

## The New Arctic in the Global Context

We are pleased to invite abstract submissions for any of our eight sessions under our topic “The New Arctic in a Global Context”.

The rapid changes taking place in the Arctic due to global climate change — e.g., the retreat of sea ice, a warming surface ocean and warming air masses — affect the physical and biogeochemical systems and ecosystems in the Arctic, but they also have the potential to influence weather and climate in mid-latitudes. The impacts of severe weather phenomena on commerce and infrastructure can be significant. It is therefore crucial to develop methods and tools to predict when and how changes in the Arctic will both affect the high latitudes but also densely populated regions such as Europe, Asia, and North America. Several projects and initiatives – such as the [APPLICATE](#), [MOSAiC](#), [Nansen Legacy](#), [N-ICE2015](#), [GreenEdge](#) and [BAYSYS](#) projects and the Year of Polar Prediction (YOPP) – are underway with the aim to better understand polar climate and ecosystem processes, to understand and forecast weather and environmental changes in the Arctic, how these affect global ocean and atmospheric circulation, ecosystems, and what are future societal impacts and requirements both in the Arctic and mid-latitudes.

The topic will highlight insights gained from recent research covering the following sessions<sup>1</sup>:

1. **Overviews:** overview on projects and initiatives that aim to improve knowledge on the polar weather and climate system and ecosystem processes in order to enhance predictability of environmental parameters.
2. **Observations:** sea-ice changes and decline, snow changes, ocean warming and circulation, atmospheric circulation and weather, ecosystem changes, observing system design.
3. **Modelling:** assessment and development of weather and climate models, interdisciplinary model approaches.
4. **Prediction:** from weather forecast to seasonal and subseasonal prediction and climate projections.
5. **Linkages to mid-latitudes:** how Arctic climate change influences weather and climate across the Northern Hemisphere.
6. **Ecosystem processes:** how the Arctic ecosystem functions from the interactions of its component species (humans included), habitats, and physical features as they affect one another, directly and indirectly.
7. **User engagement:** bringing together the forecast community and end users of polar prediction products.
8. **Governance of the New Arctic:** how policies and management procedures will change due to changing Arctic environment, e.g., regulations for new shipping routes, fisheries, communities in the Arctic that might be influenced by weather and environmental changes.

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We welcome abstracts from studies where these topics are being explored including new results, contributions from international projects with focus in the Arctic, and cross-disciplinary approaches that involve natural and social sciences.

**Scientific committee members:**

Marcus Rex (MOSAiC; Alfred Wegener Institute Helmholtz Centre for Polar and Marine Research, Potsdam, Germany)

Thomas Jung (APPLICATE/YOPP; Alfred Wegener Institute Helmholtz Centre for Polar and Marine Research, Bremerhaven, Germany)

Sebastian Gerland (MOSAiC, Nansen Legacy, N-ICE2015; Norwegian Polar Institute, Tromsø, Norway)

Jackie Dawson (YOPP; University of Ottawa, Canada)

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Luisa Cristini (APPLICATE, Alfred Wegener Institute Helmholtz Centre for Polar and Marine Research, Bremerhaven, Germany)

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<sup>i</sup> Preliminary sessions list. Final will be confirmed after receiving the abstracts.