



## **Permafrost and Periglacial Geomorphology of Western Taymyr (PPG), Russia**

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As part of the IPA's IPY activities a field course on Permafrost and Periglacial Geomorphology of Western Taymyr (PPG) took place along the Western Taymyr coast in July-August 2008 for students studying the north. The purpose of the trip was to study different types of ground ice: ice wedges, ice complex, hydrolaccoliths, massive ice as well as to investigate the morphology and cryolithology of Western Taimyr Quaternary deposits.

The field course on geocryology was jointly developed by the faculty of the Geography Department at the Lomonosov Moscow State University, researchers from All-Russian Research Institute of Geology and Mineral resources of Ocean RAS (VNIIOkeangeologia), St. Petersburg and the Earth Cryosphere Institute SB RAS, Tyumen.

This 16-day course was held on board the "Sovetskaya Arctica" vessel, which sailed on the Yenisei River and in the Yeniseyskiy Bay from the town of Dudinka to the port of Dikson on the Arctic Coast of the Kara Sea. The course attracted Russian upper-level undergraduate and graduate students from Lomonosov Moscow State and St. Petersburg State Universities and the Earth Cryosphere Institute (Tyumen).

Seven scientific-educational field trips have been undertaken by the participants of the expedition. These trips were focusing on observations, on the collection of samples of frozen ground and ice for a set of different analyses and on field measurements (e.g. evaluation of moisture content of frozen samples). During the expedition, Pleistocene-Holocene deposits in coastal exposures from the right bank of the Yenisey river and Yeniseyskiy Bay were studied. An interdisciplinary approach based on geological and geomorphological, cryolithological, geobotanical and landscape studies was applied to study the contemporary permafrost state, ground ice characteristics and paleogeographical reconstructions. For these purposes, samples of frozen ground, snow, and ice were collected from coastal exposures. During the expedition students acquired field-work skills (describing boreholes and transverse sections, defining ice fraction, and collecting and archiving of samples), as well as laboratory skills on collected materials (evaluation of solid natural moisture content, herborization and sorting of samples).

Samples of ice, snow and ground and paleofauna were collected for chemical, isotopic, microfaunistic, granulometrical, radiocarbon, paleomagnetic analysis. Contemporary cryogenic processes of Western Taymyr coastal zone were also explored, in particular coastal dynamics, ice wedges, thermokarst, etc.

The obtained data will enable an estimation of the present-day situation in Western Taimyr permafrost zone and the reconstruction of the conditions of permafrost evolution and formation in the past.

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