

Archives of the Arctic. Ice, Entropy and Memory

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Deep time of the Arctic

What is the Arctic, what is deep time, and what is an archive? During this presentation, I will discuss these questions by outlining the history of the Arctic the last 250 million years. This history is characterized by changing climates, devastating catastrophes, hot greenhouse conditions, lasting glaciations and finally the imprint of people and societies. The archives we use to understand the past are made of mud, rocks, remnants of former life, volcanic ash, and ice. Central to the understanding of the archives is chronology and signals: Relative time, absolute time and the correlation between signal and process. Signals and processes, or proxy data, is currently a hot topic of research and there is a constant drive to get as much out of the archives as possible. Still, only a fraction of what happened in a landscape or in a region at a given time is archived. The rest may never be revealed. I will present specific cases related to my research on Greenland, Svalbard and in Arctic East Siberia. The main theme is the effects of volcanism on life on Earth. I will take you along on travels to the vast lava fields of Siberia, to the steep cliffs along the fjords of Greenland, and to a snowmobile trip under the cold blue April sky of Svalbard.