

Arctic Holocene paleoclimate synthesis - a PAGES endorsed project

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The Arctic Holocene Transitions project is an international community-based effort to systematically review available evidence of the spatial and temporal pattern of climatic changes across the Arctic during the Holocene. In 2014, regional and proxy experts released a major compilation of published proxy climate time series from Arctic (north of 58° latitude) lake sediment, marine sediment, glacier ice, and other sources (Climate of the Past 10:1605). Regional teams then compared the dataset with other available paleoenvironmental evidence to reveal the most prominent trends represented by a large variety of paleo evidence.

The results are presented in three new major synthesis papers, one for each Arctic region: (1) western North America, (2) eastern North America (including Greenland), and (3) North Atlantic and Fennoscandia. In addition, the dataset has been analyzed to extract the timing and magnitude of the mid-Holocene Neoglacial transition, and to compare with climate-model simulations. The results have clarified the primary millennial-scale trends in Arctic Holocene climate and have highlighted proxy biases and future research priorities.