

Minutes for the 2015 meeting of SCAR-SCAGI

Monday 15 June 2015, in the Board Room of the House of European Surveyors and GeoInformation: Brussels

Attendees:

Élisabeth Calvarin (France)	Terres Australes et Antarctiques Françaises	e-calvarin@wanadoo.fr
Jean-Yves Pirlot (Belgium)	Belgian National Geographic Institute	Jean-Yves.Pirlot@ngi.be
Antonie Haas (Germany)	Alfred Wegener Institute	Antonie.Haas@awi.de
Yngve Melvaer (Norway)	Norwegian Polar Institute	Yngve.Melvaer@npolar.no
Adrian Fox (UK)	British Antarctic Survey	a.fox@bas.ac.uk
Peter Fretwell (UK)	British Antarctic Survey	ptf@bas.ac.uk
Mike Clementz (USA)	PGC, University of Minnesota	cleme399@umn.edu
Paul Morin (USA)(telecon)	PGC, University of Minnesota	lpaul@umn.edu

PGC= Polar Geospatial Center

1) Minutes of the August 2014 meeting

The minutes were agreed as true record of the August 2014 meeting held in Auckland.

2) Actions from the August 2014 meeting.

Actions were reviewed and updated. Actions will be reviewed again at the 2016 meeting.

3) National Reports

3.1 France: Élisabeth Calvarin (France) Terres Australes et Antarctiques Françaises (TAAF)

Élisabeth gave an introduction to French activity in Antarctica.

There is an organogram that shows the different authorities and their area of activity. They can always be contacted by email. This organogram is always up to date on the website (http://www.taaf.fr/IMG/pdf/organigramme_02-2016.pdf) (accessed 24 May 2016)

Map scanning: France have scanned all their maps of Antarctica and included metadata in a spreadsheet. They would now like to include the maps in the SCAR Map catalogue.

ACTION: AJF/JYP to put TAAF in contact with Ursula Harris about how to include the scanned French maps in the SCAR Map Catalogue.

Place names: There is a French place-names database and this has been fully updated, but the coordinates have not yet been checked against satellite imagery.

Élisabeth Calvarin also reported there is a newly appointed Historical and Place Names commission for the TAAF. A detailed report can be found in French at:

<http://www.taaf.fr/la-Commission-du-Patrimoine-Historique-et-de-la-Toponymie-des-TAAF-du-10-avril-2015>

With a decree of 26 March 2015 the previous Historical Commission and the Place Names Commission were merged.

The aim is to both provide assistance and expertise to those working on historical, archaeological or cultural heritage policy, and to resume the work in the field of place names.

Discussion on place-names issues: This led on to a discussion about place-names with a question about whether there is value in including a field in the CGA for the organisation or person that proposed the name? There is a field for “source” in the CGA but it is not often used. This information about the proposer of a name is not usually included in component gazetteers of the CGA and in some cases an individual proposing a name may not want their name included.

At present there is no standard way to show historical names for dead features, such as ice shelves that have disappeared (eg Jones Ice Shelf, Antarctic Peninsula). The UK gazetteer and CGA entries show historical names with an * but this is not applied across the CGA. One suggestion was to have an extra field to indicate whether a feature was current or historical.

ACTION: Talk to Carlo Baroni about how to standardise this in the CGA.

Élisabeth highlighted the importance of ensuring that SCAGI has representation or at least liaison with UNGEGN – United Nations Group of Experts on Geographic Names.

ACTION: Seek to ensure that SCAGI is represented or at least has liaison at UNGEGN.

UK APC has named two features Barnola Glacier (Jean-Marc Barnola, French ice cores scientist) and Shom Rock (Service Hydrographique et Océanographique de la Marine – French Hydrographic Service).

ACTION: AJF to pass details to Édouard Jacquot and/or Élisabeth Dupuis in Paris for follow-up by TAAF.

ACTION: Collate information from Antarctic place-naming processes from bodies that have published processes/guidelines and publish on the SCAGI website. This would help countries seeking to set up a place-naming committee or process.

Translate the French naming process and put it on Internet (JYP will do, in liaison with Élisabeth)

3.2 Norway: Yngve Melvaer (Norwegian Polar Institute).

The main focus of the Norwegian Polar Institute over the last year has been topographic mapping of Svalbard.

For Antarctica activity includes:

Quantarctica (a collection of open-source geographical datasets running on the QGIS platform; www.quantarctica.org) More datasets have been added and funding secured to continue to develop the resource. Quantarctica is now a SCAR product.

Geological map of Dronning Maud Land: This is in compilation with a topographic base layer based on Landsat 8 images and new rock outcrop data digitised by a geologist. The map data will contribute to the SCAR GeoMAP project

(<http://www.scar.org/ssg/geosciences/geomap>) and be available to the Antarctic community.

Air Operations Planning Map. A draft map covering Dronning Maud Land is available, waiting any refinements to the specification from the discussion in this meeting to finalise.

3.3 USA: Paul Morin, US Polar Geospatial Center. (Mike Clementz also present at the meeting).

The chair thanked Paul Morin for joining the meeting by teleconference, noting that it was in the very early hours of the morning in Minneapolis.

Dry Valleys data: Paul highlighted the PGC Dry Valleys data viewer which gives access to various modern and historical aerial photography, lidar and satellite imagery datasets.

Map scanning: PGC are working with the Borchert Map library at the University of Minnesota to scan Antarctic maps. They will consider scanning maps from other nations with a view to making them freely available.

DEMs from high-res satellite imagery: The main focus is on generating DEMs for polar regions from high-res imagery. The US NSF is funding PGC University of Minnesota, Byrd Polar Research Center and Cornell University to generate complete DEMs for the Arctic and Antarctic at 2-8 m resolution. The project will use automated image correlation methods and spare super-computing resources across several US organisations. The DEMs will be freely available, but ortho image products are difficult to provide due to licensing restrictions on the source imagery.

Paul reported that testing has shown that 6-8 m spatial accuracy is achievable from the satellite orbit parameters only, which can be improved to sub-metre accuracy when accurate surveyed GCPs are available.

The US is the chair of the Arctic Council 2015-17 and so the first focus is likely to be on the Arctic. (Since the meeting the US has announced a campaign to generate DEMs for the whole arctic region https://www.nsf.gov/news/news_summ.jsp?cntn_id=136108).

3.4 Germany: Antonie Haas, Alfred Wegener Institute

Marine Science data portal: AWI have been further developing the Marine Science Portal, <http://expedition.awi.de/> an online GIS for science cruise support. It shows ship positions related to environmental variables such as sea ice cover and linked to detailed information about cruise science.

They are also working on a GIS to give access to marine mammal data, including visualisation of satellite tracking data and relationships to other variables such as fish information.

The King George Island GIS: has been archived in the AWI Pangaea system <https://www.pangaea.de/> The project was led by the University of Freiburg and ended in 2007. The data have been archived as shapefiles with detailed metadata.

UK: Adrian Fox, British Antarctic Survey

Topographic mapping: Recent focus of large scale photogrammetric topographic mapping has been South Georgia.

BAS are having a campaign of redesigning regional scale topographic maps and filling in a gap in coverage on western Antarctic Peninsula, in liaison with UK Antarctic Heritage Trust and sharing data with UK Hydrographic Office. All new map data will be included in the ADD.

Place names: The focus for the UK Antarctic Place-names Committee has been on South Georgia, linked to the campaign of topographic mapping. UK has approved 8 Antarctic names during the last year. Adrian reported that he is now the Secretary of the UK Antarctic Place-names Committee and is the point of contact for UK Antarctic place names issues.

PolarView: BAS continues to develop the PolarView service, in collaboration with other international partners. Polar View gives access to sea ice information for the polar regions (www.polarview.aq)

Airborne survey capability: Work on installing a 1.5 m long instrument port in the BAS Dash7 long-range aircraft is nearing completion. This will allow aerial photography, lidar and hyper-spectral surveys from an aircraft with 10 hours endurance at 200 knots at up to 20,000 feet.

BAS is also planning to acquire a large UAV with an 8 kg payload and 1000 km range. The plan is to acquire this during early 2016 ready for flight trials in Antarctica in 2016-17.

Bulgaria: Lubomir Ivanov *in absentia* (see national report)

Mapping: Bulgaria has produced a new 1:50,000 scale geological map of Hurd Peninsula, Livingston Island and a detailed plan of the area around the Bulgarian Antarctic base St Kliment Ohridski, Livingston Island.

Place names: Bulgaria has created 94 new place names between August 2014 and June 2015. About 25 % are on the Shetland Island and the remaining 75% are in the Antarctic Peninsula.

Belgium: Frédérique Spittaels, Belgian National Geographic Institute

Scanning historical aerial photography: The Belgian IGN have begun scanning their collection of historical aerial photography. There are 3451 images in total and they intend to scan about 650 of them for key areas in the first instance. They are held as cut negatives rather than roll film, so that they have to be scanned individually, rather than with an automated scanner.

Italy: Carlo Baroni, University of Pisa

SCAR Composite Gazetteer. The main activity relevant to SCAGI of the Italian Antarctic programme is support to the SCAR Composite Gazetteer of Antarctica (see SCAGI products reports section 4).

Scanning geosciences maps. Other activity during 2015-15 includes scanning at 600 DPI about 30 Geomorphological, Geological, and Geophysical maps produced in the framework of the Italian National Antarctic Programme (PNRA). Files are in .Tiff format. The programme is continuing and will include other topographic maps, satellite image mosaic, and geological maps at various scales are under processing for scanning with the same resolution.

The maps will be offered for the SCAR Map Catalogue, US PGC and SCAR Geological Mapping Update Action Group.

Australia: Ursula Harris Australian Antarctic Data Centre. Australian activity focuses on supporting the SCAR CGA and Map catalogue. These are covered in the SCAR Products Section 4.

New Zealand: Graeme Blick (Land Information New Zealand) and Wendy Shaw (New Zealand Geographic Board)

Geodetic Survey: The New Zealand programme has continued geodetic survey activity supporting the international POLENET project and tide gauge and absolute gravity work. There have also been deformation surveys for historical huts and beach monitoring surveys at Scott Base and Cape Evans.

Hydrographic Surveys: LINZ is working on updating existing charts for the Ross Sea region by including bathymetric data acquired by scientific research vessels, and are investigating using 'ships of opportunity' to acquire further bathymetric data. They are seeking to increase focus on the Antarctic region in the wider New Zealand hydrographic charting programme.

Topographic mapping: LINZ has produced a new map of Sabrina Island in the Balleny Island Group to define ASPA 104.

Place names: The NZ Geographic Board approved two new names since August 2014. The NZ Antarctic Names Committee held a meeting in August 2014 in parallel with the SCAR Open Science Conference and SCAGI meeting. Antonie Haas, Jean-Yves Pirlot, Carlo Baroni and Roberto Cervellati attended as observers. All involved found this a very useful exercise in sharing expertise and developing best practice in Antarctic place-naming processes. The NZ ANC have detected that there is a significant mismatch of over 1250 names between the New Zealand gazetteer and the CGA. They plan to resolve this in liaison with the CGA team.

NZ highlighted that SCAR does not currently have a liaison officer to UNGEGN (UN expert group on place names) – this used to be Henk Broksma, and suggested that this could be a responsibility of the SCAGI chair.

ACTION: Appoint a liaison officer to UNGEGN at the next SCAGI meeting.

4. SCAR products

4.1 Antarctic Digital Database (ADD). Report by Peter Fretwell (BAS).

The British Antarctic Survey remains fully committed to supporting the ADD. Contact persons for ADD are Dr Adrian Fox (a.fox@bas.ac.uk) and Peter Fretwell (p.fretwell@bas.ac.uk)

Achievements in the last year

Developments since the 2014 SCAR meeting include improvements to the content following addition of significant new data from the Australian Antarctic Data Centre, and improvements to the coastline and contours of some areas of the Antarctic Peninsula. The ADD team continues to develop the website and delivery systems.

The ADD data is included the Global Map, as the coverage for Antarctica (<http://www.iscgm.org/cgi-bin/fswiki/wiki.cgi>). Co-Chair Adrian Fox submitted a report to the International Steering Committee for Global Mapping meeting in New York in August 2015.

Usage statistics for the period 1 June 2014 to 16 June 2015

- Number of new registrations = 480
- Total number of registered users = more than 7000
- Total data downloads = 5414
- Total number of logins by registered users = 1835 (average of about 3 downloads per login)

These statistics are at the same level as previous years showing sustained use of the ADD.

Planned future developments:

Continued improvement of the underlying topographic data and delivery mechanisms:

- a) Inclusion of new coastline data for parts of the Antarctic Peninsula derived from high-resolution satellite imagery by US Polar Geospatial Center (PGC).
- b) Evaluating for inclusion new DEM/contour, rock outcrop and blue ice datasets derived from automated processing of satellite imagery.
- c) Work at BAS to improve the server infrastructure for web-services should increase load capacity and resilience of the ADD website.

Issues:

The ADD can only be as good as the data that is in it. It is critical for its continued relevance and utility that SCAR members contribute all new topographic data to the ADD.

4.2 Composite Gazetteer of Antarctica (CGA) report from Carlo Baroni *in absentia*

Italy (University of Pisa/PNRA) is responsible for capturing and including new names/features or amendments to existing names in the CGA. The Australian Antarctic Data Centre (Ursula Harris Ursula.Harris@aad.gov.au) runs the web-site that provides access to the CGA database.

Ursula has led developments to the web application that supports the CGA during the year, including significant changes to the underlying database.

Cooperation between Italy and Australia is excellent. The Point of contact for the CGA is now:

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Jacqueline is taking over this role from Chiara Ramorino. The SCAGI group noted the remarkable work that Chiara has done for the CGA over many years.

In June 2015 the SCAR CGA database included more than **19,300** features and contained more than **37,300** names. It collects the geographical information received from **23** Countries, plus the General Bathymetric Chart of the Oceans (GEBCO). It is an active project and continues to evolve:

Content statistics from 1 July 2014 to 30 June 2015:

- Number of new place names in the CGA = 195 (compare 188 in 2012-13; 258 2013-14).

- Total of place names (June 2015) in the CGA = 37,320

Bulgaria is by far the most active place-naming country, as it was in 2012-13 and 2013-14 with 162 new names submitted to the CGA in 2014-15.

China has recently submitted a tranche of 359 names – these are currently being checked in preparation for inclusion for the CGA.

Issues: There is an increasing number of mountaineering expeditions to the more accessible regions of Antarctica, such as the northern Antarctic Peninsula. These expeditions are beginning to propose names for mountain peaks. It would be very useful for SCAGI to include an agenda item at the next meeting for a discussion about this issue, to establish how different naming authorities deal with such proposals with a view to recommending best practice.

ACTION: It was noted that there is an inconsistency in spelling of the Romanian name Cobalcescu Island. Adrian will write to Carlo to converge the names on the accepted Romanian spelling of Prof Cobalcescu's name.

4.3 SCAR Map catalogue

The Australian Antarctic Data centre continues to host the SCAR Map catalogue. Additions during the last year include 50 newly published maps from Australia and 83 place-name maps from the UK. These are available for download.

A major development is the addition of a spatial search facility. Future plans include addition of an automated message facility to inform subscribers of new additions to the Catalogue.

4.4 Air Operations Planning Maps

There was a workshop after the SCAGI meeting attended by Belgium, Norway, UK and USA. The major output from the workshop was an agreed final specification for the map series.

5) Date and location of next meeting

21 August 2016, Kuala Lumpur, Malaysia, related to the SCAR Opens Science Conference 22-25 August 2016, at the same location. Details to follow.

Social activities:

1) **SCAGI Dinner:** There was an enjoyable SCAGI Dinner at a restaurant close to the meeting venue on the evening of 15 June 2015

2) **Visit to Waterloo battlefield June 16:** June 18 was the Bicentenary of the Battle of Waterloo, a decisive defeat of Napoleon's French army and a turning point in European history. Jean –Yves organised a very successful visit to key locations for the battle of Waterloo, with an exceptionally knowledgeable and interesting guide who is a lecturer in military history from the Belgian military staff college.