



## **Vegetation and Climate history of Franz Jozef Land Archipelago in the Late Holocene according pollen data**

Ekaterina Nosevich (1), Michail Anisimov (2), and Tatyana Sapelko (3)

(1) Saint-Petersburg State University, Geography and geoecology, Physical geography, Russian Federation (katenosevich@mail.ru), (2) AARI, Russia, (3) Institute of Lymnology, RAS

The archipelago Franz-Josef Land is situated in the Arctic Ocean (80°40' N, 54°50'E). It is one of the important areas for arctic research due to organization of Russian Arctic National Park there. Therefore, an interest to the environmental history of this territory grows up and any new data might have a high value. However, geographical remoteness of the archipelago is the reason why there are not much work has been done up to date. A focus of our researches is vegetation and climate reconstruction during the Late Holocene history according pollen data. In frame of studying of the Franz Josef Land during complex expedition of Russian Arctic National Park on the islands geomorphological and botanical researches was occurred.

Nowadays the typical island of archipelago presents the ice cap and glacier-free marine terraces of 35 m high at maximum, where solifluction and permafrost are developed. The archipelago has a maritime Arctic climate. Vegetation of archipelago Franz-Josef Land presents the northern type of Polar Desert. It includes 57 species of vascular plants (Poaceae, Juncaceae, Caryophyllaceae, Brassicaceae, Saxifragaceae etc).

We studied the peat core from the southern part of Majbel Island, in the archipelago Franz Josef Land. More than a half of the island is covered by glacier. The core was sampled at the inner margin of ice-free high marine terrace, near the southern slope of bedrock hill. We received preliminary pollen data and radiocarbon data  $3010 \pm 80$  C14 y.a. at the bottom. The pollen concentration is low, but we manage to make some reconstructions of vegetation and climate. For correct interpretation of our results, we used surface samples from different islands of archipelago (Jackson, Hooker, Greely, Aleksandra land, Yeva-Liv, Appolonov, Georg land, Kane, Bell). Subrecent spectra include species presented in flora of region, but also those which are not founded at this region in this time.