



A Greenland temperature record spanning two centuries

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Combining early observational records from locations along the south and west coasts of Greenland, it has been possible to extend the overall record back to the year 1784. The new extended South West Greenland temperature record is 91% complete and adds an additional 74 complete winters and 52 complete summers to existing observations.

The long SW Greenland instrumental temperature record is of great value for the interpretation of the growing number of Greenland ice core records. A comparison of the new record with highly resolved Greenland ice core data shows an impressive correspondence between ice core $\delta^{18}\text{O}$ and observed temperatures.

The new Greenland temperature record is also interesting from a global warming perspective as it indicates that the recent warming trend in SW Greenland is insignificant compared to the natural temperature variability. In fact the warmest year in the extended Greenland temperature record is 1941, while the 1930s and 1940s are the warmest decades.

The lack of a clear global warming signal in SW Greenland temperatures is in accordance with recent AOGCM modelling results. In contrast to the polar amplification of global warming predicted for most arctic regions, model predictions for temperatures in the SW Greenland area show a much more moderate response to global warming.