

## **Abstract**

This bachelor thesis focuses on the automated measurement of river width and its analysis to verify whether this parameter can be used to evaluate the cartographic generalization rate and the subsequent cartographic visualization. Vector cartographic representations of Elbe, Orlice, and Vltava rivers at scales 1 : 25 000, 1 : 100 000, and 1 : 250 000 were examined. Within the framework of the bachelor thesis, a method of measuring the width of the watercourse was proposed, using a combination of the nearest neighbor method and bipartite matching. These methods have not been used together in this context before, and the proposed method can be considered innovative. The measured widths were visualized using graph, histogram, and thematic cartography methods. Overplotting occurred when visualizing the widths of long watercourses (Elbe, Vltava). Histogram and thematic cartography methods proved to be suitable for comparing data at different scales. The first and second derivatives were calculated as statistical parameters of width as a function of kilometrage. The number of changes in the signs of the first and second derivatives, respectively, proved to be good identifiers for determining the degree of generalization. As expected, their numbers decreased with decreasing map scale.

**Keywords:** river width, visualization, thematic cartography, map scale, cartographic representation of rivers, cartographic generalization