



**SCAR Group**

Agenda Item

Person  
Responsible:

**SCAGI**

3.1

Fox/Pirlot

## **SCAR Executive Committee Meeting 2017**

**Brno, Czech Republic, 31 July - 2 Aug 2017**

# **Standing Committee on Antarctic Geographic Information 2016-2017 Report**

### **Report Author(s):**

Adrian Fox, British Antarctic Survey

Jean-Yves Pirlot, National Geographic Institute, Belgium

### **Summary of activities from 2016-17 and any other important issues or factors (<150 words):**

Almost all work in Antarctica relies on accurate and reliable geographic information. Accurate, comprehensive and reliable geographic information is needed to support science, operations, environmental management and tourism. The main roles of SCAR SCAGI are to:

- 1) Coordinate maintaining and developing this geospatial framework for Antarctica through national agencies, and
- 2) Provide an arena for raising awareness of national programme activities through national reports, sharing of experience and best practice, and for highlighting opportunities for collaboration between agencies.

SCAGI continues to deliver a range of geographic information products through its various Products: Antarctic Digital Database (ADD); Air Operations Planning Maps; Composite Gazetteer of Antarctica (CGA) and SCAR MAP Catalogue.

Usage statistics show that these SCAR Products are used and valued by the Antarctic Community. SCAGI seeks to continue to develop and improve the existing products and develop appropriate new ones to support evolving activities in Antarctica.

**Recommendations that EXCOM should consider (if any):** *Please indicate if approval is necessary or if they are just asked to note information.*

Delegates are asked to note that:

1) Wider engagement by the Antarctic community would help SCAGI to continue to develop, and deliver effectively, reliable relevant Geographic Information Services to the Antarctic science and operations communities. Maintaining the position of SCAR as the source of Geographic Information Services such as the ADD and CGA supports the SCAR Strategic Plan objective of an international leadership role for SCAR.

They should ensure that they are familiar with the work that SCAGI does and encourage their national representatives to become involved with and contribute all new data to SCAGI products. Delegates should ensure that retiring national representatives are replaced with a successor national representative and that the SCAGI co-Chairs are informed of this change.

2) There are an increasing number of SCAR products and many of them are developing web-interfaces. This area would benefit from SCAR taking a strategic view of this area to ensure that the SCAR products work together effectively and coherently and to minimize duplication and cross-cutting between products.

3) We request that the SCAR Secretariat works with the SCAGI chairs to send letters to the Delegates and National Committee contacts for countries without active representatives.

## Progress and Plans:

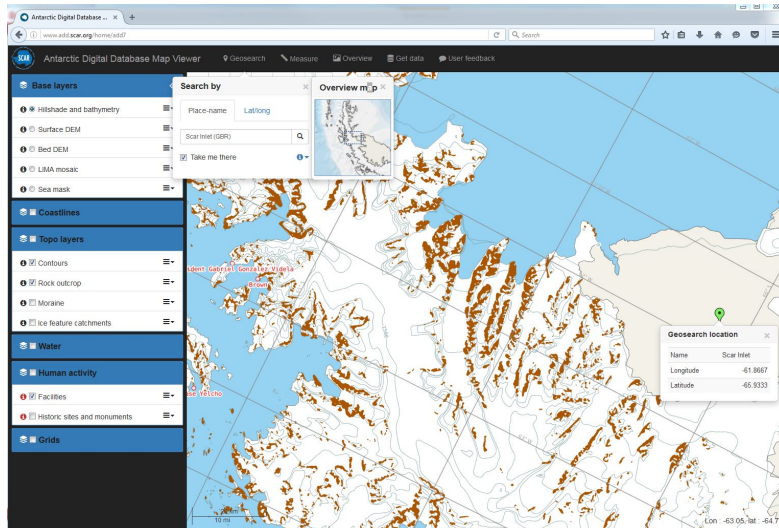
### **Major Activities and Significant Progress from the past year (<500 words):**

*Summary of progress with SCAR SCAGI products:*

Antarctic Digital Database (ADD): [www.add.scar.org](http://www.add.scar.org)

The ADD is a compilation of the best available international topographic mapping for Antarctica. It is now on V7 (released for SCAR OSC 2016), with an update with new data in June 2017. The data are merged into a seamless, structured, topologically-correct dataset, with metadata about source and date. It includes data at the original compilation level of detail, supplemented with generalized products for wide-area applications.

The data are freely available for download in a range of formats through a web-interface hosted by BAS, and can be directly linked by other web services. There were more than 10,000 downloads in 2016. The ADD also provides the underlying topographic layers for the SCAR Quantarctica product.



### Air Operations Planning Maps Series

A series of maps at 1:1M scale designed for Air Operations planning. (See section on new products below).

### SCAR Composite Gazetteer of Antarctica (CGA):

<https://data.aad.gov.au/aadc/gaz/scar/>

The CGA is a compilation of the Antarctic gazetteers of countries active in Antarctica. Its purpose is to be the definitive listing for all place names, to identify features unambiguously for science, operations and mapping, and discourage duplication. Content is managed by the Italian National Commission on Antarctic Research. The gazetteer database and website are delivered by Australian Antarctic Data Centre.

There are about 38,000 names for about 19,800 topographic features. It can now be directly linked by other web-based systems to encourage use in GIS.

Recently the most active naming countries are Bulgaria, China, UK and Australia. Most agencies have completed or have active programmes to check listings against modern, accurate, geospatial data.

### SCAR map catalogue: <https://data.aad.gov.au/aadc/mapcat/>

The SCAR Map Catalogue is a searchable database of maps and charts of Antarctica, Southern Ocean and sub-Antarctic islands. It is managed for SCAR by the Australian Antarctic Data Centre.

Each catalogue entry includes metadata, usually with thumbnail, and either download links or contact details. The MapCat had seen declining use, but after an action on members to supply map details there are 39 new entries since September 2016, with maps from Australia, Germany, Norway, UK and USA.

Recent or imminent developments include, easier upload of details through a bulk metadata template, improved thematic lists facility and email notification of new maps in the MapCat.

2017 SCAGI meeting at AWI June 2017 (thanks to AWI for hosting)

International engagement in SCAGI is improving, with 15 delegates from 12 countries at the 2016 meeting and 11 attendees at the 2017 inter-sessional meeting. The 2017 meeting included new attendees from Bulgaria and Czech Republic. SCAGI continues to try to build engagement with countries without a delegate or a named contact.

The meeting included:

National reports; Product reports and plans; Launch of WG to review SCAGI place-names guidelines (1994) and a workshop on preparation of Air Operations Planning Maps series for 2017-18 Antarctic Operations season.

Emerging themes are the increasing use of UAVs for geospatial work and the impact of the forthcoming US Reference Elevation Map of Antarctica (REMA).

**Major Future Initiatives and Actions, including rough timeline, for at least the next 2 years (<500 words):**

WG on Antarctic place names: Jean-Yves Pirlot is chairing a new WG to review the existing SCAR guidelines for place-naming which were written by Dr Jorn Sievers from the German national mapping agency (BKG) in 1994. The WG was launched at the SCAGI meeting in June 2017. There will be an initial meeting of the WG in the margins of the 2017 UNGEGN (UN place-names group) meeting (because several of the WG members will already be at that meeting).

Catalogue for Antarctic aerial photography:

There is an international archive of over 500,000 aerial photographs of Antarctica going back to at least the 1940s. The photographs are an important record of Antarctica extending before the satellite era. SCAGI member agencies have been scanning their holdings of aerial photography for Antarctica, often in collaboration with the well-established USGS scanning facility. This is well underway, with the key older collections such as US Navy from 1960s, Ronne Aerial Photography Expedition (1947) and UK FIDASE (1956-58) complete.

The next step is to compile a detailed catalogue of international holdings and access to the data. Adrian Fox has an action from the 2017 meeting to develop this in liaison with the agencies holding the data and report on progress at the

UAVs for rigorous mapping applications:

An emerging theme from National programme reports is increasing use of UAVs for detailed, rigorous mapping of small, high-value targets such as stations, and long term records of glacier change. Whilst there is much activity in this area across all geo- and environmental sciences, SCAGI member agencies have a particular focus on rigorous geospatial applications, rather than more interpretative uses. Thus far, there has been little sharing of experience of methods, platforms, software and results achieved in the Antarctic setting. The group will review the programme for the SCAR IASC conference in Davos 2018 to see if this is covered by the planned sessions, and if not the group will include a

workshop on rigorous photogrammetric applications of UAVs in its meeting in Davos.

Update on Reference Elevation Mosaic of Antarctica (REMA):

<https://www.pgc.umn.edu/data/elevation/>

This is not a SCAR product, but is included here because it will have significant impact on Antarctic science.

REMA is a US NSF-funded activity by US Polar Geospatial Center, Byrd Polar and Climate Research Center and other US organisations to develop a continent-wide Digital Elevation Model at 8 m resolution with better than 2 m elevation accuracy. This is being generated from sub-metre resolution stereo-satellite imagery. The project is well underway. The US is also close to completion of a similar Arctic product, with much of this data already released.

REMA will be a step-change in the elevation information available for Antarctica, and looks set to have far-reaching impacts on science, mapping and operational support.

**Please list any new outputs and deliverables (including publications and products that your group feels are part of your achievements):**

SCAR Air Operations Planning Maps Series

A series of maps at 1:1M scale designed for Air Operations planning with contours and heights in feet and air operations specific features such as airfields from COMNAP. It is clearly stated that they are for planning and not an Air Navigation Chart. There is also a continent-wide overview map compiled by BAS that shows rays with distances between airfields and stations and magnetic declination isogons. The maps are all compiled to a defined specification which was developed in liaison with the Antarctic Air Operations community.

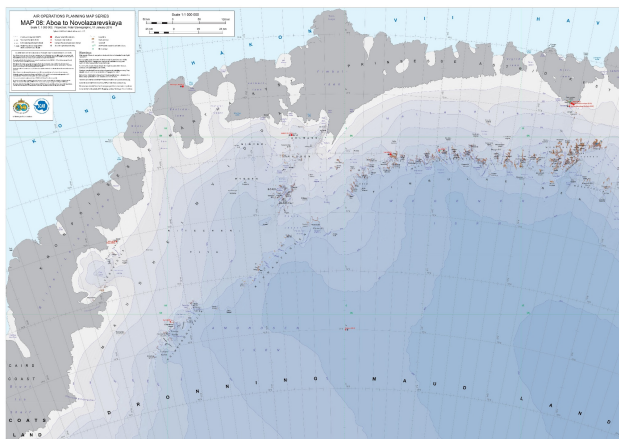
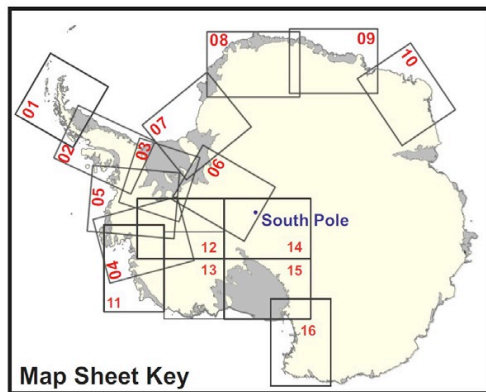
The series is an International collaborative project between the Belgian National Geographic Institute (in liaison with Australian Antarctic Division), British Antarctic Survey, Norwegian Polar Institute and US Polar Geospatial Center. The maps are badged for the compiling agency and SCAR.

Sixteen 1:1M scale map sheets are now available, covering about 270 degrees of the continent. They have a SCAR ISBN, are listed in the SCAR Map Catalogue, and can be freely downloaded through the compiling agencies websites. They are available in geospatial PDF and geoTIFF formats for either printing, use in tablet display systems, or in a GIS with together with further, user-specific operations data.

Feedback from operational users in 2016-7 has been very positive, particularly that the maps work very well implemented in tablet systems already in use for other data by aviation users. The feedback was reviewed at a workshop linked to the 2017 SCAGI meeting at AWI and the specification adjusted for 2017-18.

The maps will be promoted at COMNAP in August 2017 and updated versions are planned to be available by mid-September 2017.

*Sheet coverage at 1:1M scale and example - Sheet 9 (Norwegian Polar Institute)*



**If your Group produces data, please report any new data generated and links to inclusions to the Antarctic Master Directory, etc.**

*Covered in product reports above*

## Budget

### Planned use of funds for 2017 and 2018

Month/Year (MM-YY)	Purpose/Activity	Amount (in USD)	Contact Name	Contact Email
08 - 17	UNGEGN	2500	Jean-Yves Pirlot	jean-yves.pirlot@ign.be
08 - 18	UNGEGN	2500	Jean-Yves Pirlot	jean-yves.pirlot@ign.be
06 - 18	SCAR – SCAGI meeting	1000	Adrian Fox	ajfo@bas.ac.uk

#### **Briefly describe what the funds will be used for and what the desired results are:**

The funds are used to liaise with the United Nations Group of Experts on Geographical Names.

The desired outcome is to update the 1994 Proposed “International Toponymic Guidelines for the Antarctic” and to apply them for future place naming. Eventually the goal is to harmonize the existing place names.

Another funding line is planned for the organization of the next plenary SCAGI meeting, in Davos.

#### **Provide an estimate on the % of the budget to be used for support of early career researchers:**

2017: 0%

2018: 0%

#### **Provide an estimate on the % of the budget to be used for support of scientists from countries with developing Antarctic programmes (as listed here: <http://www.scar.org/finances/contributions>):**

2017: 0%

2018: 0%

## Linkages

**Please describe any direct support you receive for your activities beyond SCAR** (eg. Funds from another organization for a workshop):

**Please list any major collaborations your group has with other SCAR groups and with organisations/groups beyond SCAR:**

## Outreach and Capacity Building

**Please describe any outreach, communication and capacity building activities that your group participates in. Also provide information on activities that demonstrate effectiveness as a network.** (coordinating activity for your discipline/topic, i.e. mailing list and diversity of scientists involved) (<250 words):

As part of SCAR's Capacity Building efforts, such as the Fellowships and Visiting Professor Awards, we are looking for people from all the SCAR groups to form a 'review panel' so if applications in your field are submitted we have people to contact to help assess relevant applications. **Please list one or more people (name and email address) from your Group who would be willing to serve as reviewers for the next few years.**

## Membership

### Leadership

Role	First Name	Last Name	Affiliation	Country	Email	Date Started	Date Term is to End
co-CO	Adrian	Fox	BAS	UK	a.fox@bas.ac.uk	August 2012	August 2020 (2 <sup>nd</sup> term)
co-CO	Jean-Yves	Pirlot	IGN	Belgium	jyp@ign.be	August 2012	August 2020 (2 <sup>nd</sup> term)

\* Please include any APECS representative / Junior Officers



**Other members** (not all active)

First Name	Last Name	Affiliation	Country	Email
Songtao	Ai	U. Wuhan	China	<a href="mailto:ast@whu.edu.cn">ast@whu.edu.cn</a>
Jorge	Arigony		Brazil	<a href="mailto:arigony@gmail.com">arigony@gmail.com</a>
Carlo	Baroni	U. Pisa	Italy	<a href="mailto:carlo.baroni@unipi.it">carlo.baroni@unipi.it</a>
Sergio	Cimbaro	IGN	Argentina	<a href="mailto:scimbaro@ign.gob.ar">scimbaro@ign.gob.ar</a>
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Graeme	Blick	LINZ	New Zealand	<a href="mailto:gblick@linz.govt.nz">gblick@linz.govt.nz</a>
Vagner da Silva	Duarte		Brazil	<a href="mailto:Vagner.Duarte@ufrgs.br">Vagner.Duarte@ufrgs.br</a>
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Peter	Fretwell	BAS	United Kingdom	<a href="mailto:ptf@bas.ac.uk">ptf@bas.ac.uk</a>
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Jaakko	Makinen	FGI	Finland	<a href="mailto:jaakko.makinen@fgi.fi">jaakko.makinen@fgi.fi</a>
Hideki	Miura	NIPR	Japan	<a href="mailto:miura@nipr.ac.jp">miura@nipr.ac.jp</a>
Yngve	Melvaer	NPI	Norway	<a href="mailto:yngve@npolar.no">yngve@npolar.no</a>
Claudio Wilson	Mendes		Brazil	<a href="mailto:geoclaudio@yahoo.com.br">geoclaudio@yahoo.com.br</a>
Olemedo	Morán		Ecuador	<a href="mailto:inocar@inocar.mil.ec">inocar@inocar.mil.ec</a>
Paul	Morin	PGC	USA	<a href="mailto:lpaul@umn.edu">lpaul@umn.edu</a>
Daniel	Nývlt	U. Brno	Czech Republic	<a href="mailto:daniel.nyvlt@seznam.cz">daniel.nyvlt@seznam.cz</a>
Pedro	Parica		Argentina	<a href="mailto:toponimia@hidro.gov.ar">toponimia@hidro.gov.ar</a>
Roger	Payne	USGS/ACAN	USA	<a href="mailto:rpayne@usgs.gov">rpayne@usgs.gov</a>
Jean-Yves	Pirlot	IGN	Belgium	<a href="mailto:jean-yves.pirlot@ign.be">jean-yves.pirlot@ign.be</a>
Peter	Pulsifer	NSIDC	Canada	<a href="mailto:pulsifer@nsidc.org">pulsifer@nsidc.org</a>
Wendy	Shaw	LINZ	New Zealand	<a href="mailto:wshaw@linz.govt.nz">wshaw@linz.govt.nz</a>
Frédérique	Spitaels	IGN	Belgium	<a href="mailto:frederique.spitaels@ign.be">frederique.spitaels@ign.be</a>
Louis	Yost	USGS/ACAN	USA	<a href="mailto:lyost@usgs.gov">lyost@usgs.gov</a>

<b><i>Former Delegates, still interested</i></b>				
Henk	Brolsma		Australia	<a href="mailto:dokkum47@gmail.com">dokkum47@gmail.com</a>
Elisabeth	Calvarin		France	<a href="mailto:e-calvarin@wanadoo.fr">e-calvarin@wanadoo.fr</a>
Roberto	Cervellati		Italy	<a href="mailto:roberto.cervellati@enea.pnra.it">roberto.cervellati@enea.pnra.it</a>

<http://www.scar.org/scagi/scagi-members>

### **Requests to the Secretariat:**

*If there are specific administrative tasks you would like help with such as your webpages, mailing list, online meeting tools, etc., please include them below:*

Work with chairs to send letters encouraging participation.