Analysis of Ecological Space of Multiscaled Units as a Method for Native Forest Research

Ludmila B. Zaugolova
All-Russian Research and Information Centre for Forest Resources, 69 Novachernomuskinskaya Str., 117418, Moscow, Russia, fax +7 095 332 29 17, e-mail: luda@atlas.mail.sitnet.net, luda@cepl.rssi.ru

The multiscaled spatial approach and analysis of ecological space are proposed as methods to investigate the vegetation of natural forests. The small river basin is used as a basal unit. Several spatial land units are defined (microsite, biotope, ecotope) as components of a small river basin (catena). Each unit is characterised by certain environmental gradients (soil humidity and pH, width of humus or peat layers and light), taken together these factors comprise the ecological space of the unit. Some multiscaled vegetation units are also considered (micro-, meso-, macrophytohones) and their correlation with land units. Types of macrophytohones are determined by use of constant species of vessel plants, mesophytohones — by a correlation of ecological-phytoecotic groups of species. Different vegetation patterns in coinciding parts of an ecological space can replace each other as successive variants. If a vegetation unit occupies its own (specific) ecological space, its existence is more stable and primarily determined by environmental gradients. Comparison of an ecological space of land and vegetation units permits us to imagine the successive cycles for each land unit and helps to indicate the mechanisms of maintaining high species diversity.