

Report for the 2019 meeting of SCAR-SCAGI

Monday 3 June 2019

Dipartimento di Scienze della Terra (Department of Earth Sciences), University of Pisa. Via S. Maria 53, 56126, Pisa, Italy.

Attendees:

Carlo Baroni (Italy)	University of Pisa	Carlo.Baroni@unipi.it
Yngve Melvaer (Norway)	Norwegian Polar Institute	Yngve.Melvaer@npolar.no
Adrian Fox (UK)	British Antarctic Survey	ajfo@bas.ac.uk
Elena Field (UK)	British Antarctic Survey	eleeld@bas.ac.uk
Cole Kelleher (USA)	Polar Geospatial Center	kell1026@umn.edu
Jean-Yves Pirlot (Belgium)	Belgian National Geographic Institute	Jean-Yves.Pirlot@ign.be
Ricardo Rodriguez Clielo (Spain)	Polytechnic University Madrid	ricardo.rodriquez@upm.es
Ai Songtao (China)	Wuhan University	ast@whu.edu.cn
Fei Li (China)	Wuhan University	fli@whu.edu.cn
Feng Xiao (China)	Wuhan University	
Lyubomir Ivanov (Bulgaria)	Antarctic Place-names Commission	apcbg@yahoo.com

Italian colleagues joined for parts of the meeting:

Antonio Meloni (Italy)	University of Rome (Director, National Antarctic Programme)	
Jaqueline Müller (Italy)	University of Sienna	jacqueline.muller@unisi.it
Roberta Ivaldi (Italy)	Italian Hydrographic Institute	
Riccardo Scipinotti (Italy)	ENEA (Italian National Agency for New Technologies, Energy and Sustainable Economic Development)	

Ursula Harris (Australian Antarctic Division) Ursula.harris@aad.gov.au and Wendy Shaw (New Zealand Geographic Board) wshaw@linz.govt.nz joined major parts of the meeting as planned by Skype.

Apologies were received from several SCAGI members – it is understood that it is sometimes difficult to find the time/funding to attend inter-sessional meetings between the main SCAR meetings.

Welcome and Introductions

Adrian Fox (AJF) and Jean-Yves Pirlot (JyP) (co-COs SCAGI) welcomed participants to the meeting, particularly Cole Kelleher (USA), Ricardo Rodriguez (Spain) and Feng Xiao (China). Cole Kelleher has taken over the US PGC SCAGI role from Brad Herried.

The agenda will be adapted to take the SCAR Product reports before the before the national reports because this is more convenient for our Australian and New Zealand colleagues who are working out of hours due to time zone differences.



Attendees at the SCAGI 2019 meeting: (Left to right) Ai Songtao, Feng Xiao, Fei Li (China); Adrian Fox (UK); Jean-Yves Pirlot (Belgium); Jaqueline Müller (Italy), Antonio Meloni (Italy); Elena Field (UK); Cole Kelleher (USA); Yngve Melvaer (Norway); Riccardo Scipinotti, Carlo Baroni (Italy); Lyubomir Ivanov (Bulgaria); Roberta Ivaldi (Italy).

The papers from the 2019 meeting are available at: ftp://ftp.nerc-bas.ac.uk/pub/ajfo/SCAGI_2019/ and will be available on the SCAR website, in due course.

1) Review of minutes of last meeting, Davos, Switzerland 2018.

The minutes were approved without comment. Progress has been made with most of the Actions from the Davos meeting. See **Section 10** for the detailed Action Grids from 2018 and from this meeting.

Matters arising from the 2018 Action Grid

Map Catalogue: The automated email alerting members to new map accessions to the SCAR Map catalogue is working well. Group members were reminded of this service and to contact Ursula to be added to the mailing list. An appeal was made for group members to offer their new maps to AAD Map Catalogue. Ursula can generate lists by nation so that members can check the current status.

The group thanked Ursula Harris for her efforts with the SCAR Map Catalogue.

Place-name review tool: Use of PGC sub-metre resolution image mosaic, based on US NGA Worldview imagery is under scrutiny. Now that REMA is available this is a better resource to use for checking positions of place names (Some organisations e.g. NZGB have already begun this work).

ADD Strategy: BAS announces a review of the processes behind ADD - covered in the product review.

Website: There have been ongoing issues with the SCAR website. Achieving an effective SCAGI website will be a priority in the coming year. AJF has agreed with Alice Oates (SCAR Communications Officer) to meet up to resolve issues with the SCAGI website (See Item 4).

UAV use: A short summary of National reports was included in the meeting minutes and this highlighted any UAV use.

Meeting with new SCAR Exec Officer: AJF had very useful meeting about the work of SCAGI with new SCAR Exec Officer Dr Chandy Nath in October 2018.

2) SCAGI products:

Progress reports, future plans and discussion about SCAGI products:

This agenda item was swapped with the National Reports to accommodate those joining by skype from other time zones.

2.1 Map Catalogue (Ursula Harris, Australian Antarctic Data Centre).

<https://data.aad.gov.au/aadc/mapcat/>

Ursula Harris reports about the activities related to the Map Catalogue. AAD is scanning historical paper maps to make them available online, via the Map Catalogue, more than 1000 have been scanned so far. They are being scanned at 400 dpi and meet Australian national Archive standards. They will be available as a PDF and as a full resolution 400 dpi TIFF file and are aiming for 2nd of June to have the maps available for download.

Most of the recent entries to the Map Catalogue are from Australia and it was reiterated that other organisations should check their entries and make sure that they are complete – the CGA is only as good as the material in it. There is an updated template that will enable the members to forward their metadata for maps more easily. Ursula can generate a listing for maps included by each Organisation which will be very helpful for checking completeness of entries.

There is an email alert system for new entries that works well – delegates should ask Ursula to be added to the mailing list.

ACTION: Delegates to contact Ursula Harris for a listing of their Organisation's entries in the CGA to check for completeness, and to ask Ursula to be added to the CGA new maps alert list, if desired.

2.2 Antarctic Digital Database (Adrian Fox) www.add.scar.org See ADD Report.

A release in December 2018 included revisions to the coastline and grounding between Pine Island Glacier and the Ford Range and around James Ross Island (northern Antarctic Peninsula) based on Landsat 8 and Sentinel 1 and 2 imagery, 2018. Also work on correcting errors in attribute metadata for sections of the northern Antarctic Peninsula and South Orkney Islands.

Current work towards a release in September 2019 includes creation of topology for the ADD so that it can be handled more effectively in QGIS and hence Quantarctica. There will also be inclusion of new topographic data for the South Shetland Islands, and a review and update for ice shelf fronts.

There will be a special focus on the Thwaites Glacier area to support the activities of the International Thwaites Glacier Collaboration <https://thwaitesglacier.org/about/itgc> Future plans for 2019 and 2020 include continuing review of data management and QA processes and infrastructure supporting the ADD and publication of updated processes. From September 2019 the content of the ADD will be managed by Laura Gerrish (lauger@bas.ac.uk) and the underlying system by Louise Ireland at BAS (louela@bas.ac.uk) and contacts on the ADD website will be updated accordingly. The meeting thanked Peter Fretwell for his work with the ADD over the last eight years.

New data will include: The South Orkney Islands; improved rock outcrop in the “polar-gap” south of the orbital limit of Landsat 8 and Sentinel 2 extracted from MODIS spectral data, and a review of the grounding line to reflect recent published scientific research.

A new initiative agreed at the meeting is a data layer for Air Operations Planning with contours in feet and spot heights based on the Reference Elevation Model for Antarctica (REMA) – please see the Air Operations Planning Maps Series report.

Adrian Fox reiterated that the ADD can only be as good as the data that is included in it and that National Mapping Agencies and other organisations producing geospatial data should offer this for inclusion in the ADD.

Ursula Harris raised a point about divergence between the ADD and the SCAR Feature Catalogue. This requires further analysis and will be considered as part of the ongoing review of ADD processes mentioned above.

Adrian Fox reported that he gave a presentation on ‘25 years of the ADD’ at the Polar18 conference in Davos, June 2018. It highlights how the development of the ADD in the 25 years since its launch in 1993 has mirrored changes in our understanding of the geography of Antarctica and also developments in geomatics technology. The presentation is included with the meeting papers.

2.3 Composite Gazetteer of Antarctica (Carlo Baroni) <https://data.aad.gov.au/aadc/gaz/scar/>

Jacqueline Müller and Carlo Baroni gave an update on developments with the CGA. See Italy National Report for full details. Jacqueline Müller (jacqueline.muller@unisi.it) is the point of contact for submission of names to the CGA.

At the date of 31 May 2019, the number of place names in the CGA is 37,893 (last year 37,631), referring to 20,078 recognized different features (last year: 19,844).

New names entered included 56 from Bulgaria and 57 from Norway. There are 77 names from the UK, 4 from Argentina and 3 from France pending response to queries or reformat onto a new template. A further 8 existing names have been updated.

Place name Committee Secretaries should be aware that a new template was recently created and that this has a new field “Named for” and in future that information needs to be separated out from the narrative field.

There was a discussion about the generation of polygons to define areal features that are poorly described by a simple coordinate. The UK has started working on this as a background task, as well as defining splines for the cartographic representation of names. The US PGC are also doing similar work. Going forward it would be a good idea to do this in parallel with the creation of a new name so that this information should be submitted to the CGA along with the name.

It was also noted that work on updating spot heights for Air Operations Planning Maps from REMA will overlap with toponymy, because many of the spot height locations will be named features (summits). It would be very sensible to update the coordinate and altitude information for these toponyms in parallel with the mapping work.

ACTION: Polygon generation for place names will be followed up after the meeting. UK and PGC to liaise. Discuss with AAD about how the polygons could be included in the CGA.

2.4 Air Operations Planning Maps Series (Elena Field/Adrian Fox, BAS)

Adrian Fox gave an overview of developments since the 2018 SCAGI meeting (see report).

All 16 1:1M scale maps plus the continent overview map were available for free download from BAS, IGN Belgium, NPI or US PGC download sites in time for the 2018-19 Antarctic operations season. The maps were available in PDF and geotiff format, for loading into GIS systems or use in Aircraft tablet apps such as Avenza maps. BAS trialled provision of the data to the BAS Air Unit in a tiled format suitable use in the Foreflight tablet software – this is in increasing use in the Antarctic aviation community.

The maps were promoted by direct contact with National programmes and also through direct contact with Kenn Borek Airways and Chilean Air Force. Elena Field was at the UK Rothera Research Station, which is used as a gateway to continental Antarctica by many aircrews, early in the 2018-19 season and was able to liaise directly with several transiting aircrews.

Simon Garrod (BAS Director of Operations and UK COMNAP representative) took part in a COMNAP Search and Rescue workshop in New Zealand in May 2019 and reiterated the relevance of the Air Ops Planning maps to the COMNAP community.

The main objectives for 2019-20 are to:

- 1) Update the 1:1M scale maps with contours and spot heights derived from REMA.
- 2) Provide the map data in Foreflight format.
- 3) Continue to promote the maps to the user community.

The updated maps should be available in October. The availability of REMA as a continent-wide dataset from which contours in feet can be easily extracted, is an opportunity to reconsider production of maps for the missing sector in liaison with AAD.

3) National reports

This agenda item was swapped with the SCAR Product Reports to accommodate those joining by skype from other time zones.

National reports are an important part of the SCAGI meeting – they are an opportunity to inform delegates from other organisations about current and planned activities, which can highlight opportunities for collaboration and sharing of resources.

The National Reports are summarised here in alphabetical order. [See the National Report papers for full details.](#)

3.1 Belgium (Jean-Yves Pirlot)

Air Operations Planning Maps. Belgium completed sheets 9 and 10, with Australia for the 2018-19 operations season. They will try to update the 2019-20 sheets with new elevation data but are lacking resources. If need be Australia will be asked to update Map Sheet 10, since this is a coproduction.

IGN Belgium has concentrated its efforts on the WGNP about which Jean-Yves Pirlot will report later today. One of the workshops on Tuesday will concentrate on this topic

3.2 Bulgaria (Lyubomir Ivanov)

Place-naming activity has continued with 56 new names approved and submitted to the CGA between June 2018 and June 2019. Of these 45 are related to theme of Bulgaria's ocean fisheries and contribution to the Antarctic fishing industry. 2019 is the 50th anniversary of Bulgarian fishing in Antarctic waters with the main period of operations being from 1970 to the early 1990s.

Other activities include UAV surveying work in the vicinity of Ohridski Base and Hannah Point (Livingston Island). The Association of Polar Early Career Scientists and the Bulgarian Antarctic Institute have been actively promoting Antarctic topics as part of 30 years of Bulgarian research in Antarctica, including a conference on *30 Years of Bulgarian Contribution to Antarctic Earth Sciences*, in Sofia, May 2019.

3.3 China (Ai Songtao)

Publication of an updated Antarctic continent overview map with insets for areas around Chinese Stations and a southern hemisphere overview roundel. The map data has been used to produce coloured 3D printer models of the surface and bedrock. A 1:3M scale map based on Landsat and REMA data of the sector between 60°E and 90°E supports overland access to Kunlun and Taishan stations.

A series of 1:50,000 scale satellite-image maps covering 195 000 km² are based on Chinese ZY-3 satellite images with no ground control. The areas include Prince Charles Mountains, Zhongshan Station, Taishan Camp, Grove Mountains, Amery Ice Shelf, Victoria Land, *etc.* The surface elevation of a 4 km x 4 km area around Taishan Camp has been surveyed using RTK-GPS mounted on a tracked vehicle.

A new map of Zhongshan Station based on 2017 UAV images updates a series of maps of the station area from 2008 and 2012. A detailed UAV photogrammetry survey using Photoscan and Hexagon Smart 3D is supporting construction of the Chinese Station at Inexpressible Island, Terra Nova Bay.

A guided robot quad-bike vehicle with GPR system (to look for crevasses) has been developed to drive ahead of overland tractor trains.

The Polar Research Institute of China (PRIC) and Chinese National Arctic & Antarctic Data Center (CN-NADC) has developed an online Resource-sharing Platform for Polar Samples.

3.4 Italy (Carlo Baroni)

The main contribution of the Italian National programme is through managing the content of the Composite Gazetteer. This is covered at 2.3 in the Products section above.

Professor Antonio (Toni) Meloni, Chairman of the Italian National Antarctic Programme, welcomed the SCAGI group and stated that he was pleased that they were hosting the 2019 SCAGI meeting. He gave an overview of Italy in Antarctica. Italy has been an Antarctic Treaty signatory since 1981 and has run 34 National Expeditions since then. It has been a member of SCAR since 1988. The Programma Nazionale di Ricerche in Antartide (PNRA) is a consortium of different organisations, not a research institute. The Italian programme operates Mario Zucchelli Station and Concordia (shared with France) and operates two ships *Italica* and *Laura Bassi*, and currently sends staff and some cargo from New Zealand by C130 aircraft. A new hard runway is under construction at Zucchelli Station (see below) which will be a regional asset. The programme is involved with many international collaborative science projects, including EPICA ice core and Cape Roberts and ANDRILL sediment/rock core drilling projects.

Roberta Ivaldi from the Italian Military Hydrographic Institute reported on the role of the Italian Hydrographic Institute during 30-yrs of exploration in Antarctica, including publication of three charts in the IHO International Nautical Charts Portfolio of Antarctica.

Riccardo Scipinotti, ENEA (Agency for new technologies, energy and sustainable economic development) gave a presentation on the construction of a new hard runway of 2.2 km length 5 km from Mario Zucchelli Station which supersedes the sea ice runway and allows aircraft access to the Station for the whole Antarctic summer. It is being built in phases with 1.3 km completed so far and can already take a Basler aircraft. When complete in 2021 it will be able to take inter-continental aircraft like A319 Airbus or Ilyushin 76.

3.5 New Zealand (Wendy Shaw and Graeme Blick)

Land Information New Zealand (LINZ) has continued with geodetic survey work in the Ross Sea region. This includes contributing to POLENET by supporting three GNSS stations; collecting absolute gravity (collaboration with Finland Geospatial Research Institute); Tide Gauge calibration; Monitoring surveys of historic huts and wind turbines, and GNSS survey of geodetic infrastructure points.

LINZ hydrographic charting is investigating 'ships of opportunity' to collect swath bathymetry data.

LINZ and New Zealand Geographic Board are working together on checking and correcting place names and coordinates and including these on updated maps. LINZ has built an online basemap using hill-shaded REMA and 20 m contours to assist with resolving place name issues. The NZ Antarctic Naming Committee (ANC) considered 1270 revised names resulting from this work at a meeting in March 2019. Over 50% of NZ names have now been reviewed against REMA or Digital Globe sub-metre resolution imagery and work will continue, including working with the CGA to converge the updated NZ Gazetteer and CGA entries.

Wendy Shaw has contributed to the review of SCAGI place-naming principles (Item 6).

3.6 Norway (Yngve Melvaer)

Three Antarctic maps Antarctica, Dronning Maud Land and Fimbulheimen have won Norway 'Best Map' prize. They are available for free download and are in the CGA.

There has been a minor update to QGIS (3.1) with a few fixes and minor dataset updates. New developments include a plug-in to export custom maps made in QGIS to Garmin CustomMaps software. US National Snow and Ice Data Centre (NSIDC) are interested in using Quantarctica as a model for a Greenland data portal. There is interest in adapting Quantarctica to run in the R (statistical computing) environment.

A 4,900 km² area between Troll and Tor Stations has been mapped from WorldView stereo satellite data, with more work planned for 2019. The work was done in Socet GXP. Some issues were encountered with auto tie-point ID due to steep terrain and differences between images over the 2013-18 time period and seasonality. Running Socet GXP under Windows 10 also caused some initial problems and NPI can advise other users with similar issues. Outputs are DEMs, ortho-image and published maps, only the maps will be available for public use due to licensing constraints.

3.7 UK (Adrian Fox and Elena Field)

The UK continues the rolling update of regional scale mapping and feeding this data into the ADD. The Arctic/Antarctic double-sided map was update and reprinted in 2018.

Detailed photogrammetric mapping from a PhaseOne medium format camera and a Photoscan workflow has supported work on rebuild of the wharf and planning for new building construction at Rothera Research Station. BAS has generated 50 DEMs and ortho-mosaics of important penguin colony sites in the Antarctic Peninsula and South Shetland Islands region. The data is also being used in production of maps for Antarctic treaty Visitor Site Guidelines. Three new maps have been compiled and eight updated during the year.

The UK continues to develop web-services: Polar View provides access to near-real-time sea ice information from satellite radar, and a suite of other satellite image-derived products (<https://www.polarview.aq/>). The Antarctic Peninsula Information Portal APIP (<https://add.data.bas.ac.uk/home/apiip>) is a one-stop shop for environmental and management information overlaid on geospatial data layers. The BAS internal Operations GIS and a GIS developed for the International Thwaites Glacier Collaboration support operations in Antarctica by displaying operational data on geospatial data layers for context.

The UK Antarctic Place-name Committee has approved 47 new names since June 2018. The focus has been on the South Shetland Islands in advance of publication of a new map of the SSI in autumn 2019 and penguin population science work.

The British Antarctic survey has worked with the UK Antarctic Heritage Trust to develop an effective workflow for 3D building modelling from terrestrial photogrammetry for historic stations in Antarctica. The old UK and US stations at Stonington Island have been completed.

Future plans include publication of new maps of the South Shetland Islands and South Orkney Islands; continuing to develop web-services, particularly the Thwaites-GIS as the project moves from a planning to operational phase; 3D building modelling work at Port Lockroy and Wordie House (Argentine Islands). There will be an aerial photography campaign on the Antarctic Peninsula in November 2019.

3.8 USA (Cole Kelleher)

The US PGC have redeveloped their website with a reorganised data structure and provision of revised and updated user guides for data and services.

The Reference Elevation Model of Antarctica (REMA) is a major development with release 1.1 in September 2018. Full-resolution 8 m data is available for all the continent and 2 m for about half as individual time-stamped strips. An 8 m dataset covers 15,240,000 km² and is available in 1,524 tiles 100 km x 100 km tiles. REMA is accessible through an ESRI viewer, a web application offered by the US NGA and the tiles can be bulk downloaded from PGC. It is a 'work in progress' and PGC is working to fill problem areas.

PGC is scanning and geo-referencing historical and contemporary polar maps from a wide range of international sources, in liaison with USGS and University of Minnesota. Over 650 public maps are already available for free download.

A campaign with ACAN of checking coordinates for names in the US Gazetteer is 64% complete for point features (18,641) and 55% complete for polygon features (9,127).

PGC began digitising the Antarctic coastline from commercial satellite imagery, and data for the northern Antarctic Peninsula is already included in the ADD. This work has been paused whilst automated coastline extraction methods are assessed.

4) Website (Jean-Yves Pirlot, NGI Belgium)

The 2018 papers are uploaded in the SCAGI section and the members list is on line. The SCAGI pages need substantial work, because much of the material has just been uploaded from a SCAGI report to SCAR EXCOM, rather than being specially written. Also, there are remaining problems with the structure of the website.

The Chief Officers intend that updating and restructuring the SCAGI web-pages will be a priority.

Adrian Fox intends to go to work with the SCAR Office in Cambridge to resolve these issues.

ACTION: Adrian Fox to liaise with SCAR Office to update the SCAGI web-pages.

ACTION: Owners of the products are invited to review/rewrite their pages.

5) Horizon scan

Discussion on any emerging developments or opportunities not covered in the National Reports or SCAR Products discussions is a Standing Item for SCAR Committees.

The key emerging developments for SCAGI are how to leverage the new sources of elevation data such as REMA and the increasing use of UAVs (drones) for geospatial use. These have been well covered in the Product and National Reports above and associated discussions.

Jean-Yves Pirlot proposes to think about how the work of SCAGI can contribute to the UN Sustainable Development Goals 2030 (<https://sustainabledevelopment.un.org/?menu=1300>) and to discuss as an agenda item at the 2020 SCAGI meeting. This aligns with the wider SCAR objective to consider the UN SDGs in the development of the new SCAR Scientific Research programmes to begin

in 2020. (<https://www.scar.org/scar-library/papers/xxxv-scar-delegates-2018-davos-switzerland/5100-35-wp14-new-srps/>)

6) Working Group on Antarctic Place-naming Guidelines (Jean-Yves Pirlot)

6.1 Progress since the Davos meeting in 2018.

Ursula Harris, Wendy Shaw and others heavily contributed to a new version of the guidelines based on the 1994 draft by Jörn Sievers. Version 7 was circulated before the Pisa meeting, now we have made a few more edits leading us to Version 8. After the meeting we will release version 9. This will be made available on google docs, for those who would like to access and edit [online](#).

The current draft has a new proposed title fitting more closely to its purpose: “International Toponymy of Antarctica, Principles and Procedures”.

After a first meeting in New York in August 2018, we had some virtual meetings and live follow up meetings in New York on the 1 and 2 May 2019.

We had a few participants, including Wendy Shaw as well as Jennifer Runyon, Pierre Jaillard (incoming president of UNGEGN), Elisabeth Calvarin and Catherine Cheetham.

As a reminder, our working group is composed of: Ursula (AU), Jyp (BE), Lyubo (BG), Songtao (CN), Li (CN), Antonie (DE), Elisabeth (FR), Carlo (IT), Wendy (NZ), Adrian (UK), Lou Yost (USA) now Jennifer Runyon as well as Ekaterina Evdokimova and Andrey Mukhin from Russia have joined us in Davos. Cole Kelleher from the USA Polar Geospatial Center will join us in Pisa.

The two sessions were not enough and we added a few more, with our core team Wendy, Jennifer and Jean-Yves Pirlot.

Caroline Cheetham and Ursula Harris have reviewed the paper afterwards and this leads us to a quite nice and acceptable version.

Elisabeth Calvarin is a very experienced toponymist, she is very happy with the renewed version in English but awaits the French translation to give her final advice and support.

Similarly, Dr. Gerhard Rample from Austria, Expert at the UN level, is willing to review the draft document with the UNGEGN resolutions and principles.

Proposed Strategy and Time Table, that has to be discussed:

- SCAR – SCAGI meeting in Pisa (IT), 3 – 4 June 2019
Present the outcome of these meetings, draft version to be finalized and adopted before the end of the year 2019.
- SCAR OSC in Hobart (AU), 31 July – 11 August 2020
Propose the new guidelines for adoption by SCAR in Hobart, this process has to be initiated soon after Pisa.
- UNGEGN in New York (or Europe?), May 2021
Present the final version of the guidelines.

6.2 Outcome from discussion at the 2019 SCAGI meeting workshop, Tuesday 4 June 2019.

The meeting agreed to try and conclude the process in 2020.

ACTION - Shortly after the meeting, Ursula Harris and Jean-Yves Pirlot will circulate the draft version as is, in Word format, PDF format and with a link to the online Google Doc. Edits in the latter should be preferred but other forms of edits will be accepted.

- The participants to the meeting will send in their final comments before the 24 of June.
- The advice of Elisabeth Calvarin and Gerhard Rampl will be asked in parallel. NGI (BE) will translate the draft version in French.
- The consolidated draft version will be sent to all the members of SCAGI, asking for comments before 15 September 2019.

ACTION: Adrian Fox will liaise with Chandy Nath (SCAR Executive Director) to establish the proper process to submit the final document to SCAR delegates.

7) Election of SCAGI officers at the 2020 meeting.

Adrian Fox and Jean-Yves Pirlot will be standing down as co-Chief Officers of the group at the 2020 meeting, after two four-year terms. They called for delegates to consider taking on the leadership roles for the group.

ACTION: Delegates are invited to consider taking on the leadership roles for the group and discuss with their Institution to ensure Institutional support.

ACTION: Adrian Fox will follow up with Chandy Nath about the proper process to appoint successors.

8) AOB (Any Other Business) No items were raised at the meeting.

9) Date and location of next meeting

In association with the SCAR Open Science Conference, Hobart, Tasmania, Australia, 31 July to 11 August 2020. The exact date is not known at this time but at the beginning of the period.

10) Action Grids

10.1 Actions from 2018 SCAGI meeting, Davos, June 2018

Number	Action	Owner	Due by	Status
1	Add papers and national reports from the meeting to the SCAGI website. Make available through ftp until SCAR website is functional.	AJF	As soon as available	FTP site done and listed in follow-up email and meeting report. Meeting report and report to EXCOM available on website. There are still issues with SCAR website – agenda item.
2	Check that NZHA is in liaison with IBCSO	Wendy Shaw	After meeting	Wendy to follow up.

3	Amend wording for the Map Catalogue page for the SCAR website	JyP		Done
4	Delegates to check their catalogue entries for completeness and then keep the catalogue up-to-date with any new publications.	All	Ongoing	Active AAD email alert for new entries working well.
5	Check status missing names from CGA and resolve.	Carlo Baroni, Jacqueline Muller.		Done
6	Forward French names to CGA	JyP to liaise with Elisa Dupuis	After meeting	Done
7	Include Japanese mapping data in ADD	Peter Fretwell to liaise with NPR.	After meeting	To follow up
8	Agencies who would like access to the NGA image mosaic for place name checking to liaise with PGC.	All	Ongoing	Now better to use REMA - there are some issues with non-US access to this resource.
9	ADD strategy.	PTF and AJF to write a short strategy paper.	After meeting	See the ADD product report.
10	Confirm with COMNAP their plans for updating the Facilities Database.	Brad Herried.	After meeting.	Done – released 8 August 2018. Available to check Air Ops Planning maps
11	Review web pages	AJF and JyP	2018	Needs progress with SCAR website. Agenda item.
12	Compile report on UAV use for mapping by SCAGI agencies	AJF	After meeting.	Highlighted in the meeting report – new section on brief summaries of National Reports. Propose to cover this in detail at Hobart meeting.
13	Discuss contacting journal editors to reinforce use of CGA names only in science papers.	AJF to discuss with Chandy Nath.	Meeting in Autumn	AJF had very useful meeting with new SCAR Exec Officer in October. Follow-up in May 2019 – promising action.
14	Organise follow-up meeting	JyP	For meeting in	Done. Two

	of place names WG.		Autumn	Working Group meetings and workshop 4 June, Pisa.
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10.2 Actions from the SCAGI 2019 Meeting, Pisa, Italy, June 2019

Number	Action	Owner	Due by	Status
1	Delegates to contact Ursula Harris a) for a listing of their Organisation's CGA entries to check for completeness, and b) to ask Ursula to be added to the CGA new maps alert list, if desired.	ALL		
2	Polygon generation for place names – UK and US to liaise over shared polygons.	AJF/CK	2020	To do
3	Owners of the SCAR Products are invited to review/rewrite their pages.	AJF and Product Owners.	End 2019	To do
4	AJF to liaise with SCAR Office to update the SCAGI web-pages.	AJF	End 2019	To do
5	Liaise with Chandy Nath for process to submit the final place-names document to SCAR delegates.	AJF and JyP	End 2019	To do
6	Find out process for appointing new officers – talk to Chandy Nath.	AJF and JyP	End 2019	To do
7	Delegates to consider taking on SCAGI leadership roles.	ALL	2020	