

Application of ecosystem approach for modeling, functional diagnostics and prognostics of ecosystems “behavior”

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Ecosystem approach is based on consideration of ecosystems as basic structure and functional entities of the biostroma. Most of existing cause and effect relations in ecosystems are not very well studied. At this time large set of different parameters and their combinations can be used. This fact impedes the modeling and prognostics of changes.

We propose ecosystem approach for modeling, which includes several main characteristics as using - the key sections defining the ecosystem functioning, reflecting to some important functions of sections integral parameters; the parameters with repeating observations; the parameters with mentioned features and used in vegetation models; ecosystem types (representatives of classes and groups of terrestrial ecosystems having similar role in bio- geochemical cycles); more wide spread bush, forest and herb ecosystems etc. under the judgment of experts from government institutions or economy and ecology important for different regions systems – agro ecosystems, ecosystems in biosphere reserves. All of these systems must be with priority in modeling.

Through ecosystem approach it is possible to avoid some of the existing inconveniences thanks to increasing of demands to parameters processed and decrease of their number.

This fact restricts the possibilities for gathering the information and creation of universal models which is very important today because of critical necessity for realistic assessments and prognostics for biosphere future.

The authors propose exemplary group of characteristics and parameters, which were used for chestnut ecosystems modeling.