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**DYNAMICS OF ECOSYSTEMS AND THEIR COMPONENTS**

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UDC 911.2

**DYNAMICS OF LANDSCAPES AND CLIMATE IN CENTRAL AND EASTERN EUROPE  
IN THE HOLOCENE: PALEOGRAPHIC ASPECTS FOR PROGNOSIS  
OF POSSIBLE ENVIRONMENTAL CHANGES<sup>1</sup>**

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The paper presents a review of modern studies of the Holocene landscape and climatic changes. A large amount of paleobotanical data and paleoclimatic reconstructions for the forest zone of Central and Eastern Europe in a frame of latitudinal transect between N52° and N58° were summarized, and compared with the published materials of paleoecological and paleogeographical researches for the same regions. The author analyzed the expected climatic changes according to the scenarios of representative paths of greenhouse gases concentration, which were compiled by the Intergovernmental Panel on Climate Change. The obtained data allowed us to determine 3 main stages of the Holocene paleoenvironmental changes. 1) Fast warming in the early Holocene (11.7-8.0 ka BP), which included series of climate oscillations. During this period the broadleaf forests replaced the birch and pine-birch ones that were spread in the periglacial formations in the early Holocene. Expansion of broadleaf species in Eastern Europe occurred 2 thousand years later than in Central Europe. 2) The Holocene Thermal Maximum (8.0-5.7 ka BP) without any abrupt and short-term climatic changes. During this period a continuous zone of broadleaf forests occupied Central and Eastern Europe. 3) Progressive cooling of the second half of the Holocene (5.7 ka BP – present) with quasiharmonic temperature and precipitation fluctuations. Regional differentiation of landscape cover became more prominent. Beech and hornbeam started to expand into the eastern regions, while spruce spread through the western ones. The Holocene climatic reconstruction throughout the latitudinal transect in Central and Eastern Europe could be used as the different scenarios of possible climatic changes in the current century, the author can expect that temperatures growth, especially during summer, will eventually lead to climate aridization as a result of changes in precipitations/evaporation ratio, and will probably become there as of of increasing wildfires and weather extremes due to the uneven precipitation.

*Keywords:* Holocene, paleoclimatic reconstructions, ecosystems dynamic, paleoclimatic data, paleogeography, Central Europe, European Russia.

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