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Collaborative Research: A fossil ecosystem under the ice: deciphering the glacial and vegetation history of nothwest greenland using long lost camp century basal sediment

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DATA MANAGEMENT PLAN

Types of data and materials

1. Basal sediment samples - 22
2. X-ray and CT scans of ice core basal sediments
3. Pore ice chemistry measurements
    a. stable water isotopes ($\delta^{18}O$, δD, $\Delta^{17}O$)
    b. major ion chemistry
    c. physical characteristics (pH, conductivity)
4. Optically / infrared stimulated luminescence measurements
5. Cosmogenic nuclide measurements
    a. in situ ^{10}Be, ^{26}Al, ^{21}Ne, ^{36}Cl
    b. meteoric ^{10}Be
6. Mineralogy
    a. Clay mineral SEM/EDS & XRD
    b. Automated quantitative mineralogy
7. Geochronological measurements
    a. Zircon U-Pb ages
    b. Apatite U-Th/He ages
    c. Hornblende $^{40}Ar/^{39}Ar$ ages
8. Biochemistry measurements
    a. Leaf wax measurements - Chain-length distributions & δD measurements
    b. Ancient DNA
    c. Organic geochemistry ($\delta^{13}C$, $\delta^{15}N$, TOC, TON, C/N)
9. Macrofossil, microfossil, pollen assemblages

Dissemination – Results and findings from this project will be presented at conferences sponsored by professional societies followed by publication in peer-reviewed journals. PDF versions or links to the publications will be posted on the project website (see below) either immediately upon publication or following the 12-month delay, according to the publishing journals' policies.

Use website as a data portal?
We will create a project website that provides links to all data generated by this project.

Basal sediment samples – Half of the original basal sediment core will be saved as an archive at the Centre for Ice and Climate Ice Core Facility at the Niels Bohr Institute, University of Copenhagen. All excess materials produced during sample processing and analysis will be sent to University of Vermont for storage and archiving for future analyses.

X-ray and CT-scan data – Need help from Jean-Louis
Pore ice chemistry measurements – Pore ice water stable isotopic, major ion chemical, and physical characteristic data and all accompanying metadata will be stored at the NOAA National Centers for Environmental Information.
Optically / infrared stimulated luminescence measurements
Cosmogenic nuclide measurements - Data will be archived in the EarthChem Cosmogenic Nuclide Data Collection (http://www.earthchem.org/), hosted by the University of Kansas with NSF support, within two years of receipt of the results. We will also archive all cosmogenic nuclide data in the ICE-D and ALPINE-D online databases (www.ice-d.org), which will include essential metadata. Links to these datasets will be provided to the developing Arctic Data Coordination Center at the NSIDC.

Mineralogy & geochronometry measurements –

Clay mineral SEM/EDS & XRD ?

Automated quantitative mineralogy?

Geochronological measurements – All U-Pb, U-Th/He, and $^{40}Ar/^{39}Ar$ data and metadata will be archived in the Geochron database system (http://geochron.org/), a project of the EarthChem library within two years of receipt of results.

Biochemistry measurements

Leaf wax measurements - Chain-length distributions & δD measurements

Ancient DNA

Organic geochemistry ($\delta^{13}C$, $\delta^{15}N$, TOC, TON, C/N)

Macrofossil, microfossil, pollen assemblages

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Project website – Additionally, we will make all data accessible on the Camp Century website, which the investigators will create for this project. The website will host all data and links to databases storing data generated by this project. The webpage will also host public outreach and educational modules such that users can easily access multimedia, learning modules, and datasets. We will also make available any seminar recordings from public lectures or seminars presenting Camp Century data. We will also provide centralized links to all social media accounts created for this project.

Policies for Access

There are no confidentiality or security issues associated with any of the data produced here and we will make the metadata available following the field seasons and making all data available at the time of publication or within two years of collection.

Lead PI Bierman will have the primary responsibility for completion and evaluation of this plan. The shared data are expected to be of interest to geologists, biogeochemists, glaciologists, geneticists interested in Polar research.