

**Category**

TE Technology, Engineering

**Session Number**

TE-1

**Session Title**

Observing with autonomous vehicles in Polar Regions

**Session Description**

Reliability of Arctic and Antarctic forecasting tools have been shown to be of variable quality. This is in part due to a lack of understanding of physical processes involved, which results from a lack of observations in those regions. Autonomous systems operating at various scales provide unprecedented perspectives on the atmosphere, cryosphere, oceans and biosphere. Their ability to bridge in situ station observations and satellite-based remote sensing helps inform questions related to spatial variability, vertical structure of atmosphere and ocean, and helps obtain information in otherwise difficult- or impossible-to-reach environments. Ultimately, this helps us to better understand and predict polar weather and climate.

We invite contributions from various communities involved with conducting autonomous high latitude observations, including scientists, engineers, policy makers, and commercial interests. Specific topics of interest include:

- Scientific results from autonomous platforms
- Technological improvements and capabilities that aid operations in the harsh polar environment.
- International collaborations, asset and data sharing, and regulatory solutions to accessing the Polar Regions.
- Integration of platforms into polar observing systems
- Outstanding opportunities for autonomous systems to address scientific questions.

Abstracts regarding unmanned aircraft systems (UAS), autonomous underwater vehicles (AUV), and other robotic platforms are welcome.

**Keywords:** cross-disciplinary, unmanned, autonomous, Arctic, Antarctic, observing

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