USE OF GEOGRAPHIC INFORMATION SYSTEMS IN THE EVALUATION OF THE DENSITY OF ROADS OF FORESTRY AREAS

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In Russia, the density of forest roads is significantly lower than in countries with developed forest industries. This negatively affects the efficiency of logging and the yield of wood per unit area. There are different opinions about the normative and actual values of the density of forest roads in the forest regions of Russia. Today, it is possible to assess the density of forest roads and analyze its development using modern geographic information systems (GIS). In these studies, the density of forest roads is determined using the ArcGis software package in the two forest districts of Krasnoyarsk Territory. The roads located on the territory of the studied sections are digitized and divided by types: highway of year-round operation, branch, logging mustache. Using the tools of the software package, the lengths and densities of roads are determined by their types. The obtained values are consistent with the indicators of other researchers from different regions of Russia. The results of this task are necessary for the planning of logging production when searching for optimal routes for wood delivery, taking into account the natural and climatic conditions. Using ArcGIS tools allowed us to automate a significant number of calculations in the study and, in particular, calculate the density of roads, visualize the data obtained, and also form the basis for further research.

Key words: road density, geographical information system, forest road, road density, forest infrastructure, information processing.

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