

Flash floods in Moravia and Silesia (Czech Republic) during the 19th and 20th centuries

O. Halásová (1), R. Brázdil (2)

(1) Czech Hydrometeorological Institute, Regional Office Hradec Kralove, Czech Republic (halasova@chmi.cz / Fax: +420 495 436 175), (2) Institute of Geography, Masaryk University, Brno, Czech Republic

Flash floods, occurring usually in the summer half-year (April-September), cause often large local or regional material damage (up to millions of Czech crowns), sometimes even with losses of human lives. They are caused by intensive rains and influenced by other factors (physical-geographical conditions, land-use, etc.) in their character. The paper analyses temporal and spatial variability of flash floods in Moravia and Silesia (eastern part of the Czech Republic) during the 19th and 20th centuries. The quality of basic data, namely documentary sources and measured hydrometeorological values, is discussed. The database of flash floods was created with the following structure: date of the occurrence, locality, watercourse, precipitation amount and station, type of synoptic situation, description of the event, sources and references. About 100 records were collected for the 19th century and more than 300 records for the 20th century. Decadal frequencies of flash floods and their spatial distribution were further studied. Damage caused by flash floods was evaluated with respect to their human impacts. They were classified to seven categories: fatalities, damage on buildings, communications, fields and meadows, erosion, damage without specification and no record about damage.