

Concept Note
Scoping Workshop
Climate Services for Polar Regions:
Potential for a Polar Regional Climate Centre - Arctic

3-5 September 2015
Geneva, Switzerland

Background

The World Meteorological Organization (WMO) Executive Council Panel of Experts on Polar Observations, Research and Services (EC-PORS) encourages the implementation of the Regional Climate Centre (RCC) concept 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) and to engage with relevant projects of the Global Framework for Climate Services (GFCS) Implementation Plan. Other groups have launched relevant initiatives such as the International Ice Charting Working group (IICWG), the World Weather Research Programme (WWRP), the World Climate Research Programme (WCRP) and the Commission for Hydrology's Arctic Hycos project. 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-PORS agreed to explore Polar Regional Climate Centres for both the Arctic and Antarctic. It was decided, however, to first elaborate the PRCC concept for the Arctic Polar Region, including the possibility of it taking the form of an RCC-Network. This experience, where relevant, would then inform development of the PRCC concept for Antarctica.

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

Under the guidance of the EC-PORS STT and as part of the Canada-funded GFCS project, it is proposed to organize a "Scoping Workshop on Climate Services for the Polar Regions: Potential for a Regional Climate Centre - Arctic" at WMO Headquarters in Geneva, from 3-5 September 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 include:

- **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;
 - improve collaboration among NMHSs on polar matters;
 - training and capacity development;
 - research and development (including the development of sector-specific products)
 - specific regional functions such as provision of sub-seasonal forecasts because seasonal prediction skill may be low in this region); products in polar;
 - stereographic projection: improved imagery (e.g. satellite); and
 - activities for user engagement such as regional or national climate outlook forums, during which users of RCC products can learn about the products.

Polar Regional Climate Centre – 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.

Scoping Workshop on Climate Services for the Polar Regions: Potential for a Regional Climate Centre - Arctic

As noted above, a “Scoping Workshop on Climate Services for the Polar Regions: Potential for a Regional Climate Centre - Arctic” is tentatively scheduled to be held at WMO Headquarters in Geneva, from 3-5 September 2015.

As an essential pre-requisite to determine the way forward for the implementation of a PRCC - Arctic, the WMO Secretariat will coordinate a survey in early 2015 of WMO Members that have expressed an interest in the Polar Regions particularly 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 will also be invited to indicate their interest and capacities in contributing to RCC-related functions or *amongst other things*, in carrying out research to develop capacities applicable to the Arctic or Antarctic regions or sub-regions. *Existing mechanism to interact with users will also be elicited.* 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 a PRCC-Arctic 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 outcomes of the Scoping Workshop will be reviewed at the Sixth Session of EC-PORS scheduled to be held from 8-11 September 2015 in Reykjavik, Iceland.

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. 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 WMO Constituent Bodies, partners and the IBCS Partners Advisory Committee to ensure include a variety of stakeholders to ensure the right mix of expertise with interests in the Polar Regions is present including;

- experts affiliated with EC-PORS and the GFCS;
- 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 PRCC - Arctic concept and implementation:
 - a. List of priority PRCC functions;
 - b. Description of the PRCC implementation strategy including the structure of the PRCC network;
3. Identification of Member capacities to engage users at national and regional levels and to deliver PRCC services for their benefit;
4. Recommendations on the next steps in establishing a PRCC - Arctic or PRCC-Arctic 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 PRCC - Arctic/ Arctic Network Nodes.

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 PRCC – Arctic / Arctic 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 a pilot PRCC- Arctic / Arctic Network

- Identify the entities that will participate in the PRCC - Arctic/ Arctic Network and identify any gaps
 - Determine the next steps in establishing the PRCC- Arctic/ Arctic Network, including:
 - establishing a Task Team or governance structure;
 - defining the role of each of the entities and coordination mechanisms if a PRCC Arctic 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; and
 - initial thoughts on a framework for the Antarctic.
 - identify specific issues to be brought to the attention of PORS
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