

## **A02-O02**

### **A MULTIDISCIPLINARY, PAN-ARCTIC NETWORK FOR RESEARCHING ARCTIC PALAEOCLIMATE**

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Understanding the Arctic change and its causes, and predicting its future magnitude, is a major scientific challenge. A key impediment to progress is that much of the data used to assess these changes and to underpin predictive models is limited to the period of instrumental records. Hence the longer term trajectory of change is poorly understood.

The Palaeo-Arctic Spatial and Temporal Gateways (PAST Gateways) network need to be interdisciplinary and it integrates marine and terrestrial palaeoclimate archives and approaches as well as combining field observations with numerical modelling. Scientifically, the future objectives are: (1) to reconstruct the growth and decay of Arctic ice sheets; (2) to reconstruct the history of Arctic sea-ice and ocean changes; (3) to reconstruct the record of environmental change in non-glaciated Arctic settings including the history of freshwater river drainage to the Arctic Ocean and changes in permafrost. The overall goal is to establish the nature of Arctic climate change prior to instrumental records, focusing on the transitions between different climate states and on key overarching themes including Arctic sea ice, Arctic ice sheets, permafrost and ocean circulation. Those researchers working across the spectrum of Arctic palaeoclimate research will identify a series of key scientific challenges and foci for Arctic palaeoclimate research over the next 5-10 years. One goal is to inspire and train the next generation of polar scientists with cross-disciplinary competence and to provide them with a platform to develop their Arctic research expertise.