

## **Abstract**

The aim of this thesis is to devise a method for objective classification of floodplain based on spatially accurate data from UAV that allows identification of the fundamental features of floodplain and channel arising from or affecting by the floods activities. Background research is focused on floodplain forming processes; types of flood on our territory and its geomorphological effects, as well as a brief description unmanned aerial vehicle and their applicability in natural science and the flood. Proposed method was carried out on the test section – a part of meander of Javoří stream in Šumava Mountain – then was tested on complex meander belt of the same stream. Proposed method is based on applicability of standard objective classification. Elementary products from photogrammetric analysis – 2D orthophoto and 3D digital surface model – are used as basic input data. Another aim of theses is to discuss applicability of this method for assessment of fluvial form, its limits and potential development. The results indicated that success of classification will increase significantly the involvement of 3D data to classification, which from standard data from the UAV, despite the lack of absence multispectral bands doing a very valuable source of information for mapping and analysis, for example, the consequences of flood.

**Keywords:** UAV photogrammetry; objective classification, floods, fluvial processes.