

Landscape and historical mapping of natural and cultural complexes of Central Russia

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Abstract:

Historical mapping of landscapes shows the characteristics of the relationship between man and landscape in certain chronosections and gives the opportunity to analyze and reconstruct the dynamics of nature management, environmental situations and the anthropogenic evolution of landscapes. An analysis of the development of the relationship between man and specific landscapes, studies of the dynamics of nature management of the old habitable territories are currently impossible without landscape-historical mapping with the use of GIS technologies. These technologies make it possible to carry out more quickly and efficiently a cross-spectrum analysis of multi-temporal and multi-scale historical maps and to quantitatively describe the dynamics of land use of specific landscape complexes of various taxonomic ranks, up to such types as tracts and sub-tracts, at certain historical intervals. The new landscape-historical geographic information system that we are creating allows us to get a clear picture of the functioning of territories in different historical periods, on the basis of a landscape-historical analysis of the territory, involving the study of the dynamics of the landscape and economic activity within it, and the compilation of a series of maps for various chronosections.

The use of GIS technology allows you to simulate the dynamics of the human-landscape interaction in a specific territory of a particular region. This is achieved by displaying changes in settlement systems and environmental management systems against the background of landscape conditions characteristic of the reflected period. The main subjects of such research are not only natural landscape or natural-anthropogenic complexes, but also landscape-economic systems and landscape-historical complexes, reflecting the economic or spiritual activity of man in specific landscape conditions in specific historical periods. These key areas for research are justified by the historical value and significance of the territory, the diversity of natural conditions and the presence of an almost complete set of landscape complexes of different hierarchical levels characteristic of the forest zone of the Russian Plain.

The selection of the key areas for the research is justified by the historical value and significance of the territory, the diversity of natural conditions and the presence of an almost complete set of landscape complexes of different hierarchical levels characteristic of the forest zone of the Russian Plain. Such territories are: the historical center of Moscow - the Kremlin, State Borodino War and History Museum and Reserve, the museum-reserves "Kolomenskoye" and "Tsaritsyno", the vicinity of ancient cities and settlements: Rurikovo Ancient Town, Gnezdovo, Radonezh, the historical centers of Smolensk and Veliky Novgorod and many others.

The work was carried out at several hierarchical levels: local level for key areas, and regional level for the forest areas of the Russian Plain. A series of landscape-historical maps were compiled, including the actual landscape maps, maps of landscape-economic systems, of nature management, and of settlement systems.

Landscape-historical GIS, including a series of maps of different times for the key areas, clearly reflect the economic activity at a certain historical stage in the specific natural conditions in which this activity took place. At the same time, all maps are compiled on a single scale, which makes it possible to produce not only a qualitative assessment, but also a quantitative analysis of the processes taking place.

The most important result of multi-scale landscape-historical mapping of territories of a regional level may be the compilation of electronic landscape-historical atlases. Success has already been achieved in creating such an atlas for the territory of the Moscow region. Such an electronic landscape-historical atlas is regional in scope, comprehensive, thematic in content; its purpose is diverse: its individual blocks can be considered as scientific-reference, local historical, educational, tourist information resources. It is the first time that several hierarchical levels of mapping and analysis of depicted objects are presented in an atlas.

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