



Elaboration of the third-generation world map of terrestrial landscapes as a model of the landscape sphere of the Earth

Emma Romanova, Nina Alexeeva, Marina Arshinova, Oksana Klimanova, Tatiana Kovaleva, Tatiana Kondratieva, and Ali Alyautdinov

Lomonosov Moscow State University, Faculty of Geography, Russian Federation (amari_geo@mail.ru)

The first fundamental investigation aimed at the elaboration of the global map of terrestrial landscapes has resulted in a series of maps for the Physical-Geographical Atlas of the World (1964). Typological classification of landscapes and the concept of the zonal differentiation of terrestrial landscapes of the Earth became a basis for the maps of physical-geographical regions of individual continents and the global map of landscape types at the scale of 1:80 Mln.

The next stage of research in the sphere of small-scale landscape regionalization and mapping of both natural and natural-anthropogenic landscapes has produced the global maps of Geographical Belts and Zonal Types of Terrestrial Landscapes (1988) and Present-Day Landscapes of the World (1992) at the scale of 1:15 Mln. By the end of the 1990-s similar maps of individual continents were compiled for the Nature and Resources of the Earth digital atlas.

Recent decades saw further development of the idea of zone - sector - belt structure of the Earth's landscape sphere which includes several hierarchically subordinated natural-territorial levels. New theoretical studies and emergence of extensive information materials allowed starting the elaboration of a new (third-generation) map at the scales of 1:15 Mln to 1:5 Mln. A new classification of landscape units was suggested basing on the analysis of principal landscape-forming factors (climatic, lithogene and biogenic). A new cartographical model was developed specifying the following hierarchical levels: geographical belts, sectors, natural zones and sub-zones, classes and subclasses of landscapes. Classification criteria used for landscape systematization and mapping include both natural parameters (radiation balance, heat and moisture supply, structure of the vegetative period, biological productivity of vegetation, etc.) and anthropogenic indicators, thus providing for the evaluation of the geoecological state of landscapes (ecosystems of regional dimension).

Processing of remote sensing data, the latest climatic reports and databases, new global schemes of terrestrial biomes and bioclimatic soil groups, as well as the recent achievements in the field of global and regional geoecological investigations made it possible to revise zonal boundaries and identify new landscape units. Refined boundaries of geographical belts and natural zones are reflected at the generalized model of the zonal structure of the Earth's terrestrial landscapes known as an "ideal continent".