CGI ANNUAL REPORT 2012

IUGS

Contents

1. Overall objectives, mission and aims

An understanding of geology is crucial in protecting human life, health and assets, and sustaining our environment and resources. As in many areas of life today, information technology is having a dramatic impact on the way geological data and knowledge is being captured, processed and disseminated. The effective application of IT is the key to the future exploitation of geological knowledge for the benefit of society.

CGI aims to:

1. Provide the means for transferring knowledge on geoscience information and systems.
2. Stimulate international dissemination of best practice in geoscience information.
3. Stimulate and support initiatives which are developing standards.
4. Establish and occupy an accepted position in the international geoscience information community and represent IUGS on geoscience information matters.

2. Role within IUGS science policy

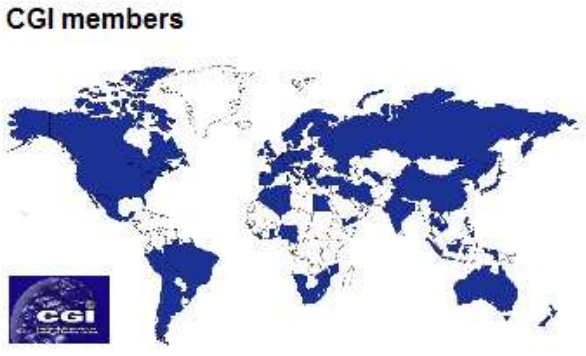
The CGI fills the role of the geoscience information body of the IUGS. It represents IUGS on geoscience information matters, provides the means for transferring knowledge on geosciences information and systems, assists international dissemination of best practice in geosciences information, stimulates and supports initiatives which are developing standards and its Council members hold several significant positions within the international geosciences information community.

3. Organization, Council members and officers

Council Officers 2012-2016

The new CGI Council has been established at the 34th International Geological Congress in Brisbane, Australia. The new elected CGI council members are:

- François Robida (Chair) – France
- Kristine Asch (Secretary General)
- Robert Tomas (Treasurer)
- Gabriel Asato – Argentina
- Peter Baumann – Germany
- Michael Frame – USA
- Richard Hughes – UK
- Kazuhiro Miyazaki – Japan
- David Percy – USA
- Oliver Raymond – Australia



- Anna-Karren Nguno – Namibia (observer)
- Jun Wang – China (observer)

Because of practical reasons the complete CGI secretariat moved to the BGR, and so did the mail address of the secretariat (cgisecretariat@bgr.de).

Council web presence

The CGI Council, along with BGS, provided the much needed updates to the Council web presence. More improvements are still in process. The intent of the redesign is to improve overall find-ability of information, better highlight CGI activities, emphasize CGI support emerging standards, and provide an area to showcase CGI sponsored Working Groups (http://www.cgi-iugs.org).

Membership

CGI now has 256 members in 64 countries across the world.

4. Extent of national/regional/global support from sources other than IUGS

Other than the substantial in-kind contribution of the Geological organizations who pay the salaries and expenses of CGI Council and members, the CGI does not receive additional support. Sometimes CGI workshops are co-organized by other organizations such as the UNESCO, the German Federal Ministry for Economic Cooperation and Development (BMZ), The Geological Survey of Namibia, SEGMAR or SEAMIC who are then contributing to the events.

5. Interaction with other international projects

The CGI is continuing to develop Geoscience ML (GeoSciML), a mark-up language allowing the digital exchange of geoscience information locally, continentally and globally. Both, the linked global OneGeology project and the past European EC project OneGeology-Europe are using GeoSciML to make geological data interoperable and accessible via their web portals. The EC Directive INSPIRE and its current draft of the Implementing Rules for the interoperability of spatial data sets and services for the Themes “Geology” and “Mineral resources” recommends the use of GeoSciML and Earth Resource ML (a mark-up language to exchange mineral and energy resources information) for encoding. In this context also numerous geology code lists developed under the auspices of the CGI within the CGI vocabulary are being proposed for mandatory use.

6. Chief accomplishments and products

6.1 CGI COUNCIL Meeting, 34th International Geological Congress, 5-10 August, Brisbane, Australia

The old and the new CGI Council in Brisbane, Australia 2012.

The annual meeting of the CGI Council took place on 11. August just after the International Geological Congress in Brisbane.

Apart from progress reports from the various CGI working and regional groups the sustainability of CGI vocabularies, CGI's participation in the OGC, CGI's role within the data specifications of the European INSPIRE Directive was discussed. A major point was the significant change from the old to the new Council, the hand-over of tasks and responsibilities and the discussion of the future focus of activities of the CGI. Long-term members of the Council left (Ian Jackson, Secretary General, UK, Koji Wakita, Japan, Bruce Simons, Australia, John Broome, Canada) and new members started their work (Robert Tomas (Treasurer), Czech Republic, Michael Frame, USA, Richard Hughes, UK, Kazuhiro Miyazaki, Japan and Oliver Raymond, Australia.
The Council would like to take this opportunity to thank our long-term CGI Secretary General Ian Jackson for his indefatigable, invaluable work since the start of the CGI, and John Broome, Koji Wakita, and Bruce Simons for their reliable and constructive contributions!
With the position of the CGI Secretary General the CGI secretariat changes its location from the BGS in the UK to the BGR in Germany, and the Council would like to thank Kathryn Bull at BGS for her excellent work for the CGI secretariat!

The new mail address of the CGI secretariat is: **cgisecretariat@bgr.de**.

6.2 The CGI at the 4th International Geological Congress, Brisbane, Australia

The CGI/IAMG/GIC Geoinformation Super-Symposium

The program of the 34th International Geological Congress covered 37 scientific theme-related symposia. One theme, theme 5: the Geoscience Information Super-Symposium, was jointly coordinated and chaired by representatives of three International organizations / associations:

- CGI-IUGS (Bruce Simons, Ollie Raymond)
- Geoscience Information Consortium (Robert Tomas, Richard Hughes)
- International Association for Mathematical Geology (June Hill, Simon Cox)

The Super-Symposium co-ordinator within the IGC organizing committee was Bruce Simons.

The Super-Symposium was split into 5 topical symposia with ca 100 presentations many of which were made by CGI members:

1) Geoscience Spatial Data Infrastructure, Delivery, and Exploitation

2) Information Management - Interoperability and Standards

3) Tools – software, hardware, open source

4) Model fusion, visualisation, exploration and 3D & 4-D modeling

5) Mathematical Geosciences

All the CGI related sessions were well attended. The presentations were all of a very high standard, and highlighted the importance of geosciences information and standards to enable its exchange to the broader geosciences community.

Not only the majority of the presenters and participants were affiliated to the CGI, but also the general recognition of the importance of CGI in the field of interoperability of geoscientific data, information and knowledge was clearly visible. The quality of the presentations was notably excellent. A development of even better quality and attendance in comparison to the 1st supersymposium at the IGC in Oslo could be observed. This demonstrated that the level of understanding and awareness of the importance of the management of geoscience information, interoperability, standardization of geological data and services and general utilization of GIS in geosciences is rising. However, from several presentations it could be taken that one of the remaining challenge is the sustainability of community-developed standards (GeoSciML, EarthResourceML, CGI geoscientific vocabularies etc.) and their implementation in real company- or organization-critical

applications (e.g. from project-based solutions to operational multi-national spatial geoscience infrastructures such as OneGeology or INSPIRE).

Conclusion:

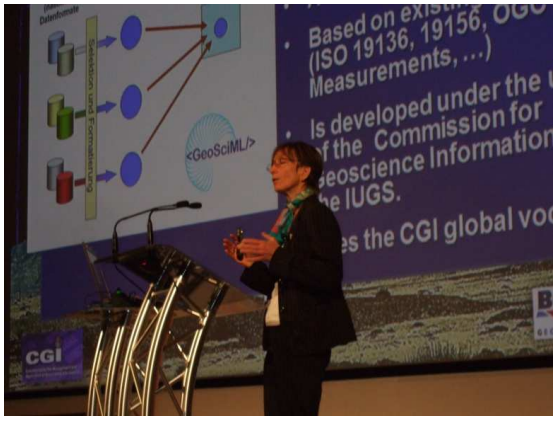
It was agreed, based on the success of the joint Geoinformation Super-Symposium, that all three partners (IUGS-CGI, IAMG, GIC) will continue with organising the event during the next IGC.

Award of Excellence to CGI IWG-Leader John Laxton

John Laxton, leader of the CGI Interoperability Working Group, received the IUGS Award of Excellence at the 34th International Geological Congress in Brisbane, Australia, from Kristine Asch.

Geoinformation plenary speech

CGI Chair Kristine Asch gave a plenary speech (Geoscience Applications in a Cyber World) at the IGC in Brisbane. The speech included, amongst other topics, the CGI subjects of the development of GeoSciML and application within OneGeology and the role of the CGI-founded GIRAF network (Geoscience Information in AFrica).



6.3 Interoperability Working Group

Within the reporting period the 'top-level' objectives have been:

- To complete development of the data model and schema for GeoSciML v3.
- Review instance documents for GeoSciML v3.
- Complete a simple schema for thematic mapping/portrayal (GeoSciML-Portrayal).
- Develop a schematron service to validate GeoSciML WFS.

- Progress migration of data model stewardship to OGC.
- Develop exemplar database for GeoSciML.
- Upgrade EarthResourceML to be consistent with GeoSciML v3 and INSPIRE.

Team members have been heavily involved in related developments such as the EU-INSPIRE geology data specifications, GroundWaterML, and the US Geoscience Information Network (USGIN) during the reporting period.

Main Actions during the review period

- Continued revisions were made to EarthResourceML in light of developments in the INSPIRE MineralResources model. A proposed final version of EarthResourceML v2 has been released for review.
- An exemplar database has been produced covering those GeoSciML features equivalent to GeoSciML-Portrayal.
- The schematron rules agreed at the Edinburgh meeting 2011 have been implemented.
- Instance documents have been produced for the revised GeoSciML model.
- Close liaison was maintained with the development of the INSPIRE Geology and MineralResources models which will be based on GeoSciML and EarthResourceML respectively.
- A formal contribution was made to the review of the INSPIRE data models.
- The GeoSciML mailing list was moved to OGC.
- Some progress was made towards moving GeoSciML governance to OGC
    - a document on the pros & cons of the move was produced for the CGI Council
    - informal discussions with OGC were held at the OGC Boulder meeting in September 2011
    - ongoing discussions to clarify OGC requirements for making GeoSciML an OGC standard, in particular in terms of conformance classes. The OGC process appears to be in a state of flux
- A meeting was held between ESRI and some members of the IWG in Redlands in May 2012 to agree an ESRI geology data model specification that would be consistent with GeoSciML and INSPIRE. ESRI are currently developing a demonstration data model on the basis of this shown at IGC 34 in Brisbane.

Main achievements during the last 4 years

As we are now at the end of a four year period of IWG activity we can highlight the main achievements during that period:

- Ongoing development of GeoSciML in light of experience and user feedback leading to the release of GeoSciML v3 in December 2011.
- Development of testbed services to test and demonstrate GeoSciML functionality.
- Development of technical and ‘cookbook’ documentation for GeoSciML.
- Presentation of GeoSciML at a range of conferences over the period to enhance its profile in the geosciences community.

- Close collaboration with external initiatives and projects including OneGeology; OneGeology-Europe; INSPIRE; US GIN; GWML; AuScope. These have either used GeoSciML or developed models derived from it and thus greatly increased uptake and awareness of GeoSciML.
- Taken over governance of EarthResourceML and developed it further.
- Developed and published common geoscience vocabularies for over 30 properties described by the GeoSciML model. These have been made available via a vocabulary service and are now available in rdf format. These vocabularies have been increasingly adopted by external projects, including INSPIRE and OneGeology-Europe.
- Held a science language workshop in Berlin in August 2010.
- Release of GeoSciML-Portrayal as a 'GeoSciML consistent' means of delivering geological map visualizations (e.g. WMS).

The IWG and all task groups met in a joint session in August 2012 in Wellington, hosted by GNS New Zealand. The highlights of the meeting were:

- Agreement on the draft Memorandum of Understanding between CGI and OGC to establish a collaborative Standards Working Group for GeoSciML v4.
- Reviewed progress with GeoSciML and the current status of implementations.
- Development of version 3.1 of the GeoSciML data model to include some minor requests from INSPIRE. (Version 3.1 schemas have now been released for testing)
- Review of GeoSciML-Portrayal developments and implementations.
- Review of the GeoSciML reference database.
- Review INSPIRE data models and relationships with GeoSciML & EarthResourceML.
- Agreement of a version 2.0 upgrade to the model for EarthResourceML. Additions to the model centred mainly around requests from INSPIRE users.
- A report on geodatabase data model collaboration with ESRI.
- A review of progress with the concept definitions work and future governance of vocabularies. As the vocabularies are becoming more widely adopted, for instance by INSPIRE, we need a clear structure for maintenance and governance that is acceptable to outside bodies.
- A combined meeting of the IWG was held with representatives of soil science agencies from Australia and New Zealand to share experiences of developing global data transfer standards.
- Preliminary development of a version 4 GeoSciML model to address requests from users and software developers.

Next Steps

Following on from the Wellington meeting the main tasks are:

- Publish EarthResourceML v2 XML schemas.

- Implement governance and maintenance structure for vocabularies through the new Geoscience Terminology Working Group.
- Update the cookbooks on data mapping and how to establish Web Feature and Web Mapping services using GeoSciML. This will include documentation for GeoSciML version 3 and on the GeoSciML-Portrayal schema.
- Deploy a Schematron service to validate deployed GeoSciML WFS.
- Implement actions required to move GeosciML under combined CGI/OGC governance, including finalization of the new SWG charter and organization of an inaugural SWG meeting at the OGC Technical meeting in Redlands in January 2013.

Call for expressions of interest to join the Geoscience Terminology Working Group

In October the CGI published a call for expressions of interest to participate in the Geoscience Terminology Working Group to all CGI members in October 2012. The Working Group is a product of the fusion of the former CGI Concept Term Definition Task Group (CDTG) and the Multilingual Thesaurus of Geosciences Working Group (MTG) and seeks to develop over 40 new geoscience vocabularies to support GeoSciML and EarthResourceML.

Nominations are accepted until 30. November 2012.

6.4 Asia

CGI outreach workshop

The CGI Outreach Workshop in Asia was held in Bangkok from February 15th to 17th, 2012. The workshop was hosted by the Coordinating Committee for Geoscience Programmes in East and Southeast Asia (CCOP). More than 20 participants from 7 Asian countries and the UK attended the workshop. Mr. Tim Duffy of British Geological Survey was invited as keynote speaker of the workshop. He introduced the recent activities of the Interoperability Working Group of CGI to disseminate the CGI activities to the Asian geoinformation community. Recent activities on ASEAN Mineral Resource Database, OneGeology-Asia, geoinformation of Asian countries were introduced and discussed in the workshop.

OneGeology-Asia

The Geological Survey of Japan (GSJ) and CCOP have been making efforts to promote the OneGeology project to the countries in East and South East Asia. Presentations about the OneGeology project were given during workshops, meetings and conferences organized or sponsored by GSJ and/or CCOP. The WMSs of the 1:1 M geological maps of Mongolia, Vietnam and Papua New Guinea would soon be registered to the OneGeology portal. The new portal of the OneGeology - Asia would soon be launched by the Geological Survey of Japan. A new iPhone and iPad app called OneGeologyAsia Mobile is also developed by GSJ. The app is used for viewing the OneGeology registered Asian geological maps WMSs.

Participants of the CGI Outreach Workshop held in Bangkok, 2012 (picture: Koji Wakita)

ASEAN Mineral Database Training

The Geological Survey of Japan, AIST has been conducting trainings courses and workshops on the adoption of OGC standards and the setting up of WMS servers in ASEAN countries. The main purpose of the workshop is to enhance the capabilities of ASEAN countries in developing a more advanced OGC compliant ASEAN Mineral Database system. The ultimate aim of the workshops is the development of human resource for the implementation of the geoinformation infrastructure in the ASEAN region. The first training this year was held from January 9th to 16th, 2012 in Tokyo, Japan. The training was attended by the representatives of the ASEAN region. The second training was held at the Department of Mineral Resources (DMR) in Bangkok, Thailand from February 13th to 14th, 2012, which was attended by DRM staffs. The third workshop was held at the General Department of Geology and Minerals of Vietnam (GDGMV), Hanoi, Vietnam from March 26th to 28th, 2012. This workshop was attended by GDGMV staffs. The last workshop was held in Yogyakarta, Indonesia from June 25th to 29th, 2012. This activity was attended by representatives from countries in the ASEAN region.

IGC34 Geoscience Information Super-Symposium

Dr. Koji Wakita and his colleagues prepared two posters for the Theme 5.1 Geoscience spatial data infrastructure. He also was the co-chairman of Theme 5.1 Session 5 Geoscience Delivery and Exploitation.

6.5 South/Latin America

The CGI activities in South America (SA) are focused on the development of outreach activities to encourage the development of geoinformation, promote the adoption of CGI standards and create awareness about the rule of information technologies in GS activities at decision levels.

Training courses

Training courses are a common and main activity in South America; unfortunately this year there were no chances to organize a new one.

Workshops

Two presentations were made at a special mining and oil meeting, a commercial event about interoperability and geosciences. OneGeology and CGI-IUGS were introduced to Latin-America mining and oil companies in the Natural Resources Data Management Meeting held in Río de Janeiro, Brazil from July 23th to 27th, 2012.

Technical groups

A new technical group about Electronic Geoscientific Languages was created. The aim of this group is the development of a consistent set of geoscientific terms in all of the Spanish speaking countries in order to guarantee the semantic interoperability of the data across the continent. During 2011 the objectives and the work plan for 2012 was defined.

Regional update

In order to push forward the OneGeology initiative in Bolivia a series of meetings were organized with National Spatial Data Infrastructure technicians to find a way to facilitate the conversation with their own Geological Survey. Despite the OneGeology initiative has a good reception by Bolivia's NSDI members, conversations with their Geological Survey are not progressing at the moment.

New opportunities of collaboration are in conversations with the GeoSur Project a Regional Spatial Infrastructure initiative for Latin America, supported by Latin-America Development Bank.

6.6 Africa

GIRAF

At the IGC in Brisbane the CGI Geoinformation in Africa Network (GIRAF) was prominently represented. It was introduced by Kristine Asch in a 2 hour session during the Sustainable Mining Workshop of the Australian Sustainable Mining Institute, during the CGI/IAMG/GIC geoinformation super-symposium (see section 6.2) and it was one of the themes at the CGI plenary speech about “Geoscience Applications in a Cyber World” (see section 6.2).

Posters of GIRAF were shown at the booth of the BGR, the Geological Society of Africa and the IUGS. On all of these booth GIRAF Flyers were distributed as well. Through this campaign GIRAF could not only gained 74 new members from 31 countries, but also much positive feedback and declarations of interest from around the globe.

Examples of GIRAF presence at the IGC in Brisbane: GIRAF Member and YES-Network representative Cecilia Mukosi shows the GIRAF poster at the BGR booth; GIRAF coordinator Kristine Asch shows the GIRAF associate member organizations in a talk at the Geo-Information Super Symposium; Lopo Vasconcelos (GSAf VP for the Southern African Region in front of the GIRAF poster at the GSAf booth. (Pictures with kind permission of Cecilia Mukosi, Marc Urvois, Aberra Mogessie).

For 2013 preparations for the GIRAF-OneGeology-AEGOS session at the CAG 24 in Ethiopia are in full flow. Here the opportunity will be used to prepare intensely the 3rd GIRAF Workshop. This event, GIRAF 2013 is going to take place during the centennial celebrations of the Geological Survey of Ghana which kindly offered to host the meeting. One of the major themes of GIRAF 2013 are planned to be "Geoinformation and Sustainable Mining", more involvement and feedback of geoinformation stakeholders outside governmental institutions and strong training component.

African nations with GIRAF membership including those who recently joined at the IGC in Brisbane (Mali, Gabun, Algeria, Ivory Coast, Madagascar, Liberia, Ruanda, Togo, Democratic Republic of Congo, status Sept. 2012, graphic: BGR)

GIRAF made also progress in building a well-kept, informative web site, hosted by the BGR:

WWW.GIRAF-network.org

Workshop of eGYAfrica

By invitation of the organizer Charles Barton CGI Council member Anna Nguno participated in the eGYAfrica Workshop, held from 24 to 26 October 2012 in Nairobi, Kenya.

The workshop brought together scientists and teachers who share a common desire to improve internet access in research and education institutions in Africa. 27 participants from 15 countries took part in the workshop.

Participants of the eGY Africa Workshop held in Nairobi, 2012 (picture with kind permission of Paul Baki)

Among the issues discussed at the workshop were the needs to:

- Strengthen the network of people with common interest in reducing the digital divide and National Research & Education Network (NREN).
- Explore collaborative arrangements with other organizations and programs committed to reducing the digital divide in Africa.

A brief introduction about GIRAF's activities and its link to CGI-IUGS was touched by a presentation of Anna Nguno. The meeting resulted in affirming that GIRAF is one of eGYAfrica potential partner who can contribute immensely to achieve eGYAfrica objectives. A future cooperation between eGYAfrica and GIRAF should be enhanced and preserved for the mutual benefit.

At the workshop Anna Nguno was appointed as the new eGYAfrica secretary for the next two years. The next eGYAfrica workshop will be held in Uganda.

6.7 Oceania

Australia and New Zealand are key participants in the development and testing of the CGI data standards, including GeoSciML and EarthResourceML. GNS New Zealand hosted the 2012 IWG meeting in Wellington. The highlights of the meeting are described above (Section 6.3).

Participants of the GeoSciML Meeting held in Wellington, New Zealand, August 2012.

The Australia/NZ Government Geoscience Information Council (a collaboration of national, state and territory government geoscience agencies) have recently submitted (November 2012) a detailed review of the proposed EarthResourceML vocabularies that are being developed by the CGI IWG, and have also proposed a Borehole model to be incorporated into the CGI GeoSciML-Portrayal WMS standard.

6.8 Europe

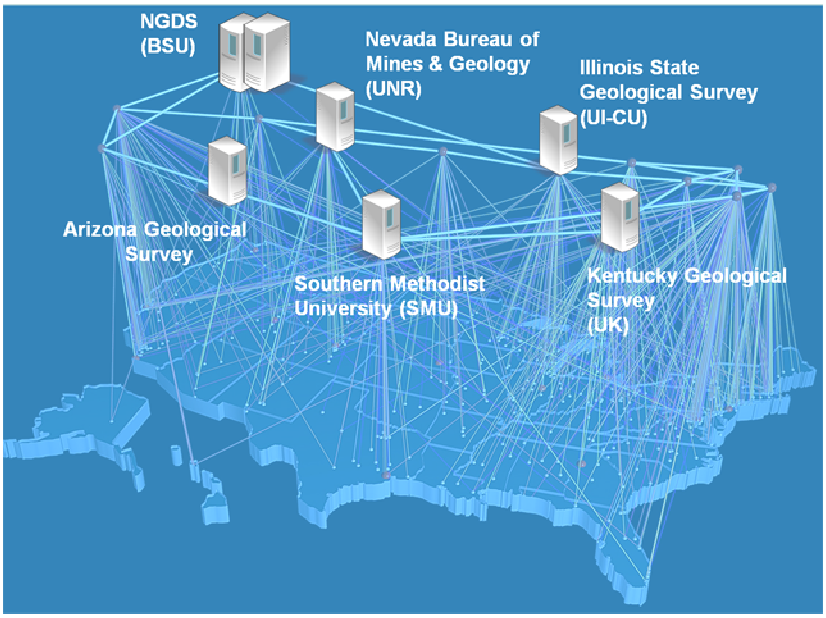
The INSPIRE Directive aims to build a spatial data infrastructure across Europe for 34 themes until the year 2020. The data are to be made accessible, interoperable, comparable and useable for everyone. The CGI has been very much involved in the development of the Implementing Rules (EU legal act). The IWG chair John Laxton as editor, Jean-Jacques Serrano as facilitator and several members of the former and existing CGI Council including Kristine Asch, Francois Robida and Robert Tomas (EC geology-related themes coordinator), have been intensely involved in creating of the Implementing Rules via the INSPIRE Thematic Working Group “Geology and Mineral Resources”.

For the theme geology the GeoSciML data model and the CGI vocabularies with the up-dates from the OneGeology-Europe project were used as a base and modified according to INSPIRE requirements. The Mineral Resources theme is using EarthResourceML as a base. For the CGI

this is a considerable achievement and advantage, because the formal inclusion by the INSPIRE EU legislation of CGI-managed code lists and parts of the GeoSciML data model helps to strengthen the implementation and use of CGI standards not only in Europe but also world-wide.

6.9 North America

The 2011 activities in the United States were focused primarily on the application of geoinformatics to academia. A new course was developed by David Percy at Portland State University (PSU), called Geoinformatics, in the Geology Department. This course covers ontologies, markup languages, and the semantic web, among other themes. It was taken by a mix of geology and geography students. We coordinated with the USGIN activity, which is a major NSF-funded GeoSciML implementation effort, to test their training materials. We converted parts of the Oregon, US digital geologic database to GeoSciML and served it up using a cloud computing grant from Amazon Web Services. Next year David Percy is requesting funding from PSU to convert the Geoinformatics course into an online delivery method so that it can be taken anywhere in the world.



The members of the USGIN consortium (source: http://usgin.org/sites/usgin.org/files/hubs.png)

Additionally, the U.S. Geological Survey (USGS) supported the USGIN through allocation of in-kind staff time primarily in support of strategic and long-term funding identification. 2 Workshops were co-sponsored for this activity, along with USGS Senior Management briefings and significant involvement in project activities. The USGS also continued to support the OneGeology effort in the United States through performing updates to existing

datasets, promotion of the activity, and identifying long-term support for the effort. Support was also provided for the continued adoption and evolution of the International Geo Sample Number (IGSN) activity. Participation and involvement in various planning workshops and strategic integration sessions were begun in 2011. Activities in this area will continue into 2012/2013 as it relates to integration of IGSN schema's with other ongoing Identifier efforts such as DOI's, LSID's, etc.

7 Main problems encountered

The World's economic crisis is having strong impact on monetary support for regional activities of the CGI, e.g. in South America by main countries such as Spain.

In general it must be said that the communication among professionals from different countries is still a difficult issue, though since 2006 the CGI performed several successful activities (CGI-Seminar 2009, several GIRAF workshops, 2010 Cartagena training course, 2010 Geoscience Language Workshop in Berlin etc.) and a network of collaboration and communication have been created.

This problem may have different causes:

1) The Geoscience Information discipline is still not fully recognised as part of Geological Sciences.

2) Trips and travel expenses are usually only available for executives in the organisations.

3) It is not easy to get support from the organizations itself.

4) The difficulties in cross-border communication and low budget meeting organization make it difficult to maintain the group cohesion and stay informed on the problems and issues that each of the e.g. South American or African countries struggle with.

In this context, outreach activities must often be organized synergetically, based on any opportunities given, rather than merely on medium term planning.

Another problem important to mention here is that the IUGS is building on the IUGS commissions' willingness to open private accounts in order to administer IUGS finances. Due to governmental issues, the transfer of the CGI finances from the former CGI treasurer to the new one could not be accomplished yet. This matter is currently in discussion by the new IUGS treasurer - Prof. Dong Shuwen and the new CGI treasurer Robert Tomas). It would be excellent, if a common way could be found to open IUGS-CGI accounts not as a private person in order to establish a transparent process of the use of IUGS resources to support CGI activities.

8 Summary of expenditure

	$ account		€ account	
	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$)			4 104.75	
Council meetings				-826.27
MT workinggroup				-426.00
CGI bank acccount costs				-25.00
Balance 2003	**7 659.89**		**3 931.07**	
2004				
2004 allocation IUGS (5000$)			4165.28	
debudgetting unclaimed expenses 2003			426.00	
Council meetings				-138.00
CGI Flyer				-696.00
MT Workinggroup				-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$)	5000.00			
council meetings				-286.30
Cost CGI bank account 2005				-20.00
Balance 2005	**12659.89**		**4 592.40**	
2006				
IUGS Grant outreach workshop (10000$)	10 000.00			
UNESCO Grant outreach workshop leaflet (5000$) contract	5 000.00			
2006 IUGS allocation (5000$)	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	**19660.98**		**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 2007	**27160.98**		**2 429.17**	
2008				
Travel expenses preparation Giraf Schutte				-240.00
cost CGI bank account 2008				-30.00
cost transfer accounts Fortis--> LCL				-43.26
Balance 2008	**27160.98**		**2 115.91**	
2009				
ACCOUNTS TRANSFERED				
Travel expenses Broome CODATA		-1139.69		
Repro banner Giraf				-216.91
2009 IUGS allocation	15 000.00			
cost transfer IUGS --> CGI		-23.01		
Travel expenses S. Richard - MLT St Petersburg		-2808.85		

	$ account	€ account
transfer charges	-24.60	
2010		
Payment maintenance of CGI web site (NERC/BGS)	-2300.00	
2010 IUGS allocation	7 500.00	
transfer charges	-23.17	
transfer charges	-21.16	
2011		
2011 IUGS allocation	10000.00	
transfer charges	-23.54	
Payment maintenance of CGI web site (NERC/BGS)		-1779.01
transfer charges		-30.00
transfer charges		-22.00
transfer account USD --> €	-1900.00	1377.81
transfer account USD --> €	-19000.00	13777.10
transfer charges		-25.90
Payment to BGR - GIRAF workshop		-13783.00
transfer account USD --> €	-8900	6610.71
transfer charges		-22
Payment to BGS (update cookbooks, schematron rules)		-6600
Transfer charges		-3,90
Balance December 2011	**23 496.96**	**1 398.81**
Balance 2011	**23.496,96**	**1.398,81**
2012		
Bank account charge		*-5,96*
CCOP hosted CGI meeting	*--12.000,00*	
transfer charges	*-21,75*	
IWG developments	*-6.580,00*	
transfer charges	*-21,64*	
2012 IUGS allocation	*10.000,00*	
transfer charges	*-21,59*	
Payment from CCOP	858,43	
transfer charges	*-20,15*	
transfer account USD --> €	*-715*	*546,34*
transfer charges		*-22*
CSIRO hosting CGI-IWG websites		*-550,00*
transfer charges		*-16,5*
Balance November 2012	**14.975,26**	**1.350,69**

The CGI can expect to receive a back-payment by BGR of about 4960,- Euro for the GIRAF2011 workshop due to a generous and unexpected additional funding by the UNESCO.

9 Work plan for next year

- Continue the development of GeoSciML and Earth Resource ML.
- Further formalize the relationships of the CGI with the OGC.
- Organise a geoinformation session in Africa at the 24. African Geological Colloquium (CAG 24) in Ethiopia.
- Organise a one-week Workshop of Geoinformation in Africa (GIRAF2013) at the centennial celebration of the Geological Survey of Ghana in September.
- Up-date the CGI web site.
- Make the ISC Chart web accessible in cooperation with the ICS (we had the same point last year!).
- Publish more publications of CGI related issues within Episodes.

10 Critical milestones

The most critical milestone, i.e. the installation of the new Council and transfer of the secretariat form BGS to BGR, has been successfully managed.

In 2013 the successful organization of the major GIRAF Workshop in Accra, Ghana by September and finding funding partners will be a major milestone.

11 Anticipated results to be achieved next year

See section ”Work plan for next year”.

12 Budget for 2013 and potential funding sources

CGI Council expects a similar budget to that provided by IUGS in previous years.

13 Review chief accomplishments over last five years (2008-2012)

CGI developed an Action Plan in 2008 which is set out in section 1 of this report. Evidence indicates that, despite issues of resources and travel constraints, CGI through its Working Groups, members and associated initiatives, has been extremely successful. The Commission has: catalysed alliances, vide 1G, 1G-E, GIC, ICSU, IAMG, INSPIRE, GGIPAC, AUSCOPE, ICS, CGMW, EGS, OGC, USGIS; stimulated progress and standard geological concepts, vide CDTG, MTG and the 1G-E multilingual vocabulary; promoted the use of data exchange standards, vide IWG, 1G, 1G-E; facilitated outreach, vide the GIRAF, South American, European and

Asean workshops and OneG; and played a full role in the coordination of regional initiatives, vide INSPIRE, 1G-E, CCOP, South America, GIRAF.

14 Objectives and work plan for the next 5 years (2013-2018)

Substantial changes have taken place in the composition of the CGI Council in August 2012. However, the major objectives of the CGI for the next five years have found an agreement but may be adapted to actual requirements:

- Catalyze productive alliances between geo-information bodies, including OGC;
- Stimulate progress in development and application of standard geoscience concepts and their representation in multiple languages.
- Promote international use of data exchange standards; Facilitate outreach, knowledge transfer and take-up of best practice in geo-information (e.g. with the South America initiative, the Asia initiative and GIRAF, the African geoinformation network).
- Enhance collaboration with other IUGS commissions, e.g. ICS.
- Play a role in coordination of regional initiatives, e.g. by organizing workshop and training courses on geoscience information management, standards and language.
- Organize a geoinformation super-symposium at the IGC 2016 (Capetown).

15 Suggestions for improvement of IUGS activities, especially in reference to activities of IUGS bodies

Understandably, given the remit of our Commission, we would urge the IUGS Executive to give greater prominence in terms of discussion time, publication space and funding, to the area of geoscience information and especially digital standards. In a world which is increasingly data and IT driven and dependent, it is imperative that the IUGS takes a lead in pushing forward digital advances and ensuring consistency of approach in geoscience data content and applications. Without this, holistic solutions to transnational geological challenges will be that much more difficult to deliver. We believe there is a need for geoscience information expertise to be present at the highest level in IUGS, ie a member of the Executive; if necessary by co-option.

In conclusion

We would like to express our thanks to all members of the CGI and its working groups, and also to the members of the IUGS Executive for their help and encouragement. We would also like to express our particular gratitude to Felix Toteu and UNESCO for their tangible support. We look forward to continued productive cooperation in 2013.

CGI Council

3. December 2013

16. Contacts – CGI Council members

François Robida (Chair)
BRGM
3 avenue C Guillemin
BP 36009
4506 Orleans cedex 02
France
Telephone: +33 2 38 64 31 32
Email: f.robida@brgm.fr

Kristine Asch (Secretary General)
Bundesanstalt fur Geowissenschaften und Rohstoffe (BGR)
Stilleweg 2
D – 30655 Hannover
Germany
Telephone: +49 511 643 3324
Fax: +49 511 643 3782
Email: kristine.asch@bgr.de

Robert Tomas (Treasurer)
European Commission
DG Joint Research Centre
Unit H06-Digital Earth and Reference Data
Via Enrico Fermi, 2749
I-21027 Ispra (VA)
Italy
Telephone: + 39 0332 78 5426
Fax: +39 0332 78 6369
Email: robert.tomas@jrc.ec.europa.eu

Gabriel Asato
Geological and Mining Survey of Argentina (SEGEMAR)
Av Julio A Roca 651 p8 of 1
Cdad Autonoma de Buenos Aires
Argentina
Telephone: +54 11 4349 3158/26
Fax: +54 11 4349 3187
Email: g_asato2000@yahoo.com

Peter Baumann
Professer of Computer Sciences
Jacobs University Bremen
Campus Ring 12
28757 Bremen
Germany
Telephone: +49 421 200 3178
Fax: +49 421 200 493178
Email: p.baumann@jacobs-university.de

Mike Frame
U.S. Geological Survey (USGS)
Building 1916T2, 230 Warehouse Road
P. O. Box 6015, Oak Ridge,
Tennessee 37831
USA
Telephone: +1 865-576-3605
Fax: +1 865 574 7077
Email: mike_frame@usgs.gov

Richard Hughes
British Geological Survey (BGS)
Environmental Science Centre
Nicker Hill
Keyworth, Nottingham
NG12 5GG
UK
Telephone: +44 115 936 3587
Fax: +44 115 936 3200
Email: rah@bgs.ac.uk

Kazuhiro Miyazaki
Geological Survey of Japan/AIST
The Institute of Geology and Geoinformation
Tsukuba Central 7
1-1-1 Higashi
Tsukuba, Ibaraki, 305-8567
Japan
Telephone: +81-29-861-2390
Fax: +81-29-861-3742
Email: kazu-miyazaki@aist.go.jp

David Percy
Department of Geology
Portland State University
1721 SW Broadway Rm 17x
Portland
OR 97201
USA
Telephone: +1 503 725 3373
Fax: +1 503-725-3025
Email: percyd@pdx.edu

Oliver Raymond
Continental Geology Section
Minerals and Natural Hazards Division
GEOSCIENCE AUSTRALIA
Cnr Jerrabomberra Avenue and Hindmarsh Drive
Symonston ACT, GPO Box 378
Canberra ACT 2601
Australia
Telephone: +61 2 6249 9575
Fax: +61 2 6249 9971
Email: Oliver.Raymond@ga.gov.au

Observer:

Wang Jun (observer)
Institute of Geology
Chinese Academy of Geological Sciences
Baiwanzhuang Road 26
Beijing 100037
China
Telephone: 0086-10-68995739
Fax: 0086-10-68997803
Email: wangj29@126.com
wangjun29@cags.net.cn

Anna-Karren Nguno (observer)
Geological Survey of Namibia
1 Aviation Road
Private Bag 13297
Windhoek
Namibia
Telephone: +264 61 284811
Fax: +264 61 249144
Email: anguno@mme.gov.na