

Outcome of the Senior Arctic Research Coordination Officials Meeting

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Introduction

The meeting of the Senior Arctic Research Coordination Officials took place on 18 November in a hybrid format in Moscow. The format of the event involved remote participation by foreign delegations. It took place as part of the action plan for Russia's chairmanship of the Arctic Council in 2021–2023, which is operated by the Roscongress Foundation.

Senior Officials Meetings (SOM) are a crucial part of the Arctic Council's work. At these meetings, representatives of the Arctic states guide and supervise the council's activities in accordance with decisions and instructions from their foreign ministers. Delegates from the Arctic Council's member states (Canada, Denmark, Finland, Iceland, Norway, Russia, Sweden, and the USA), as well as representatives of the Indigenous Peoples of the North, international organizations, and the six working groups of the Arctic Council attended the regular meeting. There were 60 people in total.

Opening the meeting, Nikolai Korchunov, Ambassador-at-Large for the Russian Ministry of Foreign Affairs and Chairman of the Arctic Council's Senior Arctic Officials' Committee, recalled that this year the Council is celebrating its 25th anniversary. "For a quarter of a century, despite all the difficulties <...> we have been working together to achieve common goals in the Arctic. The Arctic Council has built a strong foundation for cooperation in this region", he said.

N. Korchunov noted that the Russian chairmanship of the Arctic Council has four main priorities. These are supporting Indigenous Peoples, protecting the environment, socio-economic development of the Arctic territories, and strengthening the role of the council itself. "As the chair of the Arctic Council, Russia supports cooperation in the scientific sphere. <...> Our goal is to increase the efficiency [of scientific cooperation] and improve the scope of the practical application of the results that have already been achieved in the Arctic. In addition, to optimize the use of scientific infrastructure, promote the use of advanced technologies and best practices in the implementation of joint projects", the ambassador added.

Korchunov emphasized the unique role of the Arctic Council's working groups, which oversee a wide range of the most important issues, including climate change, pollution, and biodiversity. "The working groups include a wide network of experts from the Arctic states, as well as representatives of Indigenous Peoples' organizations, who are permanent participants in the Arctic Council", reminded the Ambassador-at-Large for the Russian Ministry of Foreign Affairs.

The participants discussed strengthening international Arctic scientific cooperation, holding joint scientific competitions for research projects, and the possibility of establishing a coordinating committee for scientific activities in the Arctic and creating a common international research database of the Arctic countries. One of the critical tasks on the meeting's agenda was to discuss joint priorities of the Arctic Council member states. The results of the discussion of the Russian initiatives will be presented at the plenary session of the Arctic Council's SOM committee to be held in Salekhard in December.

Main topics

1. Priorities for research

The Arctic Council was established in 1996 as an intergovernmental forum to promote international cooperation in the Arctic seas. Eight Arctic states and six permanent indigenous participant organizations are members of the council. In addition, more than 35 observer states and international organizations are represented. This year, for the second time in the organization's history, Russia became chair of the council and will serve in that capacity from 2021 to 2023. The cross-cutting priority of Russia's chairmanship of the Arctic Council will be 'Responsible Governance for a Sustainable Arctic'.

"This year, Russia has assumed the chairmanship of the Arctic Council, and this is a unique forum where decisions are taken by consensus. The Ministry of Science and Higher Education of the Russian Federation, as part of its chairmanship of the Arctic Council, together with other Russian agencies, is calling for special attention on preserving the uniqueness of the Arctic ecosystems. <...> Russia's chairmanship of the Arctic Council is aimed at strengthening regional cooperation, because truly collective approaches are required to respond to the challenges we face in the Arctic", Natalia Bocharova, Deputy Minister of Science and Higher Education of the Russian Federation said, while welcoming participants to the meeting.

The meeting continued to discuss priorities for research in the Arctic. Presenting the list of priorities, Anton Vasiliev, Deputy Director of the Arctic and Climate Research Centre, highlighted the key ones. According to him, the most significant part of the list is related to observation, analysis, warning and response to climate change in northern latitudes. The second area relates to the health of people living in the Arctic regions. The third relates to polar infrastructure, the fourth is a sustainable economy and living conditions, and the fifth is Arctic energy, telecommunications and innovative technologies.

"These are all broad brush painted landscapes to which different approaches can be found. One can go deep or, on the contrary, make generalizations", Vasiliev said. He stressed that the presented list coincides with the plans of the Arctic Council, and will contribute to the implementation of joint projects for the benefit of all the member states of the Council. It will also help avoid repetition, which in turn will increase the effectiveness of research. Representatives of the USA and Norway supported creating and implementing the list of priorities while noting the need to discuss it with other international organizations and build on the Arctic Council's past work.

The meeting also continued to discuss the creation of a white paper, a document necessary for joint scientific research in the Arctic. According to John Farrell, Director of the US Arctic Research Commission, further work on the white paper should continue at scientific seminars, with the mandatory participation of representatives of Indigenous Peoples of the North. He also said that Indigenous Peoples should be involved in all stages of planning and conducting research in the Arctic. The continuation of this work was supported by all the delegations attending the meeting.

Polar Year

The most important of the Russian initiatives proposed at the meeting was the organization of the Fifth International Polar Year (IPY) in 2032-2033. Its adoption, according to the Russian participants in the Arctic Council, would create the conditions for joint polar research by the Arctic states. "The International Polar Year will enable a comprehensive study of the changes that have taken place in the

polar regions, as well as enable an objective assessment of the results of the efforts made by the international community under the Paris Climate Agreement", said N. Bocharova.

Yuri Sychev, a member of the Russian State Commission on Arctic Development, recalled that the first international year was held back in 1882–1883. Ten countries took part in it, and observations were made at 11 stations in the Northern Hemisphere and two stations in the Subantarctic. Half a century passed, and a second International Polar Year was held in 1932–1933, which turned out to be less effective due to the Great Depression. The third IPY took place in 1957–1958 as part of the International Geophysical Year. And after another 50 years, in 2007–2008, the fourth IPY was held at the initiative of Russia, which became "the largest scientific project to explore the polar regions of the Earth in history".

"Then [the Russian initiative] was supported by more than 60 countries and several international organizations, including the World Meteorological Organization and the International Council of Scientific Unions. The Arctic and Antarctic research carried out during the Fourth Polar Year was a model of international cooperation. More than 200 international projects involving 50,000 scientists were carried out as part of its activities. Before the Year, many countries significantly expanded polar research, and as a result, new scientific data were obtained, scientific infrastructure emerged, new modelling and observation technologies were developed", said N. Bocharova.

According to Y. Sychev, the world community is once again faced with the need for a comprehensive study of the planet's polar regions, where climatic changes are faster, and their scale is much larger. "At the same time, the extremely sparse observation network in the polar regions does not allow us to obtain statistically justified estimates of the climate signal, which affects the accuracy and long-term reliability of climate forecasts. An ambitious polar research project, such as the International Polar Year, is therefore simply necessary", he said.

As A. Vasiliev said at the meeting, preparations for the IPY should start as early as possible. Echoing his colleague, Y. Sychev noted that if this work begins next year, it could be conducted as part of the International Polar Decade, which would help to strengthen international Arctic cooperation. "If we start preparations next year, we will have ten years to come to the international polar year with observations already accumulated", he explained.

"The Russian Federation is ready to take a coordinating role in discussing this initiative, <...> and the Russian State Hydrometeorological University (RSHU) will get involved in preparing the IPY together with international colleagues and members of the Arctic community. In the future, we propose to bring the issue to the meeting of science ministers of the Arctic Council member states, which is scheduled for 2022", Y. Sychev said. According to the participants of the meeting, it is important to organize a broad discussion of the initiative in the university community and with the involvement of international organizations. Artur Chilingarov, special representative of the Russian President for international cooperation in the Arctic and Antarctic, expressed his support for the initiative.

2. Establishment of a coordinating committee

The biggest discussion among senior officials was about the Russian initiative to establish a coordinating committee for scientific activities in the Arctic. Presenting the project, Sergey Terashkevich, Deputy Director of the Department of International Cooperation of the Ministry of Education and Science of the

Russian Federation and Chairman of the meeting, said that the climate changes occurring in the polar latitudes require an early response from the international community, and the efforts of researchers from different countries can be more effective if coordinated and carried out together, complementing rather than duplicating each other.

According to D. Farrell, the committee is a small group of representatives of the Arctic states who would work together to promote scientific initiatives in the Arctic. S. Terashkevich specified that the proposed body could engage in the coordination of scientific research and inform all participants of the Arctic Council about the results of work in northern latitudes by scientists of the Council's member states.

In addition, the committee would draw the attention of Arctic countries' representatives to scientific conferences, seminars and other events, attracting more participants to them. Another task of the new body could be to create links between national research-oriented institutes in the Arctic and the Arctic Council. "At the meetings of the coordinating body, they could present results or proposals that would be of interest to the participating states of the Arctic Council", he explained.

During the discussion, delegates from the Arctic Council member states drew attention to the need to put in writing decisions on the establishment of a coordinating committee, in order to define its composition, responsibilities and funding, as well as what place the new body would occupy in the council's structure. "We want to see a clear mandate for this committee so that all this can be prepared in writing. <...> We need to agree on the scope of the committee before we organize it", said the Norwegian representatives, adding that Arctic research does need coordination, and this work needs to be streamlined. The particular importance of cooperation in conducting marine research in the Arctic was noted.

"There is a bureaucratic side to organizational issues, which has to do with defining the authority [of the future committee]. At the same time, we need a reference point. <...> We need a committee and this is the reference point. <...> If we do nothing, nothing will happen, and if there is a mistake, we will correct it and correct it. But in any case, we must start working on coordinating scientific activities", said Viktor Smirnov, head of the Laboratory of Ice Physics at the Arctic and Antarctic Research Institute

A written version of the planned coordinating committee, together with all comments, will be presented at the Arctic Council plenary meeting in Salekhard in December. The meeting's participants also decided that, for the time being, coordination work should be conducted through the existing mechanisms of joint conferences and workshops and the exchange of national research plans. "Consensus is the main principle for decision-making in all Arctic Council programmes. And if we do not have mutual understanding, we cannot succeed in implementing projects. Only joint efforts can help us to find good solutions and ideas", said S. Terashkevich.

Competitions for scientists

Irina Kuklina, Executive Director of the International Centre for Innovation in Science, Technology and Education, spoke at the meeting about competitions for joint R&D projects on the basis of common funding. According to S. Terashkevich, the coordinating committee could also supervise such competitions.

I. Kuklina said that practical work on the preparation of proposals would start next year during workshops on the implementation of joint action mechanisms. However, she stressed that it remains to be decided which countries and organizations can participate in joint programmes, finance them or provide research sites. Another task is to work out the criteria for selecting participants in the calls for

proposals. The Arctic Council also needs to keep in mind how to follow-up the supported projects, and how to monitor their results and practical application. "[When conducting calls for proposals], we have to determine precisely the degree of participation of Indigenous Peoples [in collaborative research projects]", she added.

"We have looked at all the international meetings held by countries or groups of countries over the last 15–20 years, and we have developed a mechanism that brings together all these approaches", Kuklina stressed.

The workshops are intended to identify mechanisms for calls for proposals for joint research projects. It is planned to involve scientists and representatives, and organizations willing to fund research. The first of such workshops is proposed to be held via videoconference as early as January 2022. "The workshops are a platform that will allow us to get to know each other better. It is through them that we will work out common priorities. <...> We need to form such projects that will be of interest to all countries in terms of priorities", said Terashkevich.

Snowflake Station

According to Korchunov, one of the main platforms for scientific cooperation at high latitudes could be the Snowflake International Arctic Station. The Russian delegation presented this project, which focuses on joint research in the field of carbon-free energy, at a meeting of the Arctic Council's Sustainable Development Working Group in 2019.

The Snowflake International Arctic Station is a year-round and fully autonomous complex that will be powered by renewable energy and hydrogen energy. "This station has always been an engine for supporting cooperative research on climate change as well as pollution, including pollution of the oceans. This station is one example of how Russia is trying to promote, to strengthen scientific cooperation in the Arctic", said the Ambassador-at-Large for the Russian Ministry of Foreign Affairs.

As reported earlier in November, at a meeting of the Arctic Council's Sustainable Development Working Group, two sites for the station will be located on Yamal and in the Murmansk region. They will be used to test environmentally friendly life-support technologies, as well as robotics, telecommunications, medicine, biotechnology and new materials systems. The sites will differ: While Yamal will have a completely autonomous site based on wind and solar power and, above all, on the hydrogen cycle, the Murmansk region will rely on hydrogen, which will be produced externally, in particular at an external wind farm and hydropower plant.

The project has been approved by all the member states of the Arctic Council and is supported by the Russian Government. The Institute of Arctic Technology at the Moscow Institute of Physics and Technology is implementing it. Construction of the stations is scheduled to begin next autumn, with a view to putting them into test operation in 2024.

3. International research base

Another task of the Russian Chairmanship of the Arctic Council is to create an international database of Arctic states and update the existing database of those research projects conducted in the polar region. According to Andrei Bryksenkov, deputy director of the RSHU representative office in Moscow, back at

the beginning of the year, a proposal to create an open international platform that would provide access to information on the results of scientific research in the Arctic was announced. Together with France, Norway, Iceland, and Japan, Russia is working on possible forms of practical implementation of this project.

The existing system of the Third Arctic Science Forum (ASM3), held in May this year by Iceland and Japan, could serve as the basis for the new international platform. "During the Chairmanship of the Arctic Council, the Russian Federation intends to maintain continuity in the policy pursued by the previous Icelandic Chairmanship and to maintain close cooperation on the creation of a database, information and results of scientific research in the Arctic. To this end, it is proposed to continue work on creating the database together with France as co-organizer of the Fourth Arctic Science Forum (ASM4)", Bryksenkov said.

The ASM4 database is planned to be multi-level. "At the first level, the main task is to organize the collection of a large volume of heterogeneous projects, creating an information array. The second level will be based on the systematized results of the projects presented at the first level. The third level will be an analytical component of the database. For its development, in the pilot version, materials or reports received during the implementation of the international project Business Index North (BIN) will be used", said Mr Bryksenkov.

The BIN project, a collaborative academic study of business activity and opportunities, was carried out by Russian, Norwegian, Finnish and Swedish academics at the initiative of the Nordic Development Centre at the Nordic University Business School in Norway. It is a database of economic, demographic and other indicators of the Arctic and aims to optimize financial and management projects in the region. "The task of creating such a unified database that both researchers and users can use has been around for a long time. <...> In my view, research databases to a large extent should and can be used when conducting scientific research, but also when implementing all kinds of activities in the Arctic. In any case, I would like to remind colleagues of the well-known truth that the natural conditions of the Arctic are so complex that it is impossible not to take them into account when carrying out these activities", said A. Brysenkov.

According to A. Bryksenkov, the research base will be an essential information resource for the coordinating committee on scientific activities in the Arctic that is being established. Among other things, it will help to preserve the traditions and customs of the Indigenous Peoples of the North and solve tasks related to improving the quality of people's lives. The database will be available not only to scientists but also to all stakeholders as a tool for monitoring developments in the region and establishing new partnerships. In doing so, it will include all the scientific material produced in the three past Arctic Science Forums and take into account the experience of all the Arctic states.

The participants of the meeting noted that the presented project is ambitious and requires serious elaboration. In particular, it is necessary to determine its cost and sources of financing, select executors who will fill in the database and define areas of responsibility. "We want to continue the previously created database, but with all the refinements and new ambitions. <...> I would suggest that my colleagues prepare a document that is a detailed description demonstrating the entire functionality of the database, and distribute it among the participants", concluded V. Smirnov.

Ocean of knowledge

In addition to the ASM3 system, there are other databases that can be used to create the new platform. There are intra-national databases. In Norway, for example. And there are international ones, one of which is conducted within the AMAP (Arctic Monitoring and Assessment Programme) organization, which was established in 1991 and is one of the working groups of the Arctic Council. This working group studies the impact of pollutants and climate change on ecosystems and human health in the Arctic.

Russia has implemented a project for a unified state system of information on the situation in the world's oceans, which is publicly available on the Internet portal and can be integrated into an international platform. This system is operated by 17 centres and 20 information providers representing various ministries, departments and the Russian Academy of Sciences.

According to Igor Ashik, Deputy Director of the Arctic and Antarctic Research Institute (AARI), this database contains information about the ice cover distribution across the entire Arctic Ocean and individual seas. It includes not only data on spatial distribution but also information on temporal changes of some or other characteristics in some points located at coast, islands or even drifting stations and buoys. Here one can also find information on ice phases observed at individual polar stations and forecasts of sea waves.

The unified information system on the world's oceans established in Russia also includes data on the meteorological situation in the polar region. As I. Ashik explained, ice and meteorological information is extremely important when planning scientific activities in the Arctic, when forecasts of expected changes in natural conditions need to be considered. And these forecasts can be both short-term and long-term. Reference manuals on ice and oceanographic conditions, like ice and oceanographic atlases, information about statistical characteristics of ice cover in the Arctic, distributions of geographic characteristics, primarily temperature and salinity in the Arctic seas, are also collected here.

The AARI deputy director stressed that this information could be used not only for research purposes but also for purely practical purposes.

Polar Radio

The final proposal was a Russian initiative to establish a cross-border digital polar radio broadcasting service at the Senior Officials Meeting. According to A. Bryksenkov, who voiced the idea, "the broadcasting channel will be an effective tool for informational support in implementing the international programmes of the Arctic Council, as well as transmitting traditional knowledge of Indigenous Peoples of the North and preserving their languages".

The project plans to revive powerful radio broadcasting for the Far North and equivalent areas on a modern digital platform. This will make it possible to create a unified information space in the territory of the Arctic, as well as a unique targeted notification system to improve safety, including during polar expeditions, various works and events in the Far North.

The radio channel will broadcast on the Internet and on shortwave, which will make it possible to deliver information, including alerts, anywhere in the world. It is proposed to broadcast in English and five northern indigenous languages. The International Consortium for the Preservation of Arctic Cultural Heritage, based at the RSHU, could be involved in the project to provide content for the radio channel.

According to Bryksenkov, the existing infrastructure makes it possible to implement such a project. "The implementation of plans for cross-border digital radio broadcasting will serve to improve the quality of life in the North", he concluded.