

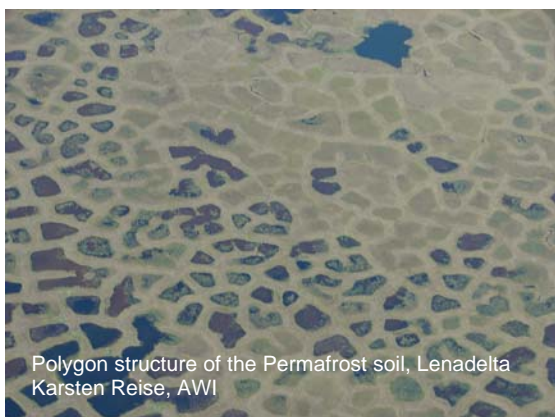


LOICZ SNAPSHOTS



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Research in the realm of the mammoth



Polygon structure of the Permafrost soil, Lenadelta
Karsten Reise, AWI

Squeezed between kitbags, petrol barrels and all kind of equipment we are huddled together in the military helicopter, which will bring us from the Siberian harbour town Tiksi to the research station Samoylov in the delta of the Lena river.

Below us a unique landscape stretches across the horizon. A network of polygon structures, speckled with innumerable ponds and lakes and the multifarious arms of the Lena river. It could have been constructed by a mathematician.

Under a nearly cloudless sky we have a panoramic view through the opened portholes over the wide landscape, created from the permafrost during thousands of years. We, this is a group of scientists from AWI, GKSS and our Russian partner institutes, on a pathfinder mission, who are searching for future research possibilities at the arctic coast of Siberia.



Research Camp at the Lena Coast
Karsten Reise, AWI

The research station Samoylov, located on one of the many islands of the Lena Delta, belongs to the Lena Reserve and is used by scientists of the AWI and partner institutes for permafrost research. Research topics include aspects of climate change and its impact on the permafrost soil, such as carbon cycle, methane formation and emission by microbial processes in the active soil layer and the ponds.

During the past years many thesis have been written here from mainly Russian and German young scientists. An extension of this research program to include coastal processes is now planned within the PACES program and a Russian-German cooperation project.



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Erosion of a ice bluff
Karsten Reise, AWI

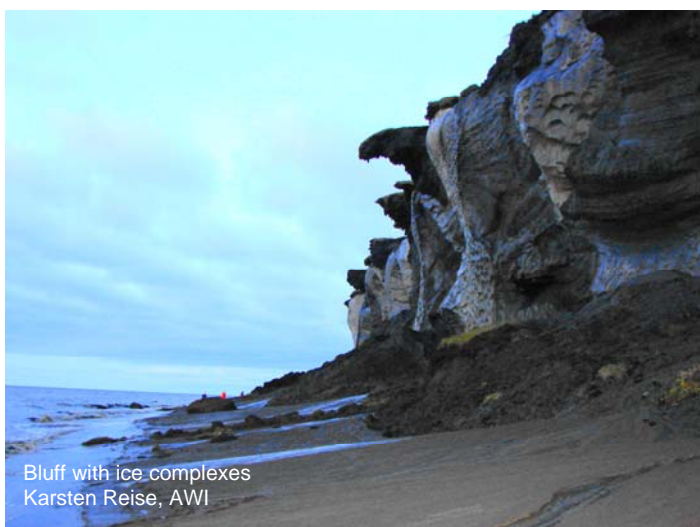
It will deal with the erosion of the coast and all its cascading effects on transport of suspended matter and carbon and on the coastal ecosystem. It will give us the opportunity to extend our experience from research on the soft bottom coasts of the North Sea to the permafrost coast of the Arctic.

The first station we visit is the borehole at *Cape Mamontovy Klyk*, the mammoth cliff. Here a temperature profile is observed, which goes some 80 m down, to

monitor changes in the Permafrost. From the cliff of the lonely tundra landscape we have a wide view across the pack ice of the North Polar Sea, which meets the coast here this year.

After an hour with maintenance work we fly to the research station. We experience eager activities in the wooden house, which harbours laboratories, kitchen, storerooms, living and bedrooms. Our accommodations for the 10 days to come are tents, from which we have a beautiful view across the Lena landscape. Fortunately our day of arrival coincides with the sauna day. After surviving the hot steam in the sauna cabin we enjoy the fresh water of the lake just below, under a beautiful sunset, which last the hole night.

During the next days we undertake cruises with the patrol boat of the Lena Reserve to visit different areas of the Lena region and inspect sites for future research work.



Bluff with ice complexes
Karsten Reise, AWI

Most impressive are the s with their huge ice complexes. We can watch erosion in nearly minutes intervals. Huge chunks of ice and soil are released from the melting ice wall and are crashing down to the beach. Nevertheless, the Lena is rather quiet now in August.

In spring she rises to a furious river by ten or more meters. Then the ice floes scratch along the banks and tear the sediment away, wash up new sandbank elsewhere and transports huge

amounts of sediment into the Lavtev Sea and the Arctic Ocean. More than 750 km³ of fresh water are flushed into the Sea per year. By this a wide belt of fresh water



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surrounds the Lena mouth. During our cruise we did not meet any traces of marine water. But the high turbidity with suspended matter concentrations of more than 100 mg/l were present everywhere.

After 10 days our short pilot expedition comes to an end while we are returning by ship to Tiksi. Numerous notes about our observations, photos and videotapes have now to be evaluated to establish our research plan for the next years. The joint expedition report with many questions and ideas evolves already during our return to Germany.

If you also want to become a “LOICZ Snapshot Reporter” please send your “Snapshot article” to: b.goldberg@loicz.org
