



The benefits of GIS to land use planning

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The development of information technologies has significantly changed the approach to land use and spatial planning, management of natural resources. GIS considerably simplifies territorial planning operating analyzing necessary data concerning their spatial relationship that allows carrying out complex assessment of the situation and creates a basis for adoption of more exact and scientifically reasonable decisions in the course of land use. To assess the current land use situation and the possibility of modeling possible future changes associated with complex of adopted measures GIS allows the integration of diverse spatial data, for example, data about soils, climate, vegetation, and other and also to visualize available information in the form of maps, graphs or charts, 3D models. For the purposes of land use GIS allow using data of remote sensing, which allows to make monitoring of anthropogenic influence in a particular area and estimate scales and rates of degradation of green cover, flora and fauna. Assessment of land use can be made in complex or componentwise, indicating the test sites depending on the goals. GIS make it easy to model spatial distribution of various types of pollution of stationary and mobile sources in soil, atmosphere and the hydrological network. Based on results of the analysis made by GIS choose the optimal solutions of land use that provide the minimum impact on environment, make optimal decisions of conflict associated with land use and control of their using. One of the major advantages of using GIS is possibility of the complex analysis in concrete existential aspect. Analytical opportunities of GIS define conditionality of spatial distribution of objects and interrelation communication between them. For a variety of land management objectives analysis method is chosen based on the parameters of the problem and parameters of use of its results.