

This report has been prepared by Steve Colwell from the British Antarctic Survey on the 29<sup>th</sup> July 2017 and is prepared for SCAR PSG that partially supported his participation

## **Executive Council Panel of Experts on Polar and High Mountain Observations, Research and Services (EC-PHORS)**

### **Overview**

The seventh Session of the Executive Council Panel of Experts on Polar and High Mountain Observations, Research and Services (EC-PHORS) was held at the Centro Austral de Investigaciones Científicas (CADIC) in Ushuaia, Argentina, from 21 to 24 March 2017.

The meeting focused on Antarctic activities as well as broader matters of special interest such as the Global Cryosphere Watch (GCW) the Global Integrated Polar Prediction System (GIPPS), High Mountain activities and a review of the implementation plan for the Arctic Polar Regional Climate Centre initiative.

The Panel developed recommendations to Executive Council (EC) 69 on an updated list of Antarctic Observing Network (AntON) stations, development and implementation of GCW including establishment of CryoNet Sites and Stations and on the international exchange of snow data, the development and implementation of the Arctic Polar Regional Climate Centre (Arctic PRCC) Network and of Polar Regional Climate Outlook Forums and strategies for enhancing partnerships particularly with the Arctic Council and the Antarctic Treaty Consultative Meetings (ATCM).

The Panel stressed on the need to continue advancing the following five key initiatives under the WMO Polar and High Mountain Regions priority activity:

- (i) the Antarctic Observing Network (AntON),
- (ii) the Polar Regional Climate Centres and Polar Regional Outlook Forums,
- (iii) the Global Cryosphere Watch (GCW),
- (iv) High Mountain regions activities, and
- (v) the Global Integrated Polar Prediction System (GIPPS), including the World Weather Research Programme (WWRP) Polar Prediction Project and Year of Polar Prediction (YOPP), and the WCRP Polar Climate Predictability Initiative (PCPI) under the Climate and Cryosphere (CliC) project.

In particular, noting the excellent developments with regard to developing the Arctic PRCC Network, the Panel agreed that a roadmap for the Antarctic and Third Pole needs to be developed by EC 70 in 2018 learning from the experience of the Arctic PRCC.

### **Antarctic Task Team**

Steve Colwell reported on the activities and issues under the Antarctic Task Team (ATT). Only one AntON station has been accepted as a CryoNet station, however more than ten are in the process for approval.

For the Antarctic PRCC, the ATT is relying on progress and advice from the Arctic PRCC Network and how it can be applied. This is built into the resolution going forward to EC 69 with plans, if possible, to present a roadmap to EC 70 in 2018.

With respect to the AntON and Global Climate Observing System (GCOS) monitoring, for all new AntON stations (south of 60), it was strongly recommended to find practical ways, with an active engagement of the Secretariat, to automatically add the AntON designation (on a trial basis until formally approved by the Executive Council) when a site south of 60 is placed into the Observing System Capability Analysis and Review tool (OSCAR) database <https://oscar.wmo.int/surface//index.html#/>, and to add GCW designation where appropriate. This would allow for the real time tracking of the network expansion and an easy extraction of information from OSCAR surface assuming that Members update OSCAR surface.

Side discussions took place concerning the provision of weather services in the Antarctic. This was discussed at the previous PHORS meeting in 2015. A renewed effort is needed to coordinate products and services to Antarctic operators and build interoperability into existing systems.

### **The Panel decided on the following:**

All new stations south of 60 should automatically be identified as an AntON station when placed into OSCAR and GCW designation added where appropriate. A mechanism to achieve this goal needs to be developed for approval by EC-PHORS-8. Until this is in place, the status quo will continue.

The Year of Polar Prediction in the Southern Hemisphere (YOPP-SH) including the SH Special Observing period (16 Nov 2018 to 15 Feb 2019) should be used to leverage and sustain AntON and identify GCW sites within AntON and data to be made available via the YOPP Data Portal;

Reinforce the Congress decision to have Members make their ship data in the Southern Ocean, including buoy data, available on the Global Telecommunications System (GTS).

Report to the ATCM in the Austral fall, 2017 on EC-PHORS activities highlighting progress on the Arctic – PRCC Network to determine modalities in Antarctica and Prepare a roadmap for the Antarctic PRCC for EC 70 in 2018.

### **Scientific Committee on Antarctic Research (SCAR)**

Steve Colwell reported on the activities of the Scientific Committee on Antarctic Research (SCAR) in relation to the WMO activities in Antarctica and EC-PHORS interest. There have been significant advances in the Southern Ocean Observing System (SOOS), the development of the Antarctic Near-shore and Terrestrial Observing System (ANTOS) and the space weather expert group GNSS Research and Application for Polar Environment (GRAPE).

The Panel noted the expressed need for support from the remote sensing group within SCAR. The new Tropical Antarctic Teleconnections (TATE) group is an interesting means to convey the importance of the pole to mid-latitude impacts. The progression of the Scientific Research Programmes Solid Earth Response and influence on Cryosphere Evolution (SERCE) and the Antarctic Climate Change in the 21st Century (AntClim21) were noted as interesting endeavours. There are already some interactions with these and other SCAR programmes, mainly through the WMO/IOC/ICSU World Climate Research Programme.

The Panel also noted that SCAR would like to discuss with EC-PHORS actions for the better integration of Antarctic observation plans between WMO and SCAR groups as well as the need for incorporating the Antarctic Master Directory (AMD) into WMO data portals.

### **The Panel agreed on the following:**

To provide advice/feedback from the Forum for Research into Ice Shelf Processes (FRISP) on activities or needs for information on ice shelf processes and ice-sheet ocean interactions;

To encourage the use of Antarctic Sea ice Processes and Climate (ASPeCt) sea ice observation software coordinated by the Australian Antarctic Division (contact point Petra Heil) to increase standardized data collection and sharing;

To ensure the metadata from the Antarctic Master Directory feeds into the GCW Data Portal, and to identify proper mechanisms;

To advise on establishing a Memorandum of Understanding / Letter of Agreement to formalize the SCAR/WMO partnership, perhaps together with the International Arctic Science Committee (IASC) to develop best practices; this issue with proposal ought to be brought to the next EC-PHORS meeting and then EC 70;

To organize a self-funded workshop with various groups working on long-term observations in the Antarctic to better connect efforts from WMO and SCAR, including but not limited to SOOS and ANTOS;

To be working together with SCAR to ensure Antarctic Stations are considered/included in GCW CryoNet where possible;

To consider a SCAR overview/update on what space observations are needed for various fields of Antarctic research, in relation to what is being planned by the space agencies and how we might work together to meet any outstanding needs currently not being addressed; and

To be examining the actionable requirements coming out of the Horizon Scan/Antarctic Roadmap Challenges to identify areas where a stronger partnership between the science/research community and operations might be warranted.

**The Panel recommended the following:**

EC-69 to promote strong advocacy for an increase in long-term Automated Weather Stations in strategic locations (e.g., coastal), increased weather balloon releases from ships during voyages, and increased deployment of surface drifters; and

EC-69 to promote the installation of long-term high-quality in situ observations at key locations over West Antarctica.

**The full EC-PHORS 7 report which has more information relating to YOPP can be accessed at:**

<http://www.wmo.int/pages/prog/www/CBS-Reports/documents/EC-PHORS-7-Final-Report-Final.pdf>