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World Meteorological Organization
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Climate Services for Polar Regions: Establishing a Regional Climate Centre Network for Antarctica Towards Implementing an Arctic PRCC-Network

CONCEPT NOTE

Scoping Workshop: Towards Implementing an Antarctic RCC-Network

Bologna, Italy

October 2019 (TBD)

Background

The World Meteorological Organization (WMO) Executive Council (EC), through its Panel of Experts on Polar and High Mountain Observations, Research and Services (EC-PHORS), is fostering the establishment of Regional Climate Centres (RCCs) for the Polar Regions.

The WMO EC, at its 65th Session (2013), agreed that EC-PHORS, the Global Cryosphere Watch (GCW), the Commission for Climatology (CCl), the Commission for Basic Systems (CBS) and the concerned regional associations should work in close cooperation to develop Polar RCCs (PRCCs). Other relevant initiatives also launched include 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-PHORS 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. In this respect significant progress has been achieved in the Arctic region, where an Arctic RCC-Network (ArcRCC-Network) commenced the demonstration phase in May 2018 (https://arctic-rcc.org/). Furthermore, the WMO EC-70 through its Decision 47 endorsed the initiatives to establish an Antarctic RCC-Network (AntRCC-Network) through a survey and scoping process, and invited the support of the concerned Members, in particular the Antarctic Treaty and its Committee for Environmental Protection, and other relevant stakeholders. In view of aforesaid decision, a "Scoping Workshop on Climate Services for Polar Regions: Towards Implementing an Antarctic RCC-Network" is being organized in October 2019, in Bologna, Italy under the guidance of the EC-PHORS STT. This scoping workshop will be built on lessons learnt during the implementation of RCC in Arctic Region (ArcRCC- Network).

WMO RCC Concept

WMO Regional Climate Centres (RCCs) are centres of excellence that operationally generate and provide regional climate products, including climate data, monitoring and prediction, in support of regional and national climate activities. RCCs 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 accommodates specific regional needs, capabilities and limitations. The RCC concept also provides options to implement a single multi-functional RCC entity or to put in place a distributed-function RCC-Network that is collaboratively implemented by a number of interested institutions. RCC responsibilities are regional in nature and designed to support national institutions, and service delivery to national users remains in the purview of national institutions.

WMO RCCs mandatory and highly recommended functions, and the relevant designation criteria are part of the Manual on the Global Data-processing and Forecasting System (WMO-No. 485) annex to WMO Technical Regulations. This and other related information are also described at http://www.wmo.int/pages/prog/wcp/wcasp/rcc/rcc.php

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;
- stereographic projections including improved imagery (e.g. satellite);
- activities for user engagement such as regional and national climate outlook forums, during which users can learn about the RCC products.

Regional Approach to Climate Services

Climate experts agree that the sensitivity of the Polar Regions is 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. Polar climate monitoring and projections inform the adequacy of the current goal of the United Nations Framework Convention on Climate Change (UNFCCC) to limit warming to less than 2 degrees Celsius over pre-industrial levels; and these climate data also inform the establishment of national commitments in support of climate agreements.

Scoping Workshop on Climate Services for Polar Regions: Towards Implementing an Antarctic RCC-Network

A "Scoping Workshop on Climate Services for Polar Regions: Towards Implementing an Antarctic RCC-Network" will be held in October 2019 in Bologna, Italy.

As an essential pre-requisite to determine the way forward for the implementation of an Antarctic RCC-Network, the WMO Secretariat conducts a survey to define WMO Members interest in climate services for the Polar Regions. A similar survey was sent to COMNAP (Council of Managers of National Antarctic Programs). The results of these surveys will be analyzed to ascertain the activities, services and products Members and other stakeholders would consider being mandatory or highly recommended functions of the proposed Antarctic RCC-Network. As part of the survey, the concerned WMO Members are also invited to indicate their interest and capacities in contributing to RCC-related functions, or in carrying out research and developing capacities applicable to the Antarctic region. The surveys also elicit existing mechanisms for interaction with users. The survey responses received by the WMO Secretariat will serve as the starting point for discussion at the Scoping Workshop.

Objectives of the Workshop

This Scoping Workshop will facilitate the engagement of WMO Members interested in climate services for Antarctic Region, including representatives from operational, research and user communities to take the first steps towards development of an implementation strategy for an Antarctic RCC-Network, including the possibility of it taking the form of an internationally implemented collaborative network by;

1) Exploring opportunities and challenges relating to Antarctic polar climate monitoring and prediction services and the underpinning data inputs; and
2) Building on the Survey results to hone the Antarctic RCC-Network concept, including the priority functions of the Antarctic RCC-Network and the implementation strategy.

Participants

Participants in the Workshop will include various stakeholders in Antarctic climate matters, representatives of Antarctic Treaty members that are involved in the operational activities on the development and delivery of products and services, and are interested to contribute to Antarctic RCC implementation. The workshop will also include experts from research community, and selected representatives of user sectors and policy domains. A list of potential participants will be developed in consultation with relevant WMO Constituent Bodies, partners, to include a variety of stakeholders and ensure the right mix of expertise with interests in the Polar Regions is present, including;

- Subject matter experts on Polar regions;
- representatives of Antarctic Treaty members that are involved in the operational activities;
- WMO Members with and interest in Antarctica;
- relevant scientific bodies, international and intergovernmental organizations;
- relevant experts from WMO Technical Commissions, Regional Associations and Secretariat; and
- a selected number of user representatives.

Expected outcomes

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

Scoping workshop: Towards Implementing an Antarctic RCC-Network

Agenda outline

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Day 1: Polar Regional Climate Centre overview

- Consider opportunities and challenges relating to Antarctic 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, including Members' needs and capabilities;
- Consider the Arctic RCC-Network implementation experience; and
- Identify entities/institutions hosting the nodes of the Antarctic RCC-Network.

Day 2: Product development and service delivery

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

Day 3: The way forward: establishment of the pilot Antarctic RCC-Network

- Identify the entities that will participate in the Antarctic RCC-Network and identify gaps;
- Determine the next steps in implementing the Antarctic RCC-Network, including:
  - establishing a Task Team or governance structure;
  - defining the role of each of the entities and coordination mechanisms if the Antarctic RCC-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;
  - identifying specific issues to be brought to the attention of EC-PHORS.

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