



The structure and specific features of formation of floodplain wetlands in Amur Region

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The investigation of the structure and evolution of floodplain wetlands as complex natural systems is important for the better understanding of the transformation of wetlands under the influence of a certain set of factors. The correct and timely identification of causal relationships may enable us to predict transformation trends of wetland ecosystems under the pressure of human influence.

The main purpose of this paper is studying of the structure and stages of formation of Holocene floodplain wetland ecosystems of Amur-Zeya region. The wetlands were studied in Muraviovka Park of Sustainable Land Use. There was made a careful investigation of two sites located on the floodplain of the Amur River. These sites differ in the combination of negative and positive landforms on the floodplain. The topography of floodplain determines the differences in vegetation, composition of sediments and, consequently, affects the staging of the swamping process. Under these geomorphological conditions swamping is stimulated by the periodic flooding of the valley and abundant precipitation during the summer. The additional factor of saturation is the presence of impermeable clay horizons covering the bottom of lake depressions.

The exploration of wetlands was conducted by allocating of areas, which differ in their vegetable cover and characteristics of the microrelief. For better coverage of the territory the profiles were laid transversely to the oxbow lowering and floodplain levees. The author investigated the sections of sediments on the key locations of these profiles. For more in-depth study of field data analytical methods were involved. The author made the lithological analysis of floodplain sand to reconstruct the paleoclimate and paleotectonics of the territory and to reveal the region, from which the sediments drifted. The radiocarbon dating method was involved to determine the absolute age of the peat deposits and to measure the swamp formation rate.

The final goal of this paper is not only the reconstruction of the conditions, under which the swamping has taken place, but also the understanding of the functioning of floodplain ecosystems and the prediction of further evolution of wetland formation in the selected region. The topic is quite urgent because the flood schedule of the Amur River has changed due to the regulation of water course and now the wetlands are under threat of drying up. The floodplain swamps of the Amur River are important natural ecosystems and the overgrowing oxbow lakes of Muraviovka Park of Sustainable Land Use are reckoned among the wetlands of international importance.