

# Instructions for Observers subject to review

## Introduction

This document provides the reporting template and accompanying instructions for Observers to be reviewed during the **Icelandic Chairmanship (2019-2021)**.

The deadline for submission is **1 June 2020**.

According to the “[Arctic Council Rules of Procedure](#)” (Annex 2), every **two years** Observers are requested to submit to the Chairmanship up-to-date information about relevant activities and their contributions to the work of the Arctic Council. Every four years, from the date of being granted Observer status, Observers will be reviewed at the Ministerial meeting. The following **20 Observers** will be reviewed at the next Ministerial meeting, and are requested to submit their review report by **1 June 2020**:<sup>1</sup>

- Germany;
- The Netherlands;
- Poland;
- Switzerland;
- United Kingdom;
- International Union for the Conservation of Nature (IUCN);
- Nordic Council of Ministers (NCM);
- OSPAR Commission (OSPAR);
- Standing Committee of the Parliamentarians of the Arctic Regions (SCPAR);
- United Nations Economic Commission for Europe (UN-ECE);
- United Nations Environment Programme (UN Environment);
- West Nordic Council (WNC);
- World Meteorological Organization (WMO);
- Advisory Committee on the Protection of the Seas (ACOPS);
- International Arctic Science Committee (IASC);
- International Council for the Exploration of the Seas (ICES);
- International Union for Circumpolar Health (IUCH);
- Northern Forum (NF);
- Oceana; and,
- World Wildlife Fund for Nature – Global Arctic Program (WWF).

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<sup>1</sup> These include the Observers reviewed before the Fairbanks Ministerial meeting in 2017 as well as Observers admitted that year.

## Role of Observers

The role and responsibilities of Observers, as well as criteria for admission to the Arctic Council, can be found in the “Arctic Council Rules of Procedure” (Annex 2) and the “[Observer Manual for Subsidiary Bodies](#).”

The primary role of Observers is to observe the work of the Arctic Council. Observers contribute to the Arctic Council primarily through engagement at the level of Working Groups, Task Forces, and/or Expert Groups. Observers are invited to the meetings and other activities of the Arctic Council unless the Senior Arctic Officials decide otherwise. Observers may also propose projects through an Arctic State or a Permanent Participant.

## Report submission

Observer review reports should include the relevant information described below and in the template.

- (a) A description of the Observer’s contributions to the work of the Arctic Council since the time of the Observer’s most recent submission, or in the previous two years, with special focus on contributions to the subsidiary bodies through project participation and support, as well as collaboration with Permanent Participants;
- (b) If applicable, a description of the Observer’s future plans to contribute to the work of the Arctic Council, with special focus on contributions to the subsidiary bodies through project participation and support, as well as collaboration with Permanent Participants; and,
- (c) If applicable, a description of the Observer’s contributions to other aspects of the Arctic Council and its goals not covered in the previous sections since the time of the Observer’s most recent submission, or in the previous two years.

Observer review reports should be submitted electronically to the **Arctic Council Secretariat** via email: [acs@arctic-council.org](mailto:acs@arctic-council.org) not later than **1 June 2020**. Please bear in mind while preparing your report that all Observer reports will be published online in the *Observer* section of the [Arctic Council online Library](#).

If an Observer fails to submit a report during the review process, the Arctic Council will consider this to mean that the Observer **is no longer interested in maintaining its status** as an accredited Observer to the Arctic Council.

## Cover sheet

Full name of state or organization:

World Meteorological Organization

Date of submission:

16.06.2020

Observer's website, if appropriate:

<https://public.wmo.int/en>

### Information for appropriate contact person

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WMO

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**Is your state or organization interested in continuing as an Observer of the Arctic Council?**

**Yes**  **No**

## Observer Review Report

Please describe in no more than two pages your state's or organization's contributions to the work of the Arctic Council's Working Groups, Task Forces, and/or Expert Groups since the time of your most recent report, or in the previous two years. Please highlight contributions to specific projects, such as through proposals, concept development, in-kind and financial support, and hosting of meetings. Please detail any collaboration with Permanent Participants, such as project proposal endorsement and support.

WMO as an Observer in the Arctic Council, and within the framework of its current strategic plan, 2020-2023, with its Members, is well-placed to contribute to the Pan-Arctic challenges identified by the Arctic Council. WMO has adopted an earth system observation and prediction approach to address socially relevant impacts of atmospheric, hydrological, ocean, and cryospheric change, including those affecting the Arctic communities.

Over the last 2 years the World meteorological Organization (WMO) has been engaged in several activities within the framework of the Arctic Council.

### **Pan-Arctic Earth System Model initiative**

WMO co-hosted in November 2019, with Iceland, which holds the chairmanship of the Arctic Council from 2019 to 2021, a workshop addressing some of the core challenges set forward for the Arctic science community related to improvements of forecasting skill of weather, ocean, hydrological and climate models as a contribution to the development of a Pan-Arctic Earth Systems Model. This is in the context of Iceland's priorities to further the circumpolar meteorological and oceanographic cooperation to improve safety at sea, in collaboration with WMO, in support of safe and sustainable shipping in the Arctic, as well as emergency prevention, on search and rescue preparedness and response. The outcomes of the workshop are being evaluated for integration with the strategic goals of WMO on Earth System prediction and the provision of relevant services.

### **Engagement with the Arctic Monitoring and Assessment Program (AMAP).**

AMAP has been represented in the Executive Council Panel of Experts on Polar and High Mountain Observations, Research and Services (EC PHORS) for more than 10 years.

#### *Arctic Regional Climate Centre Network*

To meet the Arctic adaptation and decision-making needs, under the leadership of WMO, an Arctic Regional Climate Centre Network (ArcRCC-Network) has been established within this framework and has started its demonstration phase in May 2018. Its products and services are contributions to the goals of AMAP, being well aligned with the AMAP Climate Expert Group. ArcRCC-Network is based on the WMO RCC concept with direct contributions from all the Arctic Council member countries through a mutually agreed structure consisting of three sub-regional geographical nodes, namely, (i) North America, (ii) Northern Europe and Greenland and (iii) Eurasia Nodes. The users of climate information of the ArcRCC are engaged via the Pan-Arctic Regional Climate Outlook Forum (PARCOF); this includes AMAP, which has been engaged actively in the definition of requirements and the dissemination of results. All relevant information and products are accessible through a dedicated website <https://www.arctic-rcc.org/>

The implementation and designation of ArcRCC-Network was evaluated in successive meetings in St. Petersburg, Russian Federation in February 2019 and Tromsø in January 2020.

### *Arctic Climate Forums*

Climate Consensus statements are the flagship products of PARCOF sessions, which are held twice a year – a face-to-face session in May to issue Climate Consensus Statement targeting summer (JJA) season, and an online session in October to issue outlook for winter season. Since the inaugural session of PARCOF, in Ottawa, Canada, in May 2018, there has been a significant increase in the engagement of users of climate services.

The third PARCOF session was held in May 2019 in Rovaniemi, Finland, hosted by the Finnish Meteorological Institute, along with the Arctic Council Ministerial Meeting. PARCOF-3 brought together Permanent Participants of the Arctic Council, representatives of Arctic Indigenous Peoples, scientists from all of the Arctic Council Member States, and various stakeholders. During the PARCOF-3 the forum was renamed as an Arctic Climate Forum (ACF) to reflect broader scope of the sessions.

The Fourth session of ACF was held online in October 2019 and a Consensus Statement was developed for winter 2019-20. The fifth ACF session, planned to be held face-to-face in May 2020 in St Petersburg was replaced with a virtual session due to the COVID pandemic. It was organized and facilitated by Roshydromet and its Arctic and Antarctic Research Institute (AARI). All materials of sessions are available at <https://www.arctic-rcc.org/acf>

WMO was represented to the 33rd Meeting of the AMAP Working Group in Tromsø, Norway, on 29–30 October 2019, and the representative of WMO reported on various relevant WMO projects and activities, including an overview of the planned WMO governance reform. The meeting noted that many scientists associated with AMAP are well-connected with CLIVAR and other WMO activities. AMAP noted the value of the collaboration within the framework of the WMO EC-PHORS group and expressed interest for a sustained mechanism to attain closer coordination and cooperation between AMAP and WMO, e.g. closer cooperation with the WMO Arctic regional climate centers.

### **Engagement with the Protection of the Arctic Environments (PAME) Working Group**

WMO attended PAME in 2018 and 2020. For PAME-II 2018 (Vladivostok), WMO presented on the work of marine services and research in supporting meteorological work in the Arctic region. This was in the spirit of promoting meteorological work – the theme promoted by the Finland Chair of the Arctic Council at the time. For 2020 PAME-I (Oslo), the representative from WMO gave a presentation on the WMO-IMO Symposium on Extreme Maritime Weather (from October 2019). The Symposium, amongst several themes, had a dedicated polar session about maritime safety.

The PAME Best Shipping Practices Team is of particular interest to WMO, with respect to the maritime safety and SOLAS. In May 2018, WMO attended the Best Shipping Practice Forum in London and presented on the work of WMO in the WWMIWS. The Team was due to meet in May 2020 in London at the International Maritime Organization (IMO). WMO was invited to give a summary presentation of relevant outcomes from the WMO-IMO Symposium on Extreme Maritime Weather. Due to COVID-19, this has been postponed to a later date.

**Other:** WMO is preparing for the 2nd UN Ocean Conference (postponed to a later date due to COVID-19). WMO has proposed, along with the UNESCO-IOC, to coordinate a Side Event on Polar issues. AMAP have shown an interest in participating, as have some Arctic Council Members including Finland, Iceland and USA.

If applicable, please describe in no more than one page your state's or organization's future

The [Strategic Plan](#) adopted by the Eighteenth World Meteorological Congress, in June 2019, sets the directions and priorities to guide the activities of WMO during 2020–2023 and up to 2030 to enable all Members to improve their information, products and services.

It sets three overarching priorities – enhancing preparedness for hydrometeorological extremes, supporting climate-smart decisions and enhancing socioeconomic benefits of related services – with a view to contribute to the societal needs reflected in the global agenda to realize sustainable development, and relevant to the activities of the Arctic Council.

WMO will continue to work with its Members, Permanent Participants of the Arctic Council, towards addressing Pan-Arctic priorities, within the WMO Strategic goals as are, for example the current priorities under the chairmanship of Iceland.

The Strategic Plan pursues five long-term goals and associated objectives,

1. Better serve societal needs;
2. Enhance Earth system observations and predictions;
3. Advance targeted research: Leveraging leadership in science to improve understanding of the Earth system for enhanced services;
4. Close the capacity gap on weather, climate, hydrological and related environmental services: Enhancing service delivery capacity of developing countries to ensure availability of essential information and services needed by governments, economic sectors and citizens;
5. Strategic realignment of WMO structure and programmes for effective policy- and decision-making and implementation;

The 11<sup>th</sup> session of the **Polar Prediction Project** Steering Group (PPP-SG) from 19 to 21 February 2020 in Bremerhaven, Germany, agree on the next steps for the Consolidation Phase activities:

- options for the PPP Evaluation and to build a legacy for YOPP;
  - plans for two Targeted Observing Periods in the Northern Hemisphere (NH-TOP1, spring/summer 2020) and in the Southern Hemisphere (SH-TOP1, austral winter 2022)
  - plan the Final YOPP Summit in May 2022 in Montréal, Canada (and a fellowship program)
  - further progress on PPP science activities in Numerical Experimentation, Verification, Sea Ice Forecasting, and the YOPPSiteMIP initiative of the PPP Consolidation Phase to evaluate model performance at YOPP Supersites in the Northern and Southern Hemispheres;
  - pursue PPP-related education activities around the Arctic Science Summit meeting in Lisbon in March 2021, and a PPP Spring School in Abisko, Sweden in March 2022 plus activities around the YOPP Final Summit in May 2022;
  - the importance of the YOPP Data Portal for YOPPSiteMIP and YOPP Legacy activities;
- WCRP: the incoming co-chair of CliC, Prof. Jason Box, has worked extensively with AMAP and continuing discussions on working more closely with the Arctic Council WGs. Over the next year CliC will focus on communicating results to a broader audience, improve its links to policymaking, social science, and indigenous knowledge organisations. Specifically:
- GlacierMIP2: will expand the framework for a coordinated intercomparison of global-scale glacier mass change models, reduce uncertainties in global glacier projections, and focus on model improvements.
  - Marine Ice Sheet-Ocean Model Intercomparison Project (MISOMIP): on coupled ice-ocean experiments
  - BEPSII (Biogeochemical Exchange Processes at Sea Ice Interfaces) will focus on activities around model intercomparisons, an Ecosystem Services synthesis paper and a Field School (Cambridge Bay, Canada, Spring 2021)
  - ISMASS will continue to explore improvements in understanding and quantification of past, present and future ice sheet and sea-level change.
  - The Northern Ocean Region Panel will produce a review paper on Arctic Freshwater Storage and Fluxes and a paper on sea-ice ocean metrics for lower-latitude-Arctic interactions for CMIP diagnostics

plans for contributing to the work of the Arctic Council's Working Groups, Task Forces, and/or Expert Groups. Please highlight intentions to contribute to specific projects and to collaborate with Permanent Participants.

If applicable, please describe in no more than one page your state's or organization's contributions to other aspects of the Arctic Council and its goals not covered by the previous sections since the time of your most recent report, or in the previous two years.

### **Engagement with the Sustained Arctic Observing Network (SAON)**

WMO in particular in the framework of the Global Cryosphere Watch of WMO, contributed to:

- publication of "Value tree for physical atmosphere and ocean observations in the Arctic", 2019, under the Chairmanship of Finland;
- collaborative framework of the SAON Arctic Data Committee and the WMO Information System; WMO hosted the Polar Data Forum in November 2018.
- organization of the 2020 Arctic Observing Summit;
- the strategy "Roadmap for Arctic Observing and Data Systems" (ROADS).

### **Scientific contribution.**

The Year of Polar Prediction (YOPP) is a major international activity that has been initiated by WMO's World Weather Research Programme (WWRP) as a key component of the Polar Prediction Project (PPP). YOPP is an internationally coordinated period of intensive observing, modelling, prediction, verification, user-engagement and education activities which involves various stakeholders.

Since the YOPP Core Phase (mid-2017 to mid-2019), scientists and operational forecasting centers from different countries continue to work together to significantly advance our environmental prediction capabilities for the polar regions and beyond. By observing and modelling of the Arctic and Antarctic weather and climate systems, this international effort will lead to better forecasts of weather and sea-ice conditions to improve future environmental safety at both poles. More reliable forecasts in polar regions are also expected to result in better weather prediction at lower latitudes where most people live.

As a response to rapid Arctic climate change and related transformation of societal and economic activities, YOPP contributes to the knowledge base needed to manage the opportunities and risks that come with Arctic environmental transitions.

The WMO/IOC-UNESCO/ISC World Climate Research Programme (WCRP; <https://www.wcrp-climate.org>) carries out a range of climate research in the polar regions, particularly via its Climate and Cryosphere Core Project (CliC; <http://www.climate-cryosphere.org>). WCRP also has a number of science activities covering Ice Sheet Mass balance and Sea Level (ISMSS), Arctic Sea Ice, Permafrost, Arctic Ocean science etc. as well as coordinating the Model Intercomparison Projects (MIPs). To give a few science highlights:

- High profile review paper, Hanna, E et al, (2020) Mass balance of the ice sheets and glaciers—progress since AR5 and challenges. Earth-Science Reviews
- Polar CORDEX (Coordinated Regional Downscaling Experiment) has focussed on investigating 1) Surface mass balance of Greenland & Antarctic ice sheets, 2) Coupled modeling, challenges & benefits, 3) Model evaluation, 4) Challenges of high resolution downscaling
- Significant GlacierMIP contribution to IPCC SROCC: intercomparisons of global-scale glacier projections from six modeling groups
- Ice Sheet Model Intercomparison Project (ISMIP6) special issue in The Cryosphere: 16 papers looking at improvements in ice sheet modeling, ice-climate interactions, or external forcings, as well as studies expounding on the ISMIP6 experimental protocol.
- Contribution to EU environment agency report on Arctic observation systems and input to EU Kepler project (Part of Copernicus - roadmap for delivering improved European capacity for monitoring and forecasting the Polar Regions)