



## **Downstream migration of human impact in the mid-mountain foreland, temperate climatic zone.**

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In the mid-mountains of Central Europe there can be found forms and deposits of periglacial morphogenesis. The Holocene forest succession limited sediment transfer towards valley systems. The human presence, since the Middle Ages, caused a renewed transfer of sediments downstream the valleys, running down the mountain's foreland.

The northeastern slope of Eastern Sudetes (1000-1200m a.s.l.) and its loess foreland (240-300m a.s.l.), are dissected by the Odra river tributaries. One of them, the Osoblaha river, drains the Zlatohorska Vrchovina ridge, rises to 975m a.s.l. and descends to loess plateau. The river basin lies within the temperate climate. Rainfall ranges here from 850 to 1000 mm/year. Heavy summer rainfall causes sporadic floods.

Humans have already penetrated the mountain part of the Osoblaha basin, especially since medieval times. Gold from the alluvia and iron ores were mined and processes there. This caused significant clearance of beech forest, for charcoal production. The cultivation on slopes triggered intense soil erosion. The exposed slope covers were transferred towards the mountain valleys. Flood episodes caused the sedimentation of fine overbank deposits in the mountain foreland.

On the mountain's foreland there is a 2-2.5m thick complex of silty overbank deposits overlying gravel channel deposits. Lower sections of riparian bushes in gravels has been dated to  $1750\pm 60$  and  $1740\pm 70$  BP (cal.210-400 AD) and fragments of tree trunks dated back to  $1560\pm 50$  to  $1460\pm 40$  BP, (cal. 430-590 AD). This indicates that as late as the 6th century AD, at the end of the Migration Period, wooden roots, stamps or debris were not covered by fine-grained overbank deposits. It may be assumed that the sedimentation process of the overbank deposits started in the early Middle Age.