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Digital archives as the background of the air reconnaissance method in archaeology

Summary

Every single project that includes archaeological field (or air) reconnaissance, requires – at its preliminary stage – an archival search. Its aim is to prepare the background for future field activities, by summing up the current knowledge about the location of archaeological sites in the given area. The accessibility of archive data plays a key role in executing this procedure. A similar situation occurs at the final stage of the project, when reconnaissance results are to be inserted into the regional archaeological archive (or: Sites and Monuments Record).

The article describes a database management system developed at Poznań Archaeological Museum in order to create and run regional databases of archaeological sites. The system is based on a GIS platform (MapInfo) to process both text and cartographic data. The user can retrieve data by defining a search condition which can include the contents of any of the 59 fields of the text database.

The cartographic module of the system performs, among others, the following functions:

(1) automatic generation of a standardized Archaeological Site Register File, including an extract from a 1:10.000 scale map,

(2) creation of user-defined archaeological site maps, according to chosen criteria. Here too, a user can choose between any of the 59 traits by which every site is described in the database. This enables the creation of a wide range of problem-oriented maps,

(3) addition of supplementary graphic elements as vector drawings,

(4) use of basic GIS tools (statistics, data visualisation, buffer method of data retrieval, etc.),

(5) automatic performance of complex routine functions by definition of so-called projects,

(6) enrichment of map contents by insertion of aerial photos.

The archaeological information system described above can be a useful tool for the "flying archaeologist" before and after his/her flight. The database may supply a full picture of current knowledge about the past settlement patterns, extent of its recognition and mapping, chrono-cultural classification of particular sites and objects, and additionally – cartographic under-layers and maybe earlier aerial photographs.

Captions:

Fig. 1. Archaeological Site Register File – front.

Fig. 2. Archaeological Site Register File – reverse.

Fig. 3. mAZePa programme. Main menu.

Fig. 4. mAZePa programme. Data retrieval by locality.

Plate I: A. AZP_Max programme. Site data.

Plate I: B. AZP_Max programme. Data search condition.

Plate II: A. AZP_Max programme. List of sites retrieved according to the data search condition.

Plate II: B. mAZePa programme. Selection of the retrieval area by the use of the cartographic index.

Plate III: A. mAZePa programme. Basic inventory map of archaeological sites.

Plate III: B. mAZePa programme. Extract from the archaeological map of the planned A2 motorway.

Plate IV: A. mAZePa programme. Interactive work with a map and the textual database of archaeological sites.

Plate IV: B. mAZePa programme. Basic statistical operations.

Plate V: A. mAZePa programme. Visualisation of the results of a statistical operation.

Plate V: B. mAZePa programme. Data retrieval on a map using the buffer method.

Plate VI: A. Aerial photographs inserted into a digital map.

Plate VI: B. Extract from the archaeological ortophotomap of Dopiewo, Poznań Dist.