

PAMIP Webinar Series

The Recent Emergence of Arctic Amplification

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Time: 3 pm (GMT)

Registration: shorturl.at/ltzH0

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Abstract

Arctic Amplification is robustly seen in climate model simulations of future warming and in the paleoclimate record. Here, we focus on the past century of observations. We show that Arctic Amplification is only a recent phenomenon, and that for much of this period the Arctic cooled while the global-mean temperature rose. To investigate why this occurred, we analyze large ensembles of comprehensive climate model simulations under different forcing scenarios. Our results suggest that the global warming from greenhouse gases was largely offset in the Arctic by regional cooling due to aerosols, with internal climate variability also contributing to Arctic cooling and global warming trends during this period. This suggests that the disruption of Arctic Amplification was due to a combination of factors unique to the 20th century, and that enhanced Arctic warming should be expected to be a consistent feature of climate change over the coming century.



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