








Plant, insect, and fungi fossils under the center of Greenland’s ice sheet are evidence of ice-free times

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The persistence and size of the Greenland Ice Sheet (GrIS) through the Pleistocene is uncertain. This is important because reconstructing changes in the GrIS determines its contribution to sea level rise during prior warm climate periods and informs future projections. To understand better the history of Greenland’s ice, we analyzed glacial till collected in 1993 from below 3 km of ice at Summit, Greenland. The till contains plant fragments, wood, insect parts, fungi, and cosmogenic nuclides showing that the bed of the GrIS at Summit is a long-lived, stable land surface preserving a record of deposition, exposure, and interglacial ecosystems. Knowing that central Greenland was tundra-covered during the Pleistocene informs the understanding of Arctic biosphere response to deglaciation.

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Although marine sediment provides information about long-term Greenland Ice Sheet (GrIS)