have all GSSPs in place by the end of 2008, but the progress is not sufficient to date to meet this deadline. There is also the potential pitfall of doing things hastily, as for example appeared to have been done with the Ediacaran and Quaternary, where some researchers, particularly from Russia, Europe and North America, are not in agreement.

IUGS Initiatives

Geoindicators Initiative (GEOIN)

This Initiative (http://www.geoindicators.org) was a part of COGEOENVIRONMENT until 2002. Antony Berger (aberger@uvic.ca) and Jonas Satkunas (Jonas.Satkunas.lgt.lt) together with David Liverman (Geological Survey of Newfoundland) and John Ridgeway (BGS) lead this group. The Initiative's overall objective is to track and assess rapid geological change using the geoindicators approach.

The geoindicator concept has now entered the geological "lexicon", and applications have been developed in state-of-the-environment reporting, the management of parks and protected areas, assessing the environmental impacts of mining and quarrying, and in linking geology and human health issues. Twenty-seven geoindicators have been defined in a checklist format that represents a menu of core landscape indicators. These can be combined with other indicators (biological, climatic, even socio-economic) to construct a full picture of environmental condition and the stresses on ecosystems originating from both natural and human sources. Each geoindicator is described using a framework of sixteen different descriptors (Appendix 8).

The Geoindicators list comprises the following features: Coral chemistry and growth patterns; Desert surface crusts and fissures; Dune formation and reactivation; Dust storm magnitude, duration and frequency; Frozen ground activity; Glacier fluctuations; Groundwater quality; Groundwater chemistry in the unsaturated zone; Groundwater level; Karst activity; Lake levels and salinity; Relative sea level; Sediment sequence and composition; Seismicity; Shoreline position and morphology; Slope failure (landslides); Soil and sediment erosion; Soil quality; Stream flow; Stream

channel morphology; Stream sediment storage and load; Subsurface temperature regime; Surface displacement; Surface water quality, Volcanic unrest, Wetlands extent, structure and hydrology; Wind erosion.

The year 2005 was the last for the Geoindicator Initiative (GEOIN) under the umbrella of IUGS. A successor group was formed in September as a new working group of GEM entitled "Communicating Environmental Geoscience" (CEG), with David Liverman as Chairman. GEOIN represented IUGS in the final year of the ICSU-funded Dark Nature (DN) project, in which it has been a major component. Anthony Berger was an invited keynote speaker at the third DN meeting entitled "Holocene environmental catastrophes in South America: from lowlands to the Andes" in March 2005. Berger and Liverman co-chaired the fourth DN meeting, "Rapid Landscape Change and Human Response in the Arctic and Sub-Arctic," held in Whitehorse, Yukon Territory. Progress was made in revising and adding to the GEOIN website more entries to the Geoindicator Checklist, together with selected key images to illustrate geoindicator-related issues. The website, which is GEOIN's prime means of communication, will continue to be hosted by the Geological Survey of Lithuania.

GEOSEE

The main reason for creating GEOSEE in 2003 was that there was a myriad of concurrent activities demonstrating the value of geological heritage and the beauty of landscapes to the public and that these lacked any direct linkage to international geoscientific bodies such as IUGS and IGU. This was felt as a serious omission in IUGS, in particular as these were fine examples of geoscientific outreach which was high on the IUGS agenda. GEOSEE was created as a joint initiative of IUGS, UNESCO and IGU in 2004. It was seen as an umbrella organisation to coordinate and to insert geoscientific knowledge into such activities. It also claimed a role in geoscience education, culture, communication and sustainable development. Through GEOSEE, IUGS would have a strategic position in these activities. The report on the GEOSEE Initiative by its chairman Werner Janoschek describes its evolution over the past two years and concluded the GEOSEE concept was over-ambitious and GEOSEE could not operate effectively as an umbrella organisation. Janoschek's recommendations are clear: abandon the GEOSEE concept and replace it by a far less ambitious position of Communication Officer. This Officer would operate as a kind of ambassador, facilitating mutual communication between current activities, linking them with those in the scientific unions and contributing to their exposure to politicians. Due to understaffing, these tasks are currently not sufficiently well addressed by the Global Geoparks Network, based in UNESCO Paris. As such, it supports the good work of the Global Network and should link-up closer with a Secretariat in Beijing.

Medical Geology (MGI)

This Initiative (http://www.medicalgeology.org) emphasised the importance of Earth sciences for human and animal health, promoted medical geology, and linked geosciences with medical sciences and to foster collaboration between developing and developed countries. Olle Selinus (olle.selinus@sgu.se) with Bob Finkelman (rbf@usgs.gov) and Jose Centeno (centeno@afip.osd.mil) led the Initiative as co-directors. The medical geology concept provides an important opportunity for the Earth sciences to interact with the medical world and to have a major impact on human health and welfare. Interest in the topic, from both the geosciences and, critically, the medical side, is growing rapidly. This successful IUGS Initiative terminated direct leadership from IUGS in 2005 and to properly harness this interest, a professional body, the International Medical Geology Association (IMGA) was being formed, with the above-mentioned persons being the Directors, with six Councillors from around the world who will be active in medical geology within their disciplines, networks and geographical regions. IMGA Statutes were circulated late in 2005.

IUGS recognizes that the Initiative involves many developed and developing nations, and has been extremely successful at bringing together medical and earth sciences. At present there are 200 active members and 74 member countries. The work of MGI has resulted in a greater understanding of the relation between geology and health. It has a very clear capacity building profile and makes IUGS visible outside the geological community. The Initiative's myriad recent activities and accomplishments include presentations at numerous scientific and medical meetings, and the publication of a new book, *Essentials of Medical Geology*. The website is update weekly. A biannual newsletter is also produced Courses in Medical Geology have been successful at bringing together medical and earth scientists. The topic of Medical Geology is also planned as one of the themes of the International Year of Planet Earth. A brochure has been produced.

The Initiative fulfils on of the goals of IUGS in that it has a very clear capacity building profile. Medical Geology has been included in curricula at universities, received several prestigious rewards, and has been highlighted all over the world. In 2005, ten courses were held along with numerous presentations at meetings and conferences. Olle Selinus was appointed the "Geologist of year 2005" in Sweden and received the "Prix D'Excellence Pour Les Sciences de La Terre." The prestigious British Medical Association was awarded to "Essentials of Medical

Geology" as one of the best international books for 2005 in the category Public Health. MGI has made IUGS very visible outside the geological community.

IUGS Task Groups

Task Group on Public Affairs (TGPA)

This Task Group (http://www.agiweb.org/gap/iugs) terminated in 2005. It was originally established to assist IUGS better understand the policy issues that the Union's members believe to be of major importance and to determine what activities were being undertaken to address those issues. An IUGS *ad hoc* review in 2004 showed that TGPA met all their goals.

Task Group on Global Geochemical Baselines (TGGGB)

The principal aim of this Task Group (http://www.bgs.ac.uk/iugs/home.html) is to prepare a global geochemical database, and its representation in map form, to document the concentration and distribution of chemical elements and species in the Earth's near-surface environment. The database and accompanying maps can then be used to create a geochemical baseline against which future human-induced or natural changes to the chemistry of the land surface may be recognised and measured. Jane Plant (japl@bgs.ac.uk) and David Smith (dsmith@usgs.org) lead the Task Group. The group is organised with a Steering Committee and an Analytical Committee. The nine people involved represent five countries; all of them are from North America or Western Europe.

TGGGB was active in 2005, producing publications and running activities in Africa, Canada, USA, Europe, Russia, China, and South and Central America. They have an excellent Website developed by the Finnish Geological Survey and housed at the British Geological Survey Website (http://www.bgs.ac.uk/iugs/home.html). TGGGB is also designing an Internet section dedicated to the project within the IUGS Website in collaboration with the IUGS Web Master. It is proposed that all project material will be stored and all Geological Surveys will have hot links to this page. A training course was arranged in Tanzania, with participation by scientists from Kenya, Seychelles, Nigeria and Tanzania. The working group has an excellent interface with other relevant international projects. However, except for IAEA, all these are European bodies. Although a pilot study was completed in Australia, most important work was in North America and Europe, including a comprehensive pilot study of soils in Canada and United States, and geochemical baseline mapping in Cyprus. Significant progress was made on the Geochemical Atlas of Europe, with the publication of Part 1: Background Information, Methodology and Maps, in both printed and electronic versions (http://www.gsf.fi/publ/foregsatlas).

The main problem for TGGGB in 2005 was the lack of funding. The mission of the working group is very large and requires funding that is completely out of scale with normal IUGS funding. Comprehensive fund raising was needed in order to complete the tasks.

Task Group on Geochronological Decay Constants (TGGDC and TGIG)

The goal of this Task Group is to formulate new, specific recommendations for isotopic decay constants, isotopic abundances, and uncertainties. The decay constants that have been in use in the geological community for the last 22 years were endorsed and recommended by IUGS. However, recent analytical improvements have exposed potential problems with the 1977 recommendations. Critical to the success of the work of the Task Group is that its members were viewed by the entire scientific community as accomplished, recognized practitioners, rather than consumers, of radioisotope geochemistry and geochronology.

Following the decision to work with IUPAC on Isotope Geochronology at the IUGS Executive Committee meeting in March 2005, IUPACs leadership expressed interest in a joint project, for which Ales Fajgelj (contact person) and Mauro Bonardi were designated. IUPAC and IUGS representatives (Igor Villa, Paul Renne, and Liu Dunyi) proposed a new Terms of Reference for a Task Group on Isotopes and Geochronology (TGIG). The objectives and strategies are well within the original recommendations of IUGS ARC on Geochronology (Oslo, March 2004) that were approved by the IUGS EC at Vilnius.

Task Group on Tectonics and Structural Geology (TECTASK)

The group encourages innovative research and continued education in Tectonics and Structural Geology, the growth of intellectual capital and hence the impact of our science on the wealth of the global society. The group was accepted last year in October 2004, but has already established a network of contacts through the USA (various NSF funded programmes) and Europe. Its Vice President is a member of the European advisory council for Africa Array, a new African based initiative to promote geophysics research and training in Africa. TecTask was formed as successor of the dissolved COMTEC committee. The group first identified initial topics and goals for short-term developments and

implemented a web portal (www.tectask.org) as the major platform for the group's activities. Cees Passchier (TecTask chair) hosted a meeting of TecTask officers at the Department of Earth Sciences at University of Mainz to discuss prospective and future activities of the task group

Task Group worked well in 2005 and the team is well balanced with representatives from both genders and hemispheres. TECTASK has an active Website with some 400 registrants. Of note is the Cees Pascher Special Session in Europe, and the US$ 1000 post-doctoral research scholarship for developing countries. Like its predecessor COMTEC, the group is involved with specified training in structural geology in Africa. Traditionally, IUGS has contributed US$ 1000 that is used for scholarships. This Task Group will likely function as a Commission in a few years: it has had very good output.

IUGS Collaborative projects

International Geoscience Programme (IGCP)

In 1972, IUGS and UNESCO jointly initiated the International Geological Correlation Programme with the aim of providing funding to promote research in the Earth sciences:

http://www.unesco.org/science/earthsciences/igcp/index.htm
http://www.iugs.org/iugs/news/igcp04.htm

The current objectives of IGCP are to increase understanding of the environment, to assist in the improvement of human welfare, to establish better methods for finding and assessing the natural resources of the world, to further our understanding of geological processes and to improve research methods and techniques in the geosciences. IGCP has been more successful than any other programme.

To make IGCP more relevant, a number of common funding themes have been agreed upon: Hazards, Groundwater, Sustainable Development, Health, Climate Change, Ecosystem and Biodiversity, although a small portion of the total funding could go to groups outside these categories (i.e., fundamental research). The restructuring aims to keep the current mix of basic and applied research. IGCP will be more active and work with National Committees to form agglomerations of representation in the field of Environmental Sciences. Although Water will be a continuing priority for the next Medium-term Plan in 2008, other possibilities for future priorities include:

- Earth sciences and environmental processes through time
- Geohazards, climate change and basin analysis
- Earth resources and sustainable use

A list of projects supported in 2005 is given in Appendix 7. IUGS and UNESCO announced the funding of 15 new projects in their joint enterprise, bringing the total number of IGCP projects active or on extended term in 2005 to 48. Eight IGCP projects were terminated at the end of 2005 (projects 430, 433, 443, 448, 449, 450, 453 and 454). The financial support to IGCP in 2005 was around average for the past 9 years. Out of a total of US $276,000, 35% (US$ 95,500) was funding from IUGS. The average funding to each scientific project was US $7,500. Project details and application forms can be downloaded from the IGCP homepage, given above.

Geological Applications of Remote Sensing (GARS)

The GARS programme contributes to the advancement of geological research throughout the world and the development of the understanding of the Earth system, in order to address problems of particular relevance to the welfare of the Earth's population (http://www.unesco.org/science/earthsciences/gars/).
GARS is a joint operation of IUGS and UNESCO and now involves 40 institutes and individuals from 28 countries, most from the developing world. Currently, under IGOS, GARS is focussing on three of the five strategic issues identified by IUGS: Reducing the vulnerability of communities at risk to natural hazards (IGOS Geohazards Theme): Managing resources in a sustainable and environmentally sound way (Groundwater Initiative) and Contributing to understanding of global environmental changes. GAR implemented the IGOS Geohazards strategy, and as a result gained significant international recognition and has become a major player in the Earth observation arena. GARS Programme placed less emphasis on IGOS in

2005 than in recent years to develop the next GARS theme, Groundwater and Trans-Boundary Aquifers. Because the restructuring at UNESCO affected the activities of GARS, it contacted National Bodies and received extra funding from the ESA and BGS.

Scientific Committee on the Lithosphere (SCL; International Lithosphere Programme (ILP))

This programme (http://www.sclilp.org) is a joint venture of IUGS, IUGG and ICSU, seeking to elucidate the nature, dynamics, origin and evolution of the lithosphere, through international, interdisciplinary collaboration. Sierd Cloetingh (cloeting@geo.vu.nl) was appointed as ILP President in 2004, with J. Negendank as Secretary General, leads the Programme that involves several hundred scientists from over 60 countries. A number of challenges face ILP, including the need to strengthen the connection between solid-earth and non-solid-earth aspects relevant to the lithosphere and vice-versa; bolster the profile and impact of lithosphere research and topics of societal relevance (i.e., energy and environment); attract young researchers by choosing topics and adopting integrated approaches; promote training of young researchers on lithosphere studies; and to initiate dedicated programmes that address world-class problems.

The road map for 2005 included restructuring the Programme to bring it in line with challenges; launching new task forces; promoting a strong presence at international meetings; producing Special Volumes on the results of ILP research; and promoting young scientists through an active award system. The Programme is on track and globally heading in the right direction, with a strong impact in the geology-geophysics community. The year saw the creation of regional committees (cf. European Committee for the Lithosphere) more efficient than the former national committees; reactivation of older projects (cf. Global Strain Rate Map, Exhumation of UHP Terrain, etc); promotion of first-rate direct research projects; and creation of eight new Task Forces with an annual support of US$ 5000 for 5 years. Projects and Task Forces are distributed in four major themes: 1) Geoscience and Global Change (2 projects and 1 task force); 2) Contemporary Dynamics and Deep Processes (7 projects, 4 task forces); 3) Continental Lithosphere (5 projects and 3 Task forces); and 4) Oceanic Lithosphere. Coordinating committees are in charge of ICDP, ILP's flagship, and of new regional programmes involving top specialists in the field (e.g., Andes and Topo-Europe are very promising initiatives). Collaborations between ILP and IYPE as have already started (ILP is leading the theme "Deep Earth"); and with IGCP, which shares some themes with ILP (East African Rift, etc) and, often, involve the same scientists.

GEOSEE

Geoparks Approach – Science, Heritage, Communication, Socio-Economy and Education

By Werner Janoschek
Past Secretary General of IUGS 2002-2004

GEOSEE is a joint initiative of IUGS, UNESCO and IGU that serves as an international entity between UNESCO Global Geoparks, the European Geoparks Network and the Chinese Geoparks and many existing activities in the field of geological parks, geoconservation, geotourism and sustainable development. GEOSEE was created during the 1st International Conference on GeoParks in China in 2004 following a meeting between IUGS and representatives from IGU, the European Geoparks Network (EGN; http://www.europeangeoparks.org/), UNESCO, the UK Joint Nature Conservancy Council (http://www.jncc.gov.uk/), the European Association for the Conservation of the Geological Heritage (ProGeo; http://www.sgu.se/hotell/progeo/), the European Commission on the Geological Sciences for Environmental Planning (http://europa.eu.int/comm/environment/index_en.htm) and representatives from Austria, China, Namibia, Malaysia, Germany, Canada and The Netherlands. A Secretariat was established in Beijing, where Zhao Xun serves as the Secretary General and the Treasurer of GEOSEE. At the Global UNESCO Geopark Mount Lushan, the Chinese partners donated an Italian-style villa and installed an office for GEOSEE and the SE Asian Network on Geoparks.

To date, achievements include: 1) a Task Force comprising a group of interested parties; 2) a Mandate of Operations; 3) Terms of Reference; and 4) a List of Objectives and Partners. For the future, GEOSEE aims to define the organization, establish statutes and bylaws, and set up regional chapters. This new organization will compliment the planned IYPE. The group intended to expand its address database to include addresses from UNESCO Global Geoparks, National Geoparks and National Parks. It plans to establish a home page and produce a preliminary electronic newsletter. A Task Force is examining the possibility of becoming an international (scientific) body, formulating statutes and bylaws, and developing a four-year work plan. By the end of 2005, IUGS was the primary sponsor and it was over-stretched; IGU stopped it financial support and UNESCO no longer contributed (although it also gained credit for GEOSEE). Strong relations between IUGS, UNESCO and other networks must be maintained. UNESCO and IUGS need to look at how the situation can be improved. In particular, the over-ambitious aims and goals of Geoparks must be evaluated.

GEOPARKS

IUGS is also strongly involved with Geoparks initiatives. Since October 2002, IUGS has been a member of the Advisory Group of the European Geoparks Network (EGN). The Secretary General of IUGS performs this function. This group prepares all decisions of the EGN and meets three times a year. In accordance with

UNESCO, Earth Science Division, the criteria to establish European Geoparks (protected term) are evaluated at three-annual evaluations. This initiative is similar to the Chinese Global (UNESCO) Geoparks Network, which represents eight Global (UNESCO) Geoparks in China. IUGS contributed in the development of the Chinese Geoparks with its experience. There is also a national Chinese Geoparks Network with some 80 National Geoparks in China. The target of the Chinese administration is to create some 300 national Geoparks, 30 of which would be certificated as Global Geoparks (through UNESCO) by 2010. It is also planned to develop Global (UNESCO) Geoparks Networks on all other continents.

A Geopark, as understood by IUGS and UNESCO, in full accordance with the EGN and the Chinese Geoparks Network, should contribute to protect geological heritage, to educate the society on all levels in geosciences, to link various fields of science, as geosciences, archaeology, morphology, history, soil sciences and many others, and to contribute to a sustainable development of the region. This combination of targets makes the Geoparks movement of high interest for scientists, economists, and politicians. At present, there are plenty of various activities on all continents to create Geoparks on UNESCO level. The expertise of IUGS in this procedure is necessary and is well appreciated.

Organisations Affiliated with IUGS

Through its expanding number of Affiliated Organisations, IUGS maintains contact with the broadest possible range of Earth scientists. The Affiliated Organisations not only provide important expertise for the Union, but also disseminate information coming from IUGS to their members. As the time approaches for the start of the International Year of Planet Earth, IUGS and UNESCO will be relying on the Affiliated Organisations to take an active role in promoting the aims of the Year and encouraging their members to participate in the activities.

Organisations Affiliated with IUGS

American Association of Petroleum Geologists (AAPG)

AAPG aims to foster scientific research, to advance the science of geology, to promote technology, and to inspire high professional conduct, aims that still guide the Association today. It is currently the world's largest professional geological society with a membership of over 31,000, over 4,000 of which are students; over 30% of the membership works in the international arena. AAPG, together with sister organisations, is setting up branch offices around the world to better serve these members. AAPG provides publications, conferences, and educational opportunities to geoscientists and disseminates the most current geological information available to the general public. AAPG's GIS Upstream Digital Reference Information Library (GIS-UDRIL) is now one of AAPG's most sought after products. AAPG is also a major player in the Geoscience World; and the publications aggregate now investigating the feasibility of publishing all key geoscience journals electronically. AAPG supports a code of ethics for professional geologists to assure employers and clients of the integrity of its members. Officers guide the Association and a House of Delegates is elected annually. The organization's programs are administered by an Executive Director and staff which are located in Tulsa, Oklahoma. Visit the Website at http://www.aapg.org

American Geological Institute (AGI)

The American Geological Institute is a non-profit federation of 42 geoscientific and professional associations representing over 100,000 members. It aims to voice the shared interests of the geological profession. In addition, it plays a major role in strengthening geoscience education and societal awareness.

American Geophysical Union (AGU)

AGU helps to promote the development of Earth science worldwide and seeks to assure that the increasing understanding of the Earth is taken into account in formulating public policy. AGU is self-supporting although some grants, primarily from U.S. government agencies, to support special limited-term projects are also obtained. AGU is formally related with ICSU activities through the START Secretariat, an ICSU/IGBP activity that operates under AGU's umbrella in Washington, DC. AGU also interacts with IUGG. All AGU journals are now fully electronic and their publication is faster than at any time in the past 15 years even as more pages are being published. A portion of a new AGU publication, Space Weather, is available on the web free at: http://www.agu.org. It is an active Union with over 30,000 members ranging from geologists to astrophysicists. In 2005, the Fall Annual Meeting in San Francisco was a success. There were also two management meetings (in Japan and China), a meeting with EGU, and meetings in Southeast Asia.

Arab Geologists Association (AGA)

AGA has a significant role in the organisation of geology in Arabian countries, which helps in promoting IUGS visibility in this area. In 2005, AGA was involved in the IGC Scientific Programme and was an active member of the IGC Mediterranean Consortium. The AGA Secretary General visited various groups to discuss cooperation including ICSU (Carthage Smith) and the Jordanian Environmental Society. News of the murder of Wissam Al-Hashimi in September shocked the global geoscience community; most AGA activity was concentrated around him. Despite security conditions in Iraq, AGA will try to renew efforts for the organization of the International Symposium on Gypsum Soil. In addition, AGA is cooperating with the University of the United Arab Emirates for the organization of the Sixth Conference on the Geology of the Middle East, which will be held in Abu Dhabi March 2006. The first circular of the meeting and the web site are under preparation. The Iraqi Government has nominated a new General Secretary and complete Bureau, with more representatives of Arabian countries remains, with a President from Jordan and members from Lebanon, Libya, Syria and Yemen.

Association of Applied Geochemists (AAG)

The Association of Applied Geochemists (formerly the Association of Exploration Geochemists - AEG) specializes in advancing the science of exploration and environmental geochemistry and furthering the interests of both geochemists and geochemistry by encouraging research and development and the distribution of scientific information. The new name better reflects its scope and its membership. The Geochemical Exploration Symposium (IGES) was held in September 2005 in Perth, Western Australia. Because of the change in name of the Association in 2004, this symposium was also called the First International Applied Geochemistry Symposium. Also in 2005: the Association was a co-sponsor for the Geological Society of Nevada's Symposium 2005 – Window to the World held during May in Sparks, Nevada (USA) and for the 15th Annual Goldschmidt Conference also held in May in Moscow, Idaho (USA). Visit the Website at http://www.appliedgeochemists.org/

Association Pour l'Etude des Argile (AIPEA)

AIPEA is an old, well-established association, which has a well-defined scientific focus. The association has played an important role in promoting clay mineral research worldwide. It serves a small scientific field, which today is of considerable practical importance (with for instance increased application in environmental science). The aim of AIPEA (http://www.agr.kuleuven.ac.be/intorg/aipea/aipea.htm) is the worldwide promotion of clay research and technology and to foster international cooperation in these fields. These aims are fulfilled by sponsoring international conferences, stimulating young clay mineralogists and by stimulating communications between clay researchers and clay technologists. The group, which has a large number of affiliated clay societies, runs two committees, on Nomenclature and on Teaching. The society offers an award to assist scientists attending the International Clay Conference.

Association of European Geological Societies (AEGS)

The Association currently has 30 members from 29 countries. Membership to AEGS is open to all non-governmental societies, institutions and organisations in Europe active on a country wide scale in the geological or earth sciences. Since 1975, AEGS has helped in the organization of the biannual meetings: MAEGS (Meeting of the Association of European Geological Societies). In this way the association serves as a "clamp" for European geological sciences, especially on the level of the national geological societies (www.aegs.de or www.aegs.org). AEGS' main task was the organization and running of MAEGS-14 held in Turin in September 2005. The meeting reflects AEGS's strategy of treating geoscience subjects relevant to trans-European cooperation and societal needs. The MAEGS-14 "Natural hazards related to recent geological processes and regional evolution" will concentrate on geohazards that arise as a consequence of longer-term geological processes. IUGS Secretary General Bobrowsky and Treasurer Brambati participated actively in the Turin meeting. Visit the Website at http://www.aegs.org/aegs.html

Association of Geoscientists for International Development (AGID)

The Association encourages communication between individuals, societies, agencies and corporations with interest in the application of geosciences to sustainable development and further encourages and promotes activities in geoscientific fields that are related to the needs of developing countries. At the last AGID General Assembly it was decided that reform and continuation was preferred to closure. The Head Quarters were relocated to Bangladesh. In recent years, there has been a fall in membership in the 'developed' world; however, the activities of AGID in the Indian sub-continent demonstrate that a decentralised AGID can continue to function successfully as a regional network. The volunteer services of AGID officers keep the expenditures of the organizations low. UNESCO provides modest support to a regularly published regional geoscience Newsletter. AGID continued to distribute its journal Geoscience and Development in 2005. Copies of the S and W Asia edition of the Geoscience Newsletter were distributed worldwide. Plans are to make available these publications available on-line at (http://www.bgs.ac.uk/agid/AGID_Index.html). AGID interfaces with several international projects bringing to them their experience with developing countries; for

example, IYPE, the Geological Society of London, IAH and IGCP.

Carpathian Balkan Geological Association (CBGA)

The objective of this group is to promote and encourage joint fundamental and applied geological research, as well as training and specialization, in the Carpathian-Balkan realm. This concerns virtually all branches of the geological sciences (including geophysics), their environmental implications, and related disciplines. CBGA interfaces internationally with IGCP, and partly with the Central European Initiative (CEI). In 2005, the CBGA continued with the organisation of the XVIII Congress that will be held in September 2006 in Belgrade (Serbia and Montenegro). In 2005, the CBGA distributed a First Circular. The last Congress took place in September 2002 in Bratislava. Two sessions of the Board of CBGA were held in 2005, again in Belgrade and again mainly on the Statutes of CBGA. Their main concern was finances, and CGGA asked for financial support for their Congress in 2006.

Centre Internationale pour la Formation et les Echanges Géologiques (CIFEG)

The main goal of CIEFG is to facilitate multilateral exchange geoscientific knowledge between the North and South. In 2005, CIFEG, in collaboration with UNESCO, IUGS, CCOP and representatives from SANGIS member countries, focused on the upgrading of content, presentation in computerized format, project outcomes, dissemination policy and possible extension of the Asian Multilanguage Thesaurus into nine Asian languages.

Commission for the Geological Map of the World (CGMW)

CGMW aims to promote, coordinate, publish and disseminate Earth Science maps at small scale of continental and/or oceanic areas of the World. Geological Surveys or organizations responsible for national geological mapping of all countries and territories of the World are statutory members, whereas others interested groups are allowed to join as Associated Members. In 2005, this organization continued its efforts to maintain the highest possible selling level of its products and launching a new mapping program in liaison with IGC and IPY focusing specifically on Africa (Tectonic Map of Africa, launching seismo-tectonic and lithological maps, etc.). CGMW widened mapping activities to include geophysics. Visit the website at http://ccgm.free.fr/index_bg.html

Circum-Pacific Council for Energy and Mineral Resources (CPC)

The Council develops and promotes research and cooperation among industry, government and academia for the sustainable utilization of earth resources in the Pacific Region. Its "Crowding the Rim Project" has created tools to promote cross-sector international discussion to mitigate regional catastrophes. These tools included: 1) HazPac, short for hazards of the Pacific is a compilation of digital data on natural hazards, population and infrastructure. See http://www.hazpac.org; 2) RimSim, short for PacificRim Simulation is a conflict negotiation simulation that provides an opportunity to address risk in an increasingly interconnected global community; 3) The CTR Educational Module, a set of secondary-level classroom curricula, was developed to educate young people and others about risk in the context of the Pacific Rim. A new initiative has recently established: "Powering the Rim" addresses the future of energy security in the Circum-Pacific region and an international conference is scheduled for 2006 in China. The Initiative's first completed product is now available through the AAPG and AGI, a 2-DVD set entitled, "Perspectives on Energy: today and tomorrow. Visit the Website at http://www.circum-pacificcouncil.org/

European Association of Science Editors (EASE)

EASE (http://www.ease.org.uk/) is a non-governmental and not-for-profit organization operated exclusively for the advancement of science editing and educational purposes. Since 2000, it has been a Company Limited by Guarantee in the UK. Membership at the end of the year was just under 900, with the number countries represented being 55; the breakdown of membership remains virtually unchanged at about 14% of members

from countries outside Europe. EASE is an international non-governmental organization in category C relationship with UNESCO and Category A liaison with Technical Committee 46 (Information and Documentation Subcommittee 9; Presentation, identification and description of documents) of ISO.

European Mineralogical Union (EMU)

EMU members are national scientific societies from European countries, including Russia, with only one member per country allowed. It is dedicated to furthering European cooperation in the mineralogical sciences (mineralogy, petrology and geochemistry) and supports conferences within Europe of a high scientific standing and of an international character. In particular, it supports the Experimental Mineralogy, Petrology and Geochemistry (EMPG) and the European Union of Geosciences (EUG) meetings. In 2005, EMU donated the Silver Research Excellence medal to David Dobson (UK). Moreover, EMU assisted 56 institutional libraries in Eastern Europe and Latin America and it published the seventh volume of the EMU Notes in Mineralogy: 'Mineral behaviour at extreme conditions'. EMU is an active organization with an excellent track record in organising Schools, co-sponsoring International Conferences, widely spread over Europe and annually awarding medals for Research Excellence in Mineralogy, Petrology and Geochemistry.

Geochemical Society (GS)

The Geochemical Society encourages the application of chemistry to the solution of geological and cosmological problems. Its membership (around 2000) is international and diverse in background, encompassing such fields as biogeochemistry, organic geochemistry, high and low-temperature geochemistry, petrology, meteoritics, fluid-rock interaction, and isotope geochemistry. The Geochemical Society sponsors (jointly with the European Association of Geochemistry) the V. M. Goldschmidt Conference: a broad-scope conference covering all aspects of geochemistry and cosmochemistry. The Geochemical Society sponsors (jointly with the Meteoritical Society) the professional research journal "*Geochimica et Cosmochimica Acta*," as well as a quarterly newsletter "The Geochemical News," a quarterly newsletter which distributed to all members. In addition, the society publishes two book series, the Special Publications Series and, jointly with the Mineralogical Society of America, the Reviews in Mineralogy and Geochemistry Series. The Geochemical Society sponsors (jointly with the European Association of Geochemistry) the V. M. Goldschmidt Conference, a broad-scope conference covering all aspects of geochemistry and cosmochemistry.

Geological Society of Africa

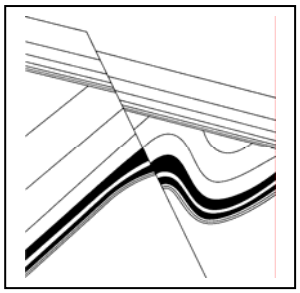
This Society aims to promote the advancement of the geological sciences throughout the African continent by encouraging and supporting education, training, research, the establishment of national societies and local groups and the organisation of conferences and other meetings. The Society will aim for the solid African representative in the IUGS International Year of Planet Earth initiative. The Society continued to maintain its homepage with the valued assistance of Elsevier Science and the production and dissemination of its newsletter AfricaGeonews The work programme in 2005 included the realisation of GSAf13, the Society's international conference, to be held in Cairo. In addition, it plans to give required support to the local organising committee of the 21st Colloquium of African Geology (CAG21), which will take place in Maputo, Mozambique in 2006. IUGS financial morale and professional support is vital to maintain the GSAf activities. GSAf is an Associate Partner in IYPE.

Geological Society of America (GSA)

The GSA is a broad, unifying scientific society, which aims to foster the human quest for understanding the Earth, planets, and life, catalyzing new scientific ways of thinking about natural systems and applying geoscience knowledge and insight to human needs and aspirations and stewardship of the Earth. In 2005, GSA participated as a founding member in GeoScienceWorld (GSW), which is a fully integrated electronic collection of 31 journals. Notable is the development of an all-electronic journal, Geosphere, and partnering in the founding of GeoScienceWorld (GSW), a fully integrated collection of 31 journals, including AGI's Georef. February 25, 2005 was the launch date for GSW that will eventually include journals from around

the world. The Society continues to expand its efforts to support student member activities. This past year, Council approved participation in the "Virtual Student Expo," a web-based system that will bring students together with industry, academic and governmental recruiters. The annual meeting at Salt Lake City attracted over 6500 participants; these meeting have been instrumental improving the Society's financial performance Future annual meetings are now planned through 2011 (2006 – Philadelphia; 2007 – Denver; 2008 – Chicago; 2009 –Portland, Oregon, 2010 – Denver, and 2011 – Minneapolis). Visit the Website at http://www.geosociety.org/

Geologische Vereinigung (GV)



Geologische Vereinigung has 2200 members in 64 countries; but its Executive Committee is almost entirely Germanic. GV promotes the Earth sciences within the framework of modern society; fostering understanding between individuals, organisations and institutions is regarded as being an important part of its role, which it undertakes through promoting Annual Meetings, short courses and excursions. In 2005, the ranking of the International Journal of Earth Sciences (Geologische Rundschau) improved as reflected by journals citation index. Since 1996, all articles have been available on-line. Subscriptions continued to decline, but compensated for by the distribution in on-line packages to libraries. The society communicates with its members by GMit (GeowissenschaftlicheMitteilungen), a quarterly jointly edited with the other earth-science societies of Germany, and its website. GV spends about 12 % of its budget for public relations. Visit the Website at http://www.g-v.de/

International Association for Engineering Geology and the Environment (IAEG)

The IAEG is devoted to the investigation, study and solution of the engineering and environmental problems, which may arise as the result of the interaction between geology and the works and activities of man as well as to the prediction and the development of measures for prevention or remediation of geological hazards. IAEG is a worldwide scientific society with more than 5500 members in 66 National Groups and in individual memberships. The Association cooperates with a number of other international bodies (IAH, ISRM, ISSMGE and GEMS) expects to cooperate with these groups on several topics including education and training, professional practice, sustainable use of underground space, ancient monuments, soft rocks and indurated soils. The Association publishes The Bulletin of Engineering Geology and the Environment, distributes a newsletter and runs nine Commissions. An IAEG international congress is held every four years, and its 10th in Nottingham in 2006 will be entitled "Engineering for tomorrow's cities." Every two years a medal and a prize are awarded: The Hans Cloos Medal (senior award) and the Richard Wolters Prize, the latter specially recognizes meritorious achievement by a younger member of the engineering geology profession. Visit the Website at http://www.iaeg.info/

International Association of Geomorphologists (IAG)

IAG (http://www.geomorph.org/) was founded to promote and develop collaboration in geomorphology between nations; affiliation is via National Scientific Members. It is an extremely active scientific association with 58 national members. IAG runs a number of working groups and task forces, such as those on Arid Regions, Geoarchaeology, Large Rivers and Volcanoes. The Association also sponsors conferences and publishes scientific material. IAG's income is derived from annual fees paid by affiliated National Scientific Members. Changes in the IAG constitution now give member organizations from severely low income countries exemption from fees provided they submit annual report of their activities. An International Conference on Natural Hazards sponsored by UNESCO, IUGS and IAG took place in Oum el Bouaghi, Algeria, late February to early March 2005. The International Conference on Geomorphology was held in Zaragoza, Spain, September 2005. About 900 abstracts were presented there and new officers were elected. IAG is very active in publishing, and they have a very positive approach to cooperation with other scientific bodies. There are now fifteen

Working Groups, many with no financial support from IAG. There is some income from membership fees, but considerable income from book royalties (e.g. Encyclopedia of Geomorphology) and their website (www.geomorph.org) is extremely popular. IAG are actively seeking new members and will continue to promote geomorphology to young students. Publication with Wiley will continue. IAG are quite self sufficient and could be a major force on behalf of IYPE. They have a long history of being very successful. IUGS is fortunate to have IAG as an Affiliated Organization.

International Association on Geochemisty and Cosmogeochemistry (IAGC)

The IAGC is a pre-eminent international geochemical organisation whose prime objective is to foster co-operation in, and advancement of, geochemistry in its broadest sense. They sponsor meetings and publications organised by Working Groups to study problems that benefit from international co-operation.

International Association on the Genesis of Ore Deposits (IAGOD)

The Association's principal objective is to foster cooperation in, and advancement of, geochemistry and cosmochemistry in their broadest sense by working with any interested group in planning symposia and other types of meetings related to geochemistry, by sponsoring publications on topics not normally covered by existing organizations; and by the appointment of Working Groups to study problems that require, or would profit from, international cooperation. IAGOD plays a vital role in ore deposit research, together with other bodies (SGA, SEG, IGCP), with whom they cooperate. It is noteworthy, how much is achieved by IAGOD with small financial contributions by its membership. IAGOD is an Associate Partner in the International Year of Planet Earth.

International Association of Hydrogeologists (IAH)

IAH (http://www.iah.org/) aims to advance public education and promote research in hydrogeological sciences. IAH is an organisation of more than 3700 individual members from over 140 countries. In parallel with the preparation for the World Water Forum IAH continues in international partnership projects with UNESCO. The most significant are WHYMAP (Hydrogeological Map of the World) that reached a significant benchmark in its development with the publication and presentation of a special edition of the world map at the IGC in Florence. The Hydrogeology Journal, published 12 times a year by Springer, received approximately 200 manuscripts for review. IAH also continue to publish an annual Spanish/Portuguese journal in cooperation with IGME (Spain) and UNESCO. IAH is an Associate Partner in the International Year of Planet Earth.

International Association for Mathematical Geology (IAMG)

This specialised Association, with 453 members from 49 countries members, aims to promote international cooperation in the application and use of mathematics in geological research and technology. This is done through the organization of meetings, field excursions and visits to centres of research and technology, through publications and through cooperation with other professional organisations. In 2000, the Association started a Student Grants Programme that supports graduate student research in broad areas of mathematical geology for the purposes of advancing the development and application of quantitative methods in the geosciences. The Association publishes Computers & Geosciences (now on-line), Mathematical Geology and Natural Resources Research. During the 32nd IGC, this group held its 9th General Assembly and five symposia and four short courses. IAMG's Lecture Series was highly successful last year: Frits Agterberg toured the Southern Hemisphere and gave fourteen lectures. This series serves to increase the visibility of mathematical geology and the organization. Toronto was selected as the site of the IAMG'05 (21-25 August 2005). Visit the Website at www.iamg.org/

International Association of Sedimentologists (IAS)

IAS (http://www.iasnet.org/) promotes the study of sedimentology by publications, discussion and comparison of research results, by encouraging the

interchange of research through international collaboration and by favouring integration with other disciplines. In 2005, the IAS held the 24th IAS Meeting of Sedimentology in Muscat, Oman. Some 260 participants represented 34 countries, and fifteen fieldtrips were run. Furthermore, the IAS co-sponsored a number of conferences and workshops in Argentina, United Kingdom, the Netherlands, China and USA. A lecture tour developed by Prof. Maurice E. Tucker, from United Kingdom started running in Greece and Turkey. The IAS published six issues of its journal "Sedimentology" that were accompanied by a Newsletter. The IAS Homepage (http://www.iasnet.org) is regularly updated. Preparation is underway for the 17th International Sedimentological Congress to be held in Fukuoka, Japan (mid August to early September, 2006).

International Centre for Training and Exchange in the Geosciences (CIFEG)

Centre International pour la Formation et les Echanges en Géosciences promotes the exchange of geosciences between northern and southern hemisphere countries through supporting training and research programmes; essentially it aims to promote bilateral knowledge sharing. The group runs two main projects; PANGIS – Pan-African Network for a Geological Information System and SANGIS – South East Asian Network for a Geological Information System. In 2005, PANGIS (supported by UNESCO) was progressively integrated to the SIGAfrique programme and is now efficiently developed as a project of geoscientific data collection and sharing between eleven African countries. SANGIS (Asia) runs routinely with the organization of several training sessions. The Asian Multilanguage Thesaurus (first version), a derived product developed in cooperation with CCOP and CGI, is now finished and available. CIFEG is also in charge of a cooperative project of management of water resources in the Rift system (Mawari Project), which seems promising. Visit the Website at http://www.cifeg.org

International Consortium on Landslides (ICL)

ICL (http://icl.dpri.kyoto-u.ac.jp/) is involved with international co-ordination, exchange of information and dissemination of research activities and capacity building through various meetings, dispatching experts, developing a landslide database, and publishing its journal "Landslides". ICL's central activity is the International Programme on Landslides (IPL). The construction of the headquarter building of UNITWIN (university twinning and networking) was jointly conducted by ICL, UNESCO and Kyoto University. ICL has strong links to UNESCO and WMO: and is well supported by these UN organizations. Although only about 40 members, ICL has a broad international membership with a strong bias in favour of Japan. There is considerable scientific focus, but minor attention to the public or education of young scientists.

International Federation of Palynological Societies (IFPS)

Currently, 22 societies are members of IFPS (http://www.geo.arizona.edu/palynology/ifps.html) and the number of affiliated palynological societies and members increased in the beginning of 2005. The main events were the XIth International Palynological Congress, Granada, Spain, a new third edition of the World Directory of palynologists and election of a new President and some councillors. Some 671 registered palynologists attended the event. The participants included palynologists from 52 nations. A total of 315 talks were presented in 37 symposia in four concurrent sessions; and there were 367 poster presentations. The abstracts were published as Volume 14 of the journal "Pollen". Ten proceedings volumes are planned for publication in various international journals. The IFPS Council selected Bonn, Germany as the site of the next, IPC-XII in August 2008. The third edition of the World Directory of Palynologists was edited due to enormous effort and work of Past-President, Owen Davis. The Directory contents the list and contacts for about 3000 palynologists in all parts of the world.

International Geological Education Organisation (IGEO)

This organisation (http://www.cosm.sc.edu/~csemgr/igeo.html) promotes education in the geosciences at all levels, works for the enhancement of quality in the international provision of geoscience education and encourages all developments that raise public awareness of the geosciences, in particular amongst younger people. In 2005, IGEO was involved in three major projects that began in 2004, as well continuing its role in promoting and supporting geoscience education worldwide. The Organizing Committee for the 2006 Conference (GeoSciEd V) to be held in Bayreuth, Bavaria, Germany is well on the way to completing their preparations. A Syllabus Commission, chaired by Professor Nir Orion from Israel, was elected. The IESO Syllabus Commission will decide the scope/content of the written and practical tests for the Olympiad scheduled for mid 2007. The First IESO Organizing Committee (Chairperson: Moo Young Song, Chungnam National University) was formed in September; and began to prepare for the First IESO in Korea. IGEO worked closely with COGE.

International Mineralogical Association (IMA)

IMA (http://www.dst.unipi.it/ima/) comprises 38 mineralogical societies or groups (one per country) with a limited number of individual memberships. The Association promotes exchanges among mineralogists of all nations by organising events or publishing relevant literature. In 2005, IMA's activities were devoted to developing participation of the IMA Commissions and Working Groups at international meetings, and improving the visibility of IMA in the earth science community. Important items highlighted were: a) IMA Commissions participated in six international meetings, of the them being the 15th Goldschmidt Conference (Moscow, Idaho, USA); b) Preparing two special publications as an outcome of the IMA sessions during the last IGC in Florence; c) dissemination of information through the new revue "Elements," and the IMA Website, which is regularly revised and where a listing of mineralogical institutions around the world is being developed; and d) preparation for the next General Meeting of the IMA (Kobe, Japan July 2006), where the presence of a member of the IUGS EC is expected, and where a project for a strategic vision of IMA will be discussed. Activities of the Commission of Gem Materials focused on preparing an illustrated glossary of minerals. The new Working Group on Environmental Mineralogy (WGEM) began looking at "mineralogy and health". A working of the Committee on Internet and Computer Applications (CICA) hopes to establish a worldwide standard in the development of an interchange file format for the various mineralogical databases. IMA is a very important organisation and IUGS promotes the more intensive use of its expertise by other IUGS bodies and projects.

International Palaeontological Association (IPA)

IPA's 1200 members and nineteen corporate member organisations aim to promote and coordinate international cooperation in palaeontology and to encourage the integration and synthesis of all palaeontological knowledge (http://ipa.geo.ku.edu/index3.html). The new homepage contains a link to fossil collections of the world, to a very popular directory of palaeontologists and to a PalaeoLink database. The IPA General Assembly is scheduled for the Second International Palaeontological Congress that is hosted in Beijing, 2006. During this meeting, elections will be held for a new slate of IPA officers for the term 2006-2010. Three electronic databases are now part of the IPA site: the Directory of Paleontologists of the World, The Directory of Fossil Collections of the World and The PaleoLink Database. Two more electronic databases are under development: the Directory of Globally Important Palaeontological Sites and the Directory of Paleontological Societies and Associations. The IPA intends to seek Associate Partner status in sponsorship of the International Year of Planet Earth (2007-2009).

International Permafrost Association (IPA)

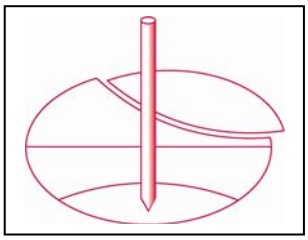
The objectives of IPA (http://www.geo.uio.no/IPA/) include the dissemination of knowledge concerning permafrost and the promotion of cooperation between persons and organisations engaged in scientific investigations and engineering work on

permafrost. Some 23 national/multinational organisations form the basis of the membership, although individual membership is possible if no national body exists. Ten working and three task groups covering a range of topics undertake scientific work for the Association; many of these are involved in collaborative work with a very wide range of international bodies, including IUSS, IPA, IGU, the International Commission on Snow and Ice, and with bodies within IGOS (GCOS/GTOS). The Association publishes Frozen Ground and contributed special issues to several other journals. The group has continued developing "Thermal State of Permafrost" (TSP) which proposes to obtain a "snapshot" of permafrost temperatures throughout Planet Earth during the period 2007–2008. The post-IPY and Planet Earth "Legacy" goal for the TSP project is to establish a permanent International Network of Permafrost Observatories (INPO). Several relevant working groups are considering ways to input to the themes of the International Year of Planet Earth (including soils, hazards and climate). IPA is an Associate Partner in the International Year of Planet Earth. A major project is: "Thermal State of Permafrost" (TSP), which together with WMO Global Terrestrial Network for Permafrost (GTN-P) will support IUGS Geoindicators Initiative, and will result in the establishment of a permanent International Network of Permafrost Observatories (INPO). IPA is also an affiliated member of the IGU. Co-operation in different programmes sponsored by ICSU (IGBP, SCAR, SCOPE), WMO, IGU, IUGG, INQUA, ICO, IASC, IUSS, IUBS, IUMS, places IPA at the crossroads of important scientific research projects on climate related subjects.

International Society for Rock Mechanics (ISRM)

The ISRM (http://www.isrm.net/) operates in the field of physical and mechanical behaviour of rocks and rock masses and the applications of this knowledge for the better understanding of geological processes and in the fields of Engineering. The IRSM website provides information about the association, its national groups, commissions and meetings. The group continues close co-operation with the Sister Societies IAEG and ISSMGE. The Society envisages planning and undertaking certain scientific activities with IUGS, such as the study of geological problems.

International Society of Soil Mechanics and Geotechnical Engineering (ISSMGE)



The aim of the Society (http://www.issmge.org/home/) is to promote international co-operation amongst engineers and scientists for the advancement and dissemination of knowledge in the field of geotechnics, and its engineering and environmental applications. The ISSMGE is composed of 75 national societies and over 17,000 individual members. It had a busy year in 2005, with many meetings and activities. The ISSMGE is planning to publish (and/or make available via the website) lecture material, Technical Committee reports, State-of-the-Art reports, keynote lectures and workshop material as part of the educational responsibility of the ISSMGE. It has several Task Forces, notably on Information Technology, Professional Practice, Industrial Liaison, Education, as well as the possible Federation of International Geoengineering Societies.

International Union for Quaternary Research (INQUA)

INQUA became a Full Scientific Union Member of ICSU in 2005 and this represents their final contribution as an Affiliate. The Union (http://www.inqua.tcd.ie/) seeks to improve understanding of environmental change during the glacial ages through interdisciplinary research. INQUA´s main focus is interdisciplinary studies of the Quaternary era with geology as one item. The Union, which has 40 National and geographic members, mostly in Europe, conducts its scientific activities through five scientific Commissions: Coastal and marine processes (CMP); Palaeoclimate (PALCOM); Paleoecology and Human Evolution (PAHE); Stratigraphy and Chronology (SACCOM) and Terrestrial Processes, Deposits and History (TERPRO). INQUA continues to develop well-organized field-based research, for example a project on Coastal and Marine Processes dedicated to the profound environmental changes that have occurred during the Quaternary. An issue of Quaternary International was published in May 2005 on the theme "Late Quaternary coastal and marine

deposits of northwest Europe." Several meetings were organized, including: "Relative sea-level changes"- Poland; "Marine – terrestrial linkages during past global climatic changes" - Spain; 5th International Conference on Asian Marine Geology (Deltas in the monsoon Asia-Pacific region) - Bangkok; Continental shelves during the last glacial cycle - Italy; a meeting on "Late Quaternary coastal changes: Sea level, sedimentary forcing and anthropogenic impacts" - Dunkerque. In 2005, a new project was initiated partly under the auspices of the Commission on Palaeoecology and Human Evolution on the theme "Black Sea-Mediterranean Corridor during the last 30 ka. The Palaeoclimate Commission was formed to better comprehend the links between climatic changes and environmental and human responses (palaeoecology and human evolution). INQUA was dismayed to learn that the Quaternary was no longer to be a formal chronostratigraphic unit of the Geological Time Scale. A joint ICS-INQUA Task Force is currently fully engaged in the debate over the definition of the term 'Quaternary' and its geological meaning. In the field of the Terrestrial Processes, INQUA encouraged the development of projects that link continental environments together and that link them to oceans and climate. In total INQUA funded about 40 projects. If approved, INQUA will participate at a global level in IYPE activities.

Meteoritical Society (MS)

The Society, founded in 1933, promotes research and education in planetary sciences, with an emphasis on studies of meteorites and other extraterrestrial materials that further the understanding of the origin of the solar system. The society has around 950 members in 37 countries. The Society publishes its own journal, Meteorites and Planetary Sciences and also the Meteoritical Bulletin. Members donated ten subscriptions of the former journal to libraries in countries where the journal is unavailable. The Society publishes *Geochimica et Cosmochimica Acta*, together with the Geochemical Society. Visit the Website at http://www.meteoriticalsociety.org/

Society of Economic Geologists Inc. (SEG)

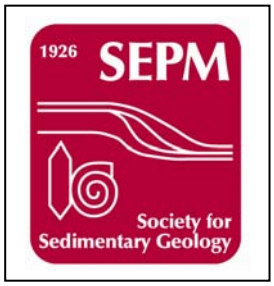
This Society is an international body that is committed to excellence in science, discovery, documentation, interpretation, evaluation and responsible development of mineral resources and the professional development of its members. Members are currently distributed through 82 countries worldwide. SEG increased its membership (3,754 as of August 31, 2005) and activities throughout the World. It has organized a wide range of meetings, and lectures, awarded student research grants, and edited leading publications in the field of mineral resources. The centenary of the journal "Economic Geology" was celebrated in 2005 with the publication of the landmark 100th Anniversary Volume, the production of a digital archive of the journal back to 1905, and the presentation of technical sessions and field trips in the Salt Lake City area as part of the GSA annual meeting. SEG is a leading international society in its field, and having co-sponsored meetings with many national and international organizations, including UNESCO, indicates its relevance for important society issues. SEG is closely associated with IAGOD, forming an ICSU cluster.

Society for Geology Applied to Mineral Deposits (SGA)

The Society aims to advance the application of scientific knowledge to the study and development of mineral resources and their environment, to promote the profession and to improve and maintain professional standards. The Society has been growing quickly, especially since 1995 from about 450 members to about 730 members in more than 70 countries in 2005. SGA was active in 2005, mainly in co-sponsoring five scientific meetings, editing the journal "*Mineralium Deposita*" and SGA News. The SGA Executive Committee held the 8th SGA Biennial Meeting in August in Beijing, China, and as a contribution to IYPE (a logo of IYPE was placed at prominent site of Conference materials). IUGS President, Zhang Hongren, was one of distinguished speakers. SGA is an Associate Partner in the International Year of Planet Earth. The SGA Young Scientist Award is granted

biannually to a scientist 37 or under who has contributed significantly to understanding of mineral deposits. The Society publishes the journal *Mineralium Deposita* and SGA news. The journal is confirmed to be number one amongst Mineral Deposits Journals worldwide. SGA has a joint project with other societies (SEG, IAGOD) to produce an educational DVD movie entitled "Promoting Responsible Mineral Resource Management for the Planet Earth.

Society for Sedimentary Petrology (SEPM)



SEPM (http://www.sepm.org/) is an international not-for-profit Society dedicated to the dissemination of scientific information on sedimentology, stratigraphy, palaeontology, environmental sciences, marine geology, hydrogeology, and many additional related specialties. SEPM was active in 2005. Its Annual Meeting was held in Calgary, Canada, jointly with A.A.P.G. Twelve short courses and field trips were sponsored. SEPM continued to play an important role in 2005, along with AAPG, GSA, MSA, GSL and AGI, as a founder and current board member of the geoscience online journal aggregate, "GeoScienceWorld" (GSW), which launched in February 2005. Four new publications were planned and three released. SEPM sponsored three research conferences: SEISMIC GEOMORPHOLOGY in Houston, USA; GEOLOGIC PROBLEM SOLVING WITH MICROFOSSILS at Rice University, Houston, USA; and THE SEDIMENTARY RECORD OF METEORITE IMPACTS in Springfield, USA. SEPM Foundation, Inc. continued to award student grants to those pursuing research in sedimentary geology. To date over $250,000 has been dispensed from the foundation. In 2005, the foundation supported 16 student presenters with travel grants to the Annual Meeting as well as several graduate student research grants. The Society supports two major scientific journals, the Journal of Sedimentary Research (JSR) and PALAIOS, in addition to producing technical conferences, short courses, and Special Publications. The foundation is also playing a key role in supporting the digitization of the past issues of PALAIOS. SEPM is an Associate Partner in the International Year of Planet Earth. Excellent papers have been published in the Journal of Sedimentary Research.

Appendices

APPENDIX 1

IUGS – Executive Members and Meetings

EXECUTIVE COMMITTEE OFFICERS OF THE IUGS IN 2005

President	Prof. Z. Hongren	Aug. 2004 – Aug. 2008	zhang.iugs@gmail.com
Past President	Prof. E.F.J. de Mulder	Aug. 2000 – Aug. 2004	e.demulder@planet.nl
Secretary General	Prof. P.T. Bobrowsky	Aug. 2004 – Aug. 2008	pbobrows@nrcan.gc.ca
Treasurer	Prof. A. Brambati	Aug. 2004 – Aug. 2008	brambati@univ.trieste.it
Vice President	Prof. S. Haldorsen	Aug. 2004 – Aug. 2008	sylvi.haldorsen@umb.no
Vice President	Dr. E. Moores	Aug. 2004 – Aug. 2008	Moores@geology.ucdavis.edu
Councillor	Dr. R. Matsumoto	Aug. 2004 – Aug. 2008	ryo@eps.s.u-tokyo.ac.jp
Councillor	Dr. G. Schneider	Aug. 2004 – Aug. 2008	gschneider@mme.gov.na
Councillor	Prof. A.C. Riccardi	Aug. 2002 – Aug. 2006	riccardi@fcnym.unlp.edu.ar
Councillor	Prof. J.P. Cadet	Aug. 2002 – Aug. 2006	jean-paul.cadet@lgs.jussieu.fr

PERMANENT SECRETARIAT

Head of Secretariat	Dr. T. Torsnes	iugs.secretariat@ngu.no
Assistant	Ms. A. Liinamaa-Dehls	Anne.Dehls@ngu.no

EXECUTIVE COMMITTEE AND BUREAU MEETINGS, MARCH 2005 - OCTOBER 2005

55th Executive Committee Meeting	Vilnius, Lithuania	March 19 - 22
Bureau meeting	Paris, France	February 7 – 11
Permanent Secretariat Meeting	Trondheim, Norway	May 11 – 12
Bureau Meeting	Trondheim, Norway	July 26 – 28
Bureau Meeting	Turin, Italy	September 19 – 21
Bureau Meeting	Shanghai, China	October 21 – 23

APPENDIX 2

IUGS Adhering Members

WITH THEIR MEMBERSHIP CATEGORY AND STATUS

A – Active; **I** – Inactive

Country	Cat.	Stat.	Country	Cat.	Stat.	Country	Cat.	Stat.
Albania	1	**A**	**Guyana**	1	**A**	**Philippines**	1	**I**
Algeria	1	**I**	**Hungary**	3	**A**	**Poland**	2	**A**
Angola	1	**A**	**Iceland**	1	**A**	**Portugal**	2	**A**
Argentina	3	**A**	**India**	5	**A**	**Romania**	3	**A**
Australia	6	**A**	**Indonesia**	1	**A**	**Russia**	8	**A**
Austria	3	**A**	**Iran**	3	**A**	**Saudi Arabia**	4	**A**
Azerbaidjan	1	**A**	**Iraq**	2	**I**	**Senegal**	1	**I**
Bangladesh	1	**A**	**Ireland**	2	**A**	**Serbia - Montenegro**	1	**A**
Belarus	1	**I**	**Israel**	2	**A**	**Slovak Republik**	2	**A**
Belgium	3	**A**	**Italy**	7	**A**	**Slovenia**	1	**A**
Belize	1	**I**	**Ivory Coast**	1	**I**	**Somalia**	1	**I**
Bolivia	1	**I**	**Jamaica**	1	**A**	**South Africa**	4	**A**
Bosnia - Herzegovina	1	**A**	**Japan**	8	**A**	**Spain**	4	**A**
Botswana	2	**I**	**Jordan**	1	**I**	**Sri Lanka**	1	**I**
Brazil	4	**A**	**Kazakhstan**	3	**A**	**Sudan**	1	**A**
Bulgaria	2	**A**	**Kenya**	1	**A**	**Surinam**	1	**A**
Burkina Faso	1	**I**	**Korea North (PDR)**	1	**I**	**Swaziland**	1	**I**
Burundi	1	**I**	**Korea South (ROK)**	2	**A**	**Sweden**	3	**A**
Cameroon	1	**I**	**Latvia**	1	**A**	**Switzerland**	4	**A**
Canada	5	**A**	**Lebanon**	1	**I**	**Syria**	1	**A**
Chile	1	**A**	**Libya**	1	**A**	**Taiwan (Taipeh)**	3	**A**
China, P. R.	7	**A**	**Lithuania**	1	**A**	**Tanzania**	1	**A**
Colombia	1	**A**	**Luxembourg**	1	**A**	**Thailand**	1	**A**
Congo	1	**I**	**Madagascar**	1	**I**	**Tunisia**	1	**I**
Costa Rica	1	**I**	**Malawi**	1	**I**	**Turkey**	3	**A**
Croatia	1	**A**	**Malaysia**	1	**A**	**Uganda**	1	**A**
Cuba	1	**I**	**Mexico**	2	**I**	**Ukraine**	3	**I**
Cyprus	1	**A**	**Mongolia**	1	**I**	**United Kingdom**	7	**A**
Czech Republic	2	**A**	**Morocco**	2	**I**	**Uruguay**	1	**A**
Denmark	3	**A**	**Namibia**	1	**A**	**USA**	8	**A**
Ecuador	1	**I**	**Netherlands**	4	**A**	**Uzbekistan**	2	**A**
Egypt	2	**I**	**New Zealand**	3	**A**	**Venezuela**	1	**I**
Estonia	1	**A**	**Nicaragua**	1	**I**	**Vietnam**	1	**A**
Finnland	3	**A**	**Niger**	1	**I**	**Yemen**	1	**A**
France	7	**A**	**Nigeria**	1	**A**	**Zambia**	1	**A**
Gambia, Rep. of	1	**I**	**Norway**	3	**A**			
Georgia.	1	**I**	**Pakistan**	1	**A**	**117 Adhering Orgs.**		
Germany	7	**A**	**Panama**	1	**I**	**77 Active**		
Ghana	1	**I**	**Papua New Guinea**	1	**I**	**40 Inactive**		
Greece	2	**A**	**Paraguay**	1	**I**			
Guatemala	1	**I**	**Peru**	1	**A**			

APPENDIX 3

Categories of IUGS Membership

MEMBERSHIP FEE (2004-2006)

Categories of Membership for 2004								
Category	1	2	3	4	5	6	7	8
Units	1	2	4	7	12	20	35	70
Value in US $	460	920	1840	3220	5520	9200	16100	32200

Categories of Membership for 2005								
Category	1	2	3	4	5	6	7	8
Units	1	2	4	7	12	20	35	70
Value in US $	469	938	1876	3283	5628	9380	16415	32830

Categories of Membership for 2006								
Category	1	2	3	4	5	6	7	8
Units	1	2	4	7	12	20	35	70
Value in US $	485	970	1940	3395	5820	9700	16975	33950

APPENDIX 4

IUGS Financial Situation and Statement

	RECEIVED			TOTAL (US dollars)
INCOME	for < 2005	for 2005	for > 2005	
Membership dues	**35, 499. 59**	**247, 165. 35**	**0.00**	**282, 664. 94**
Member countries	*35,499.59*	247,165.35	*0.00*	
IGCP Program	**9, 000. 00**	**173, 000. 00**		**182, 000.00**
UNESCO	*9,000.00*	*80,000.00*		
UNESCO - Hydrology		*18,000.00*		
US Contribution		*75,000.00*		
UNESCO Other Programs	**2, 000. 00**	**11, 000. 00**		**13, 000. 00**
Episodes		*2,000.00*		
GARS – Remote sensing		*9,000.00*		
Other incomes		**74, 814. 74**		**74, 814. 74**
32nd IGC Florence		*74,814.74*		
Interests				**21, 257. 83**
INCOME				**573, 737. 51**

	PAID			TOTAL
	for < 2005	for 2005	for > 2005	
EXPENSES				
IGCP Projects		**194, 000. 00**		**194, 000. 00**
UNESCO		*84,000.00*		
UNESCO - Hydrology		*20,000.00*		
US Contribution		*70,000.00*		
IUGS		*20,000.00*		
Joint Programmes		**33, 000. 00**		**33, 000. 00**
GARS-Remote sensing - IUGS		*7,000.00*		
GARS-Remote sensing - UNESCO		*9,000.00*		
ILP		*17,000.00*		

IUGS Commissions, Task Groups, Initiatives, Committees and Other	**5, 000. 00**	**97, 100. 00**		**102, 100. 00**
Commissions	*5, 000.00*	*52,000.00*		
Task Groups		*6,500.00*		
Initiatives		*26,600.00*		
Committees		*0.00*		
GEOSEE		*52,000.00*		
Affiliated Organisations		**10, 000. 00**		**10, 000. 00**
IUGS Grants		**39, 000. 00**		**39, 000. 00**
International Year of Planet Earth		**40, 000. 00**		**40, 000. 00**
Hutchison Fund Awards		**0. 00**		**0. 00**
Contributions		**11, 191. 73**		**11, 191. 73**
Contribution ICSU		*11,191.73*		
Office expenses		*0.00*		
Other expenses		**59, 338. 37**		**59, 338. 37**
Routine meetings		*34,013.13*		
Representing Scientific Meetings		*19,032.74*		
Exhibition		*2,110.75*		
Annual report, brochure		*0.00*		
Bank charges		*4,181.75*		
Episodes	**2, 000. 00**	**25, 000. 00**		**27, 000. 00**
Contribution China		*23,000.00*		
Reserves		*0.00*		
Episodes: Dissemin. Devel. Countries	*2,000.00*	*2,000.00*		
Contingency				**13, 327. 06**
Ties and scarves		*8,065.00*		
Mouse pads		*1,326.13*		
Other		*3935.93*		
EXPENSES				**528, 957. 16**

Excess of Income over Expenses = **US$ 44,780. 35**

ACCUMULATED BALANCE	
On 31 December 2004	707, 485. 99
On 31 December 2005	729, 526. 81

APPENDIX 5

IUGS Allocations in 2005

Budget 2005 (US dollars)	
IGCP	
UNESCO	89 000
UNESCO - HYDROLOGY	20 000
US contribution	75 000
IUGS	20 000
Joint Programmes	
GARS	7 000
ILP	17 000
IUGS Commissions	
GEM *(Commission on Env. Mgmt.)*	5 000
CGI (*Manage. & Application of Geoscience Info.)*	5 000
CSP (*Syst. Petrology*)	1 000
ICS (*Stratigraphy*)	30 000
INHIGEO (*Hist. Geol. Sci*.)	4 000
COETTT COGE *(Education, Training and Tech Transfer)*	4 000
SECE (*Solid Earth Chemistry and Evolution)*	3 000
IUGS Task Groups	
TGGB (*Geochemical Baselines*)	1 500
TGFF (*Fossil Fuels*)	3 500
TECTASK (*Tectonics and Structural Geology*)	5 000
IUGS Initiatives	
IPAGES	5 000
GEOIN (*Geoidicators*)	11 600
MGI (*Medical Geology*)	15 000
Committees	
PC *(Publications Committee)*	10 000
Other	
GEOSEE *(GEOPARKS Approach - sc, heritage, Soc_Ec, + Ed.)*	12 000
Affiliated Organizations	
AGA *(Arab Geologist Association)*	2 000
AGID *(Ass. of Geoscientists for Inter. Develop.)*	750
CGMW *(Geol. Map of the World)*	3 000
GSAf *(Geological Society of Africa)*	5 000
ICL *(Intern. Consortium on Landslides)*	2 000
IPA *(Intern. Palaeontological Association)*	1 000
IUGS Grants	
GEOCrossBorder	19 000
New Grants	15 000
International Year of Planet Earth	40 000
Contributions	
ICSU	12 105
Other expenses	
Routine Meetings	40 000
Representative Scientific Meetings	8 000
Exhibitions	5 000
Annual report	3 000
Bank Charges	6 000

Episodes	
Contribution China	23 000
Episodes distribution	3000
Contingency	
Ties and Scarves	7 500
Other	10 000

APPENDIX 6

ICS – IUGS Ratified (2005)

GLOBAL BOUNDARY STRATOTYPE SECTIONS AND POINTS (GSSP)

St – stage; Se – series; Ss – sub System; Sy – system; E – Eon

Stage (base of)	Stratotype Section	*Episodes* Volume		
PHANEROZOIC				
Neogene				
1. Holocene	NGRIP ice core, Greenland	Anticipated		2005
2. Upper Pleistocene		Anticipated		2006
3. Middle Pleistocene		Anticipated		2007
4. Calabrian St, Lower Pleistocene Se	Vrica, Calabria, Italy	8	(2)	1985
5. Gelasian St, U. Pliocene	Monte San Nicola, Sicily, Italy	21	(2)	1998
6. Piacenzian St, M. Pliocene	Punta Piccola, Sicily, Italy	21	(2)	1998
7. Zanclean St, Pliocene Se	Eraclea Minoa, Sicily, Italy	23	(3)	2000
8. Messinian St, Pliocene Se	Oued Akrech, Morocco	23	(3)	2000
9. Tortonian St, Pliocene Se	Monte dei Corvi, Ancona, Italy	28	(1)	2005
10. Serravallian St, Pliocene Se		Anticipated		2006
11. Langhian St, Miocene Se		Anticipated		2008
12. Burdigalian St, Miocene Se		Anticipated		2008
13. Aquitanian St, Miocene Se, Neogene Sy	Lemme-Carrosio, Italy	20	(1)	1997
Paleogene				
14. Chattian St, Oligocene Se		Anticipated		2006
15. Rupelian St, Oligocene Se	Massignano, NE Italy	16	(3)	1993
16. Priabonian St, Oligocene Se		Anticipated		2006
17. Bartonian St, Oligocene Se		Anticipated		2008
18. Lutetian St, Eocene Se		Anticipated		2007
19. Ypresian St, Eocene Se	Luxor, Egypt	Ratified		2003
20. Thanetian St, Eocene Se		Anticipated		2007
21. Selandian St, Eocene Se		Anticipated		2007
22. Danian St, Paleocene Se, Paleogene Sy	El Kef, Tunisia	Ratified		1999

St – stage; Se – series; Ss – Sub-System; Sy – System; E – Eon

Stage (base of)	Stratotype Section	*Episodes*	Volume
Cretaceous			
23. Maastrichtian St	Tercis, Landes France	24 (4)	2001
24. Campanian St		Anticipated	2008
25. Santonian St		Anticipated	2007
26. Coniacian St	Hannover, Germany	Anticipated	2006
27. Turonian St	Rock Canyon, Colorado, USA	28 (2)	2005
28. Cenomanian St	Mont Risou, France	Ratified	2002
29. Albian St		Anticipated	2008
30. Aptian St		Anticipated	2006
31. Barremian St		Anticipated	2006
32. Hauterivian St		Anticipated	2006
33. Valanginian St		Anticipated	2007
34. Berriasian St		Anticipated	2008
Jurassic			
35. Tithonian St		Anticipated	2007
36. Kimmeridgian St		Anticipated	2006
37. Oxfordian St		Anticipated	2006
38. Callovian St		Anticipated	2006
39. Bathonian St		Anticipated	2007
40. Bajocian St	Cabo Mondego, Portugal	20 (1)	1997
41. Aalenian St	Fuentelsalz, Spain	24 (3)	2001
42. Toarcian St		Anticipated	2006
43. Pleinsbachian St	Robin Hood's Bay, UK	29 (2)	2006
44. Sinemurian St	Quantox Head, Somerset, UK	25 (1)	2002
45. Hettangian St		Anticipated	2007
Triassic			
46. Rhaetian St		Anticipated	2008
47. Norian St		Anticipated	2008
48. Carnian St		Anticipated	2007
49. Ladinian St	Bagolino, Brescia Province, Italy	28 (4)	2005
50. Anisian St		Anticipated	2006
51. Olenekian St		Anticipated	2006
52. Induan St, Triassic Sy, Mesozoic	Meishan, Zhejiang, China	24 (2)	2001

St – stage; Se – series; Ss – Sub-System; Sy – System; E – Eon

Stage (base of)	Stratotype Section	*Episodes*	Volume
Permian			
53. Changhsingian St	Zhejiang, China	Ratified	2005
54. Wuchiapingian St	Penglaitan, Guangxi, China	Ratified	2004
55. Capitanian St	Stratotype Canyon, Texas, USA	Ratified	2001
56. Wordian St	Stratotype Canyon, Texas, USA	Ratified	2001
57. Roadian St, Guadalupian Se, M. Permian	Stratotype Canyon, Texas, USA	Ratified	2001
58. Kungurian St		Anticipated	2007
59. Artinskian St		Anticipated	2007
60. Sakmarian St		Anticipated	2006
61. Asselian St, Cisuralian Se, Permian Sy	Aidaralash Creek, Kazahkstan	21 (1)	1998
Carboniferous			
62. Gzhelian St, Pennsylvanian Ss		Anticipated	2007
63. Kasimovian St, Pennsylvanian Ss		Anticipated	2008
64. Moscovian St, Pennsylvanian Ss		Anticipated	2007
65. Bashkirian St, Pennsylvanian Ss, U. Carboniferous	Arrow Canyon, Nevada, USA	22 (4)	1999
66. Serpukhovian St, Pennsylvanian Ss		Anticipated	2007
67. Visean St, Pennsylvanian Ss		Anticipated	2006
68. Tournasian St, Mississippian Ss, Carboniferous Sy	La Serre, France	14 (4)	1991
Devonian			
69. Famennian St	Coumiac, France	8 (2)	1985
70. Frasnian St, U. Devonian Se	Col du Puech, France	14 (2)	1991
71. Givetian St	Irdane, Morocco	18 (3)	1995
72. Eifelian St, M. Devonian Se	Wetteldorf, Germany	8 (2)	1985
73. Emsian St	Zinzilban Gorge, Uzbekistan	20 (4)	1997
74. Pragian St	Praha Holyne, Czech Republic	12 (2)	1989
75. Lochkovian St, L. Devonian Se, Devonian Sy	Klonk, Barrandean, Czech Republic	Ratified	1972
Silurian			
76. Pridoli Se	Pozary, Barrandean, Czech Rep.	8 (2)	1985
77. Ludfordian St,	Sunnyhill, Wales	8 (2)	1985
78. Gorstian St, Ludlow Se	Pitch Coppice, Wales	8 (2)	1985
79. Homerian St,	Whitwell Coppice, Wales	Ratified	1980

80. Sheinwoodian St, Wenlock Se	Hughley Brook, Wales	Ratified		1980
81. Telychian St,	Cefn Cerig, Wales	8	(2)	1985
82. Aeronian St,	Trefawr forestry road, Wales	8	(2)	1985
83. Rhuddanian St, Llandovery Se, Silurian Sy	Dob's Linn, Moffat, Scotland	8	(2)	1985
Ordovician				
84. Hirnantian St	Wangjiawan, Yichang, China	Ratified		2004
85. Katian St	Black Knob Ridge, Oklahoma, USA	Anticipated		2005
86. Sandbian St	Fågelsång, Skane, Sweden	Ratified		2002
87. Darriwillian St, M. Ordovician	Huangnitang, China	19	(3)	1997
88. Floian St	Diabasbrottet, Västerg., S. Sweden	Ratified		2002
89. Tremadocian St, Ordovician Sy	Green Point, Newfoundland, Canada	24	(1)	2001
Cambrian				
90. Paibian St, Furongian Se	Paibi, NW Hunan, China	Ratified		2003
91. Nemakitian-Daldynian St, Cambrian Sy, Early Palaeozoic	Fortune Head, Canada	17	(2)	1994
		19	(3)	1996

St – stage; Se – series; Ss – sub System; Sy – system; E – Eon

Stage (base of)	**Stratotype Section**	***Episodes***		**Volume**
PROTEROZOIC				
92. Ediacaran Sy	Enorama Creek, Flinders Ridge, Australia	Ratified		2004
93. Proterozoic is divided by absolute ages into 3 Eras, with 10 Systems		14	(2)	1991
ARCHAEAN				
94. Divided by absolute ages into 4 Eras		15	(2)	1992

APPENDIX 7

IGCP Projects – 2005
(IUGS-UNESCO CO-SPONSORED)

	Project Number	Title Leader(s) Duration
1	**447**	**Proterozoic Molar-tooth Carbonates** X. Meng (China), D.G.F. Long (Canada), R. Bourrouilh (France) 2001-2005
2	**450**	**Proterozoic Sediment-Hosted Base Metal Deposits of Western Gondwana** S.S. Iyer (Canada), A.F. Kamona (Namibia), A. Misi (Brazil), J. Cailteux (DR Congo) 2000-2004
3	**455**	**Basement Volcanoes Interplay and Human Activities** A. Tibaldi (Italy), M. Garcia (Spain), A.M. Lagmay (Philippines), V.V. Ponomareva (Russia) 2001-2005
4	**458**	**Triassic/Jurassic Boundary Events** J. Pálfy (Hungary), S.P. Hesselbo (United Kingdom), C. McRoberts (United States) 2001-2005
5	**459**	**Terrestrial Carbon Cycle** J.-L. Probst (France), L. François (Belgium), P.J. Depetris (Argentina), J. Mortatti (Brazil) 2001-2005
6	**463**	**Upper Cretaceous Oceanic Red Beds** C. Wang (China), M. Sarti (Italy), R.W. Scott (United States), L.F. Jansa (Canada) 2002-2006
7	**464**	**Continental Shelves During the Last Glacial Cycle: Knowledge and Applications** F.L. Chiocci (Italy), A.R. Chivas (Australia) 2001-2005
8	**467**	**Triassic time and Trans-Panthalassan Correlations** M. J. Orchard (Canada), L Krystyn (Austria), J. Tong (China), S. Lucas (United States), H. Campbell (New Zealand), F. Hirsch (Japan), K. Ishida (Japan), Y. Zacharov (Russia) 2002-2006
9	**469**	**Variscan terrestrial Biotas and Palaeoenvironments** C. J. Cleal (United Kingdom), S. Oluštil (Czech Republic), Y. Tenchov (Bulgaria), E. Zodrow (Canada) 2003-2007
10	**470**	**The Neoproterozoic Pan-African belt of Central Africa** F. Toteu (Cameroon) 2002-2006

11 471 Evolution of Western Gondwana during the Late Palaeozoic
C.O. Limarino (Argentina), L.A. Buatois (Argentina)
2002-2006

12 473 GIS Metallogeny of Central Asia
R. Seltmann (United Kingdom), 5 young scientists
2002-2006

13 474 Depth Images of the Earth's Crust
B.J. Drummond (Australia), L.D. Brown (United States), F.A. Cook (Canada), O. Oncken (Germany), G.S. Fuis (United States), R.W. Hobbs (United Kingdom), Songlin Li (China), D.M. Finlayson (Australia)
2003-2007

14 475 Deltas in the Monsoon Asia-Pacific Region (DeltaMAP)
S. Goodbred, Jr. (United States), Y. Saito (Japan)
2003-2007

15 476 Monsoon Evolution and tectonic-climate Linkage in Asia
R. Tada (Japan)
2003-2007

16 478 Neoproterozoic-Early Palaeozoic Events in South-West--Gondwana
C. Gaucher (Uruguay), D. Poiré (Argentina), P. C. Boggiani (Brazil), A. Braun (Germany), H. Frimmel (South Africa), J.B. Germs (South Africa)
2003-2007

17 479 Sustainable Use of Platinum Group Elements
J. E. Mungall (Canada), M. Iljina (Finland), C. Ferreira-Filho (Brazil)
2003-2007

18 480 Structural and Tectonic Correlation across the Central Asia Orogenic Collage: Implications for Continental Growth and Intracontinental Deformation
B. Natal'in (Turkey), A. Yin (United States), A. M. C. Sengör (Turkey), M. Kuzmin (Russia)
2004 (preliminary acceptance)-2008

19 481 Dating Caspian Sea Level Change
S.B. Kroonenberg (Netherlands), S. Leroy (United Kingdom)
2003-2007

20/21 482/489 Geodynamics of the East African Rift System / Geophysical Characteristics and Evolution of the South-western Branch of the East African Rift System
G. Mulugeta (Sweden)/ A. Atekwana (United States), M.P. Modisi (Botswana), M.N. Sebagenzi (D.R. Congo), J.J. Tiercelin (France)
2003-2007

22 485 The Boundaries of the West African Craton
N. Ennih (Morocco); J-P. Liégeois (Belgium)
2003-2007

23 486 Au-Ag-Telluride-Selenide Deposits
N. J. Cook (Norway), K. Kojonen (Finland)
2003-2007

24	**487**	**Seismic microzoning of Latin America cities by realistic modelling of seismic ground motion** J. L. Alvarez Gómez (Cuba), A. Giesecke (Peru), G. F. Panza (Italy) 2004-2008
25	**490**	**Environmental Catastrophes** S. Leroy (United Kingdom), I. Stewart (United Kingdom) 2003-2007
26	**491**	**Middle Palaeozoic Vertebrate Biogeography, Palaeogeography and Climate** M. Zhu (P.R. China), G. Young (Australia) 2003-2007
27	**493**	**The Rise and Fall of the Vendian Biota** M. Fedonkin (Russia), P. Vickers-Rich (Australia), J. Gehling (Australia) 2003-2007
28	**494**	**Dysoxic to Oxic Change in Ocean Sedimentation During the Middle Cretaceous: A Study of the Tethyan Realm – "Young Scientists Project"** Xiumian Hu (P.R. China), K. Bak (Poland), J. Wendler (Germany), N. Tur (Russia) 2003-2005 (three years)
29	**495**	**Quaternary Land-Ocean Interactions: Driving Mechanisms and Coastal Responses** A. Long (United Kingdom), S. Islam (Bangladesh) 2004-2008
30	**497**	**The Rheic Ocean: its origin, evolution and correlatives** U. Linnemann (Germany), R. D. Nance (United States), M. de Wit (South Africa), E. Bozkurt (Turkey), P. Kraft (Czech Republic), F. Pereira (Portugal), R. A. Strachan (United Kingdom) 2004-2008
31	**499**	**Devonian land-sea interaction: evolution of ecosystems and climate** P. Königshof (Germany), J. Lazauskiene (Lithuania), E. Schindler (Germany), Volker Wilde (Germany) and N. Yalçin (Turkey) 2004-2008
32	**500**	**Westerlies and Monsoons: Impacts of Climate Change and Variability on Dryland Environments, Hydrogeology and People** D. Thomas (United Kingdom) 2004-2008
33	**502**	**Global Comparison of Volcanic-hosted Massive Sulphide Districts: the controls on distribution and timing of VMS deposits** R. Allen (Sweden), F. Tornos (Spain), J. Peter (Canada), N. Çagatay (Turkey) 2004-2008
34	**503**	**The impact of the changing palaeogeography and palaeoclimate on the major biotic changes through the Ordovician (Ordovician biodiversification, end-Ordovician extinction, Silurian radiation)** T. Servais (France), D.A.T. Harper (Denmark), J. Li (China), A. Munnecke (Germany), W. Owen (United Kingdom), P.M. Sheehan (United States) 2004-2008

35	**506**	**Marine and Non-marine Jurassic** Jingeng Sha (China), Nicol Morton (France), W. A.P. Wimbledon (UK), Paul E. Olsen (USA), Alberto G. Riccardi (Argentina). Grzegorz (Gregory) Pieñkowski, (Poland), Yongdong Wang (China) **2005**-2006(2009)
36	**508**	**Volcano collapse and fault activity - "Young Scientists Project"** I.Alejandro Petrinovic (Argantina), T. Toulkeridis (Ecuador), A.Concha Dimas (Mexico) Claudia Corazzato (Italy) **2005**-2007 (three years)
37	**509**	**Palaeoproterozoic Supercontinents and Global Evolution** S.M. Reddy (Australia), R. Mazumder (India), D.A.D. Evans (USA) **2005**-2009
38	**510**	**A-type Granites and Related Rock through Time** Roberto Dall'Agnol (Brazil), Carol D. Frost (USA), O. Tapani Rämö (Finland) **2005**-2009
39	**511**	**Submarine Mass Movements and Their Consequences** Jacques Locat (Canada), Jurgen Mienert and Roger Urgeles - (IOC link) **2005**-2009
40	**512**	**Neoproterozoic Ice Ages** Emmanuelle Arnaud (Canada), Marly Babinski (Brazil), Yves Goddéris *(*France*)*, Galen Halverson (France), Martin Kennedy (USA), Conall Mac Niocaill (UK), Vibhuti Rai (India), Graham Shields (Australia), Zhu Maoyan (China*)* **2005**-2009
41	**513**	**Karst Aquifers and Water Resources** Chris Groves (USA), Yuan Daoxian (China), Bartolome Andreo-Navarro (Spain), Heather Viles (UK) **2005** -2009
42	**514**	**Fluvial Palaeosystems: Evolution and Mineral Deposits** N. Patyk-Kara (Russia), A. Duk-Rodkin (Canada), Baohong HOU (Australia), Li Ziyang (China), Vladimir Dolgopolov (Kazakhstan) **2005**-2009
43	**515**	**Coastal Vulnerability related to Sea Level Change** U. Simeoni (Italy), Maria Snoussi (Morocco), Zdravko Belberov (Bulgaria), François Sabatier (France) **2005**-2009
44	**516**	**Geological Anatomy of East and South East Asia** Ken-ichiro Hisada (Japan), Punya Charusiri (Thailand), Byung-Joo Lee (Rep.of Korea), Xiaochi Jin (China) **2005**-2009
45	**518**	**Fluvial sequences as evidence for landscape and climatic evolution in the Late Cenozoic** David Bridgland (UK) **2005**-2009

46	**519**	**Hydrogeology, Hydrochemistry and Management of Coastal Aquifers on the Atlantic Coast of South America** Emilia Bocanegra (Argentina) **2005**(-2009)
47	**521**	**Black Sea - Mediterranean Corridor during the last 30 ky: Sea level change and human adaptation** Valentina Yanko-Hombach (Canada), Yucel Yilmaz (Turkey), Pavel Dolukhanov (UK) **2005**-2009
48	**522**	**Dawn of the Danian** Jeffrey D. Stilwell (Australia), Claudia Del Río (Argentina) **2005**-2009
49	**523**	**GROWNET – Gobal Ground Water Network** Shrikant Daji LIMAYE (India), Dr A J Reedman (UK) **2005** (-2009)

48 Funded Projects
1 Extended Term
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49 Total

APPENDIX 8

Summary of the Geoindicator Checklist

NAME:	Applied to individual geoindicators
BRIEF DESCRIPTION:	What is the geoindicator, and how does it express geological processes and phenomena?
SIGNIFICANCE:	Why is it important to monitor this geoindicator? How are changes in it liable to affect human settlements, agriculture, forestry, environmental health, and other economic and societal sectors?
HUMAN OR NATURAL CAUSE:	Can this geoindicator be used to distinguish natural from anthropogenic change, and if so how?
ENVIRONMENT WHERE APPLICABLE:	In what general landscape settings would this geoindicator be used?
TYPES OF MONITORING SITES:	Where specifically, should this geoindicator be measured?
SPATIAL SCALE:	At what scale would this geoindicator normally be monitored in the field, and to which larger scale, in general terms, can it be readily aggregated?
METHOD OF MEASUREMENT:	How is this indicator measured in the field?
FREQUENCY OF MEASUREMENT:	How often should this geoindicator be monitored in the field, so as to establish a proper time series and baseline trend?
LIMITATIONS OF DATA AND MONITORING:	What important difficulties are there in measuring field or laboratory data on and applying this indicator?
APPLICATIONS TO PAST AND FUTURE:	How can this geoindicator be applied to paleoenvironmental analysis, and what predictive potential has it?
POSSIBLE THRESHOLDS:	What thresholds or limits are there across which drastic environmental change or threats to human health and biodiversity may occur?
KEY REFERENCES:	Listed here for further reference are a few, readily obtainable, practical manuals, or citations to key scientific/technical publications on this geoindicator.
OTHER SOURCES OF INFORMATION:	National agencies, scientific programs and projects or specific international organizations from which further information, data sets and expertise may be available.
RELATED ENVIRONMENTAL AND GEOLOGICAL ISSUES	Importance for environmental monitoring and sustainability.

APPENDIX 9

Acronyms Used by IUGS

AAPG	American Association of Petroleum Geologists http://www.aapg.org
AEG	Association of Exploration Geochemists http://www.aeg.org
AEGS	Association of European Geological Societies http://www.uni-essen.de/geologie/aegs.htm
AGA	Arab Geologists Association
AGI	American Geological Institute http://www.agiweb.org
AGID	Association of Geoscientists for International Development http://www.bgs.ac.uk/agid
AGU	American Geophysical Union http://agu.org
AIPEA	Association Internationale Pour l'Etude des Argiles http://aipea.org/
BGR	Bundesanstalt für Geowissenschaften und Rohstoffe http://www.bgr.bund.de/cln_030/DE/Home/
BGS	British Geological Survey http://www.bgs.ac.uk/
BRGM	Bureau de recherches géologiques et minières http://www.brgm.fr/
CCOP	Committee for Coastal and Offshore Geoscience Programmes in E & SE Asia
CEI	Central European Initiative http://www.ceinet.org/
CGI	Commission on the Management and Application of Geoscience Information http://www.bgs.ac.uk/cgi_web/welcome.html
CGMW	Commission for the Geological Map of the World http://ccgm.free.fr/index_gb.html
CHRONOS	Interactive Chronostratigraphy and Stratigraphic Databases http://www.chronos.org
CIFEG	International Centre for Training and Exchanges in the Geosciences http://www.cifeg.org
COGEO	Commission on Geological Sciences for Environmental Planning http://www.sgu.se/hotell/cogeo/
COGEOETT	Commission for Education, Training and Technology Transfer
COGEOINFO	old acronym for CGI
COILS	Committee on Interdisciplinary Lithosphere Surveys http://www.sclilp.org/projects/pro_cc8.htm
COMTEC	Commission for Tectonics (currently being reformulated as TGTSG)
COPCSE	Commission on the Physics and Chemistry of the Solid Earth
CPCEMR	Circum-Pacific Council for Energy and Mineral Resources http://www.circum-pacificcouncil.org/
CRD	Committee for Research Directions
CSP	Commission on Systematics in Petrology http://www.dmp.unipd.it/IUGS-CSP/IUGS-CSPindex.htm
DIVERSITAS	International Programme on Biodiversity Science http://www.diversitas-international.org/
DMP	Deposit Modelling Programme (now called MRSP)
EASE	European Association of Science Editors http://www.ease.org
ECROFI	European Current Research on Fluid Inclusions

EGN	European Geoparks Network http://www.europeangeoparks.org/
EGS	European Geophysical Society (now part of EGU) http://www.copernicus.org/EGS/EGS.html
EGU	European Geosciences Union http://www.copernicus.org/EGU/
EITI	Extractive Industry Transparency Initiative
EMPG	European Mineralogy, Petrology & Geochemistry Symposia
EMU	European Mineralogical Union http://www.univie.ac.at/Mineralogie/EMU/
Episodes	Episodes – IUGS' journal http://www.episodes.org
esfs	Earth Sciences for Society (International Year of Planet Earth tag-line) http://www.esfs.org/
	European Commission on the Geological Sciences for Environmental Planning http://europa.eu.int/comm/environment/index_en.htm
EUG	European Union of Geosciences (now part of EGU)
FOREGS	Forum of the European Geological Survey Directors http://foregs.eurogeosurveys.org/members/members.htm
GARS	Geological Applications of Remote Sensing http://www.unesco.org/science/earthsciences/gars/
GCOS	Global Climate Observing System (part of IGOS) http://www.wmo.ch/web/gcos/gcoshome.html
GEM	Commission of Geology for Environmental Management http://www.iugs.org/iugs/science/sci-cgem.htm
GEOIN	International Working Group on Environmental Geoindicators http://www.iugs.org/iugs/science/sci-ig.htm
GIS-UDRIL	GIS Upstream Digital Reference Information Library (from AAPG) http://gisudril.aapg.org/gisdemo/about1.html
GS	Geochemical Society http://gs.wustl.edu/
GSA	Geological Society of America http://www.geosociety.org
GSAf	Geological Society of Africa http://www.elsevier.nl/locate/gsa
GSL	Geological Society of London http://www.geolsoc.org.uk/template.cfm?name=geohome
GSSP	Global Boundary Stratotype Section and Point
GTOS	Global Terrestrial Observing System (part of IGOS)
GV	Geologische Vereinigung http://www.g-v.de/
IAEG	International Association of Engineering Geology and the Environment
IAG	International Association of Geomorphologists http://www.geomorph.org
IAGC	International Association of Geochemistry and Cosmochemistry http://www.iagc.ca/
IAGOD	International Association on the Genesis of Ore Deposits http://www.pdac.ca/pdac/industry/pdf/iagod-russia--first-circular.pdf
IAH	International Association of Hydrogeologists http://www.iah.org/
IAMG	International Association of Mathematical Geologists http://www.iamg.org/
IAS	International Association of Sedimentologists http://www.iasnet.org/
ICESA	International Commission for the Earth Sciences in Africa http://www.iaspei.org/commissions/ICESA.html

ICL	International Consortium on Landslides http://icl.dpri.kyoto-u.ac.jp/
ICS	International Commission on Stratigraphy http://www.stratigraphy.org
ICSU	International Council for Science http://www.icsu.org
IFPS	International Federation of Palynological Societies http://www.geo.arizona.edu/palynology/ifps.html
IGBP	International Geosphere-Biosphere Programme http://www.icsu.org
IGCP	International Geoscience Programme (formerly Int. Geol. Correlation Prog.)
IGEO	International Geoscience Education Organization http://www.cosm.sc.edu/cse/igeo.html
IGES	International Geochemical Exploration Symposia
IGOS	Integrated Global Observation System
IGU	International Geographical Union http://www.igu-net.org/
ILP	International Lithosphere Programme (run by SCL) http://www.sclilp.org
IMA	International Mineralogical Association http://wwwobs.univ-bpclermont.fr/ima/
IMGA	International Medical Geology Association http://www.medicalgeology.org
INHIGEO	International Commission on the History of Geological Sciences http://www.iugs.org/iugs/science/sci-chog.htm
INQUA	International Union for Quaternary Research http://www.inqua.tcd.ie/
IYPE	International Year of Planet Earth http://www.esfs.org/
IPA	International Palaeontological Association http://ipa.geo.ku.edu/index2.html
IPA	International Permafrost Association http://www.geo.uio.no/IPA/
IPL	International Programme on Landslides http://icl.dpri.kyoto-u.ac.jp/
ISRM	International Society for Rock Mechanics http://www.isrm.net
ISSMGE	International Society of Soil Mechanics and Geotechnical Engineering http://www.issmge.org
IUGG	International Union of Geodesy & Geophysics http://www.agu.org/iugg/internat.html
IUGS	International Union of Geological Sciences http://www.iugs.org
IUHPS	International Union for the History and Philosophy of Science http://ppp.unipv.it/dhs/
JNCC	Joint Nature Conservancy Council (UK) http://www.jncc.gov.uk/
LEGENDS	Lithospheric Evolution of Gondwana East from Interdisciplinary Deep Surveys http://www.sclilp.org/projects/pro_cc8a.htm
MAEGS	Meeting of the Association of European Geological Societies
MetSoc	Meteoritical Society http://www.meteoriticalsociety.org/
MRSP	Mineral Resources Sustainability Programme (formerly DMP) http://www.iugs.org/iugs/science/sci-mrsp.htm
MTG	Multi-lingual Thesaurus for the Geosciences

NGO	Non-governmental organisation
NPS	New Publications Series (of IUGS; now wound-up)
NSF	IUGS' National Science Foundation (of the USA)
PANGIS	Pan-African Network for a Geological Information System
ProGeo	European Association for the Conservation of the Geological Heritage http://www.sgu.se/hotell/progeo/
SANGIS	South East Asian Network for a Geological Information System
SAP	Strategic Action Plan
	Science for Health and Wellbeing http://www.iubs.org/test/functions/fun-oth%20Health%20exec%20sum.htm
SCL	Scientific Committee on the Lithosphere (organising committee of ILP) http://www.sclilp.org
SCOPE	Scientific Committee on Problems in the Environment http://www.icsu-scope.org/
SDBP	Sub-commission on Databases in Petrology
SEG	Society of Economic Geologists http://www.segweb.org
SEPM	Society for Sedimentary Geologists http://www.sepm.org/
SGA	Society for Geology Applied to Mineral Deposits http://www.e-sga.org/index.php?id=32
SIS	Stratigraphic Information Systems
SPC	Strategic Planning Committee
SSIR	Sub-commission on the Systematics of Igneous Rocks
SSMR	Sub-commission on the Systematics of Metamorphic Rocks
TGFF	Task Group on Fossil Fuels http://www.geointelligence.org/
TGGDC	Task Group on Geochronological Decay Constants
TGGGB	Task Group on Global Geochemical Baselines http://www.bgs.ac.uk/iugs/home.html
TGPA	Task Group on Public Affairs http://www.agiweb.org/gap/iugs/
TGTSG	Task Group Tectonics and Structural Geology
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organisation http://www.unesco.org
UNESCO	Geoparks http://www.worldgeopark.org
USGS	United States Geological Survey http://www.usgs.gov/

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