

## **Abstract**

This thesis is focused on a use of a technology that is relatively new and popular in geoscience applications, including the fluvial dynamics research. Unmanned aerial vehicles are becoming widely used in numerous geographical subdisciplines due to their capabilities and advantages of UAV imaging in comparison with other remote sensing techniques. These advantages and also limitations together with general characterization of UAVs are summarized in the second chapter of the thesis. The following theoretical chapters deal with basics of UAV photogrammetry and also evaluate the potential of UAV imaging in fluvial geomorphology. The fifth chapter of the thesis comprises a case study that evaluates the use of an UAV equipped with a non-metric camera for fluvial environment reconstruction. Images of Javoří potok have been processed in Agisoft PhotoScan and ArcGIS to indicate geomorphological changes of the stream channel that happened during a 5 month period from November 2014 to April 2015.

***Keywords:*** UAV; photogrammetry; fluvial geomorphology; hydrology; channel