

Cover sheet

Full name of state or organization:

Japan

Date of submission:

30 November 2020

Observer's website, if appropriate:

<https://www.mofa.go.jp/index.html>; <https://www.nipr.ac.jp/arcs2/e/>

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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.

1 Updates of Japan's Policy towards the Arctic since 2018

(a) In the summer of 2020, the Arctic policy was stipulated in Japan's main policy documents such as the "Basic Policy on Economic and Fiscal Management and Reform 2020". National Ocean Policy Secretariat, Cabinet Office (CAO), headquarters for promoting the "Japan's Arctic Policy" formulated in 2015, regularly holds the "Liaison Committee among Ministries and Agencies on the challenges for the Arctic Ocean" and coordinates relevant policies based on the Third Basic Plan on Ocean Policy adopted in 2018.

(b) The Government of Japan (GOJ) promotes its Arctic policy together with many relevant stakeholders. For example, in the Liaison Committee, the GOJ conducted the interview with private actors such as shipping companies, researchers and scholars.

(c) Moreover, the Councillors for Ocean Policy, who are nominated by the Prime Minister of Japan from academic and business circles, set up the Project Team (PT) for the Arctic Policy in 2018 and made recommendations in 2019 on the Arctic policy to specify priorities to advance the three thematic pillars of "Japan's Arctic Policy": research and development, international cooperation, and sustainable use. The Councillors' Meeting continued discussion on the Arctic policy.

(d) Furthermore, lawmakers significantly contribute to the promotion of policy towards the Arctic. Japanese Diet members from the "Parliamentary League of Arctic Frontier Study" strongly support GOJ's Arctic policy. They made resolutions and recommendations for the government both in 2019 and 2020. In 2019, some members visited the Ny-Ålesund Research Observatory of the National Institute of Polar Research (NIPR) in Svalbard at the occasion of the opening ceremony and exchanged opinions with Norwegian scholars.

2 Arctic Research Infrastructure

Japan is equipped with various advanced platforms to support scientific observation, such as "Mirai" (a research vessel), Ny-Ålesund Research Observatory and the Earth observing satellites "GCOM-W". It jointly maintains Poker Flat Research Range Super-Site in Alaska with the International Arctic Research Center (IARC). It also jointly activate the "Ice Base Cape Baranov" in Russia, the Spasskaya Pad Forest Station in Yakutsk, and the research sites with the Centre for Northern Studies in Canada. These platforms enable Japan to accumulate scientific data on atmospheric forces, marine environment, biological production, distribution of organism and Arctic sea-ice. In particular, GCOM-W can continue global and long-term observation to collect data to understand the mechanism of climate and water variation in the Arctic region and can also estimate the thickness of sea-ice. In addition, Japan has begun to operate a new satellite "GCOM-C" for conducting surface and atmospheric measurements since December 2017. Sharing information gained through these platforms with stakeholders by the Arctic Data Archive System (ADS), a Japanese data system for open access of various kinds of data gained in the Arctic region, Japan will keep contributing to activities of the AC subsidiary bodies. In 2019, the number of ADS's web page accesses was around three million, 80% of which were from abroad.

3 Japan's contributions to the work of the AC subsidiary bodies

Japan promoted the 5-year national flagship research project of Arctic Challenge for Sustainability (ArCS) from September 2015 to March 2020. Japan has just launched ArCS II, a new 5-year project following ArCS, in June 2020. Both projects were initiated mainly by NIPR, the Japan Agency for Marine-Earth Science and Technology (JAMSTEC) and Hokkaido University. ArCS aimed to: (i) promote Arctic research to elucidate the changes in the climate and environment in the Arctic, and clarify their impacts on human society, and (ii) provide accurate projections and environmental assessments for domestic/foreign stakeholders to contribute to their discussion and decision-making. ArCS II aims to: (i) promote advanced observation of Arctic environmental change and its process, (ii) improve weather and climate prediction, (iii) assess environmental change in the Arctic and its impact on society, (iv) implement the research achievement in the society, and (v) provide local and global stakeholders with scientific knowledge that is the basis of legal and policy responses for the formation of international rules in the Arctic. ArCS sent Japanese researchers to the AC's subsidiary bodies to provide useful inputs from the scientific point of view. ArCS II takes over this task and has started to send Japanese researchers to the AC's subsidiary bodies. Their examples of these contributions are as follows:

- **ACAP:** Dr. Satoshi Imura from NIPR and Dr. Fujio Ohnishi from Hokkaido University participated in ACAP WG meeting held in September 2020. This was the first participation to ACAP for Japan. Japanese researchers also participated in the ACAP Mercury Workshop held at the same time.
- **AMAP:** Dr. Takashi Kikuchi and Mr. Hajime Kimura from JAMSTEC participated in AMAP meetings and shared experiences with representatives of the AC members. Dr. Jinro Ukita from Niigata University participated in Arctic Meteorological and Climate Workshop. With these participation, Japanese scientists contributed to AMAP assessment reports aiming to provide useful information to the special report of IPCC.
- **AMAP SLCF EG:** Dr. Yutaka Kondo from NIPR, Dr. Makoto Koike from the University of Tokyo and Dr. Naga Ohshima from the Meteorological Research Institute participated in AMAP Short-lived Climate Forcers Expert Group and presented on the research achievements of aerosol and modelling in the Arctic region to contribute to SLCF assessment Report.
- **CAFF/ CAFF CBird EG:** The GOJ and Dr. Masaki Uchida from NIPR participated in the CAFF board meetings. Dr. Alexis Will from NIPR presented Japan's seabird activity in the Arctic in CBird Expert Group meeting. Japan submitted the annual report on the result of the investigation of migration to CBird in 2019. Dr. Shiro Tatsuzawa from Hokkaido University participated in the AMBI Planning Meeting and ABC Congress. At the meeting in February 2020, Japan made a presentation concerning Japan's contribution to the conservation of Arctic breeding migratory waterbirds in the EAAF. Also, Ms. Tomoko Ichikawa, a specialist from the Ministry of the Environment (MOE) was registered as the focal point to the "Arctic Migratory Bird Initiative (AMBI)" to share relevant information. Furthermore, in CBird, an expert group of CAFF, Dr. Akinori Takahashi and the research team made inputs on Arctic seabirds.
- **EPPR:** Although ArCS had not sent researchers to EPPR, Japan Coast Guard had the very first opportunity to participate in the EPPR plenary meeting in Bodø, Norway in June 2019. Since then it has continued its participation to identify the fields for further commitment within this WG. CAO sent its expert to the EPPR meeting in December 2019, Reykjavik, who made a presentation about Japan's nuclear emergency preparedness as well as legal framework for nuclear emergency management, based on Japan's experience of Fukushima Daiichi Nuclear Plant's incident in 2011. The CAO expert observed this WG's meeting held online in September 2020 as well.
- **PAME:** Dr. Natsuhiko Otsuka from Hokkaido University participated in the discussions on the PAME and cooperated with the questionnaire survey by PAME on Polar Code and Polar Ship Certificate.
- **SDWG:** Dr. Fujio Ohnishi from Hokkaido University presented Japan's views for sustainable development in SDWG. Dr. Ohnishi participated in the discussion on the concept paper for the Social, Economic & Cultural Expert Group (SECEG) to contribute to the review of the future activity policy of SECEG.
- **EGBCM:** Dr. Yutaka Kondo from NIPR contributed in the EGBCM's discussions to mitigate the emissions of black carbon (BC) and methane.

4 Other contributions of Japan to the AC

- (a) The Japanese Ambassador in charge of Arctic Affairs has participated regularly in the Senior Arctic Official (SAO) Meetings. Ambassador Ms. Mari Miyoshi enjoyed the opportunity for making a brief statement at the ACSAO plenary meeting held in Hveragerði, November 2019, introducing Japan's latest contributions to international Arctic research activities as well as the 3rd Arctic Science Ministerial (ASM3) to be co-hosted by Japan and Iceland.
- (b) The Japanese delegation participated in the SAO Marine Mechanism (SMM) meetings in September and October 2020. The delegation consists of Mr. Kei Kuragane from the Ministry of Foreign Affairs, Dr. Fujio Ohnishi from Hokkaido University, Dr. Naomi Harada from JAMSTEC and Dr. Kentaro Nishimoto from NIPR. Dr. Harada made a presentation about Japanese research activities on Arctic marine mechanism at the 3rd thematic session of SMM.
- (c) The GOJ invited Mr. Einar Gunnarsson, Chair of the Senior Arctic Officials of the Arctic Council, Ambassador for Arctic Affairs of Iceland, to Japan in September 2019, in order to promote Japan's engagement in the Arctic and exchange views on topics such as research and development, international cooperation and sustainable use in the Arctic.
- (d) The GOJ gave an interview to the AC Secretariat regarding Japan's contributions to the Arctic Council and its Working Groups. See: <https://arctic-council.org/en/news/interview-with-arctic-council-observer-japan/>

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.

1 Arctic Challenge for Sustainability II (ArCS II)

(a) ArCS II project plans to continue to despatch experts to AC Working Groups, Expert Groups and other related meetings to promote Japanese contribution to the meetings. ArCS II has 11 research programs which cover a wide range of fields of study from natural science to human and social science. One of those programs, in the field of social science, promotes research to identify possible areas of contribution to the work of AC.

(b) Japan also recognizes the importance of cooperation with the Permanent Participants. Therefore, ArCS II promotes research programs regarding the impact of the environmental changes in the Arctic to the community of the indigenous people, securing foods and resources for local communities including indigenous peoples, legal rules concerning the rights of indigenous peoples, and the sustainability of indigenous peoples' life styles, tradition, culture, and so on. ArCS II aims to provide the beneficial information gained from the achievements of such programs to indigenous peoples through publications, workshops and other means.

(c) As one of the efforts of ArCS II, Japan will operate the following observation sites in the Arctic countries;

- **Norway:** Japan operates an observation facility, NIPR Observatory, at Ny-Ålesund station in Svalbard, which is constructed by the Government of Norway. Japanese scientists will use this facility for the observation of the atmosphere, weather, biology, and so on in the Arctic region.

- **Russia:** Japan uses observation sites at Ice Base Cape Baranov Station and at Spasskaya Pad Scientific Forest Station in the cooperation with ARRI, Roshydromet and IBCP, RAS. Japanese scientists use these sites for the observation of BC, isotope, snow cover, CO2 flux, and so on.

- **US:** Japan promotes the observation of weather, atmosphere and permafrost for study of the atmospheric and terrestrial environment changes at the Poker Flat Research Range Flux Super Site in cooperation with IARC.

- **Canada:** Polar Knowledge Canada established the new station, Canadian High Arctic Research Station (CHARS) in Cambridge Bay. Japanese scientists use the station to observe microorganism and vegetation to reveal the change of ecosystem in the Arctic region. Japanese scientists also promote ecosystem investigation at the Centre d'études nordiques (CEN) field stations in cooperation with the Université Laval.

- **Denmark/Greenland:** Japan will prepare new research base for research at Quaanaaq and Siorapaluku in Greenland, in cooperation with DMI and local community. Japanese scientists will promote the observation of glacier and snow caps at these areas.

- **Finland:** Japan plans to promote the observation of atmosphere and cryosphere at Pallas and Sodankylä supersite in cooperation with FMI.

2 Environmental Research and Technology Development Fund (ERTDF)

As one of projects funded by the Environmental Research and Technology Development Fund (ERTDF) from MOE, Japan (grant no. 2-1803. JPMEERF20182003), the joint NIES-JAMSTEC-Univ. Tokyo team is running an interdisciplinary project on (1) source-receptor analysis of Asian BC, (2) top-down estimates of Asian BC, and (3) cost-benefit analysis of Asian BC, which have important policy implications on the Asian emissions. The next phase of this project will advance the modelling and top-down approaches to evaluate the emissions inventory, and also include more SLCF species such as NO_x, CO, and NMVOCs. The team is willing to contribute to the evaluation of bottom-up BC emissions within the Arctic Council's Framework for Action on Black Carbon and Methane as well as EGBCM.

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.

1 Japanese researchers and institutes' contributions to other fora

- (a) Since the installation of the Sustaining Observing Network (SAON), Japanese scientists have been continuing to participate in the SAON board meetings to discuss with other representatives on international joint research and data sharing. Also in recent years, NIPR and JAMSTEC contribute to share the cost for the secretariat of SAON.
- (b) Japanese scientists are participating in PPP/YOPP to enhance the Arctic observation systems (atmosphere, cryosphere, climate, etc.). As a part of this, Japanese group also participated in the MOSAiC expedition and carried out the observation of weather and seawater.
- (c) The Pacific Arctic Group (PAG) is an informal group of organizations and individuals having a Pacific perspective on Arctic science. It has as its mission to serve as a Pacific Arctic regional partnership to plan, coordinate and collaborate on science activities of mutual interest. Japanese scientists contribute actively to PAG's activities.
- (d) Japanese scientists join the efforts of the Svalbard Integrated Arctic Earth Observing System (SIOS), the project "Integrated Arctic Observation System" (INTAROS II), and the Collaborative Research Actions on Arctic Observing and Research for Sustainability by Belmont Forum.
- (e) Following a Memorandum of Cooperation signed in 2017 with the Finnish Environment Institute (SYKE), the National Institute for Environmental Studies of Japan (NIES) aims to promote joint environmental research projects on climate change in the Arctic, including sharing modelling and emissions inventory results on BC.
- (f) PACES (air Pollution in the Arctic: Climate, Environment and Societies) is an international initiative jointly sponsored by IGAC (International Global Atmospheric Chemistry project) and IASC (International Arctic Science Committee), fostering collaborative, interdisciplinary research on Arctic air pollution and its interactions with the Earth system and human societies. Drs. Hiroshi Tanimoto and Kohei Ikeda (NIES), Yugo Kanaya, Fumikazu Taketani, and Masayuki Takigawa (JAMSTEC), and Yutaka Tobo (NIPR) attended the 3rd PACES Open Science Meeting held in Oslo, Norway in 2019. Dr. Hiroshi Tanimoto was a previous member (until 2019), and Dr. Yugo Kanaya is a current member (since 2019) of the PACES Steering Committee.

2 Other contributions for the Arctic

- (a) The Vice Minister of the Environment attended the Arctic Environment Ministers' Meeting, and submitted a statement that Japan would like to work on research and investigation regarding the environmental changes in the Arctic and contribute to sustaining and protecting natural environment and biodiversity in the Arctic.
- (b) Japan, together with the People's Republic of China and the Republic of Korea, has held the Trilateral High-Level Dialogue on the Arctic since 2016. Mr. Eiji Yamamoto, Ambassador in charge of Arctic Affairs participated in the 4th meeting in Busan, June 2019.
- (c) The GOJ deposited the instrument of acceptance of the Agreement to Prevent Unregulated High Seas Fisheries in the Central Arctic Ocean in July 2019.
- (d) Japan actively participated in international conferences on the Arctic such as the Arctic Circle, the Arctic Frontier and others held in Iceland, Norway and other countries. At the plenary meeting of the 7th Arctic Circle held in October 2019, Ms. Mari Miyoshi, Ambassador in charge of Arctic Affairs, gave a speech on Japan's involvement in the Arctic and the future cooperation with Iceland, including the co-organization of the Third Arctic Science Ministerial (ASM3), following a speech by Ms. Lilja Alfreðsdóttir, Minister for Education, Science and Culture of Iceland.
- (e) Japan participated in the Second Arctic Science Ministerial (ASM2) in 2018 and will co-host ASM3 in 2021, with the theme of "Knowledge for a Sustainable Arctic", to strengthen scientific cooperation and collaboration among both Arctic and non-Arctic States in order to develop our understanding of the rapid changes impacting the Arctic.
- (f) At the 6th International Symposium on Arctic Research (ISAR-6) organized by NIPR, the joint NIES-JAMSTEC-University of Tokyo team presented key highlights of their project funded by MOE, including the reduction of the uncertainties in "bottom-up" BC emissions inventories and long-range transport of Asian BC to the Arctic. They also participated in the discussions for ASM3.