

# SCAR Standing Committee on Antarctic Geographic Information (SCAGI)

*Minutes of the meeting held on 23<sup>rd</sup> August 2014, Auckland, New Zealand*

## 1. In attendance:

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Peter Fretwell, [ptf@bas.ac.uk](mailto:ptf@bas.ac.uk), British Antarctic Survey  
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- The co-chairs welcomed new members Dr Antonie Haas (Alfred Wegener Institute, Germany) and Prof. Carlo Baroni (University of Pisa, Italy) to the group. The renewed involvement of Germany in SCAGI, and the continued support of SCAGI and the Composite Gazetteer of Antarctica by Italy is much appreciated.
- It was noted that this was likely to be the last SCAGI meeting attendance by Prof Roberto Cervellati. The group thanked Roberto and Chiara Ramorino for their outstanding work on the Composite Gazetteer of Antarctica over many years.

## 2. Minutes of the last meeting:

- 2.1.** The minutes of the 2013 meeting (held on 29 July 2013 at British Antarctic Survey, Cambridge) were reviewed and the delegates agreed that they were a true record of the 2013 meeting.

Actions arising:

- 2.2.** ISBN numbers for SCAR SCAGI products (Mike Sparrow). No action on this since the 2013 meeting.

Information since the 2014 meeting: SCAR has been issued with a series of ISBNs to allocate to publications when needed. Mostly these have been printed books but there's a couple of CD-ROMs and SCAR are now starting to issue ISBNs for digital publications.

**ACTION:** AJF to pursue allocation of ISBN numbers to SCAGI products with Mike Sparrow.

- 2.3.** It was noted that IGN Belgium has started work on the work on the SCAGI website. The delegates thanked Jean-Yves Pirlot for the work he and his group have done so far.

**ACTION:** Work to continue on the website. SCAGI delegates are requested to comment on the material so far and suggest improvements. <http://www.scar.org/data-products/scagi>

- 2.4.** Scanning of the R.A.R.E. aerial photography. Adrian Fox reported that this was in progress. It has proved impossible to track down the original negatives. In collaboration with the US Polar Geospatial Centre, the British Antarctic Survey has provided a set of paper prints to the USGS for scanning. The group thanked the USGS for undertaking this scanning for the Antarctic community.

- 2.5.** Joint ADD/CGA web-map. No progress with this and still under discussion. A key issue is how to display features in the CGA with multiple names.

- 2.6.** Map distribution list. This has been updated and is included in the meeting papers.

### 3. National reports:

National Reports are a key part of the SCAGI meeting – they are an excellent opportunity to learn about activities in other programmes to identify potential collaborations. It is pleasing that SCAGI received 11 National Reports for the meeting. All the reports are included in the meeting papers and available on the website (<http://www.scar.org/scagi/scagi-publications>)

#### **3.1. Bulgaria** (Lubomir Ivanov)

Jean-Yves Pirlot gave a presentation on Bulgaria's place-naming that had been provided by Lubomir Ivanov. Priority was given to areas currently without names, either significant unnamed features or those newly emerged due to environmental change, 1159 names had been given since 1989, including 142 new names since July 2013.

#### **3.2. Belgium** (Jean-Yves Pirlot)

Mapping: the presentation included details on Belgium's mapping for the Air Operations Planning Map series. This is a collaboration between Australia, Belgium, Norway, UK and USA. The first of the Belgian maps was in 2013 and two new sheets from the series have been authorized. There will be collaboration with Australian Antarctic Division for a map sheet covering the area between Syowa and Mawson. A similar cooperation with the Norwegian Polar Institute for coverage of Dronning Maud Land is organised.

Aerial photography: Belgium holds 3 historic campaigns of 18x18 cm aerial photographs. The negatives need to be scanned. IGN Belgium are working on collating and scanning the archive for Belgium and overseas (including Antarctica).

Place names: Belgium has 180 place names in Antarctica. They need their positioning checked and corrected using the LIMA mosaic. A place names commission has to be created. Therefore, Jean-Yves Pirlot will take part in the NZ Place Names Commission meeting, in Auckland.

### **3.3. China (Prof. Li Fei)**

Mapping of blue ice areas from LIMA using a supervised classification has been completed. This resulted in the statistic that blue ice covers 1.65% of the Antarctic continent. It was commented that this is a very interesting statistic because calculations based on the ADD show the extent of exposed rock to be only 0.3 % of the Antarctic continent.

**ACTION:** ADD team to liaise with the Chinese National programme over possible inclusion of the blue-ice data in the ADD.

Satellite imagery had been acquired of the area around the Chinese Research Station Zhongshan and the Amery Ice shelf using a new Chinese satellite with a resolution of 2.1 m.

DEMs of specific areas in East Antarctica have been constructed from ASTER (15m resolution) and InSAR from ERS TerraSAR (20 m) satellite data.

Aerial photography of the Larsemann Hills had been acquired.

A note was made of the Polar Ionospheric real time release system.

Surface iceflows around Dome A had been calculated.

### **3.4. Australia (Ben Raymond)**

There have been significant changes to Australian Antarctic Data Centre staff but the AADC remains committed to continuing to support the SCAR map catalogue and SCAR composite Gazetteer.

The AADC feature catalogue (a non SCAR product) was presented. Updates to the ADD were highlighted.

Support of the Belgium Air Operations Planning map between Syowa and Mawson Research Stations was confirmed.

*Information since the SCAGI meeting: Ben Raymond is acting head of the Australian Antarctic Data Centre, but Ursula Harris will be the SCAGI delegate.*

### **3.5. Germany (Dr Antonie Haas)**

An introduction to the Alfred Wenger Institute (AWI) was given.

A number of web portals were presented including:

The eXpedition portal of current location of AWI ships data and previous cruise tracks (<http://expedition.awi.de/>)

**ACTION:** Make sure that COMNAP are aware of the AWI ship position webGIS (Adrian Fox/John Hall)

Published maps (<http://maps.awi.de/awimaps/>)

King George Island GIS – this is no longer active. AWI plan to archive the data in PANGAEA, the AWI data repository.

[http://www.awi.de/en/infrastructure/computing\\_and\\_data\\_centre/old\\_information\\_systems/pangaea/](http://www.awi.de/en/infrastructure/computing_and_data_centre/old_information_systems/pangaea/)

A marine mammals webGIS is under development.

The new IBSCO bathymetric compilation and map which were published in 2013 were highlighted. [http://www.gebco.net/about\\_us/news\\_and\\_events/ibcso\\_map\\_image.html](http://www.gebco.net/about_us/news_and_events/ibcso_map_image.html)

AWI were publishing web based GIS maps and vectorizing old paper maps from AWI and IFAG.

Names submitted to the Antarctic Gazetteer included a polygon bounding box rather than point locations.

### **3.6. New Zealand (Graeme Blick and Wendy Shaw)**

Geodetic survey: Land Information New Zealand (LINZ) National Geodetic Survey office has a number of geodetic survey projects, mainly working in the Ross Sea area. e.g. contributing to POLENET network of continuously operating GPS receivers.

Hydrographic charting: LINZ is looking to extend its hydrographic activities in Antarctica. This will involve investigating inclusion of bathymetric data collected by scientific and other ships of opportunity, and including Antarctica in the NZ national hydrographic charting programme.

The work of the NZ Hydrographic Office improving charts for tourist ships was highlighted.

Mapping: Three 1:50k updated topographic maps were shown: Darwin Glacier, Hatherton Glacier and Ross Island.

Mapping of three ASPAs (Mt Erebus, Mt Melbourne and Mt Ritterman) had been undertaken.

A series of four operations maps for the Scott Base area.

Place names: 15 new place names since 2012. A detailed description of about place naming procedures was given, including how the NZ mapping authority interacts with SCUFN.

### **3.7 Norway (Yngve Melvaer)**

Presented a new Norwegian Antarctic map with details of areas in Dronning Maud Land.

Introduced a number of up-and-coming Dronning Maud Land maps at 1:250,000 scale using new ASTER GDEM derived contours and rock outcrop from Landsat 8.

Showcased Quantarctica, a freely downloadable Antarctic GIS based on the QGIS platform and containing a range of topographic, satellite image and scientific data.  
[www.quantarctica.org](http://www.quantarctica.org)

### 3.7. UK (Dr Adrian Fox)

Described recent fieldwork including an aerial photography campaign for penguin colony survey and glacier change mapping.

Several new published maps were described including mapping of 13 areas with Antarctic Treaty Secretariat Visitor Site Guidelines on the Antarctic Peninsula, a series of 1:25,000 scale maps on South Georgia (2 complete 1 in progress) and a new map of the South Sandwich Islands.

Summarised recent UK place-naming activity. The focus has been on South Georgia rather than Antarctica over the last year.

### 3.8. USA (Paul Morin)

An introduction to the Polar Geospatial Center was given.

Digital globe tasking for 2013 and 2014 was presented. Most acquisitions were now in stereo for automated DEM extraction. A need for more ground control to improve the accuracy of automated DEMs was highlighted.

**ACTION:** International partners to liaise with Paul Morin to provide ground control data to improve/check accuracy of DEM extraction from Digital Globe high-resolution satellite imagery.

Data preservation and improvement; scanning of the map archive (collecting, scanning, georeferencing, cataloguing, distributing).

**ACTION:** SCAGI partners to liaise with Paul Morin to ensure that copyright permissions are in place for scanned maps.

A major effort had been undertaken to digitize and create bounding polygons for US Antarctic place names.

Coastlines had been digitized using VHR imagery.

Flight-lines of old aerial photography campaigns had been digitized.

A major new project to construct a new DEM of the Dry Valleys from LIDAR data was to be undertaken in the 2014/15 season. This high res (25 cm DEM) would then be merged into coarser VHR satellite DEMs.

A brief description of PGCs support to Google Earth was given.

## 4. SCAGI products

### 4.1. Composite Gazetteer of Antarctica: (Roberto Cervellati)

An introduction to the CGA was given. It includes 37,000 names on 19,000 individual features from 23 countries. 41% of features have a single name from one country.

225 new entries were made in 2013.

There were 22,730 accesses to the website in the last year, most users were from the Australia, US and UK.

Future aspirations:

All features in the CGA to include a description.

Improve engagement with the CGA in periods between SCAGI meetings.

Named features to include geometry such as lines and polygons.

#### 4.1.1 Requirement for polygons to define place-name locations

The group discussed the need to move from point locations to point/line/polygon locations for place names. There was general agreement that this should be implemented across the community where possible. Several states (US/NZ/UK) have already started down this route; the US has 6000 names with polygons, the UK has most of the Antarctic Peninsula region names converted to polygons, but at a digitisation scale of 1:250k, based on the LIMA mosaic.

The UK suggested that name polygons could be incorporated into the ADD as a layer.

**ACTION:** A number of action points were made:

US to set out the rules of what defines point or polygon features and to resolve overlapping polygons with NZ.

UK to construct a standard shapefile template based on the CGA attributes to send out to the community and then, on return, to be incorporated into the ADD.

#### 4.1.2: Recommendation to check new names against existing name schemes:

Many areas in Antarctica have established naming themes – eminent scientists, composers, astronomers, etc. Organisations applying new names should check for and seek to respect existing naming themes where possible.

### 4.2: Antarctic Digital Database (Peter Fretwell)

A list of updates to the ADD was given.

Questions raised were:

Do we include ASPAs or other non-topographic info. The group agreed that the ADD should just include topographic data- no new types of data other than place names should be incorporated.

A recommendation was made to improve access and to try to source better servers for the ADD.

**ACTION:** UK to investigate provision of the ADD through specialist server providers rather than through BAS as at present.

#### **4.3: Scar Map Catalogue**

AJF gave usage statistics for the Map Catalogue, supplied by Ursula Harris, AADC.

#### **4.2. Air Operations Planning Maps:**

Air Operations Planning maps are a series of maps at 1:1M scale focussed on operational planning. They are being prepared by Australia, Belgium, Norway, UK and USA as a collaborative project. They will be delivered through the SCAR Map catalogue. The co-chairs proposed to the group that they should be accepted as a SCAR product. The group agreed to this.

**ACTION:** AJF to liaise this with the SCAR secretariat about acceptance of the Air Operations Planning Map Series as a SCAR product

**4.3 SCAGI WEBSITE:** Jean-Yves Pirlot gave a demonstration of the new SCAGI website.

<http://www.scar.org/data-products/scagi>

#### **5. Horizon scan:**

AF gave a short presentation on the outlook for high-accuracy DEMs for Antarctica from Tandem- X SAR data from the German DLR (included in meeting papers).

#### **6. Any other business:**

Printed map distribution: The group agreed a recommendation to change from the requirement to send paper maps to upload to the SCAR Map Catalogue and notification of new digital maps according to the updated SCAR map distribution email list.

**ACTION:** AJF to ask the AAD division if there could be an automated procedure that would send an email to the group when new maps are incorporated into the SCAR map catalogue.

**ACTION:** Add meeting papers to SCAR SCAGI website.

#### **7. Location and date of the 2015 meeting:**

Jean-Yves Pirlot suggested an inter-sessional meeting in Brussels in 2015 to be hosted by IGN Belgium. This was agreed by the group. The date is to be confirmed later.

## 8. Action grid from SCAR SCAGI 2014 meeting:

| Number | Action  | Owner   | Due by      | Status |
|--------|---|---------|-------------|--------|
| 1      | Pursue allocation of ISBN numbers to SCAGI products with Mike Sparrow.  | AJF     | 01 Nov 2014 |        |
| 2      | Work to continue on the website. SCAGI delegates are requested to comment on the material so far and suggest improvements.  | All     | 01 Nov 2014 |        |
| 3      | ADD team to liaise with the Chinese National programme over possible inclusion of the blue-ice data in the ADD.   | AJF/PTF | 01 Nov 2014 |        |
| 4      | Make sure that COMNAP are aware of the AWI ship position webGIS   | AJF/AH  | 01 Nov 2014 |        |
| 5      | International partners to liaise with Paul Morin to provide ground control data to improve/check accuracy of DEM extraction from Digital Globe high-resolution satellite imagery. | All     | 01 Jan 2015 |        |
| 6      | SCAGI partners to liaise with Paul Morin about copyright for maps that are being scanned by US PGC.   | All     | 01 Jan 2015 |        |
| 7      | US to set out the rules of what defines point, line? or polygon features and to resolve overlapping polygons with NZ.   | PM      | 01 Jan 2015 |        |
| 8      | UK to construct a standard shapefile template for definition of the boundaries  | PTF     | 01 Nov 2014 |        |

|    |   |         |  |      |
|----|---|---------|--|------|
|    | of place name features based on the CGA attributes.   |         |  |      |
| 9  | UK to collate these returned name polygons and make available to the community via the ADD as a separate layer.   | PTF/AJF |  |      |
| 10 | BAS to investigate provision of the ADD through external server providers   | AJF     |  |      |
| 11 | Liaise with Dr Mike Sparrow about SCAR EXCOM approval for Air Operations Planning Maps Series as a SCAR product   | AJF     |  |      |
| 12 | Ask the AAD division if there could be an automated procedure that would send an email to the group when new maps are incorporated into the SCAR map catalogue. | AJF     |  |      |
| 13 | Add meeting papers to SCAR SCAGI website.   | JYP     |  | Done |
| 14 | Organise an intercessional meeting  | JYP     |  |      |