



Geospatial data in library collections

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Introduction

Spatial data is from its nature eminently fuzzy and have characteristics which differentiate them from other data such as heterogeneity, volume, the need to be updated over time etc (Janeé, 2009; Erwin & Sweetkind-Singer, 2010). Libraries as the main organizations for collecting, managing and disseminating information, in response to the growing needs of their users, collect geographic information and develop GIS services. As the value of a GIS is dependent on the quality of the data contained in the system, makes data undoubtedly the most important component of a GIS since their ability to be combined with many datasets adds more value to them. The purpose of this paper is to investigate the types of geospatial data and their formats as they are presented in geographical collections that academic libraries sustain.

Aims and Objectives

Despite the great amount of literature concerning GIS services implementation and GIS data, no empirical assessment has yet been available for types and formats of GIS data that are distributed through academic libraries that have developed geographical collections. In the digital era where many applications of geographical information have been adopted in everyday life (PDA's, mobile phones etc), those data sustain one of the main "traditional" organized collections provided in library environment. The intention of this study is to explore the geospatial data that libraries with geographical collections maintain. Therefore, the research questions formed in this context are:

- 1) What are the main types of geospatial data that libraries collect?
- 2) In what format geospatial data are collected?
- 3) What are the main subjects categories that libraries choose to offer to their users?

Methodology

This research follows on our initial research related to academic libraries around the world that provide geographical collections and GIS services (Vardakosta & Kapidakis, 2011). More specifically, we choose to research the websites of 24 academic libraries worldwide that in a previous research we reveal the characteristics of their geospatial collection development policies (Vardakosta and Kapidakis, 2012) so to record the information related to types, subject and format of data. Our intention to follow this method was based on these findings and particularly on those that relates geospatial collection development policies with provided data. To answer the aforementioned questions our study adopts the content analysis method (Robson, 2002; Hahn & Schmidt, 2005 ; Bennett & Nicholson, 2007). Thus, our study was focused on investigating the policies' text of those 24 academic libraries and attempting to make a categorization of elements browsing for "types" or "kind", "format" and "subject" of content. This categorization that took place after the libraries' websites were evaluated helped us group the different aspects of our main heading which was "geospatial data". For this study needs should be clear that the word "type" reflects the different kinds of autonomous information collections, the word "format" reflects the medium that information is stored and the word "subject" reflects the thematic divisions that collected information refers.

Results

The elements related to "types", "formats" and "subject" of geospatial data in academic libraries collections, as they appear in their websites were examined in the current survey. Our investigation identified a variety of different kinds of digital data as shown in Fig.1. Synonym words (e.g. views/photos) grouped together and the number of policies in which it appears was noted. Results ranked according the number of times the specific word was mentioned in the text of policies. Aerial view/photos, atlases and datasets consist the most common types of data collections.

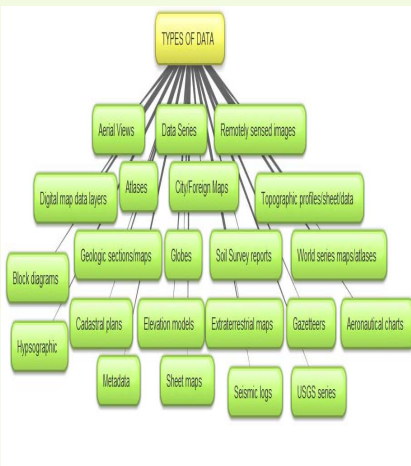


Fig.1: Types of Geospatial Data in Academic Libraries

The same procedure we followed in answering the question regarding formats that libraries use to collect for covering their patrons' needs in which we conclude that the most useable formats are CD'S, DVD'S and raster.

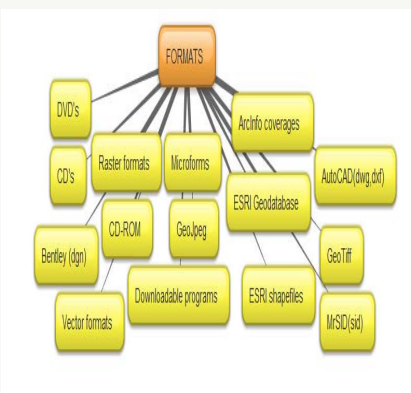


Fig.2: Formats Of Geospatial Data in Academic Libraries

Subject categories that libraries choose to offer to their users include both Physical and Human Geography. Under those two broad categories are a wide range of subcategories which also grouped and ranked according their present in policies' texts. Thus, Topography, Geology and Environmental aspects are the main thematic fields from "Physical Geography" category (Fig. 3a) while Historical events, Political and Administrative Divisions, Socio-economic patterns and Transportation systems are at the top of priorities for "Human Geography" (Fig. 3b).

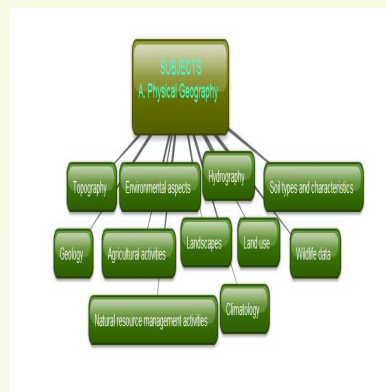


Fig.3a:Subject (Physical Geography) in Academic Libraries



Fig.3b:Subject (Human Geography) in Academic Libraries

Discussion

The work presented in this paper seeks to gain better insight of geospatial data that academic libraries are interest of nowadays that the public concern about them is growing up. Our research regarding "types", "formats" and "subjects" of geospatial data that academic libraries demonstrate in their GCDPs indicates their transition to digital era. Through their collections and the way they build them prove that are dynamic organizations capable to transform their services according their user needs and the adoption of new technologies. The variety of formats, types and subjects of geospatial data that libraries sustain is another indicator of their importance for education and research. The rapid development of web applications related to geographical information does not seem to affect the traditional collection building as the diversity of data has shown. Finally, the variety in which geospatial data can be viewed or collected proves their specific nature.

Future Work

Further work regarding data is yet to be done since this initial work was exploratory. Expanding this research in other types of libraries such as National Libraries or Public ones will allow us to have an overview of geospatial data held by libraries worldwide. Furthermore, study of particular issues related to the universities own data and the kinds of metadata they use is a topic that needs additional research.

References

- Bennett, T.B. & Nicholson, S.W. (2007) Research Libraries: Connecting Users to Numeric and Spatial Resources. *Social Science Computer Review*, 25(3), p.302-318.
- Erwin, T. and Sweetkind-Singer, J.(2010) The National Geospatial Digital Archive: A Collaborative Project to Archive Geospatial Data. *Journal of Map And Geography Libraries*, 6 (1), pp. 6 – 25
- Florance, P. (2006) GIS collection development within an academic library. *Library Trends*, 55(2), pp.222-235.
- Hahn, K.L. and Schmidt, K. (2005). Web communications and collections outreach to faculty. *College and Research Libraries*, 66(1), pp. 28-40
- Janeé, G. (2009) Preserving Geospatial Data: The National Geospatial Digital Archive's Approach. <http://www.ngda.org/papers.html>
- Vardakosta, I. and Kapidakis, S. (2011) Geospatial collection development policies in academic libraries: a worldwide research. In 17th European Colloquium on Quantitative and Theoretical Geography (ECQTG2011) <http://eprints.eclis.org/handle/10780/16096#TO-Publication>
- Xia, J. (2012) Metrics to measure open geospatial data quality in *Issues in Science and Technology Librarianship*, Winter <http://www.isli.org/12-winter/article.html> [assessed 23/3/12]

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