

Dear colleagues,

We are sending this note with the goal of warmly encouraging you to submit an abstract for our session at this year's [Annual Congress of the Canadian Meteorological and Oceanographic Society](#), which will take place online from 31st May to 11th June 2021.

The session will focus on the challenges, solutions and opportunities associated with environmental monitoring and observation at high latitudes and high altitudes. We hope that it will provide a forum for presentation and discussion of approaches to gathering, curating and sharing data in all its forms, as well as consideration of how to broaden distribution of involvement, costs and benefits among the scientific and 'lay' communities. The full prospectus is shown below.

The deadline for submissions, through https://cmos.ca/site/congress/abstract_submission?nav=sidebar, is set firmly for Monday 22nd February 2021 - please note that there will be no extensions to this, as sufficient time is required to cover additional steps involved in delivering the congress online.

We hope very much that you will be able to join us for this event!

With best regards,

Convenors

Michael Allchin, PhD, Arctic Institute of North America University of Calgary, Alberta, Canada

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Session: Environmental monitoring and observation at high latitudes and high altitudes: challenges, solutions and opportunities.

Amplification of atmospheric warming at high latitudes and high altitudes is already impacting natural and human systems, shifting baseline climatologies, and altering the frequency and magnitude of extreme meteorological events. However, understanding of trends affecting specific components of climatological, hydrological, ecological and socio-economic systems, and of the potential for interactions between them, is often hampered by a paucity of long-term high-quality data. Many parts of the North and mountainous regions are difficult to access, hindering the tasks of installing and servicing instrumentation arrays, and substantially increasing logistical overheads. Consequently, datasets are often relatively short, locally-focused, and of limited scope.

This session will provide a forum for discussion of all aspects of the challenges associated with the observation and monitoring of high-latitude and/or high-altitude environments (including, but not limited to, those focusing on meteorological phenomena). We invite presentations describing hurdles encountered, solutions developed, and future opportunities identified. The session's scope is intended to be broad: topics might include, for example, the benefits and pitfalls of combining ground and remotely-sensed observations; approaches for integrating 'other ways of knowing', including indigenous ecological and meteorological knowledge, with conventional scientific methods; options for incorporating data-gathering through 'citizen science' participation; best practices for encouraging universally high standards of data stewardship (e.g. FAIR principles, CARE principles for Indigenous Data Governance), thereby treating data as an asset rather than a raw material; avenues for developing frameworks within which to share the burden of gathering and curating data among a broader base of potential end-users; and consideration of how progress might be made towards a full digital twinning of key environmental contexts. We encourage consideration of 'outside-the-box' approaches: our goal is to provide an opportunity for constructive discussion of novel ideas which will help to advance understanding of changing influences and responses in these fascinating landscapes.