

Late Cenozoic sedimentation stages and paleogeographic environments in the North-East of Europe

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Six stages have been recognized in the Late Cenozoic sedimentation history: Late Pliocene-Early Pleistocene, Pomusovka-Chirva, Pechora-Rodionovo, Vychegda-Sula, Laya-Bysovaya, and Polar-Holocene. In the cross-section they are matched by six sedimentation cycles differentiated on the basis of the rhythmic structure of the Late Cenozoic sequence, which resulted from alternation of sedimentary environments: glaciation - deglaciation - interglacial. The lower part of each cycle is made up of glacial complexes: fluvio-glacial sediments deposited during glacial advance, till proper, and fluvio-glacial sediments deposited during glacier retreat. The upper part incorporates several facies of interglacial sediments: marine, alluvial, lacustrine, bog-lacustrine, eolian, solifluctional.

Our research of the facies and genesis of the Cenozoic sequence in a number of reference sections allowed more accurate attribution of its subdivisions and more complete substantiation of some regional stratigraphic units.

We have recognized and thoroughly studied three glacial complexes: Pechora, Vychegda and Polar, representing glacial-sedimentary cycles. Presence of two till facies - the ground and the ablation ones - has been shown and substantiated in genetic terms. Two types of the ablation till facies have been established: the flow till and the melt till. Each glacial-sedimentary cycle is characterized by a peculiar set of lithological features resulted from integrated effect of three types of source areas: distant (areas of glacier denudation), transitional, and local.

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