

COMMISSION FOR THE MANAGEMENT AND APPLICATION OF GEOSCIENCE INFORMATION (CGI)

Report to the International Union of Geological Sciences for 2005

Headlines



CGI membership now extends to 49 countries

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Two new Council members from Russia and Namibia appointed

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Close links established with International Association of Mathematical Geology

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UNESCO provide support and funding for future Outreach Workshop

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CGI providing input to INSPIRE – the new Spatial Data Infrastructure for Europe

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Excellent progress on geoscience data model and exchange format

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Regional Working Group set up in East and Southeast Asia

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The CGI Mission

- *Help in exchanging knowledge on geoscience information and systems;*
- *Support dissemination of best practice in geoscience information;*
- *Encourage the development of geoscience information standards;*
- *Play a full part in the international geoscience information community and represent IUGS on geoscience information matters;*
- *Bring together individuals and organisations with an interest in the management and application of geoscience information.*

Membership and organisation



138 people from 49 countries have now joined CGI.



This year we have appointed two new people to the Council, which now has 10 officers.

Sergei Cherkasov is a Scientific Coordinator at Vernadsky State Geological Museum, Russian Academy of Sciences where he is responsible for foreign relationships and international projects. He coordinated the work on CGMW projects such as the World Atlas of Precambrian Metallogenic Deposits and the World Map of Large and Superlarge Mineral Deposits.

Anna-Karren Nguno is a Principal Geologist in the Regional Geosciences division at the Geological Survey of Namibia, where her role involves working with GIS and remote sensing. She is a member of the Inter-ministerial committee on the Spatial Data Infrastructure (SDI) of Namibia, which includes the drafting of a Spatial Data Sharing Policy.

We have recently identified a geoscientist in South America who we feel will make a good contribution to our Council and are currently in correspondence with him about joining us.

note CGI People and Structure

CGI is run through a Council. The Chair, Secretary General and Treasurer of the Council form an Executive sub-committee. Jean-Paul Cadet is our contact on the IUGS Executive.

International Union of Geological Sciences - Executive

Commission for the Management and Application of Geoscience Information (CGI) - Council

- Sub-Commissions
- Working Groups
- Regional Groups
- Special Interest Groups

Working Groups

Website
Seminars
Workshops
Posters
Flyers
Conferences
IGC
Newsletters

Members

Council Meetings

The CGI Council held its formal meeting for 2005 in August at the University of Toronto, taking advantage of the International Association of Mathematical Geology (IAMG) Annual Conference.



Discussion topics at this meeting included:

- The Action Plan (in particular the Outreach Workshops);
- Working Groups progress;
- Relationships with other groups and bodies involved in geoscience information;
- CGI's role in geoscience standards;
- Our contribution to the IGC in 2008.

Several of these topics are described in more detail below.

Members of the Council were also scientifically active at the IAMG conference, convening and taking part in a number of sessions on the subject of geoinformation.

Several members of the Council also took the opportunity to meet to assess progress during the European Union of Geosciences meeting in Vienna in April.

CGI and IAMG



While in Toronto three CGI Council members met with their counterparts in IAMG to discuss closer relationships between the two organisations. It was agreed that both sides would attempt to forge closer linkages in a number of areas including:

- Co-organisation and sponsoring of sessions at a variety of international conferences;
- Providing a publication outlet for papers on geoscience information management and delivery.

Since the meeting one of the CGI Council has been asked to sit on a strategic planning commission of IAMG, focusing on geoinformation.



CGI Meetings

There is a full CGI Council meeting at least once a year. In addition to that CGI tries to organise informal meetings of the Council opportunistically in association with conferences and workshops. Part of each Council meeting is open to all CGI members and others interested in our aims.

The Action Plan for 2004-2008

The CGI Council spent some time during the year reviewing the objectives of CGI in light of progress and experience during its first full year. The revised action points are summarised below. The prime intention has been to make these actions useful, practical and achievable *and* in line with the actual resources which CGI is likely to have at its disposal.

In addition to the specific actions within our plan we hope to make a contribution to the 2008 IGC and members of Council are currently involved in the formulation of the INSPIRE Directive – a proposal to create a Spatial Data Infrastructure for Europe.

Geoscience information bodies across the world



We have completed the survey of geoscience information bodies which exist across the world - their roles, activities and scope, and have released the first version of the database on the CGI website. 27 groups are now listed and as others become known to us we are

updating the database. We have already made contact with several of these groups to try and establish appropriate linkages and alliances.

Outreach Workshops and collaboration with UNESCO



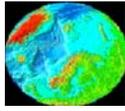
One of the major aspirations of CGI is to organise Outreach workshops where information and experiences can be exchanged and knowledge transferred. Outline plans for such workshops have been developed and the Namibian Geological Survey has agreed to act as hosts and local organisers for the first workshop. However, such workshops will require substantial funding, which is currently beyond the means of CGI. For this reason we are approaching a number of potential sponsors. Amongst the first of these was UNESCO, represented by Robert Missotten. UNESCO were exceedingly positive about the initiative and have agreed to provide their support; additionally they voted \$5000 in 2005 for CGI to create a brochure and prospectus to take the workshop concept forward. CGI is also setting aside the majority of its own financial reserves to leverage money from others and co-fund the workshop.



CGI Action Plan for 2004-2008

- *Understand and map the mandates and activities of international geoscience bodies;*
- *Catalyze productive alliances between geoscience information bodies;*
- *Refine the multi-lingual geoscience thesaurus;*
- *Develop a framework for CGI ratification of geoscience information standards;*
- *Promote international use of data exchange standards;*
- *Facilitate organisation of relevant outreach workshops.*

IGC 2008



We have written to the Chair and Organising Committee of the IGC 2008 in Norway offering to assist in organising and coordinating a major multi-session special symposium on geoscience information at IGC 2008.

We have proposed a basic structure (see below), which can act as a framework in which to fit, in a coherent way, all the geo-information sessions.

We feel it is important for the IGC organisers to get this framework in place early: for entirely positive reasons many groups and bodies will soon be coming forward independently with topics for symposia and sessions which will at best overlap and at worst duplicate each other (we are aware of this beginning to happen already). As yet no response to our proposal has been received from the IGC 2008 organisers.

INSPIRE



INSPIRE is an upcoming Directive of the European Commission. It will put in place regulations within all EU countries in

order to build a spatial data infrastructure to improve the sharing of and access to information across Europe. Geology is one of the data themes included in INSPIRE. CGI are playing a part in the formulation of the Directive in several ways. We are active in the EuroGeoSurveys INSPIRE Working Group; one of our Council is a member of the EC groups drafting the regulations; and CGI work on a data model and GeoSciML schema has been accepted as a reference project to assist in drafting the regulations.

CODATA

One of the CGI's responsibilities is representation of the IUGS's interests on the ICSU "Committee on Data for Science and Technology", or CODATA. In 2005, CGI plans to attend a CODATA workshop and CODATA Sessions at the "World Summit on an Information Society" could not be fulfilled. However, CGI plans to resume active CODATA representation of the IUGS in 2006 through participation in the 2006 CODATA General Assembly and presentation of a paper at the 2006 CODATA conference. An estimate of the expenses to participate in these events is included in the Funding and Expenditure section of this report.



Tentative programme for a major geoscience information special symposium at the IGC 2008

Four component symposia:

- 1. The acquisition and capture of information;*
- 2. The management of information;*
- 3. The dissemination and delivery of information;*
- 4. Information technology and systems research and development.*

Each of these component symposia will be themselves composed of a number of thematic sessions (for instance geoscience data standards under the Information Management symposia and the visualisation of geological data and models under the Information Delivery Symposium).

Communication

CGI is still a very new Commission and because of this we continue to put a lot of effort into making people aware of our existence and purpose! Members of the Council have given presentations on CGI and its work at conferences and workshops around the globe; some of these are listed in the footnote.

The website is a particularly prominent part of the CGI communication strategy: it is regularly updated and kept dynamic by the CGI Secretariat (our continuing thanks to Kathryn Bull of BGS). In addition to containing all the documentation about the Commission, it has news about related projects, events and web resources and it provides space for technical information posting and exchange. In 2005 the website received approximately 30000 visitor sessions (as opposed to just hits), that is about 80 visitors per day spending more than 15 minutes each on the site.



Events where CGI has been publicised in 2005

Bangkok - CCOP

Baton Rouge – Digital Mapping Techniques meeting

Berlin – INSPIRE meeting

Canberra – SEEGrid conference

Erlangen- German Geological Society

Paris – UNESCO

Toronto – International Association of Mathematical Geology Annual Conference

Trondheim – Geoscience Information Consortium

Vienna – European Union of Geosciences

Progress of the Working Groups

Geoscience Data Model International Collaboration (gDMIC) Working Group



The specific objectives of this CGI working group are to:

- to develop a conceptual model of geoscientific information drawing on existing data models;
- to implement an agreed subset of this model in an agreed schema language;
- implement an XML/GML encoding of the model subset;
- develop a testbed to illustrate the potential of the data model for interchange;
- identify areas that require standardised classifications in order to enable interchange.

The group met in Ottawa in August and work has progressed well. News of the Testbed has been released on the CGI website (http://www.bgs.ac.uk/cgi_web/news.html). The work, which is attracting considerable interest from organisations around the globe, continues to gather pace and the Testbed is expected to be fully functional in Spring 2006. The Testbed will initially be exchanging data from at least eight Geological Surveys around the world.

The developing model, including both the UML and XML (GeoSciML) schemas includes:

- Geologic Units
- Structure Objects (restricted to faults and contacts at present)
- Boreholes
- Metadata (both discovery and feature level)
- Earth Material (lithology etc)
- Geologic Age
- Geologic Time
- Vocabularies (structure)

A first draft of the data model and schemas have been completed and current work is concentrating on mapping data from the internal data models of the participating organisations to the common data model and thus generating instance schema documents.

The first release of GeoSciML is expected before 31 December 2005 and the CGI site will be updated with the details.

Multi-lingual Thesaurus Working Group (MTG)



The task of this Working Group is to review and produce an up-to-date and coherent version of the Multi-lingual Thesaurus for the geosciences. The current thesaurus has been in existence for more than a decade, but it is widely regarded as inconsistent, incomplete and inaccurate. The group has already undertaken a review of the existing thesaurus and during 2005, met in Nottingham and Warsaw to produce a plan for the work that needs doing to deliver a worthwhile and viable multi-lingual thesaurus. A major issue is the considerable resources that this work will require and so the Group have prepared a proposal and bid for European Commission funding (to the "e-Contentplus" programme). If the bid proposal fails the plan will still form the framework for the work of the Group but obviously the work will be stretched over a significantly longer period.

Regional Working Groups

Regional CGI Working Groups were proposed at the inaugural CGI meeting in Florence. The first of these (the Regional Working Group for East and Southeast Asia) will be initiated in late November 2005. A second group for Russia has also been proposed.

Regional Working Group for East and Southeast Asia



This Group was proposed at the CGI Council Meeting in Toronto and has the following main objectives:

- To exchange information and opinions on geological information and its standards;
- To disseminate CGI activities to the region;
- To review the activities in geoinformation and geological standards;
- To get more CGI members in the region.

The preliminary meeting will be held on 25th November in Bangkok and the work of the group will be linked to the work of the Coordinating Committee for Coastal and Offshore Geoscience Programmes in East and Southeast Asia (CCOP). CCOP is an intergovernmental organization for the geological community of East and Southeast Asian region.

Funding and expenditure

CGI receives funding from the IUGS but no direct financial support from other bodies. It does however receive considerable indirect support in terms of staff-time and meetings and infrastructure facilities from the parent organisations of its Council members and organisations such as CGMW. Late in 2005 UNESCO agreed to provide \$5000 for CGI to prepare a flyer and prospectus for our Outreach workshop initiative (these funds have yet to reach our back account and so do not show in the CGI accounts below; also the 2005 website costs which have yet to be debited).

The planned budget and spending details for 2006 have yet to be ratified by the Council, but will include spend on the maintenance of the CGI web site and other communications items and setting aside the bulk of the funds for delivery of the Outreach workshop.

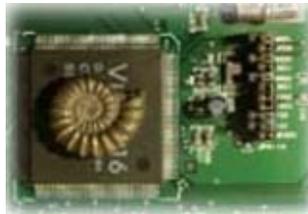
In addition to the normal allocation to CGI of \$5000, CGI will be bidding to IUGS for \$3000 to support representation at the 2006 CODATA Conference in Beijing.

	\$ account		€ account	
	in	out	in	out
October 2002 kick off "new" CGI	2 172.81		1 113.59	
2002 allocation IUGS (3000\$) 2001/2002 grant ICSU (5000\$) Council meetings new web site CGI bank account costs	3 000.00 5 000.00	-2 512.32 -0.60		-10.00
Balance 2002	7 659.89		1103.59	
2003				
2003 allocation IUGS (5000\$) Council meetings MT working group CGI bank account costs			4 104.75	-826.27 -426.00 -25.00
Balance 2003	7 659.89		3 931.07	
2004				
2004 allocation IUGS (5000\$) De-budgeting unclaimed expenses 2003 Council meetings CGI Flyer MT Working group Firenze prep. & participation Website CGI bank costs			4165.28 426.00	-138.00 -696.00 -426.00 -294.60 -2006.05 -20.00
Balance 2004	7 659.89		4 941.70	
2005				
Domain name CGI website (28.2£) 2005 allocation IUGS (5000\$) Council meetings Cost CGI bank account 2005	5000.00			-43.00 -286.30 -20.00
Balance 2005	12 659.89		4 592.40	

Conclusions

We believe that CGI continued to make good progress in 2005. The Council maintains regular contact via email and is individually and collectively proactive in the domain of geoscience information. The website is kept up-to-date and has a large number of visitors. The release of the results of the survey of geoscience information bodies around the world should allow improved communication and enhanced use of resources by all these groups. The work of the Data Model group is particularly pleasing: though esoteric to many, the importance of the work on the data model and exchange standards should not be under-estimated. The basic ability to straightforwardly share and integrate diverse digital geoscience data sets within and between the geoscience and other disciplines and within and between organisations and nations not only presents a significant efficiency gain, it is also the precursor to doing new science and providing new solutions to societal problems at both local and global levels. We would especially like to record our thanks to this team for their efforts.

CGI Council
20 November 2005



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