Materials of Conferences

FORMATION OF SYSTEM OF GEO-ECOLOGICAL STUDYING FOR ENVIRONMENTAL MANAGEMENT AND ECOLOGICAL SAFETY

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The modern concept of environmental management and ecology assumes an effective utilization of natural resources at preservation of ecological balance and possibilities of restoration of natural resource potential. Their necessary condition is the information support realized within the limits of geo-ecological researches. The basic methodological problem is cartographical modeling of a condition of natural geological environment. The scheme of formation of system of geo-ecological researches consists of four blocks – subsystems which are also stages of its formation.

1. Formation of an information database on methods and objects. The basic methods are: geodynamic, geochemical, engineering-geological, hydro-geological, space geological, geomorphological, geophysical. The basic objects of studying – a lithosphere, a relief, landscapes, soils, hydrosphere, atmosphere, phytosphere, a technosphere.

2. The system analysis of a condition of geo-ecological conditions – geodynamic, geochemical, engineering-geological, hydro-geological, neotectonic, geomorphological, landscape, geophysical, medical-geological analyses.

3. Formation of geo-ecological information-cartographical model with application of geoinformation technologies: geo-ecological mapping; working out of criteria of an estimation of a condition of natural geological environment, division into districts and ranging of ecological conditions. A definitive variant of a geo-ecological map – three-sheet: a geo-ecological map card (on a landscape, geodynamic and geochemical basis), hydro- geo-ecological a map (on a hydro-geological and hydro-chemical basis) and a map of an ecological estimation of a condition of natural geological environment (on the basis of system of ecological norms on 4 classes: norm, risk, crisis, disaster).

4. Geo-ecological monitoring and mapping of a condition of natural geological environment for the purpose of the forecast of change of the geo-ecological conditions, dangerous processes and zones with the raised socially-ecological risk of probability of occurrence of emergency situations of natural and technogenic character and man-made disasters.

Finally all system is directed on main objective performance – geoinformation support by the spatial geo-ecological data for steady and safe development of territories and their environmental management.

The work is submitted to the International Scientific Conference «Ecology and environmental management», Maldives, 15-22 February 2012, came to the editorial office on 20.01.2012.