High-resolution records of Holocene ice-sheet change

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Over the last 20+ years, the cosmogenic isotope community has made tremendous methodological advances that now allow for detailed, high-precision records of glacier and ice-sheet change. ^{10}Be has undoubtedly become the workhorse cosmogenic nuclide for quantifying Earth-surface processes, and routine measurement of ^{10}Be at the ~2% precision level, coupled with robust ^{10}Be production-rate calibrations allow for ^{10}Be-based chronologies of glacier and ice-sheet change to be directly compared to independent records of climate variability (i.e. ice cores). Here, we will highlight the results of a large effort to characterize the behavior of the Greenland and Laurentide ice sheets via large ^{10}Be datasets that track ice-margin migration through the Holocene. In addition, the recent uncovering of bedrock surfaces along the southwestern margin of the Greenland ice sheet provide a rare opportunity to use paired paired *in situ* ^{14}C-^{10}Be measurements to quantify the duration of time that the Greenland Ice Sheet was smaller than today during the Holocene. These datasets allow us to reconstruct, in detail, the history of the Greenland and Laurentide ice sheets through the most recent period of large-scale deglaciation in the Baffin Bay region when regional temperatures were as warm or slightly warmer than today.