

Archives of the Arctic. Ice, Entropy and Memory
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Geological Archives from the Arctic: How Rocks Record Environmental Conditions of the Early Earth

Since the accretion of our planet about 4.5 billion years ago (Ga), the Earth's surface has experienced major modifications and has regenerated many times. Remnants of the primitive crust (known as Archaean crust), which are the only direct evidences of the early Earth's surface, are extremely rare. These rocks are actual archives, the chemical composition of which record the surface conditions of our planet, as far back as 3.8 Ga, when life emerged on Earth. The most ancient geological samples are to be found on subarctic territory in Isua (Western Greenland) and Nuvvuagittuq (Northern Quebec/Nunavik), leaving our knowledge of the Archaean crust fragmented.

In July of 2012, a team of researchers led by E. Thomassot went on an expedition to the far north boundary of the Canadian province of Newfoundland and Labrador, in Inuit lands. The main objective of this field trip was to explore a territory to this day quite unknown to geologists in order to map out and sample still more fragments of this puzzle yet to be completed. This journey's destination was characterized by its inaccessibility and its extreme climatic conditions and made the field trip a peculiar experience.

Nunatsiavut (ᓄᓇᓕᓖᐱᓐᓂᓐ, «our beautiful land» in Inuktitut) was the first autonomous area claimed by the Inuit. In the 18th and 19th century, several mission settlements appeared along the coast created by Moravian brethren coming from Herrnhut in Germany. In 1959, in a delicate geopolitical context of Cold War, these villages were cleared out and the populations deported by the Canadian authorities as the Nunatsiavut shore a strategic position. There is no settlement anymore in the area allowing a logistic base for a scientific expedition, so things had to be organized self-reliantly.

All our observations, as well as our scientific journey, were documented and compiled carefully using several means of communication such as illustration and video. This intervention will give you a scientific overview of the geological archives of the Arctic and will immerse the audience into the fieldtrip thanks to the video installation of N. Louveau.

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