

Instructions for submitting Observer reports

Introduction

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

The deadline for submission is **1 December 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. The following **19 Observers** are requested to submit their report by **1 December 2020**:¹

- France;
- Italian Republic;
- Japan;
- People's Republic of China;
- Republic of India;
- Republic of Korea;
- Republic of Singapore;
- Spain;
- International Federation of the Red Cross and Red Crescent Societies (IFRC);
- Nordic Environment Finance Corporation (NEFCO);
- North Atlantic Marine Mammal Commission (NAMMCO);
- United Nations Development Programme (UNDP);
- Arctic Institute of North American (AINA);
- Association of World Reindeer Herders (AWRH);
- Circumpolar Conservation Union (CCU);
- International Arctic Social Sciences Association (IASSA);
- International Work Group for Indigenous Affairs (IWGIA);
- University of the Arctic (UArctic), and;
- International Maritime Organization (IMO).

¹ These include Observers admitted at the 2019 Rovaniemi Ministerial meeting, who will be reviewed for the first time during the Russian Federation's Chairmanship (2021-2023).

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 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 reports should be submitted electronically to the **Arctic Council Secretariat** via email: acs@arctic-council.org not later than **1 December 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, 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:

Republic of India

Date of submission:

27 November 2020

Observer's website, if appropriate:

Information for appropriate contact person

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Observer 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.

During the current term as observer in the Arctic council, several projects were executed and are ongoing in lines with the objectives of various Arctic council working groups. A background brief of the projects implemented by India that is being dovetailed to the activities of the respective working groups/project steering group is provided below.

The Arctic Contaminants Action Program (ACAP): One of the major goals of ACAP is to reduce emissions of pollutants into the environment in order to reduce the identified pollution risks, encourage national actions for Arctic State governments to take remedial and preventive actions relating to contaminants and other releases of pollutants etc., India is implementing the following projects with well-defined goals.

[A] Geochemistry of mercury and emerging contaminants in the benthic realm of Arctic fjords and coastal waters of Svalbard: The major focus of the project is to prepare baseline information on the geochemistry and bioavailability of mercury and other emerging contaminants in the sediments of Arctic fjords and coastal waters. The approach includes physical and chemical speciation; and fractionation of mercury and emerging contaminants in the sediments and its geochemical relation with the physicochemical parameters like sulphur, iron, organic carbon, humic acids, pH and temperature in the sediments of Arctic fjords. The project also envisages to map the distribution of microplastics in the Arctic, especially in the fjords and coastal waters. Dr G.V.M. Gupta, Director, Centre for Marine Living Resources and Ecology, Ministry of Earth Sciences has been nominated as the primary contact with respect to issues relating to plastic pollution and marine litter cooperation.

[B] Investigations of atmospheric aerosols and their characterization over the Arctic: Arctic atmosphere is influenced by long range transport of fine and coarse particles and also from the emissions from mid latitude regions. Though there is an increase in our understanding of aerosols and black carbon in the Arctic, information based on measurement data is scarce and hence there exists grand challenges in validation of model outputs. The projects envisages quantification of the physical and optical properties of the aerosols and associated processes by using different instruments for measuring aerosols and using them to estimate the aerosol radiative forcing over that region. This study would be critical in assessing long range transport of pollutants. NCPOR has established a dedicated facility (Gruvebadet lab) in Ny-Ålesund for conducting studies pertaining to pollution, gas fluxes and precipitation. Instruments like radiometer profiler, micro rain radar, ceilometer etc. are being operated from the station nearly round the year.

Arctic Monitoring and Assessment Programme (AMAP): The goal of AMAP is to provide reliable and sufficient information on the status of Arctic environment, various threats to the system and provide scientific advice on actions to be taken in order to support Arctic governments in their efforts to take remedial and preventive actions relating to contaminants, India has mounted the following projects considering its contribution to the assessment programme.

[A] Long term monitoring of Arctic fjords for climate change studies: The Kongsfjorden-Krossfjorden system in the west coast of Svalbard acts as a natural laboratory to study the climatic impacts of global warming. The fjord is influenced by both climatically important Atlantic and Arctic signals. Freshening of Arctic waters could also modulate the physical linking between the Atlantic Multidecadal oscillation and the multi decadal variability in Indian summer monsoon rainfall. NCPOR has deployed a multi sensor mooring 2014 in Kongsfjorden which measures currents, temperature, salinity, dissolved oxygen, fluorescence, dissolved carbon dioxide etc on real time basis. The mooring is currently operational and serviced every year. In addition the CTD profiles are also being taken bimonthly at several fixed locations during the entire summer. This mooring could be a part of the Arctic Ocean Observing Networks and will provide much impetus to scientific collaborations and discussions with countries deeply involved in Arctic research.

[B] Monitoring of Arctic Precipitation: Mass balance of polar ice sheets is one of the crucial points for the calculation of global sea level rise. One of the important parameters controlling the mass balance of ice sheets is precipitation. Rising global temperatures over the next few decades are likely to increase evaporation and accelerate the global hydrological cycle which may cause drying of subtropical areas and increase precipitation at higher latitudes. Precipitation is measured using a Micro Rain Radar coupled to measurement of temperature and humidity profiles using a Microwave Radiometer Profiler. These studies also focus on the atmospheric teleconnections and its impact on Indian summer monsoon.

[C] Integrated Monitoring of Glaciers in the Svalbard, Arctic: The focus of this study is to understand mass budget, snout and dynamics of Vestre Broggerbree and Feringbreen glaciers in Ny-Ålesund. The network of stakes over glacier surface and their timely monitoring in addition with climate data are very useful to understand glacier –climate inter-relationship. Attempt is being made to address accumulation/ablation and mass balance of these during summer and winter. Researchers have also conducted DGPS and GPR surveys on the glaciers and also installed automatic weather stations on the glacier.

Conservation of Arctic Flora and Fauna (CAFF): CAFF serves as a vehicle to cooperate on species and habitat management and utilization, to share information on management techniques and regulatory regimes, and to facilitate more knowledgeable decision-making. Project that is implemented by India at Svalbard that could contribute to CAFF is given below:

[A] Microbial diversity in various niches Svalbard with special focus on fjords and coastal waters: This study on diversity of microbes in the fjords and coastal waters have clearly mapped the entry of mesophilic health significant bacteria into this environment. It is now better understood that the warm Atlantic waters bring in several microbes that can colonize in a warmer Arctic environment. The other possible entry is by migratory animals, especially the birds such as barnacle goose and terns which do inter hemisphere migrations. The extent of colonization and survival of microbes is also dependent on several factors such as competition from autochthonous counterparts in the Arctic environments, predation by protozoans, bacteriophages etc. Our studies show that several human health significant pathogenic microbes that belong to coliforms can colonize and survive in the Arctic. Since most of these mesophilic health significant bacteria are from areas in the tropics/ sub-tropics which are anthropogenically influenced and organically polluted, the prevalence of antibiotic resistance among them is relatively high. These mesophiles can promote horizontal gene transfer and spread antibiotic resistance. They also have the potential to transform non pathogenic strains into pathogenic strains.

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

India commits to have focused research initiatives and looks forward to step up scientific and logistic cooperation with Arctic states to expand the research themes with wider geographic coverage. One of the thrust areas of the Indian Arctic Program is to conduct long-term monitoring of the Arctic fjords and the coastal waters. This is planned to understand the impact of climate and its further tele-connection with tropical processes like Indian monsoon. India has been monitoring a couple of fjords in the Svalbard for understanding the variability in hydrographic parameters and to delineate its forcing on the biogeochemical cycles. It is anticipated that a pan-Arctic approach will be required in the immediate future to strengthen the scientific understanding of the processes and to derive tangible benefits for mankind. In this scenario close scientific and logistic collaborations with Arctic states will provide much needed momentum for pan-Arctic measurements. This could involve formulation of joint programs, field campaigns, data sharing etc, which is also one of the key mandates of the IASC and Arctic council. A few of the projects where our interest (action taken in this regard is detailed in pages 4 and 5 of this report) has been registered are listed below:

ACAP: (i) Black carbon case studies platform

AMAP: (i) Climate change and trends (ii) Contaminants

CAFF: (i) Arctic migratory birds initiative (ii) Arctic coastal biodiversity monitoring plan (iii) Arctic alien invasive species strategy and action plan

PAME: (i) Arctic ship traffic data (ii) Invasive species (iii) Underwater noise (iv) Black carbon emissions (v) Marine litter (vi) Engagement with observers on shipping related matters

SDWG: (i) Arctic sustainable energy tool kit II (ii) Blue bioeconomy in the Arctic

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.

The objectives of the Arctic council primarily envisages Arctic as an important realm that needs to be assessed for its impact on and by climate change, conservation of biodiversity, monitoring of pollutants and long term monitoring. Indian researchers have ensured that all the research domains addressed dovetails well with the key focus and thrust areas. Further, special attention has also been given to Arctic as a system that have key connections with sub tropical processes. The data collected from the Svalbard region is now linked to the database of the Svalbard Integrated Arctic Earth Observing System (SIOS) by which a larger scientific fraternity involved in Arctic research gets access to these data sets, there by following the general principles of data sharing and joint analysis promoted by the Arctic council. Capacity building is a key priority that is being addressed by the Government of India. Several students have enrolled for their doctoral research in Arctic science. The National Centre for Polar and Ocean Research and Cochin University of Science and Technology has jointly established a polar research centre to facilitate research and offer courses on polar sciences to students. Further, India's induction to the University of Arctic in 2019 is anticipated to give larger opportunities for researchers to participate in several thematic courses and research networks. India has also initiated the process of strengthening the observing networks to complement the existing efforts to cater to the demands of Arctic science and policy makers. Adoption of a pan-Arctic approach in data collection and analysis considering the priorities set forth by the council for sustainable development of Arctic is of high priority. This will be the key to India's engagement in Arctic affairs.