Display of the basic functional properties of a landscape cover on the basis of the remote information for maintenance of initial landscape planning stages

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Landscape cover - the concept meaning display of a terrestrial surface biophysical properties. This concept historically in many respects is connected to development of remote means of multispectral measurement of a condition of a terrestrial surface and first of all at the decision of the tasks connected to landscape planning.

Field works especially in North regions are connected to the big material expenses, in view of it begins especially actual, at least, at initial stages of design and exploration work to use maximum full archives of the remote information, receiving on their basis detailed enough display of the current and past condition of the major properties of a landscape cover.

For achievement of this purpose development of special algorithms of the analysis of the remote information, providing not only allocation of the basic types of a landscape cover, but display of a spatial variation of its major properties is necessary: a hydrothermal mode, biological efficiency, character and a degree natural and anthropogenous disturbance.

In offered work the algorithm of classification using as initial given both own values of brightness spectral channels is examined, and indexes considered on their basis, the part from which reliably enough reflects the certain physical properties of a terrestrial surface. The used method of dichotomizing hierarchical classification "from the general to the particular" with the account, both territorial position of selected types, and values of indexes consistently allows to define their physical sense of selected classes of a landscape cover. On the basis of the received classification and its discriminant analysis under the relation the initial variable possible to allocate conducting factors forming landscape structure and to receive their cartographical display of their value. The constructed maps of a modern landscape cover, as a first approximation allow to estimate problems with which can face the designer: to estimate vulnerability of territories, to allocate potential objects of protection and to develop the most economical and effective circuit of field researches.

Allocated and quantitatively described the basic factors allow to construct at a qualitative level models of vulnerability of territories to various forms of infringements. In work the estimation of fire danger of territory in particular is shown. Precisely as it is possible to estimate engineering conditions of realization of planned works to allocate territories with the increased risk of failures of nonproduction constructions, to allocate the most valuable objects of protection, the most productive large forests and pastures.

At the same time these and similar results can be considered only as preliminary. Field researches should be organized so that check up law displayed through hypothetical landscape forming factors to receive for them the measured physical characteristics and to define the geographical contents of the allocated types. The received set of optimum allocated field descriptions will allow on the basis of application of multivariate methods of the analysis and interpolation to create statistical model of a landscape cover of territory with ample opportunities of its use at the decision of concrete and nonproduction problems.

Association of the remote information with digital elevation model essentially expands opportunities of the analysis of structure of a landscape cover and creates a basis for preliminary designing a network of supervision of monitoring projected nonproduction systems.