
JOURNAL CLUB

Arctic Climate: Changes in Means and Extremes

by

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ABSTRACT

Climate includes variability and extremes, as well as the more commonly studied mean values of the primary atmospheric variables. Since there are indications that the mean climate of the Arctic is changing, an emerging issue in climate research is the possibility that variability and extremes in the Arctic are changing or will soon change. In this presentation, we will examine the evidence for recent changes of surface air temperature, pressure, precipitation and sea ice in the Arctic, particularly in the Alaskan region. The means of all these quantities have varied over the past half-century, although the changes of the means vary considerably with season. Implications for growing season, fire season severity and navigation season length will be noted. The changes of extremes in the Alaskan area are consistent with the changes of the means, and there is also some indication that the changes of extremes are consistent with model-derived greenhouse projections of climate change. Especially notable are the changes in record high minimum temperatures over Alaska, record low sea ice cover, and stronger cyclonic activity over the Arctic Ocean.

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