

ECOLOGICAL ATLAS OF IRKUTSK REGION: NEW MAPS FOR MANAGEMENT OF REGIONAL DEVELOPMENT

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The ecological atlas of Irkutsk region is a necessary element in the information system of the solution of the ecological problems on the present stage. It is a fundamental cartographical work, which reflects the connection between social production environment in the whole complication and interaction of the internal and external factors.

This atlas is a part of the complex of the fore-planned working out, which determine the strategic directions of the nature tenure and optimization of the ecological situation in the region. It is a necessary element and a normative-ecological basis of the forming and the new regional policy realization connected with the decentralization of the state and economic structures and with the transmission of the number of the important functions of the regional level. The spatial-information organization of cartographical material is oriented on the main structures of planning and management - region and district, this fact raises the degree of the use of the atlas and provides the systems of different levels with one information basis.

The program of the ecological atlas envisages the use of the material by the organization and by the services of the government bodies during the working out of the social-ecological, ecological-economic and economic priorities.

The use of atlas material will allow to exercise control and observe the activity of the people who are occupied with nature tenure, to reveal the negative tendencies in proper time, which are connected with concrete conditions and forms of nature tenure, that fact must guarantee high quality of environment and of life-support system for present and future generation.

The atlas maps reflect the conditions of human environment, its dynamic, interrelation between biocoenosis and environment, i.e. totality of relation and factors, which determine the conditions of the existence and development of organisms and their associations. All the elements of environment, which determine the main relations in forming of ecological situation are attributed to the ecological factors.

Environment is characterized by great variety and is made up of a great number of the elements, effects and conditions which are dynamical in time and space. Ecological factors, all the organisms are connected with them, are divided into nature factors (conditions, resources) and anthropogenous, connected with human activity. Nature factors, in their turn are divided into abiotic and biotic. Abiotic factors are include geological-geophysical, geomorphological, climatic, hidrological, the biotic factors are phylogenous, microbiogenous, zoogenous. Anthropogenous factors are connected mainly with economic and recreational men's activity and can be characterized by the categories of influence of energy, industrial, agricultural and timber, transprot, population and populated area environment. The environment impact leads to its pollution and also to changing of regimes of the biotic and abiotic factors, this condition often are above limits, which meet the ecological requirements of animate organisms. The anthropogenous activity creates the complex of ecological problems and situations.

The ecological atlas of Irkutsk region was created as a fundamental scientific work. Fundamental nature of atlas is expressed in the fact, that the materials of the latest researches are used here with

exhaustive completeness, all the scientific approaches to map drawing of the processes and effects worked out during last years were taken into account.

The atlas has a complex disposition, as it gives the comprehensive characteristics of ecological situation in Irkutsk region. There are shown in interconnection all the components of environment, anthropogenous influences of these components, forecasted changes, planned protective measures.

Interconnections of nature components and industries, scientific and technical progress and the change of the regional development level determine dynamics of interaction processes between nature and society and demand special methods of reflection. This complication is solved in the atlas with the location of the special maps of dynamic of phenomenon, different materials, which show the ecological situation on development.

The character of the interaction of nature and antropogenous factors predetermines the block organization of atlas structure. The first block consists of inventory-verification maps of environment conditions and resources. It consists of four parts, which characterize surface, entrails of the earth, climat, waters, show cover, soils, vegetation, animal world, landscape of the region from point of view of their influence on forming the ecological situation. This section consists of 108 maps.

The estimation-prediction maps of the anthropogenous influence on environment, maps of anthropogenous environment factors forming, maps of optimization and management of nature tenure, maps of environment quality and estimation of population health's state form the second section. The maps of this section are intended for their using during the implementation of specific functions of management-planning organization, optimization, control and regulation. It consists of four parts and includes 102 maps. In general the atlas includes more 212 maps (see Table 1 for details) which are supplemented by great number of diagrams, schemes and graphs.

The Name of the issue	Number of maps
Preface	3
The First Part. Natural conditions of forming of ecological situation	108
I Issue. Surface. Entrails of the Earth	17
II Issue. Climate.	20
III Issue. Waters. Cover of snow	19
IV Issue. Soils. Vegetation. Animal world. Landscapes	52
The Second Part. Person and environment	102
V Issue. Medical-geographical situation	31
VI Issue. Cadastrel estimation on biological resources	13
VII Issue. Anthropogenous factors of ecological situation forming	50
VIII Issue. Use of secondary resources. Quality of environment	8

Tabel 1: Contents

Ecological atlas of Irkutsk region was composed by academic and branch scientific-research institutes, universities and regional government bodies in co-operation.

The atlas was created on the base of the agreement about scientific co-operation, which was concluded between Institute of Geography SD RAS (leading organization) and Irkutsk regional committee of preservation of environment and nature resources. Common scientific-methodological leadership of work on atlas was carried out by Institute of Geography SD RAS. The direct leadership of work belonged to Editorial council which included representatives of every organization, which took part in the creation of the atlas. More than 130 scientists and specialists from 22 organizations took part in the working out of the special contents of the maps and in the preparing of texts. Among them are Institute of Geography, Institute of the Earth's crust, Siberian Institute of Physiology and Biochemistry of Plants, Irkutsk University, «Sosnovskaya Geology», East-Siberian Scientific-Research Institute of Geology, Geophysics and Mineral Raw Materials, East-Siberian Branch of Russian Academy of Medical Science, Irkutsk Regional Committee of Nature etc.

The modern methods of cartography responsive to the whole experience of our and the world were used in the atlas. From the great arsenal of methods were used which suit to the conditions of Irkutsk region. Taking in to consideration the peculiarities of configuration of Irkutsk region and its area, the equalintermediate by meridians normal conic projection by Cavrayski with axial meridian 108 e.lo was taken for atlas maps. Proceeding from the purpose of the atlas, dimensions and configuration of territory, state of study, the general scale was adopted - 1:2 500 000. The other scales got values, divisible by it 1:5 000 000, 1:7 500 000 and 1:10 000 000. A number of maps for southern region was composed in larger scales: 1:500 000, 1:750 000 and 1:100 000.

The atlas is intended for the workers of regional and rayon administrations, officials of state institutes, organizations, which are connected with nature resources management, scientific-research institutes, hydrometeorologists, ecologists, biologists, workers of agriculture, for everybody who are interested in rational nature resources tenure and preservation of the environment.