

THE LANDSCAPE MAP OF THE RUSSIAN ARCTIC COASTAL ZONE

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The landscape map of the Russian Arctic coastal zone (scale 1:4 000 000) is prepared using the principle based on separation of landscape unit types. This principle is widely used by the authors and their colleagues for preparing landscape, geocryological and environmental-geological maps of northern territories (the chief of these projects is E.S. Melnikov). At the first stage, the basic landscape forming features of the natural environment that influence on-shore, exogenic processes are sorted. These main features are the following:

- The location of the territory in a particular natural-climatic zone or subzone (for example, in arctic tundra, in northern forest-tundra, or in central taiga etc.).
- The location of the territory in units of altitude zonation (for example, in plains, plateau and mountains).
- The genetic and main morphological attributes of relief (for example, landscapes of marine plains and terraces, glacial landscapes, erosive denudation landscapes of mountains and piedmonts etc.).
- Lithological and petrographic composition of the sediments and rocks (clay, sand, debris material, karst and non-karst bedrocks etc.).

The overlay of all these maps results in a final landscape map that can serve as the basis to characterize modern geological processes. The units on the obtained landscape map can be used to estimate boundaries of common ranges. In the analysis of the landscape map the boundaries of natural-climatic zones are most important, the boundary of ground types are least important.

The described technique of preparing landscape maps was first tested in preparation of the Circumpolar Permafrost Map project (carried out by International Permafrost Association IPA), and the Circumpolar Arctic Vegetation Map project (chief of the CAVM project, D.A. Walker, USA). For the present project more attention is paid to the low lying marine and alluvial landscapes directly along coastal line.

For a topographic base, the digital, circumpolar Lambert projection map is used. Rivers, lakes and sea coast are present within the landscape polygons. The scale of information on the obtained landscape map of the Russian Arctic coastal zone is 1:4 000 000. An eight-digital index permits presentation of all kinds of information on each landscape site. In preparing the landscape map the author's own materials obtained in the field from various northern regions were used. Also satellite images and cartographic materials of appropriate or larger scale were employed. The following maps used were:

Churinov M.V. (ed.) et al., 1972. The Engineering-geological map of the USSR (scale 1:2 500 000). Moscow, GUGK[State comity on geodes and mapping of the USSR].

Ganeschina G.S. (ed.), Adamenko O.M. et al., 1976. The map of the Quarternary (surface) Geology (scale 1:2 500 000). Moscow, GUGK.

Gudilin I.S. (ed.) et al., 1980. The landscape map of the USSR (scale 1:2 500 000). Moscow, GUGK.

Melnikov E.S. (ed.) et al., 1999: The landscape map of the Russian permafrost (scale 1:4 000 000). Moscow, Earth Cryosphere Institute SB RAS.

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