Characterisation of waterfalls in Krkonoše (Czechia) with the use of airborne laser scanning data

Abstract

This thesis deals with the possible use of airborne laser scanning data for the characterisation of waterfalls in Krkonoše Mountains. Data, which are used, was provided by The Krkonoše mountains national park administration. The objective of the thesis is a description of a new method how to locate the waterfall, measure its height, calculate basin area and create a longitudinal profile. The main research method is the analysis of the digital terrain model, derived from ALS data. The analysis is based on the use of ArcGIS 10.4.1 hydrological tools to detect the position of watercourses and to find optimal visualizations for locating crests and bases of the waterfalls. The characteristics of 28 selected waterfalls were obtained by using the proposed method. The end of the work presents the results and there are also discussed imperfections that were detected during application of the method.

Keywords: airborne laser scanning, waterfall, Krkonoše