



# NORAD Agile Basing Airpower Seminar investigates options to bring further innovation to Canada's North

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As the Canadian NORAD Region looks to further project joint airpower into the Arctic region for full-spectrum and pan-domain operations, an ongoing series of seminars known as the Joint Agile Basing Airpower Seminar brings key stakeholders in the fields of science, environment, information, governance, and logistics together to take a broad look at some of the challenges of agile basing in the Arctic. Originally known as the Arctic Airpower Seminars, they focus on exploring synergies between air operations, security, climate science, Indigenous communities, economic development, and other key concerns.

The fifth in the series of seminars, held Sept. 22, 2020, saw defence partners convene virtually by way of video teleconference, rather than risk the group to any potential exposure to Coronavirus (COVID-19).

Hosted by Brig. Gen. Edward "Hertz" Vaughan, CANR deputy commander, and



**OPERATION NANOOK-NUNALIVUT**  
2020 Targets

The Canadian Armed Forces Joint Arctic Experiment deploy a number of satellite targets at Resolute Bay, Nunavut, during OPERATION NANOOK-NUNALIVUT March 13, 2020. (Canadian Armed Forces photo by Corporal Tori Lake)



Dr. Andrea Charron, Associate Professor of Political Studies from the University of Manitoba, the seminar included members of the Canadian Armed Forces, U.S. Department of Defense, allied and academic colleagues, Extreme Cold Industry Innovators, and other stakeholders as they discussed multi-domain solutions for projecting joint airpower in an extreme cold environment.

Inuit Marine Monitoring Program Automatic Identification System  
One of eight Inuit Marine Monitoring Program (IMMP) Automatic Identification System (AIS) sites in the Arctic. (Courtesy photo)

“Operating in the Arctic poses a unique set of challenges, especially as we deal with climate change. Bringing our partners from northern communities, industry and academia together with allies from Canada and US military, we are able to learn from each other to develop the skills, technology, and relationships necessary to effectively work in the North,” said Vaughan, who also serves as Deputy Joint Force Air Component Commander for 1 Canadian Air Division in Winnipeg, Manitoba.

This session focused on plans to expand the Inuit Marine Monitoring Program in eight Nunavut communities; the impacts of climate change and Arctic shipping; the use of nanosatellites by communities and the military; an Inuit perspective, a NATO perspective, as well as Canadian and U.S. perspectives on agile basing.

Initial discussion focused on abandoning the traditional ways we view and talk about the North; to adopt a new approach that considers the perspectives of Indigenous people, and the gendered impact of activities in the North, and the importance of climate change science.

To this extent, NATO has rarely talked about the Arctic in the past as this was for the most part the domain of Arctic states. This approach is changing. Now, as the levels of shipping increase as a result of climate change, there is a rising level of interest within the organization to look at the Arctic more seriously, with NATO looking to enhance the multi-lateral relationships within the alliance.

Climate change was discussed throughout the seminar and focused on increases of military and economic activity in the North, and the potential effects this could have on the local Indigenous population. Arctic Indigenous peoples have significant stake in all aspects of Arctic policy. Increased Arctic activity, in addition to climate change, are dramatically altering the natural environment, threatening the security of Indigenous culture, food security, land and marine life. Necessitating a departure from the status quo and adopting more creative approaches when considering the Arctic region, and defence and security issues in the North.

While looking to increase agile basing capabilities, 19 sites have been surveyed within Northern Canada with key emphasis on regional coverage and viability. With lots of opportunity for collaboration, significant research is being undertaken surrounding Arctic power and energy using science and technology to reduce the reliance on fossil fuels. This, in turn, will improve agility through deployable camps, mobile power and energy systems, as well as supporting Canadian underwater experimentation on all-domain situational awareness.

The use of nanosatellites was discussed as an emerging, highly configurable technology providing a modular approach to spacecraft. The satellites -- capable of supporting a variety of functions ranging from communications, data relay, exploration, remote sensing, to astronomy -- have the potential to benefit both Northern communities and the military in the Arctic context. With the ability to be replaced rapidly by newer technologies at cheaper prices, nanosatellites are more agile and responsive than traditional spacecraft.

As a follow on, there was a detailed discussion between members of CANR and the managers of the IMMP. During the discussion of marine monitoring, the group looked at the use of Automatic Identification Systems in the Arctic. AIS is a relatively new technology used to track vessels and can be used to provide real-time information to local communities, Canadian Coast Guard, Transport Canada, and other organizations as appropriate.

With the increase in shipping, tourism and exploration of the Nunavut Region of Canada, AIS can help in fishing fleet monitoring and control, maritime security, and search and rescue. AIS can also help with collision avoidance by broadcasting maritime mobile service identification numbers, navigation status, rate of turn, position, speed over ground, course over ground, true heading, destination and estimated time of arrival.

Current plans are to add seven more remote AIS sites and three more in-town sites with the hopes of achieving year round deployment.

As we work within today's new normal, the next segment in this valuable series of seminars may also be conducted virtually, but as we look to a future where COVID-19 restrictions are lifted across Canada, we are also looking for opportunities to meet in person to continue working together to provide further innovation to Canada's North.