The infrastructure concept for a single geo-information centre for forest management (part 1)

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Abstract. The article offers the concept of a single specialized complex for management, data analysis and periodic monitoring of the forestry fund spatial data of the Russian Federation based on centralized server architecture of geoinformation centre and innovative information technologies. The objective of the study is to improve the quality of management, updating and periodic monitoring of spatial data on the forest fund of the Russian Federation. As research methods, a server-side strategy for the development of a geoinformation centre and the organization infrastructure of the main types of geospatial data used in forestry are proposed. To implement the development, the methodological substatiation for the application of the proposed conceptual solutions in accordance with the territorial peculiarities of the organization of forestry in Russia is revealed. As a result of the research, in the first part of the article, the concept of the infrastructure of a single geoinformation center for forest management is formed, which will provide information about the forest area and integrate visualization of geospatial forestry data at different territorial levels of information representation. Well-timed provision of reliable forestry information will not only improve the quality of forest management, but also allow more selective forest management activities, taking into account the important ecosystem significance of forests.
Keywords: distributed geoinformation systems, forestry monitoring, data management systems, VR/AR technologies, geoinformationcentre, geoinformation system development, wireless sensor networks

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