



The Danube Cadastre map system and its georeferencing method

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The Danube Cadastre map sheets are the derived maps of the Danube Mappation, drawn in the last decades of the 19th century. One Cadastre map consists of four 1 : 3600 scale Mappation sheets. The maps show the Danube river and its riverside from Verőce to Dunakömlőd (both of two in Hungary nowadays). The maps represent the river itself as well as the streets of towns and villages, the triangulation points with coordinates, streams, canals and the signs of water measurement.

The Danube Mappation maps had been surveyed in the old Viennese fathom system but from 1876 the metric system became the standard in the Hungarian Kingdom. According to this change the coordinates of the northwestern and southeastern corners are indicated on nearly each Cadastre sheet in meter.

The georeferencing parameters are similar to the parameters which were used to georeference the Danube Mappation map sheets. The used ellipsoid was the Zach – Oriani ellipsoid. The used projection is Cassini – Soldner projection, the central point was the old observatory on Gellért Hill (destroyed in 1849).

Due to the large-scale surveying the average error of the georeferenced mosaic is between 20-30 m compared to modern map systems and databases like SRTM database.