

Sedimentary record of Late Holocene floods in the sediments of the Wisłok River valley

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A dissertation abstract

This dissertation addresses the issue of the flood record in the river sediments and relief of the lower Wisłok River (Polish part of the Carpathians). The detailed study was conducted in the floodplain of the lower Wisłok River within the Subcarpathian Trough. The study utilised a number of sediment research methods, including radiocarbon, palynological and archaeological dating. Grain size composition of sediment samples from 12 profiles was analyzed; a description of individual layers was made using the lithofacial code according to Miall (1978, 1985, with later modifications).

Detailed results provided the basis for identification of (i) the sedimentary record of individual floods in the Wisłok River valley and (ii) the age of the lowest floodplain level of the lower Wisłok River.

The initial chapters present characteristics of the study area and selected sedimentary features of the study sites. Subsequent chapters present the results of grain size analyses of all floodplain profiles and the relations between the statistical parameters of grain size according to Folk and Ward (1957). Inverse grading was shown to prevail in the floodplain profiles. Downstream increase in floodplain width was associated with an increase in the mean grain size range and its downstream fining. It was noted that the width of the flood plain increases with the course of the river. This is associated with an increase in the range of average grain diameter and its fineness as the river decreases. The final chapters present an attempt to correlate single floods in several bank profiles of the floodplain.

The results of dating of organic sediment samples were correlated with the phases of flooding delineated by L. Starkel (2001). It was shown that the floodplain of the lower Wisłok River was formed in the Late Holocene, mostly during the last millennium.