

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

Date: 16.11.2015

Prepared by: B. Angle  
Secretariat

Geneva, Switzerland, 17-19 November 2015

AGENDA ITEM: 1

**ANNOTATED AGENDA and WORK PLAN****VENUE: WMO Headquarters, Room C1**

**Context;** This Scoping Workshop is designed to facilitate the engagement of the user, research, and operational communities to take preliminary steps toward the development an Arctic Polar Regional Climate Centre (PRCC) or network thereof as a legacy of the International Polar Year (IPY). The workshop will explore the rationale to establish a PRCC-Arctic and the opportunities and challenges relating to polar climate monitoring, service delivery and the underpinning data inputs. It builds upon the WMO-WCRP IPY Workshop on CLIPS in Polar Regions held in St. Petersburg, Russian Federation from 8-11 September 2008 and, more recently, the “Survey of Members on needs and capacities for Polar RCC services” conducted in February-March 2015 which identified potential priority functions of PRCCs. Recommendations from the workshop will focus on improvements in the framework for climate services across the Arctic Polar Region. The workshop will explore the potential for an Arctic Polar Regional Climate Outlook Forum and modalities for promoting the PRCC concept for Antarctica and the Hindu-Kush Himalayas Karakoram (Third Pole) region. Relevant documents will be made available; at;

[https://www.wmo.int/pages/prog/wcp/wcasp/meetings/PRCC\\_Scoping\\_Workshop2015.html](https://www.wmo.int/pages/prog/wcp/wcasp/meetings/PRCC_Scoping_Workshop2015.html)

**DAY 1: TUESDAY, 17 November**

**Focus for Day 1:** The meeting will be provided with an overview of the RCC mandatory and highly recommended functions, review formal procedures for WMO designation and be provided with an overview of the GFCS. The outcomes of the “*Survey of Members on needs and capacities for Polar RCC services*” will be considered. Existing RCC approaches will be discussed in light of the different nature of a Polar RCC which would encompass three regions (RA II, IV and VI), a large geographic territory and unique climate zones and user requirements. The Workshop will review the existing capabilities for RCC-relevant products and services within Global Producing Centres for Long Range Forecasts and discuss potential contributions of the Global Cryosphere Watch (GCW). Preliminary discussions on national capabilities and initiatives will close the day’s session.

**09:00 – 09:15****Opening address**

*Chair - David Grimes*, President of WMO and Co-Chair of the WMO Executive Council Panel of Experts on Polar and High Mountain Observations, Research and Services (EC-PHORS).

**09:15 – 09:30****1. Organization of the Session**

1.1 Adoption of the Agenda

- 1.2 Overview of objectives
- 1.3 Working arrangements

## 2. Existing WMO systems, processes and structures of relevance to an Arctic-Polar RCC

**09:30 – 09:45**

### 2.1 Mandatory and recommended functions of WMO RCCs

*Rupa Kumar Kolli* ([rkolli@wmo.int](mailto:rkolli@wmo.int)), WMO Secretariat

Existing WMO Regional Climate Centres (RCCs) are centres of excellence that operationally generate regionally-focused high-resolution products. Through a set of *mandatory* and *highly recommended functions*, they cover the domains of long-range forecasting (LRF), climate monitoring, data services, training and capacity development. The functions of a RCC can be performed by a multifunctional centre or by a group of centres working as nodes of a network. RCCs aim at strengthening collaboration among NMHS as well as enhancing service delivery in a given region. The relevant designation criteria are part of the WMO Technical Regulations and described at <https://www.wmo.int/pages/prog/wcp/wcasp/RCCs.html>

**09:45 – 10:00**

### 2.2 Outcomes of the WMO-WCRP-IPY Workshop on CLIPS in Polar Regions: Climate Product Generation, User Liaison and Training, St Petersburg, Russian Federation, 8-11 September 2008

*Rupa Kumar Kolli* ([rkolli@wmo.int](mailto:rkolli@wmo.int)), WMO Secretariat

The outcomes and recommendations of the WMO-WCRP 2008 workshop will be presented, along with the status of action on the recommendations.

**10:00 – 10:15**

### 2.3 Status of implementation of WMO RCCs

RA II: *Ryuji Yamada* ([RYamada@wmo.int](mailto:RYamada@wmo.int)) & RA VI: *Stefan Rösner* ([stefan.roesner@dwd.de](mailto:stefan.roesner@dwd.de))

WMO is establishing RCCs across the world, but to date, there have been no trans-regional RCCs established (i.e. RCCs that will function across more than one of the WMO Regional Association areas). The status of WMO's RCC implementation (including the various governance models in use) will be briefly reviewed, with a focus on lessons learned and on how these experiences could apply (or not) to planning an Arctic RCC, given the challenges in scope, scale and geo-political complexity. Some of the experiences gained will nevertheless be helpful in framing both the national commitments and multilateral coordination required. The workshop may wish to discuss the current product range of existing RCCs (in the mandatory category) and whether these would be sufficient for Arctic latitudes.

**10:15 – 10:30**

### 2.4 Climate Outlook Forums (COFs) and their linkages to RCCs

RA II: *Ryuji Yamada* ([RYamada@wmo.int](mailto:RYamada@wmo.int)) & RA VI: *Ernesto Rodriguez* ([erodriguezc@aemet.es](mailto:erodriguezc@aemet.es))

WMO guides the development and implementation, within countries and regions, of Climate Outlook Forums (COFs). Regional and national COFs (RCOFs and NCOFs) depend on Long-range Forecast (LRF) products from the WMO Global Data Processing and Forecasting System which includes GPCs and RCCs. An overview of COFs and how they work in the light of RCC and GPC systems will be presented.

**10:30 – 10:45**

### 2.5 The role of the GPCLRFs in Operational Sub-seasonal and Longer Time-Scale Projections

*Bertrand Denis* ([Bertrand.Denis@ec.gc.ca](mailto:Bertrand.Denis@ec.gc.ca))

WMO RCCs are mandated to deliver high-quality regional-scale products (primarily to NMHSs) by using data and products from GPCLRFs and other global centres that benefit from national data, products, know-how and feedback they receive from the NMHSs. A Polar RCC presents the

challenge to GPCLRFs to answer to requests from a Polar RCC for long range sea-ice forecasts, and for climate prediction on various scales (in the mandatory RCC functions, LRF is defined as including from one month to two years, but skillful products at seasonal and longer scales for high latitudes may not be currently offered by GPCLRFs).

**10:45 – 11:15**

**Group Photo & Health Break**

**11:15 – 11:35**

**2.6 The Global Framework for Climate Services**

*Filipe Lucio* ([flucio@wmo.int](mailto:flucio@wmo.int)), GFCS Office

The success of the Polar RCC / RCOF concept hinges on the availability and sharing of the data which, in turn, increases the applicability and accuracy of the tools and capabilities that support ready, responsive, and resilient communities. WMO Congress adopted Resolution 60 – WMO Policy on the International Exchange of Climate Data and Products to Support the Implementation of the GFCS. It is, therefore, important to consider the synergies between the development of the Arctic PRCC concept in light of these data exchange agreements and how that relates to the broader goals of the GFCS.

**11:35 – 12:00**

**2.7 Global Cryosphere Watch**

*Barry Goodison* ([barrygo@rogers.com](mailto:barrygo@rogers.com))

The PRCC will need to consider how it interfaces with the GCW Steering Group and the GCW Planning Office in WMO. A number of initial products, such as “snow anomaly trackers” for snow water equivalent, are available on the GCW website that could be used by the PRCCs. GCW website; <http://globalcryospherewatch.org/>

**12:00 – 12:30**

**Open Discussion on existing WMO systems and structures**

**12:30 – 13:30**

**Lunch**

**3. Recent activities undertaken by the WMO EC Panel of Experts on Polar and High Mountain Observations, Research and Services (EC-PHORS)**

**13:30 – 14:00**

**3.1 The Services White Paper of EC-PHORS**

*Aimee Devaris* ([aimee.devaris@noaa.gov](mailto:aimee.devaris@noaa.gov))

The EC-PHORS Services White Paper brings focus to the spectrum of service requirements and gaps by framing them around specific user groups. The general characterization of services is in the context of the WMO Service Delivery Progress Model approved by Congress drawing attention to how this complements the WMO RCC model and particularly those functions that are mandatory for RCC designation.

**14:00 – 14:30**

**Open Discussion on Services White Paper**

**14:30 – 15:00**

**3.2 Overview of the Survey of Members’ needs and capacities for Polar RCC services**

*Peer Hechler* ([phechler@wmo.int](mailto:phechler@wmo.int)), WMO Secretariat

The survey was designed to determine the scope of, and the readiness of Member states to provide regional climate information and services. The findings of the survey are available at the aforementioned workshop website.

**15:00 – 15:30**

**Open Discussion on PRCC Survey Results**

**15:30 – 16:00**

**Health Break**

**4 National Capabilities and Initiatives**

This time is reserved for workshop participants to present their national perspectives. Presenters may wish to consider, in their presentation, how they may contribute to an Arctic PRCC and its resource implications (both human and financial); gaps that may exist in the required functions; existing collaborative projects which may be leveraged or expanded; and national priorities for engagement beyond the required RCC functions. The session would benefit from a reflection on existing RCC governance structures in order to stimulate preliminary discussions on what might constitute potential models for the PRCC – Arctic.

**16:00 – 17:30**

**4.1 Presentations on National Perspectives (about 15 minutes each)**

- *Hilppa Gregow* ([hilppa.gregow@fmi.fi](mailto:hilppa.gregow@fmi.fi)): Nordic coordinated presentation (Denmark, Finland, Iceland, Norway and Sweden)
- *Neils Larson* ([nl@dmi.dk](mailto:nl@dmi.dk)): Denmark Perspectives relevant to Greenland
- *Chantale Cote* ([chantale.cote@canada.ca](mailto:chantale.cote@canada.ca)): Canada
- *Vasily Smolyanitsky* ([vms@aari.aq](mailto:vms@aari.aq)): Russian Federation
- *Aimee Devaris* ([aimee.devaris@noaa.gov](mailto:aimee.devaris@noaa.gov)): United States of America

**17:30 – 17:45**

**Wrap-up Day 1 and Setting the Stage for Day 2**

The session would benefit from a reflection on existing RCC governance structures in order to stimulate preliminary discussions on what might constitute potential models for the PRCC – Arctic on Day 2.

**DAY 2: WEDNESDAY, 18 November**

**Focus for Day 2;** the second day will begin by reflecting on opportunities and challenges based on national commitments to determine a suite of potential products that may be of particular interest to the users in this region as introduced on the first day. The meeting will consider the PRCC relationship to the various active affiliations and stakeholders in the Arctic. It will map requirements against existing products and services and the modalities by which the PRCC would support national products and service delivery mechanisms.

**4. National capabilities and Initiatives (Cont'd)**

**09:00 – 10:45**

**Open Discussion**

Reflecting on the discussions that ended Day 1, the meeting may wish to consider gaps and synergies for collaboration in the context of the Polar “component” of Regional Association II, IV and VI. It may also consider the demand for non-traditional products and services beyond, for example, the marine community such as those related to ecosystem management or vulnerability assessments.

**10:45 – 11:00**

**Health Break**

## 5. PRCC and International Partnerships

There are numerous partner affiliations active in the Arctic including, inter alia, WMO, GEO, Arctic Council bodies (AMAP, PAME, SAON etc.), non-governmental bodies (IASC, IACS, APECS, AECO) and other targeted groups such as the IICWG. The Global Integrated Polar Prediction System (GIPPS) and the Year of Polar Prediction (YOPP) and the status of International Polar Partnership Initiative will also be discussed.

**11:00 – 11:20**

### 5.1 Overview of the Arctic Council

*Lars Otto Reiersen* ([lars-otto.reiersen@amap.no](mailto:lars-otto.reiersen@amap.no))

The Arctic Council is a high level intergovernmental forum which promotes cooperation among Arctic States on common Arctic issues including the environment and sustainable development. The Arctic Council includes formal outreach mechanisms with nationally recognized indigenous groups beginning with the Permanent Participants to the Arctic Council. The policy framework for the Arctic under the Arctic Council will influence our decisions on a PRCC that encompasses three WMO regions and has global reach. The Arctic-PRCC will need to consider the decisions of the Arctic Science Cooperation Task Force while addressing the Arctic's unique environment and community service needs and the Council's governance framework.

**11:20 – 11:40**

### 5.2 The Global Integrated Polar Prediction System (GIPPS) and the Year of Polar Prediction (YOPP)

*Thomas Jung* ([Thomas.Jung@awi.de](mailto:Thomas.Jung@awi.de))

The Global Integrated Polar Prediction System (GIPPS - 2013-2022) is a ten year effort that aggregates the efforts of the world's NMHSs and research institutions to map weather, water and climate in these regions and provide an invaluable resource to be drawn upon by decision-makers. GIPPS is comprised of two inter-related initiatives, the Polar prediction Project under the World Weather Watch and the Polar Climate Variability Initiative under the World Climate Research programme. The Year of Polar Prediction (YOPP) is a community initiative under the auspices of the WMO/WWRP Polar Prediction Project (PPP) for the period 2017 – 2019 centred on 2018 including an Intensive Observation Period. The YOPP PPP-SERA sub-group is responsible for outreach, communications, and stakeholder engagement which could benefit this enterprise.

**11:40 – 12:00**

### 5.3 The International Polar Partnership Initiative

*David Grimes, Chair*

The IPPI Concept document is the product of the interagency Steering Group on a Long-Term Cooperative International Polar Initiative. The Steering Group sees opportunity to move forward to develop shared objectives and activities under a framework agreement. There are synergies with the efforts of the Arctic Council through its Task Force on Science Cooperation.

**12:00 – 12:30**

### 5.4 Open Discussion on Governance Framework for a PRCC-Arctic and Polar Climate Outlook Forum

*Lead: David Grimes, Chair*

The meeting will engage in first reflections on the capabilities presented and existing collaborative mechanisms to begin to identify issues on the governance framework. In doing so, the meeting should consider the vast geographic territory, the diversity of peoples and variations in climate that comprise the Arctic.

**12:30 – 13:30**

**Lunch**

## 6. Incorporating Aboriginal Traditional Knowledge (ATK)

**13:30 – 14:15**

*Richard Thoman* ([Richard.Thoman@noaa.gov](mailto:Richard.Thoman@noaa.gov)) and *Dominique Henri* ([Dominique.Henri@ec.gc.ca](mailto:Dominique.Henri@ec.gc.ca))  
(presented by Dominique via Webex)

The Arctic Council engages many observers, includes indigenous peoples as Permanent Participants and incorporates ATK / community-based programmes in fulfilling its mandate. The meeting will be presented with best practices to take into consideration when engaging aboriginal communities and their traditional knowledge through, for example, Climate Outlook Forums at national or regional scale.

**14:15 – 15:00**

### Open Discussion on ATK

**15:00 – 15:30**

### Health Break

**15:30 – 17:30**

## 7. BREAK-OUT SESSIONS

Four break-out groups are proposed. The purpose is to share views on opportunities and challenges in developing a collaborative framework under an Arctic PRCC and build strategies for outreach with relevant organizations, WMO constituent bodies and other stakeholders. The workshop will select an expert to lead discussions and a rapporteur for each group. The rapporteur will report their findings on day 3.

- (a) Observations, data management and the international exchange of data;
- (b) Liaison with the research community;
- (c) Services and service delivery
- (d) Governance and decision-making framework

**17:30 – 17:45**

### Wrap-up and preparations for Day 3

## DAY 3: THURSDAY, 19 November

**Focus for Day 3;** the last day of the workshop will focus on identifying national and international entities that will consider participation in the Arctic PRCC-Network. Discussion on next steps will include a means to carry the momentum and to develop a coordination mechanism that considers existing or new governance structures. The workshop may also consider a communication strategy to ensure stakeholders are aware and engaged in the development of the Arctic PRCC and potential for an Arctic Regional Climate Outlook Forum. We will close the afternoon with initial thoughts on a framework for the Antarctic and the Hindu-Kush Himalayas Karakoram (Third Pole) region. Given the unique nature of this RCC, the workshop may identify a number of issues that would warrant the attention of EC-PHORS and WMO Constituent Bodies.

**09:00 – 10:45**

## 8. Recommendations and Work Plans from the Break-Out Sessions

Break-out session rapporteurs (each 15 minutes + 5 minutes discussion)

**09:00 – 09:20**

- (a) Observations, data management and the international exchange of data;

**09:20 – 09:40**

- (b) Liaison with the research community;

**09:40 – 10:00**

(c) Services and service delivery

**10:00 – 10:20**

(d) Governance and decision-making framework

**10:20 – 10:45**

**Open Discussion on Recommendations and Work Plans**

**10:45 – 11:00**

**Health Break**

**11:00 – 12:30**

**9. Discussion on the scale and scope of PRCC activities and the potential for an Arctic Polar Regional Climate Outlook Forum or Forums**

Lead: *David Grimes, Chair*

**12:30 – 13:30**

**Lunch**

**13:30 – 14:30**

**10. Plans for the Antarctic and the Hindu-Kush Himalayas Karakoram (Third Pole)**

**13:30 – 13:45**

*Steve Colwell* ([src@bas.ac.uk](mailto:src@bas.ac.uk)) by Webex

**13:45 – 14:00**

*Rupa Kumar Kolli* ([rkolli@wmo.int](mailto:rkolli@wmo.int)), WMO Secretariat

The workshop will be presented with current products and services available to the regions and recent initiatives to facilitate stakeholder consultations. Participants may wish to discuss key messages that would assist in socializing the concept of a PRCC for Antarctica with the Council of Managers of National Antarctic Programmes and with institutions in the Third Pole Region.

**14:00 – 14:30**

**Open Discussion on Plans for the Antarctic and the Third Pole**

**14:30 – 15:00**

**Health Break**

**15:00 – 17:00**

**11. Future Scoping of an Arctic-PRCC**

The meeting may wish to consider next steps including establishing working groups for, inter alia, product development and development of an implementation plan and a communications strategy.

- 11.1 Continuing engagement of partner organizations, particularly the Arctic Council, and other outreach activities;
- 11.2 Working mechanisms with WMO Constituent bodies and programmes;
- 11.3 Resource mobilization strategy and the possibility of co-producing and delivering services and products to users;
- 11.4 Outstanding issues for Members, EC-PHORS, WMO Regional Associations, Technical Commissions and the Executive Council;
- 11.5 Shared objectives at the technical level and next steps.

**17:00 Closure and Farewell**

***Provisional Timetable***

|                    | <b><i>Tuesday,<br/>17 November</i></b> | <b><i>Wednesday,<br/>18 November</i></b> | <b><i>Thursday,<br/>19 November</i></b> |
|--------------------|--|--|---|
| <b><i>A.M.</i></b> | 1<br>2                                 | 4 cont.<br>5                             | 8<br>9                                  |
| <b><i>P.M.</i></b> | 3<br>4                                 | 6<br>7                                   | 10<br>11                                |

*The meeting starts on Tuesday, 17 November at 9 a.m.*

*The meeting is expected to be closed on Thursday, 19 November at 5 p.m.*