



Geographic analysis of the digital vector data of old maps

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During last 10 years old maps are digitized very intensively. Spatial information are usually stored in raster digital data (maps are scanned into rasters). Less commonly these maps are vectorized, although vector data model has many advantages. The most usable feature of vector data (instead of raster images) is possibility of their geographic analysis in GIS software. At the Department of Mapping and Cartography, Czech Technical University in Prague we created full vector data model of the Müller's map of Bohemia as an example of vector data of old map. This dataset was analyzed in ArcGIS software and thus provided many outputs.

The map contains administrative boundaries of Bohemia (western part of the Czech Republic). Area features of districts on the map were compared with current situation. Areas of these features were computed in GIS software and compared with current areas. Müller's map of Bohemia as well as many other old maps contains rivers and streams. In GIS software the topology of the river network was analyzed and some other river characteristics (length, sinuosity, etc.) were computed. The most frequent features on old maps are settlement points. These features were analyzed in many ways. The densities of particular types of settlement were computed (for districts, for regular grid). Also number of features in each category was counted. Other geographical analyses combined more feature types, e.g. distances from main roads were computed for each settlement feature. Derived maps, tables or numbers can help us understand the historical landscape.