Geophysical Research Abstracts
Vol. 13, EGU2011-9404, 2011
EGU General Assembly 2011

Visualization of cartometric characteristics of Müller's maps of Bohemia and Moravia

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Within the cartometric research of Müller's maps of Bohemia and Moravia we discovered that some of cartometric characteristics could be visualized for better description of behaviour of these parameters. Some parameters are represented only by numbers. As an example map frame dimensions can be mentioned. On the other hand some characteristics are changing in the space. These parameters were visualized using map outputs.

MapAnalyst is software developed at ETH Zürich for analyzing old maps. The software is developed in Java environment and has user-friendly graphic interface. Within this interface some of map characteristics can be visualized. MapAnalyst works with two sets of coordinates: map coordinates and relevant coordinates in well-defined system.

In 2009 and 2010 full vector data models of both Müller's maps of Bohemia and Moravia were created. Vectorized model of the Müller's map of Bohemia was transformed to its original dimensions measured in 2009 on the original copperplate engravings archived in National Technical Museum in Prague. For most of ground control points in these geodatabases current coordinates in Czech national coordinate system (S-JTSK) and geographic coordinates on the Bessel ellipsoid were stored.

Sets of map coordinates and S-JTSK (or Bessel) coordinates were used for MapAnalyst visualization. The software allows to visualize scale isolines of the map, distortion grid and displacement vectors. All these three visualized maps were created for both maps. Scale isolines shows changes of scale in the space, distortion grids shows rotation of both maps in comparison with current coordinates. These outputs can be used for better understanding of maps characteristics.

This research has been supported by the GA CR grant No. 205/09/P102.