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Atlas Fontium – examples of the Historical Atlas of Poland 2.0 data use

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Abstract:

The main goal of the project "Historical Atlas of Poland. Detailed maps of the 16th century" (AHP) was to reconstruct the settlement network, administrative borders, and roads for the 16th century on a base map with land cover and hydrography from the turn of the 18th and 19th centuries (Rutkowski 2018). The main scale of the edition was 1:250,000 with additional thematic maps (1:500,000) and town plans (1:10,000). The series' publishing process began in 1966 and ended in 2021, when the collective volume was published (Słoń & Słomska 2021). At the end of the project, we also made the developed spatial database available through the GeoNode repository available at "Atlas Fontium" (https://atlasfontium.pl/) – a portal dedicated to the publication of historical geodata from the period of Early-Modern Poland (Panecki & Borek, 2016). GeoNode is an Open Source, Content Management System (CMS) for geospatial data (Corti et al. 2019). It is easy to use by non-advanced users due to its web-based interface. Basic functionalities allow users to create, manage and publish spatial data, interactive maps and documents. Users can use different functions of the platform, depending on the rights granted to them. GeoNode allows cataloguing data by creating standard metadata. Due to its open source nature, the application can be extended in chosen directions to meet all Historical GIS requirements.

In the presentation, we would like to focus not only on AHP series and its Web representation, but also give some examples on how spatial data developed over the years (and available through the repository) allow for various types of geohistorical analyses. The examples include: settlements, road network and elements of the natural environment.

Every single settlement existing in the 16th century has its representation on AHP. It includes location (if possible to establish), name, size, type, type of ownership, and administrative functions. Their characteristics were derived from the analysis of historical written sources, such as tax registers or inspections. Among over 25,000 settlements, approx. 23,000 are identified (reconciled) with modern counterparts from the official state National Register of Geographic Names through the system of external identifiers. It allows for interesting analysis of historical and modern settlement patterns and comparing their characteristics. We will present some examples of how these datasets can be scrutinised quantitatively over time in the context of: names, types and locations.

Historical road network is also a part of AHP. Roads are depicted in the main map (1:250,000) in an uniform way, and on thematic map (1:500,000) they are divided into primary and secondary. Roads with confirmed existence in the 16th century are present on AHP, and their geometry is derived from the maps from the turn of the 18th and 19th centuries. Since all data in the AHP is gathered in the spatial database, it is possible to explore historical data through GIS analysis and deepen our knowledge on relations between roads and settlements. In the presentation we will give some examples of how historical roads can be analysed not only in comparison with modern ones, but also put together with other historical datasets. The role of data harmonisation will be underlined.

Another interesting layer is the natural environment. The base map in the AHP series consists of the lay of the land, hydrography and forestation which are based on topographic maps from the turn of the 18th and 19th centuries. The discrepancy in the origin of the data for the settlement network and the natural environment requires the verification of information for the latter in sources from the 16th century. One of the examples may be the vicinity of Lake Gopło, which according to the inspection from 1564, stretched from the town Noteś in the south to the settlement Mątwy in the north (Tomczak 1961). Presumably, the water level was so high that it was possible to cross from the Gopło Lake to the Vistula River by boat as the river flowed that way (Kowalenko 1952, Tomczak 1961). However, over time, the groundwater level decreased, and in the 19th century a canal was dug in this place. Careful analysis of information from written sources allowed for a more detailed study of the environmental history of the area. Another example could be the course of the lower San River. Written sources indicated a change in the course of the river, and the restoration of its original bed was possible thanks to the traces of an oxbow lake that was presented on WIG map at a scale of 1:100,000. Additional challenge was to represent the high density of ponds that are characteristic of some areas, yet did not longer exist in the

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18th century. It was possible to show on our map a group of large ponds near Oświęcim due to descriptions of their location contained in the inspection from 1564 (Małecki 1964).

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