

Abstract

In recent decades the field of fluvial geomorphology has moved towards the most detailed and comprehensive description of the processes in fluvial systems. The recent development of UAVs (Unmanned Aerial Vehicles) has been a major contribution in analysis of fluvial processes, it provides very detailed data for change analysis. This thesis deals with the analysis of recent fluvial dynamics using UAV. The theoretical part of the thesis summarizes the current theoretical and methodological knowledge from the study of fluvial dynamics and also presents the general principles of UAV monitoring with its use in fluvial-geomorphological research. Recent fluvial dynamics was evaluated in the stretch of Javoří brook in Šumava Mountains where the long-term research is conducted by the Department of Physical Geography and Geoecology. Causal runoff events with an impact on fluvial dynamics were identified on the basis of the analysis of hydrometeorological data covering hydrological years from 2016 to 2020. A total of fourteen events exceeded the threshold of channel-forming discharge $Q = 5,041 \text{ m}^3 \cdot \text{s}^{-1}$ in the investigated period. Geometrical, morphological and volume changes were evaluated based of the photogrammetric reconstruction of the riverbed during three successive scannings (2015, 2018, 2020). The most significant changes occur in two hotspots with the most pronounced impacts of fluvial accumulation and bank erosion.