

WG-GGI SHANGHAI MEETING

14-16 JULY 2002

RECORD OF PROCEEDINGS FOR WORKING GROUP ON GEODESY AND GEOGRAPHIC INFORMATION

SCAR XXVII, SHANGHAI, CHINA

14 - 16 July 2002

ATTENDANCE

Representatives from 12 SCAR member countries were in attendance, in summary:

Members or representatives: Australia, Canada, Chile, China, Germany, Italy, Japan, Korea, Poland, Russia, United Kingdom, United States of America

Apologies: Jaakko Makinen, Finland; Marie-Noelle Bouin, France; Shri D.P. Issar, India; Trond Eiken, Norway; Lars Sjoberg, Sweden; Hector Rovera, Uruguay; Akira Yaguchi, Japan; Tony Bevin, New Zealand; Richard Wonnacott, South Africa; Hans Werner Schenke, GEBCO; Hiroshi Masaharu, ISCGM (represented by Prof D.R. Fraser Taylor) and Federico Mayer, Argentina.

Official Observers: Larry Hothem, FIG, Reinhard Dietrich, IAG

Additional observers: Dr Alessandro Capra, Italy; Prof Chiara Ramorino, Italy; Cheryl Hallam, USA; Kazuo Shibuya, Japan; Dr Vladimir Berk, Russia; Lee Belbin (JCADM); Dr Wen Jiahong (Polar Institute, China) and Dr Bryan Storey (NZ).

1. WG-GGI ADMINISTRATION

The Chairman, Mr John Manning, opened the meeting at 1410 on Sunday 14 July in Room 5214 of the Shanghai Exhibition Centre. He gave a brief speech on the history of the WG and said that this is the last meeting on the WG. He proposed that a written history of the group be undertaken for publication by SCAR at some point.

He acknowledged the work done by Italy with the CGA, also the other major projects GGI has developed over its lifetime, including the map catalogue and the ADD. He commented that there have been a number of members who have been with the group for a long period of time and it is sad to see that an era is ending.

He also welcomed observers to the meeting.

1.1 *Rapporteur*

Glenn Johnstone (WG-GGI Executive Officer - EO) was appointed rapporteur for the meeting

1.2 *Agenda*

The agenda as circulated was accepted.

1.3 *Minutes of previous meeting*

The minutes of the previous meeting, held in July 2000 at Tokyo, were confirmed.

1.4 *ISO TC211*

Background on the status of ISO TC211 information by given by the EO. Larry Hothem was appointed as the TC211 representative to SCAR and discussion ensued about an appointment from SCAR to TC211. Members supported a nomination by the UK, Mr Paul Cooper

EO to circulate username and password for ISO TC211 to allow members to access documentation
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EO to ask for interested parties (both GGI and JCADM and wider SCAR group) to serve as specialists on particular projects within TC211.

1.5 *SAER*

The draft SAER report provided by GOSEAC (with comments from SCAR Executive Secretary) was provided to GGI only days before the meeting. Mr Manning suggested that given the restructure of SCAR he would like to wait for further outcomes before deciding on any action. Lee Belbin mentioned that WG Biology were currently drafting a recommendation to SCAR to support a tractable SAER report as one of the potential

problems with an SAER was the size and scope of the project, as well the resources required to undertake the whole issue.

1.6 Circulation of Program Reports

The project report for Outreach was circulated. The EO mentioned that reports from the other 2 programs (GIANT and GI) could be dealt with as part of the presentations in the forthcoming sessions rather than have individual Program reports.

1.7 Circulation of National Reports

National reports from Australia, China, Chile, Finland, AWI Institute in Germany, Italy, New Zealand, Poland, UK, and the USA were circulated. National reports provided before the meeting are in the agenda papers provided for the meeting.

1.8 Summarise Actions Arising from Tokyo and WG-GGI Coordinators meeting

Mr Manning went through the list of actions arising from XXVI SCAR and the WG-GGI Coordinators meeting and gave a brief summary of those items that were outstanding. Some points will be reported on in individual Program Reports and nearly all action items have been completed.

1.9 LIDAR work

Cheryl Hallam spoke briefly on the LIDAR work that was undertaken last season in the Dry Valleys area and USGS are hoping to make some of the data (high resolution DEM) available to the public in September / October 2002.

1.10 Data archiving

EO spoke briefly about the issue of data archiving – raised at the Coordinators meeting. If GGI is to produce a policy on data archiving it needs to be clear about what it wants to archive. The EO cited NERC and AAD as 2 places that have policies already in place and perhaps they could be used as models for a GGI policy.

1.11 Copies of printed maps

There was some discussion about the number of copies of published maps that are to be sent to each GGI member. At the Coordinators meeting the possibility of 4 copies to each member was raised. After discussion it was decided to leave the Standing Resolution as it is at the moment (ie. 2 copies) but that if any member wishes to have more copies they are to provide the names / organisations of those wanting extra copies to the EO who will publish them on the GGI website.

Roberto Cervellati to provide names of those organisations in Italy that require further copies of maps

GGI Standing Resolutions to remind members to send published maps to members.

1.12 Future projects in Geoscience SSG

Mr Manning spoke about trying to retain GGI projects under an umbrella of a Geospatial Information Group

Mr Manning introduced the White Paper produced by SCAR (and amended in late July 2002) and the diagram that CO and EO developed (an interpretation of the SCAR White Paper).

Bryan Storey suggested that GGI may like to look at where in the new structure GGI might best sit (as it seems to straddle all 3 SSG's).

Lee Belbin suggested that GGI might consider a representative on the Data Standing Committee. He also outlined how the situation works in Australia with the GI component sitting within the Data Centre (ie. the group within AAD that is responsible for the management of data). He suggested that JCADM and GGI could be joined together. Gave an example of how JCADM has the current linkages to the RiSSC project (biological sensitivity to climate change).

Mr Manning, Mr Belbin and Dr Storey suggested that strong linkages to other SSG's, SC's are **very** important.

Vladimir Berk suggested that we should stay together as a group and Henk Brolsma agreed with this.

There was some confusion about who was eligible to vote for the Executive positions in the new GSSG.

Discussion then revolved around the nominations for the Data Standing Committee. Henk Broelsma said that he may be interested but would have to consult with his manager before accepting the position. Fraser Taylor suggested that the nomination should come from someone who can 'deliver the goods'.

Fraser Taylor formally nominated John Manning as a candidate for the Chair and Glenn Johnstone as the Secretary for the new Geoscience SSG. This was seconded by Jerry Mullins.

Vladimir Berk nominated Fraser Taylor as Deputy Chief Officer and Fraser declined saying he would like to allow other members within the WG-GGI a chance to represent the group.

Fraser Taylor recommended Rodrigo Barriga as Deputy Chief Officer, Tnt. Col Barriga was unsure about taking on the position and wanted to consult with his Chilean colleagues before accepting.

Jan Cisak nominated Alessandro Capra as Deputy Chief Officer, Prof Capra said he was pleased to accept the nomination.

Mr Mullins seconded the nominations it was then voted on. The vote was carried unanimously.

Fraser Taylor suggested that those nominated should have (along with their nomination) a set of specific proposals to take forward into the GSSG – or at least a framework for projects.

1.13 Future funding applications for 2003-2004

Mr Manning spoke about the 17 submissions that GGI is making for 2003-2004 (see agenda papers for those draft applications that were submitted to SCAR for funding). Some further work on the applications was necessary and they are due for submission by Saturday 20 July.

SCAR financial year operates on a calendar year (not July to June)

2. PROGRAM REPORTS

2.1 Outreach - Coordinator: Australia

EO tabled a program summary report, and spoke of the general progress. The program report was provided in the Agenda Papers.

2.2 GIANT - Coordinator: Australia

Mr Manning tabled a program summary report, and spoke of the general progress.

The data is strong and valuable in a global sense. He also said that work by WG-GGI is valued by the international geodesy community.

2.2.1 Permanent Geodetic Observatories John Manning

Develop and publish GPS base station specifications

A paper on GPS monumentation has been produced and is available on the GGI web site. Any further best practice examples that members know of should be forwarded to the EO for inclusion in an update of the document.

Evaluate accurate local ties between collocated techniques

Larry Hothem mentioned that there is a 5" sampling rate and output every hour from MCM4 – it is being used by users other than the traditional geodetic users (eg. meteorological, ionospheric studies, etc)

Overall this project has only really been half done – the Chief Officer recommended that it be carried over to next program for 2000-2002.

2.2.2 GPS Epoch Campaigns

Reinhard Dietrich

Presentation by Reinhard Dietrich – in agenda papers

Investigations on regional deformations. Given that there are a number of countries that are participating in regions within Antarctica there is a good opportunity to gain a regionalised densification of GPS data.

Prof Shibuya asked about the difference between those stations published in the 1997 Journal of Geodesy and the results of the latest studies. ITRF2000 is a stronger solution.

Permanent IGS stations need to be used. Advantage of regional networks is that you can investigate local effects.

2.2.3 Geodetic Control Database

Glenn Johnstone

Presented a report on activities during the last 2 years. Available in agenda papers.

2.2.4 Tide Gauge Data

Kazou Shibuya

GLOSS are the body that provide standards for metadata on tide gauges.

Henk Brolsma is very interested in being involved with the project in the future and will work with Prof Shibuya in the future.

Koichiro Doi (from NIPR) gave a presentation on the use of GPS on sea ice to measure sea surface height.

2.2.5 Atmospheric Impacts on GPS observations

Jan Cisak

Report on activities was presented – see Powerpoint presentation.

Dr Cisak said he would like to remain involved with the project for 1 more year as there are a number of research questions that require further investigation. He asked for interested parties to be involved.

Henk Brolsma mentioned that if meteorological data is required that GGI should be talking with the Physical Sciences group to see what expertise they can offer.

2.2.6 Physical Geodesy

Alessandro Capra

Presentation given by Alessandro Capra.

Progress has been slow. Russia is unable to supply any of the gravity data – quality of the data is questionable as well. Connections with the ADGRAV project (Dr Robin Bell) have been difficult. CK Shum's proposal to the NSF has been unsuccessful – he will be resubmitting it for consideration next year.

The CHAMP and GRACE satellite data will be an important contribution to this research. The second half of 2003 there will be more data available.

Alexander Yuskevitch offered to talk with Valery Lukin, the Russian SCAR delegate (and geologist) to see if he can help Alessandro access the Russian gravity data.

2.2.7 Remote Geodetic Observatories

Larry Hothem

Report on activities between 2000 - 2002 was provided (in agenda papers)

2.2.8 New Satellite Missions

Reinhard Dietrich

GGI should remain involved with upcoming satellite missions by providing good ground control points.

He provided a list of satellites involved with both remote sensing and gravity missions.

Someone from GGI should be attending the WAIS meeting to get input from glacio's

2.3 Geographic Information Program - Convenor: UK

2.3.1 Topographic Database Janet Thomson

Version 4 will be available from the ADD home page on the web by the end of August. Mrs Thomson also outlined future improvements.

2.3.2 Spatial Data Model Henk Brolsma

Considerable progress has been made in the past 2 years, particularly in the last month (with Steffen being able to spend 3 weeks at the AAD) and the development of a draft feature-type catalogue. Janet Thomson's work on symbology will be included in the feature type catalogue.

The process for integration and publication by SCAR hard copy and on web will require further discussion during the meeting.

2.3.3 King George Island GIS Steffen Vogt & Jefferson Simones

Steffen Vogt gave a presentation on his progress over the past 2 years. There has been a lot of work done including a web site that is making the data available (as ESRI shape files).

Jefferson presented the work that his group have been doing on implementing a GIS on KGI for an ASMA (Antarctic Specially Managed Area) around Admiralty Bay.

2.3.4 Map Catalogue Henk Brolsma

Presentation given by Henk Brolsma on progress with the SCAR on-line catalogue. Both Mr Manning and Prof Taylor congratulated Mr Brolsma on the work he and the AAD have done since the last SCAR meeting on this project. It has required a huge amount of work to get the entries into the online catalogue and the design of the database has required a lot of thought.

The issue of maintenance of entries in the map catalogue was raised. Mr Broslma said that GGI members will be supplied with an ID so they can add, update or revise their entries through an on-line maintenance program.

2.3.5 Place Names Roberto Cervellati

Report in agenda papers. Prof Cervellati provided a list of "what's new" in the CGA since the XXVI SCAR meeting in Tokyo as well as some analysis on content of the features.

2.3.6 Imagery Catalogue Jerry Mullins

Mr Mullins outlined the work he has been doing, including making available on the USARC website an aerial photography flight line index.

2.3.7 Online Atlases Jerry Mullins / Cheryl Hallam

Dr. Hallam presented work on the US Atlas of Antarctic Research – the functionality and improvements that have been made. High resolution digital imagery was captured over the McMurdo Dry Valley's area at the same time as the LIDAR was operating.

2.3.8 Cybercartographic Atlas Fraser Taylor

Fraser Taylor gave a presentation on progress with the Cyberatlas project and outcomes from the 2 workshops held in Argentina (Nov. 2001) and Ottawa (May 2002)

3. SCAR Coordination, International Liaison

A proposal from GEBCO was received before the meeting.

3.1 GEBCO

A proposal from Hans Werner Schenke and Robin Falconer was received. This proposal is for the IHO to produce an International Bathymetric Chart of the Southern Ocean (IBCSO). Discussion then centred around some historical background to the GEBCO digital atlas and inclusion of the data into the ADD. Polygonisation of the vectors was started but it has taken a long time.

Ron Macnab from Canada is very interested in undertaking the work.

GGI needs to positively respond to the proposal and suggest to Hans Werner Schenke that Ron Macnab be encouraged to

Mr Manning to speak with Hans Werner Schenke regarding the project and appointing Mr Macnab to start on the work.

3.2 Global Mapping (ISCGM)

Fraser Taylor (recently appointed Chairman of ISCGM) provided a report on the status of Global Map. The Antarctic dataset (provided by BAS) has had some problems conforming to the ISCGM specifications but it looks as though the dataset will be made available soon.

4. Discussion on draft GGI report to the SCAR Executive

Mr Manning presented a draft paper that he will be presenting to the SCAR Executive outlining the progress of the WG-GGI meeting over the last few days. There was some discussion about modifications to projects and linkages between the GSSG and other SCAR & non-SCAR bodies.

5. NATIONAL REPORTS

There were 9 written national reports on Antarctic activities provided before the meeting. Additional reports from 2 countries were circulated at the meeting.

Reports were provided from:

Australia, Chile, China, Finland, Germany, Germany (AWI), Italy, New Zealand, Poland, United Kingdom and the United States of America.

6. DEVELOPMENT OF SCAR FUNDING APPLICATIONS

A large proportion of the funding applications were submitted to SCAR before the meeting. In light of the information that we would only receive a very small amount of funding some time was then spent discussing how to adjust our applications. The table below summarises these discussions.

Funding Applications for 2003 – 2004 (all US\$)

Project / Meeting Name	Draft Request 2003	Adjusted 2003	Draft Request 2004	Adjusted 2004
ADD Boundary Extension Workshop	10 000	0		5 000
Place Names meeting & publication (Italy)	3 000	2 000	3 000	2 000
Russian data for East Antarctic GIS	10 000	0		
Implementation of "feature-type" catalogue (ISO-compliant GIS specifications)	20 000	2 000		
Maintenance of feature type catalogue for Antarctic GIS		0	6 000	2 000
GI Technical experts meeting (Hobart)	20 000	2 000		
SCAR scientists attendance at Cybercartographic Atlas symposium (Canada)	20 000	5 000	20 000	5 000

Implementation of completed King George Island GIS (Germany)	10 000	5 000		
Maintenance of King George Island GIS		0	6 000	
East Antarctic Regional GIS meeting (Wuhan, China)		0	20 000	10 000
Special GIG symposium (Bremen)		0	20 000	0
Sub Total	93 000	16 000	75 000	24 000

Antarctic Geodesy Symposium (AGS'03 - Ukraine)	15 000	4 000		
Trans Antarctic Mountains Regional Deformation meeting (NZ)	5 000	3 000		
Physical Geodesy Database (Italy / France)	5 000	2 000	5 000	2 000
Sub Total	20 000	9 000	5 000	2 000

Grand Total	113 000	25 000	80 000	26 000
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7. FORMAL MEETING CLOSURE

The Chief Officer thanked all members for their participation in what was somewhat rushed, but productive meeting. He then closed the meeting at 1600 on Tuesday 16 July 2002.

Dr Reinhard Dietrich invited members to attend the XXVIII SCAR meeting in Bremen, Germany in 2004.