



Abstract ID : 240

Does the climate variability in Greenland change with global warming?

Content

There is scientific consensus that the global temperature as well as the temperature in most regions of the earth has been rising over the instrumental era. However, whether this warming has caused surface temperatures to become more or less variable, and how this variability will change in a warmer future, remain topics of debate.

Here, we address this question for the North- and Central Greenland making use of ice-core records, climate models and proxy system modeling. We make use of the newly derived and updated NGT stable water isotope record array supplemented by longer Greenland ice-core records and instrumental data. This allows us to analyze how stable water isotope variability changed in the Holocene, the last millennia, and the last century. Preliminary results indicate an increase of the water isotope variability in the last decades that cannot be explained by proxy-recording effects or the statistical leakage of the anthropogenic trend.

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Track Classification: Holocene and last 2000 year climate forcings and variability