

Using Geolibraries in the Field

Michael Goodchild

National Center for Geographic Information and Analysis and Department of Geography
University of California
Santa Barbara, CA 93106-4060
Phone: 805-893-8049
Mobile: 805-455-6529
Fax: 805-893-3146
Email: good@ncgia.ucsb.edu

www.statlab.iastate.edu/dg

Project Overview

We present 4 posters that present the full range of our interdisciplinary Digital Government research program. The first poster describes a conceptual framework for accessing, using and collecting geospatial information in mobile data collection environments. The next 3 posters discuss specific components of this research, including interoperable digital geospatial libraries, wearable computing technologies for field data collection, and middleware to support adaptive exchange and analysis of geospatial data between the field computing and repository environments. In the final poster, testbed environments will be used to illustrate research principles in federal statistics applications..

Poster Details

In Project Battuta we are exploring the ability of personnel in the field to access massive archives of geospatial information. Such archives, known alternatively as clearinghouses, warehouses, and geolibraries, are growing in importance as Web-accessible stores of digital maps and images. The paper begins with several use cases, outlining situations in which field workers need to download such information in support of field activities, including finding and navigating to observation sites; registering maps and images to local GPS measurements; examining maps representing past conditions; and using maps and images to direct spatial sampling designs that are continuously modified in the field.

Much effort in the geospatial community is currently being expended on protocols in support of remote access to distributed geolibraries. All of these efforts aim to increase the functionality of clients, and to reduce the effort required to search, access, and extract geospatial data from archives. The paper reviews these efforts and evaluates them against the requirements of Battuta.

The paper ends with a demonstration of some specific use cases, including extraction of images from digital libraries; their registration in the field; and a simulation of adaptive

spatial sampling in which data already collected are combined with ancillary data obtained from a digital library to redirect sampling.