

CGI 2007

ANNUAL REPORT TO THE INTERNATIONAL UNION OF GEOLOGICAL SCIENCES FOR 2007



Interoperability

in-tər-,ā-p(ə-)rə-'bi-lə-tē (noun) ability of a system to work with or use the parts or equipment of another system.

The work on interoperability of geoscience data is one of the most important tasks that CGI supports. Through its Interoperability Working Group CGI is developing the mark-up language GeoSciML.

The Interoperability Working Group have continued to be extremely active in 2007 and the highlight of the year has been the development of GeoSciML version 2. The geological surveys of Japan and Italy have joined the Working Group as active participants. GeoSciML version 2 improves on version 1 (launched at IAMG, Liege, 2006) by adding further refinements to geological units and geological structures, fossils, and controlled vocabularies. Version 2 also harmonizes borehole encoding with newly published standards for observations and sampling. A group representing geological survey organizations from eight countries has executed the technical work using a consensus process.

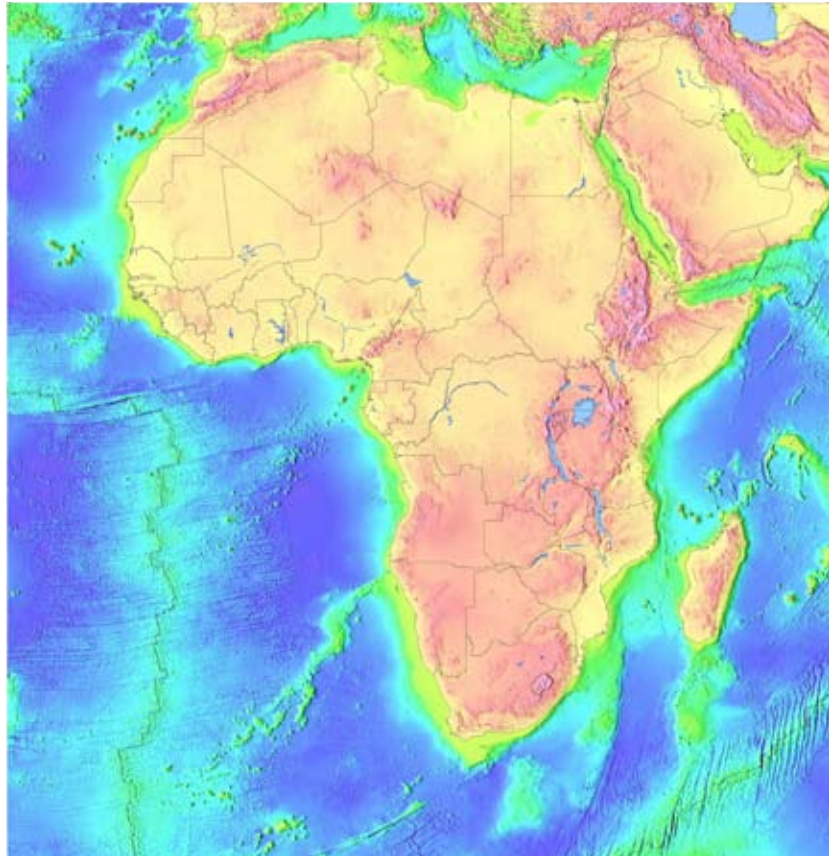
There have been two face-to-face design workshops: in Tucson USA (May) and Melbourne Australia (September). Work on the third GeoSciML interoperability testbed is underway, and will be formally demonstrated at the IGC in Oslo. The new testbed will further develop existing functionality and also include new capabilities based on the development of controlled language and registries. It will demonstrate the use of GeoSciML with commercial GIS and 3D modelling software. The objective of GeoSciML is primarily to support exchange of data related to geological maps, but has also been adopted as the base standard for further specialization by groups from the water and mineral resources, and analytical geoscience domains. Other important linkages are with the OneGeology project (GeoSciML will be used for detailed data transfer in the OneGeology testbed) and with the EU INSPIRE framework (GeoSciML is promoted as a specific exemplar of environmental data models and encodings). GeoSciML is recognised as being one of the leading community projects in OGC (Open Geospatial Consortium), which attracts interest from software vendors and has been identified as a key component in new R&D proposals or collaborative projects (National Science Foundation, European Commission FP7 funding, etc). A large number of presentations have been given to the geoscience and IT communities across the world by Working Group members in order to inform and give more visibility to GeoSciML.



Outreach Success

Much hard work preparing the case for funding an Outreach Workshop in Africa paid off in November when the German Federal Ministry for Economic Cooperation and Development (BMZ) informed the German Geological Survey (BGR) that it had been officially awarded 125000 Euro to support and run the Workshop.

This really excellent news came through as a small sub-committee of the CGI Council were meeting in Hannover on 15 November to take forward plans for the workshop. We would like to thank all who have supported the Outreach Workshop concept and provided input. Together with the finance we have agreed to commit from within CGI (approximately 20000 USD which we have been deliberately accruing for 3 years), this gives us a substantial sum to make sure that the workshop successfully delivers its goals. In the next few weeks and months BGR and members of the CGI, plus a local organising committee in the Namibian Geological Survey (GSN) will be working to organise the event. More details will emerge soon, so please stay in touch with the latest news through the CGI website.



Bundesanstalt für
Geowissenschaften
und Rohstoffe



Federal Ministry
for Economic Cooperation
and Development

OneGeology



CGI and members of its Council have been very closely involved in the development of OneGeology – the global initiative to make digital geological map data for the Earth more accessible.

Following a very successful Workshop in Brighton, UK, in March, the project has gone from strength to strength and geological surveys and organisations from 72 countries are now participating. A OneGeology prototype web map portal will be released in January and “cookbooks” to guide all participating organisations to digitally serve their map data to the internet and contribute to the global coverage will be available then too. The full OneGeology portal will be launched at the IGC in August.

In October the European members of OneGeology submitted a €3.9 million, 21 nation bid to the European Commission’s eContentplus programme to take forward the European component of the project – the outcome of this bid should be known in March 2008.



Europe

In Europe, the most significant development in 2007 was the adoption of the INSPIRE Directive by the European Union. This entered into force on the 15th May 2007. INSPIRE will drive standardisation and harmonisation efforts for digital geospatial information. It is a very profound step, which will, in the next few years, introduce legally binding specifications for the discovery, viewing and delivery of digital spatial data.



“Geology” has a prominent position amongst the 34 environmental themes covered by the Directive, and GeoSciML is recognised as the most advanced example of thematic specification and one which is fully in line with the INSPIRE principles, and is identified as reference material for the work led by the European Commission.

As a registered EU Special Thematic Interest Community (SDIC), CGI is consulted by the Commission on the draft of the Implementing Rules, which will be transposed into the laws of all the European Member States. Three members of CGI are members of the Rules Drafting Teams. CGI representation will help to ensure that the specifications adopted in Europe will be consistent with the standards developed at a global scale.

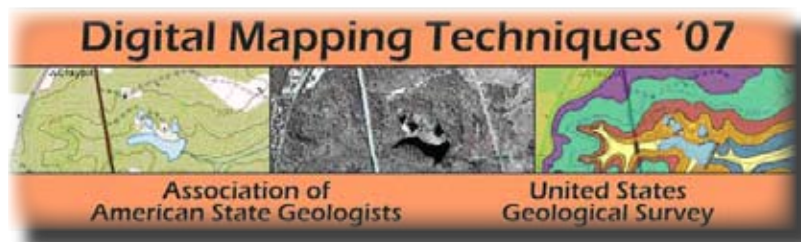
In addition to attending regular Drafting Team meetings, CGI members have given presentations on the implications of INSPIRE for geology and geological surveys at the EC GIS Workshop in Porto in July and were also invited to provide expert advice to a DG Enlargement workshop in Krakow in November.

North America

Scientific and technical representatives of Federal, State, and Provincial geological survey agencies in North America continued to provide substantive contributions to international development of standards and databases for geologic maps.

In cooperation with scientific agencies worldwide, North American scientists and technical experts continued to refine the CGI GeoSciML data-exchange format, and to evaluate it by means of the GeoSciML Testbed 2 effort through testing in national-scale map database systems. In order to increase the use of more standardized scientific terms and definitions in geologic map databases, North American scientists helped lead the GeoSciML Concept Definitions Working Group; this work is closely synchronized with ongoing national standards-development activities, to ensure compatibility. The GeoSciML-related development work also will support North American participation in the international OneGeology project. These and related activities were highlighted and documented in the 11th annual international technical workshop “Digital Mapping Techniques ‘07”, held in Columbia, South Carolina.

Other activities included: collaboration with ESRI on implementation of the North American Data Model (NADM) standards for database structure and science terminology and the capability to import/export GeoSciML from ESRI software, and implementation of the U.S. Federal cartographic standard for geologic maps; progress toward conversion of the Geologic Map of North America to a GIS database, for availability within national and international Web portals; establishment of a North American Profile for the ISO 19115 geospatial metadata standard and initiation of the development of tools for its implementation for Canadian geoscience data; planned utilization of the North American Data Model (NADM) and GeoSciML data exchange standard for management and dissemination of the new International Polar Year (IPY) circum-polar geology map.



South America

South American geoscientists are deeply interested in CGI activities and the standards developed under its umbrella, but they also have worries about how they will participate in these state of the art technological projects due to limitations in their infrastructure, technical capability and also the perennial difficulty of attending international meetings in other continents.

South American countries have many different projects involving digital mapping. The most important project is the harmonized map of South America at 1:1million scale. Argentina and Chile are also working together in the development of another map, the geological map of the Patagonia area at 1:1 million scale. Latin American countries were very well represented at the One Geology Kick off workshop held in Brighton in March and the maps mentioned above will be integrated into this international initiative.

Several presentations on CGI were made in a variety meetings through the year - The GIS Day, the International Course on ASTER Technology (Argentina-SEGEMAR, Japan-JICA), The National Bureau on Information Technology (Argentina). Also a selection of articles were written in journals such as the Global Spatial Data Infrastructure Newsletter-LA. There is a growing interest in Argentina in interoperable technologies like GeoSciML due to its potential beneficial impact on Emergency Response, Land Use Management and E-Government projects.

Asia

The GEO Grid project was proposed by Geological Survey of Japan (GSJ) as a new infrastructure on which to develop a geo-information network among Asian countries.

The infrastructure will allow us to be able to share data, application programs, and scientific workflows without having deep knowledge of IT or where the grid technology is provisioned. GSJ organized a workshop and training for GEO Grid in Asian countries (with the CCOP region).

The training will include a one day course on GeoSciML and OGC standards for East and Southeast Asian geoscientists in Tsukuba, Japan in January 2008. More than 15 members from 10 Asian countries from Cambodia, China, South Korea, Japan, Indonesia, Philippines, Malaysia, Thailand, Vietnam and Papua New Guinea will participated in the training.



Russia

The 4th International conference “GIS in Earth Sciences”, supported by CGI, was held in Queretaro, Mexico (October 22-26).



The Russian group, represented by Russian-French Metallogenic Laboratory and including CGI members, co-ordinated the scientific program for the event, including plenary and poster sessions as well as two master-classes on geostatistics and 3D and virtual reality. 140 participants came from Argentina, Australia, Canada, Colombia, France, Israel, Mexico, Russia and the UK. During the conference, a decision was taken to organize a summer school in Dubna, Russia in 2008, on GIS in geology. This will take place in July 2008, CGI will be invited to participate.

Australia

Australia has continued to play a key role in the work of the CGI Interoperability Working Group, with representatives of three organizations very active in the technical programme.

The Australasian Government Geologists Information Committee (GGIC – formerly GGIPAC) has continued to provide a focus for coordination between the States and Commonwealth. GGIC commissioned the development of a data transfer standard for mineral occurrence data derived from GeoSciML.

The Auscope project commenced mid-year. Funded through the Australian government's National Collaborative Research Infrastructure Scheme, Auscope has a significant e-Science focus and will see significant investments in a number of projects related to geoscience information collection.

The SEEGrid conference was held in Canberra, December 2006. The third in the series, SEEGrid again attracted 100+ participants for presentations and discussions concerning information and computational interoperability standards across the earth and environmental sciences.



Africa

The Geological Survey of Namibia is the main contact for CGI in Africa and the organisation will be taking a leading role in the preparation of the CGI Outreach Workshop in 2008 (see CGI and Outreach on page 2).

In July 2007 as the Chair of the Standards Working Group for the UNECA's CODIST-GEO was tasked with drafting an African Metadata Profile of ISO 19115 to support the objectives of the Mapping Africa for Africa (MAFA) initiative.

Multilingual Thesaurus of Geosciences

A meeting of the MTG Working Group was held in Hannover on 15 and 16 October 2007.

The principal topic of the meeting was developing a hierarchical scheme for the Multilingual Thesaurus of Geosciences. Topics considered were: review of existing draft hierarchy; identification of hierarchy errors; identification of lacking branches; recommendation for deleting terms; further developments; and actions for publicity for the MTG.

CGI at the IGC

A proposal for a major Geoscience Information Topical Symposium was successfully submitted by CGI to the IGC33 Organising Committee.

The proposal is also supported by the International Association of Mathematical Geologists (IAMG) and the Geoscience Information Consortium (GIC). The Symposium will have sessions on topics ranging from data capture, to information management and delivery, to 3D modelling. These Sessions will be further subdivided into Sub-Sessions. The eventual final number of Sub-Sessions will reflect interest and submissions from the potential oral/poster contributors. The aim is to provide a flexible structure that will be adapted to maintain a logical and coherent overall programme for the Symposium and produce a comprehensive and rewarding conference with the minimum of under- or over-lap. The proposal envisages an Opening Plenary Session, which will include keynotes introducing each of the 5 main Sessions. There will also be a Closing plenary session and a novel "Short-Sharp-Share" session for impromptu presentations.



CGI Business

Meetings

The CGI Council Annual Meeting was held in Columbia, South Carolina, USA in May. Columbia was chosen as this was the venue for the annual North American Digital Mapping Techniques Workshop.

The minutes and actions of the meeting can be found on the CGI web site. Several Council members also met opportunistically at a number of events throughout the year: for example, at the meeting of the Geoscience Information Consortium in June in Bern, at the EC GI conference in Porto in July and at OneGeology workshops in March and November. The work of CGI was also discussed at the Australian GGIPAC Annual meeting in Hobart, Tasmania in February and at a major geoinformatics conference in San Diego in May.

During 2007 CGI officers have also been involved in the organisation of an Earth and Space science informatics summit, scheduled to be held in Rome in March 2008 and a geoinformatics conference in Potsdam in June.

Web site and Communications

The CGI web site plays a prominent part in CGI's communication: 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 2007 the CGI web site received over 47468 visitor sessions.

The CGI Secretary General has been invited to co-edit a new Geological Society of America volume on "Societal Challenges and Geoinformatics".

Membership

CGI now has 211 members in 57 countries across the world.



Elections

In 2008 CGI will hold elections for a new Council for the period 2008 –2012. The detailed procedures and timetable for the elections have been agreed by the Council and will see us with a slate of candidates by 1 March 2008. Following ratification by the IUGS Executive, the new Council and Officers will be in place in August 2008.

Finance and budget

CGI receives funding from the IUGS but no direct regular 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.

The detailed planned CGI budget and spending details for 2007 will be dominated by expenditure on the Outreach Workshop but will also include underlying spend on the maintenance of the CGI web site and other communications items.



In 2008 in addition to \$5000 to run the basic CGI operation and the special meetings associated with the election of the new Council before and during the IGC in August, CGI would wish to bid to IUGS for an additional sum of money in 2007. CGI would like to submit a second bid of \$5000 to support its work on GeoSciML. This will include costs associated with documenting the model and standard and preparing information for its dissemination and acceptance.

The CGI Accounts are attached as an Appendix. These show that the financial situation of CGI at the end of 2006 is positive; as noted above this results from a longstanding CGI Council decision to create sufficient budget reserve to organise the Outreach Workshop in Namibia in 2008.

Acknowledgements

In this, the last report of the current council, we would like to record our thanks to all members of CGI and its working groups and secretariat, and to members of the IUGS Executive for their help and encouragement.

CGI Council

5 January 2008



Appendix A: List of Council Members

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Appendix B: CGI Accounts for 2007

	in	out	in	out
October 2002 kickoff "new" CGI	2 172.81		1 113.59	
2002 allocation IUGS (3000\$)	3 000.00			
2001/2002 grant ICSU (5000\$)	5 000.00			
Council meetings				-10.00
New web site		-2 512.32		
CGI bank account costs		-0.60		
Balance 2002	7 659.89		1 103.59	
2003				
2003 allocation IUGS (5000\$)			4 104.75	
Council meetings				-826.27
MT working group				-426.00
CGI bank account costs				-25.00
Balance 2003	7 659.89		3 931.07	
2004				
2004 allocation IUGS (5000\$)			4165.28	
Debudgetting unclaimed expenses 2003			426.00	
Council meetings				-138.00
CGI Flyer				-696.00
MT Working group				-426.00
Firenze prep. & participation				-294.60
Website				-2006.05
CGI bank costs				-20.00
Balance 2004	7 659.89		4 941.70	
2005				
Domain name CGI website (28.2£)				-43.00
2005 allocation IUGS (5000\$)	5000.00			
Council meetings				-286.30
Cost CGI bank account 2005				-20.00
Balance 2005	12 659.89		4 592.40	
2006				
IUGS Grant outreach workshop (10000\$)	10 000.00			
UNESCO Grant outreach workshop leaflet (5000\$) contract 4500027900	5 000.00			
2006 IUGS allocation (5000\$)	5 000.00			
Refund Datamodel workshop Perth dec 2004		-367.68		-27.83
Maputo outreach workshop		-2941.23		-3510.85
Printing and Shipping leaflet		-4690.00		-2390.49
Internal transfer \$ =>		-5000.00	3857.73	
Balance 2006	19 660.98		2 520.96	
2007				
Cost CGI bank account 2006				-20.00
2007 IUGS Grant allocation	7500.00			
Cost domain name CGI website (24.99£)				-41.79
Cost CGI bank account 2007				-30.00
Balance on 20/12 2007	27 160.98		2 429.17	