

# **MORaine DEPOSITES WEATHERING AND SOIL FORMATION IN THE NIVAL BELT (SOUTH TIENSHAN AND HIMALAYAS) VOLCANO-TECTONIC DEPRESSION (CENTRAL ASIA, TIEN-SHAN)**

NI A. A., KOLDAEV A. A., TICHANOVSKAYA A. A., PETROV M. A., ZECH W.

There is the most active destruction of rocks in the nival-glacial belt. Physical weathering process predominates over others in the upper part of this zone. It is the result of a big temperature oscillations in summer and water freezing in the rocks cracks (frost weathering) in winter. Clastic rocks fall down on the glacier surface and into it body and form glacier moraine.

In summer moraine material gets warm to positive temperature through all its depth. It is damp because it is saturated with water from melting ice foundation. As ultrafresh water is powerful reagent the moraine material is subjected to chemical weathering and its breaking up into smaller units continues till fine sand. So there is predominating of chemical weathering over physical one in the lower part of glacier zone.

Transformed moraine material is carried out with melting water in valley. In the time of glacier retreat it forms deposited moraine, then this deposits are the basis of soil foundation. Intensity of the soil formation process depends on the region level 365, i.e. on climatic parameters and tectonic movements activity forming ridge altitude.

On the basis of region tectonic and climatic characteristics it is possible to forecast soil formation process intensity and to define mineral and elemental content evolution in the periglacial belt soil with age.