HISTORICAL MAP COLLECTIONS ON GEOSPATIAL WEB

Sabarish Senthilnathan Muthu1, Eleni Gkadolou2, Emmanuel Stefanakis1,2
1Department of Geodesy and Geomatics Engineering, University of New Brunswick
Fredericton, New Brunswick
2Department of Geography, Harokopio University of Athens, Kallithea, Athens, Greece

The Provincial Archives of New Brunswick (PANB) and the University of New Brunswick Archives (UNBA) maintain a rich collection of historical maps and plans of the City of Fredericton dating back to the 17th Century. This content is in the form of microfiches and paper maps, which are difficult to be accessed and used by researchers and educators. Recently, a series of microfiches and maps have been scanned and are already available in digital form. Going a step further, the advancements in geospatial web technology have been applied to make this digital content a valuable resource of historical information for the end-users. A prototype system has been developed and tested for a set of representative historical maps and plans. The system provides the following functionality: (a) geo-referenced scanned maps can be archived into a geospatial catalog; (b) appropriate metadata can be attached to them; (c) the maps can be superimposed and visualized on top of recent base maps (e.g., Google Maps, Bing Maps, Open Street Map); and (d) the catalog content can be searched and disseminated on the web using geospatial standards. End-users have been exposed to the prototype and evaluated its functionality. Their comments highlight the potential of the prototype in the study of cultural heritage and historical documentation.

1. Introduction

Historical map collections form one of the most significant resources of a community’s cultural heritage. Old maps usually have great aesthetic and scientific value. While they reveal older methods for representing space, they also display the artistic style of the time of their creation. Furthermore, historical maps are a valuable source for retrieving historical data and documenting the spatio-temporal evolution of geographic entities depicted therein. One can discover, for example, where a—now dried up—lake used to be or the urban sprawl of a town. Occasionally, the information that historical maps carry is not documented elsewhere and can be valuable in a plethora of applications of historical, cultural and educational interest. Historical maps may be a vital document of a community’s history as they were produced to establish it, e.g. maps of new borders, plans of military missions, etc.

In order to promote collections of historical maps to a wider public, international initiatives have already emerged. For instance, the International Cartographic Association (ICA) has formed a Working Group on Digital Technologies in Cartographic Heritage. The scope of this group is to investigate new methods for advanced analysis and reuse of maps and their content through the Internet.

Typically, historical maps can be found on the web either as objects of cultural heritage manage-