

MINISTRY OF EDUCATION AND SCIENCE
OF THE REPUBLIC OF KAZAKHSTAN

MINISTRY OF ENVIRONMENT
OF THE REPUBLIC OF KAZAKHSTAN

JSC 'NATIONAL SCIENTIFIC AND TECHNOLOGICAL HOLDING 'PARASAT'



INSTITUTE
OF GEOGRAPHY

THE NATIONAL ATLAS OF THE REPUBLIC OF KAZAKHSTAN

VOLUME I
NATURAL CONDITIONS AND RESOURCES

VOLUME II
SOCIAL AND ECONOMIC DEVELOPMENT

VOLUME III
ENVIRONMENT AND ECOLOGY



ALMATY, 2010

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INTRODUCTION.

SYSTEM OF ECOLOGICAL STATUS MANAGEMENT

Worldwide practice has shown that incorporation of environmental principles (ecologization) into the socio-economic system of any country will form the basis for the successful solution of environmental problems and prevention of ecological disasters.

The planning, implementation and control of actions on the utilization and protection of natural resources require detailed information on ecological conditions and their dynamics in different parts of the country; such information is best presented cartographically.

In recognition of the importance of the cartographic form of data representation, ecological mapping as an integrated discipline connecting knowledge of the principles of ecology and utilization of the environment, and patterns in the functioning of natural and social systems, has been widely practised over the world.

The programme of compiling the National Atlas of the Republic of Kazakhstan is a great scientific research project carried out in pursuance of the "Concept of Environmental Security of the Republic of Kazakhstan for 2004-2015", adopted by the Decree of the President of the Republic of Kazakhstan dated 3 December 2003, № 1241.

Compiling the National Atlas meets the priorities of the Strategy "Kazakhstan – 2030", which are strategic plans for the development of the Republic of Kazakhstan to 2010, and the programme of for Kazakhstan to become one of the 50 developed countries.

This integrated scientific and information book, the National Atlas of the Republic of Kazakhstan is intended to facilitate well-grounded decision-making in the sphere of the sustainable utilization of natural resources, environmental protection and the development of productive forces; it promotes the solution of the socio-economic and cultural tasks facing the country.

The Atlas contains objective and complete information on the ecological situation presented in the collection of maps compiled using the most up-to-date methods of map-making and new computer technologies. The Atlas was prepared on the basis of scientific research and illustrates the potential development of ecological situations arising from the actual state of our natural resources: this will make it possible to resolve at the elaboration stage any problems regarding the prospective development of the national economy.

The main tasks of the National Atlas of the Republic of Kazakhstan are the recovery and synthesis of the accumulated data on our natural-resource potential and society, and also their correlation for the purposes of the provision of environmental safety for the country, as a necessary condition of state safety as a whole.

Volume III of the Atlas "Environment and Ecology" consists of nine sections:

- Introduction
- Factors of anthropogenic influence on the natural environment
- Ecological conditions of the natural systems
- Natural hazards and emergencies
- Desertification
- Human ecology
- Environmental conditions of the regions
- Environment protection
- Ecological safety

The sections contain data on the environmental management system in the Republic of Kazakhstan, describe the main sources of anthropogenic influence on the different components of the environment, reflect the current state of the hydrosphere, atmosphere, lithosphere and biosphere, as well as the levels of pollution, anthropogenic disturbance and the degree to which these environments are resisting these influences.

The compilation of numerous multifaceted and multi-purpose landscape-ecological, ecological-geomorphologic, hydro-ecological, environmental protection and ecological regionalization maps representing integrated cartographical products has allowed their cartographical generalization in the Atlas to allocate elements of new and prospective development of the environmental politics of Kazakhstan. The Atlas has provided ample opportunities for landscape-ecological mapping, the urgent need for – and wide spread of – which are determined by the expansion of the scope of phenomena and processes requiring complex consideration. During preparation of the Atlas the principle of maintaining an integrated theme and uniform methods of presentation of the objects mapped for the entire territory of the Republic of Kazakhstan was adhered to. A distinctive feature of the Atlas is the complementarity of the maps with different themes describing the same territory. Every map of the Atlas can be considered as a geographical foundation for the practice of current and future economic planning and projection, for the purposes of sustainable land use and land management, functional zoning of recreational and tourist activity, development of environmental protection measures, etc.

The environmental management system. The basic principles of a state policy in the sphere of conservation and protection of the environment and management of wildlife utilization were proposed in the Strategy "Kazakhstan – 2030". In the section "Ecology and Natural Resources", the strategic aim in the given area is formulated – namely, harmonization of the inter-relationships between society and its environment. Achievement of the aim assumes realization of the following priorities:

- Creation of an ecologically safe natural environment
- Optimal use of natural resources
- Wildlife conservation
- Environmental education

Pursuant to the priorities of the Strategy «Kazakhstan – 2030», the Concept of Environmental Security of the Republic of Kazakhstan for 2004-2015", adopted by Decree of the President of the Republic of Kazakhstan dated 3 December, 2003, № 1241, was developed.

The purpose of a state policy in the field of environmental security is to ensure the protection of natural systems, vital interests of society and individual rights against the threats arising as a result of anthropogenic and natural influences on the environment.

For the achievement of the given purpose it is necessary to solve the following tasks:

- Reduction of the anthropogenic influences leading to climate change and the depletion of the ozone layer of the Earth
- Conservation of biodiversity and prevention of desertification and land degradation
- Rehabilitation of the zones of ecological disaster, space programme complexes and test sites
- Prevention of exhaustion and pollution of water resources
- Abatement of air pollution and radioactive, bacteriological and chemical contamination, including transborder pollution
- Reduction of the volume of accumulated industrial and household waste
- Prevention of natural and technogenic emergencies
- Prevention of pollution of the Caspian Sea shelf

Head of State signed several laws aimed at further improving the efficiency of public administration in environmental protection. 9 January, 2007 the Environmental Code of the Republic of Kazakhstan № 212 was adopted. The Code regulates the protection, restoration and preservation of the environment, reproduction and use of natural resources in the implementation of economic and other activities related to natural resource use and environmental impact, within the territory of the county, as well as the Caspian and Aral seas, under the jurisdiction of Kazakhstan.

The purposes of the environmental legislation are:

- Legal maintenance of state policy in the field of environmental protection and sustainable utilization of wildlife
- Regulation of the relations arising from economic and other activities, connected to the influence on the environment and of natural resources
- Definition and legal maintenance of the main principles and ways of environmental protection, and rational utilization and protection of natural resources

The Concept of the Transition of the Republic of Kazakhstan to Sustainable Development for 2007-2024 was developed on behalf of the head of the country according to the international obligations of Kazakhstan, which signed the Programme of Action on the transition of the world community to sustainable development – Agenda 21.

In the Concept as a unified whole, three vectors of development for the country – economic, social and ecological – are considered. In this connection the Concept should play an integrating role in relation to other programmes and conceptual documents adopted and introduced in our country. The purpose of the Concept is the achievement of a balance between the economical, social, environmental and political aspects of the development of the Republic of Kazakhstan, as the basis for improving living standards and ensuring the competitiveness of the country in the long term.

The Ministry of Environmental Protection of the Republic of Kazakhstan (MEP RK) is the central agency and performs governance and interdepartmental coordination on the issues of the elaboration and execution of state policy in the sphere of environmental protection and wildlife utilization in the territory of the Republic of Kazakhstan.

By the Decree of the Government of the Republic of Kazakhstan dated 28 October 2004 No.1113, the Provisions concerning the Ministry of Environmental Protection of RK and the list of official bodies – the territorial bodies of the MEP RK were approved.

The structure of the Ministry is formed of the Committee of ecological regulation and control and six departments: internal control and state secrets, environmental policy and sustainable development, the Kyoto protocol, the international environment protection standards implementation, economic instruments for environmental regulation and document and personnel work.

The MEP RK also governs:

- Republic State Enterprise (RSE) «Kazgydromet» (Almaty) with the centres on hydrometeorology in the oblasts (CHM). The Regional centre for monitoring the Caspian Sea (RCMC) was established within the structure of the RSE "Kazgydromet" in 2004;
- «Kazaeroservice» RSE
- RSE "Kazakh Scientific Research Institute of Ecology and Climate" (Almaty, a branch of the institute in Astana)
- RSE "Information-analytical centre for environmental protection" (Astana)
- Scientific – production union "Eurasian Center of water" JSC

In 1993, the International Fund for Saving the Aral Sea (IFAS) was established for the purposes of coordinating interstate action on the improvement of ecological conditions and conservation of the water-economic balance in Central Asia.

Pursuant to the Government Decree, the Interdepartmental Commission on stabilization of environmental quality was established and its provisions were approved for the purposes of strengthening interdepartmental coordination of the activities of the ministries and departments in the field of the environmental protection. The Commission is a consultative-advisory board of the Government of RK. The executive body of the Commission is the MEP RK.

CONVENTIONAL SIGNS

SETTLEMENTS

On the 1:5 000 000, 1:7 500 000 and 1:10 000 000 scale maps

● ASTANA	National capitals
⊙ ALMATY	Cities of republican subordination
⊙ KARAGANDY	Centers of regions
⊙ AYAGOZ	Towns
○ <i>Lepsi</i>	Other settlements

Note: On maps of scale at 1:7 500 000 and 1:10 000 000 the subscriptions of names of settlements and sizes of punches are correspondingly reduced

HYDROGRAPHY

	Rivers and water reservoirs
	Channel
	Intermittent rivers
	Dry river valleys
	Freshwater lakes
	Saltwater lakes
	Temporary lakes

Note: Shorelines of the Caspian and Aral seas are shown for 2004

BOUNDARIES

	National
	Regions
	Districts

ROUTES OF COMMUNICATION

	Railways
	Automobile roads

SOILS AND VEGETATION

	Marsh
	Solonchak
	Sand

MAPS OF THE ECOLOGICAL STATE OF THE REGIONS 1:2 500 000 SCALE

SETTLEMENTS

ASTANA ●	National capitals
ALMATY ⊙	Cities of republican subordination
AKTAU ⊙	Centers of regions
ZHANA OZEN ⊙	Towns
<i>Kyzylsay</i> ○	Other settlements

BOUNDARIES

	National
	Region
	District

CONVENTIONAL ABBREVIATIONS ON THE MAPS OF ATLAS

a. - aul	is. - island	res. - reservoir
c. - cape	L. - Little	str. - strait
chan. - channel	Mt. - mountain	val. - valley
depr. - depression	pen. - peninsula	vil. - village
hydro-post - a water-monitoring station	R. - river	