

## **The need for coordinated observations to inform responses to rapid Arctic change**

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Rapid Arctic change poses challenges from the local to the global scale, whether it involves Arctic residents and ecosystems adapting to changing land-, sea-, and icescapes or the development of global policy frameworks to mitigate drivers of change such as greenhouse gas forcing. Informed responses to Arctic change require sustained, coordinated observations of essential variables that describe the present state of the system, inform predictions of future states, and serve as indicators of major transitions or changes in state, and support policy and decision-makers.

Over the past decade or so, a rich diversity of different implementation approaches, networks, and platforms has emerged, covering a range of observational scales from the local to the regional to the pan-Arctic. A key question – central to the Arctic Observing Summit 2018 – is how to foster structured coordination of these efforts, whether driven by bottom-up aggregation of, e.g., community-based monitoring or top-down organization through, e.g., global observing system frameworks.

This presentation illustrates how such structured coordination may be brought about by (i) drawing on toolkits developed for the design of regional or global observing systems, (ii) translating to the local scale the broader concept of societal benefits derived from services provided by the Arctic system, and (iii) focusing on the aim of informed response as a way to encourage convergence of different activities and approaches.