



Concept Note Scoping Workshop



Climate Services for Polar Regions: Establishing Polar Regional Climate Centres Towards Implementing an Arctic PRCC-Network

17–19 November 2015, Geneva, Switzerland

Background

The World Meteorological Organization (WMO) Executive Council through its Panel of Experts on Polar and High Mountain Observations, Research and Services (EC-PHORS) (renamed from EC-PORS to EC-PHORS by EC-67) is developing a concept for the establishment of Regional Climate Centres (RCCs) for the Polar Regions. The WMO Executive Council, at its 65th Session (2013), agreed that EC-PORS, the Global Cryosphere Watch (GCW), the Commission for Climatology (CCI), the Commission for Basic Systems (CBS) and the concerned regional associations should work in close cooperation to develop the Polar RCCs (PRCCs). Other relevant initiatives have also been launched, such as those by the International Ice Charting Working group

(IICWG), the World Weather Research Programme (WWRP), the World Climate Research Programme (WCRP) and the Arctic-HYCOS project led by the WMO Commission for Hydrology. Following the fifth session of EC-PORS in 2014, its Services Task Team (STT) began consultations on the implementation strategy for PRCCs, including definition of their priority functions based on user requirements in the Polar Regions.

EC-PHORS is charged with fostering the establishment of Polar Regional Climate Centres for the Arctic, Antarctic and high mountain regions of the world. As a first step, it will focus on the Arctic Polar Region, including elaborating the PRCC concept taking the form of an RCC-Network. This experience, where relevant, could then inform development of the PRCC concept for Antarctica and High Mountain Regions.

Polar Regions are among the target areas for a Global Framework for Climate Services (GFCS) project funded by the Government of Canada to support the implementation of the climate services at regional and national scales. Among the key results of this project is an improved climate service framework across the Arctic Polar Region.

Under the guidance of the EC-PHORS STT and as part of the Canada-funded GFCS project, a "Scoping Workshop on Climate Services for Polar Regions: Establishing Polar Regional Climate Centres – Towards Implementing an Arctic PRCC-Network" will be held from 17 to 19 November 2015.



The RCC Concept

WMO Regional Climate Centres (RCCs) are centres of excellence that operationally generate regional climate products including climate monitoring and prediction in support of regional and national climate activities and thereby strengthen the capacity of WMO Members in a given region to deliver better climate services to national users. While all WMO RCCs are required to fulfill certain mandatory functions, the RCC concept includes flexibility to accommodate specific regional needs, capabilities and limitations. The concept also provides options to implement a single multi-functional entity or a distributed-function RCC-Network collaboratively implemented by a number of interested hosts. Under the RCC concept service delivery to national clients remains in the purview of national institutions, the RCC is designed to assist with their mandate.

Mandatory and recommended functions of WMO RCCs and the relevant designation criteria are part of the WMO Technical Regulations. This and other related information are also described at <https://www.wmo.int/pages/prog/wcp/wcasp/RCCs.html>.

Based on the descriptions of formally designated RCCs provided in WMO Technical Regulations, the potential PRCC functions under consideration would be based on:

Mandatory Functions

- operational activities for long range forecasts (LRF);
- operational activities for climate monitoring;
- operational data services to support LRF and climate monitoring; and
- training in the use of operational RCC products and services.



Highly Recommended Functions

- climate prediction and climate projection;
- non-operational data services;
- coordination functions;
- training and capacity development; and
- research and development.

The above generic functions allow PRCCs to facilitate, *inter alia*:

- strengthened collaboration among NMHS on polar matters;
- specific regional products such as sub-seasonal forecasts because seasonal prediction skill may be low in the polar region;
- development of sector-specific products; and
- stereographic projections including improved imagery (e.g. satellite); and activities for user engagement such as regional or national climate outlook forums, during which users of PRCC products can learn about the products.

Regional Approach to Climate Services – Arctic

Indigenous peoples and others who live and work at high latitudes are increasingly challenged by a wide range and variations of weather and climate. Over the past century temperatures in the Arctic have been assessed to have increased at almost twice the rate of the rest of the world leading to rapid changes in, *inter alia*, sea ice, snow cover and permafrost affecting traditional ways of life and existing infrastructure. These changes coupled with, *inter alia*, increased tourism and enhanced economic activity are resulting in a growing need for useful and targeted climate information in order to make effective decisions and mitigate risks to people, governments, businesses and the environment. An effective solution to this growing need is to develop a regionalized approach toward the development of improved climate products, information and services to support Members service delivery activities. This approach would aggregate skills and investments at the national level, as well as provide a mechanism to coordinate, enhance and in some cases, harmonize products and services requested by relevant stakeholders.

Moreover, the sensitivity of the Polar Regions is increasingly understood as an issue of global significance. Rates of melting have the potential to dramatically affect sea levels, with implications for Small Island Developing States (SIDS) and low-lying coastal areas, including heavily-populated deltas inhabited by hundreds of millions of people. Monitoring and long-range projections of these

phenomena are making a significant contribution to policy formulation and implementation at national, regional and global levels. These include informing the adequacy of the United Nations Framework Convention on Climate Change (UNFCCC) current goal of limiting warming to less than 2 degrees Celsius over pre-industrial levels and informing the process of establishing national commitments in support of a climate agreement expected later in 2015.

Scoping Workshop on Climate Services for Polar Regions: Establishing Polar Regional Climate Centres – Towards Implementing an Arctic PRCC-Network

As noted above, a “Scoping Workshop on Climate Services for Polar Regions: Establishing Polar Regional Climate Centres – Towards Implementing an Arctic PRCC-Network” will be held from 17 to 19 November 2015.

As an essential pre-requisite to determine the way forward for the implementation of a PRCC - Arctic, during the first half of 2015, the WMO Secretariat conducted a survey of WMO Members that have expressed an interest in the Polar Regions, and in particular, those that are Members of the Arctic Council. This survey will be analyzed to ascertain the activities, services and products Members would consider being mandatory or highly recommended functions of the proposed PRCC- Arctic. As part of the survey, the concerned WMO Members were also invited to indicate their interest and capacities in contributing to RCC-related functions or in carrying out research to develop capacities applicable to the Arctic or Antarctic regions or sub-regions. The survey also elicited existing mechanisms for interaction with users. The responses received by the WMO Secretariat to the survey will serve as the starting point for discussion at this Scoping Workshop.

Objectives of the Workshop

This Scoping Workshop will facilitate the engagement of the user, research, and operational communities to take the first steps towards development of an implementation

strategy for a PRCC- Arctic, including the possibility of it taking the form of an Arctic PRCC-Network, by;

- 1) exploring opportunities and challenges relating to polar climate monitoring and prediction services and the underpinning data inputs; and
- 2) building on the Survey results to hone the PRCC concept including the priority functions of the PRCCs and the implementation strategy.

The Sixth Session of EC-PHORS scheduled to be held from 8-11 September 2015 in Reykjavik, Iceland, will consider the results of the survey, provide advice on the participants, review the expected outcomes of this Scoping Workshop and initiate planning for a successor workshop on an Antarctic PRCC-Network and ultimately one for the Third Pole and other High Mountain Regions.

Participants in the Workshop

Participants in the Workshop will include various stakeholders in Arctic climate matters that are involved in the operational activities and in the development and delivery of products and services. The workshop will include experts in associated research and selected representatives of user sectors and policy domains. The workshop is open also to Members who are active in Antarctica who wish to explore a similar framework. A list of potential participants will be developed in consultation with relevant WMO Constituent Bodies, partners and the IBCS Partners Advisory Committee to include a variety of stakeholders to ensure the right mix of expertise with interests in the Polar Regions is present including;

- experts on Polar regions and High Mountain areas;
- WMO Members that are Members of the Arctic Council;
- relevant scientific bodies, international and intergovernmental organizations;
- relevant experts from WMO Technical Commissions, Regional Associations and Secretariat; and
- a select number of user sector representatives.



Expected outcomes of the Workshop

1. Appraisal of opportunities and challenges including governance aspects relating to development and delivery of climate services in the Polar Regions, including climate data, monitoring and prediction aspects, and in identifying the associated user needs ;
2. Scoping of the Arctic PRCC-Network concept and implementation:
 - a. List of priority PRCC functions;
 - b. Description of the PRCC implementation strategy including the structure of the Arctic PRCC-Network;
3. Identification of Member capacities to engage users at national and regional levels and to deliver PRCC services for their benefit; and
4. Recommendations on the next steps in establishing an Arctic PRCC-Network.

Agenda outline of the workshop

Day 1 – Polar Region Climate Centre Overview

- Consider opportunities and challenges relating to polar climate monitoring and prediction services and underpinning data, in the context of the GFCS;
- Discuss potential contributions of Global Cryosphere Watch (GCW) and the Global Integrated Polar Prediction System (GIPPS);
- Review RCC functions;



- Review user perspectives;
- Review the outcomes of the survey conducted by the WMO Secretariat on the PRCC concept, including Members' needs and capabilities; and
- Identify entities that can host the nodes of the Arctic PRCC-Network.

Day 2 – Product Development and Service Delivery

- Define the priority PRCC functions;
- Define the activities, services and products required to support national service delivery mechanisms;
- Discuss an implementation strategy for the Arctic PRCC-Network ;
- Discuss potential products that may be of particular interest to this region and to the users in this region;
- Mapping requirements and capacities; and
- Review formal procedures for WMO designation.

Day 3 – The way forward: establishment of the pilot Arctic PRCC-Network

- Identify the entities that will participate in the Arctic PRCC-Network and identify any gaps
- Determine the next steps in establishing the Arctic PRCC-Network, including:
 - establishing a Task Team or governance structure;
 - defining the role of each of the entities and coordination mechanisms if the Arctic PRCC-Network is pursued;
 - considering the resource implications (both human and financial) and a resource mobilization strategy;
 - determining means of co-producing and delivering services and products to users;
 - addressing capacity development for uptake of products at national levels;
 - developing a communication strategy for implementation;
 - initial thoughts on a framework for the Antarctic; and
 - identify specific issues to be brought to the attention of EC-PHORS.

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