Challenges in Developing Core Global Reference Datasets

by

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Abstract

It is a known fact that many issues that impact on our human and natural environments transcend the human-made national political boundaries. These include vector-borne diseases, water scarcity, food security, climate change and natural disasters. The need for geospatial information, in particular the core geospatial datasets, at national, regional and global levels has been shown to be essential in dealing with these issues. These core geospatial datasets must be relevant and readily available, accessible and useable by the planners, scientists and decision makers.

The whole process from the sensing of observations, through the processing of information to the using the geospatial datasets has challenges. These challenges detract from the user (the planner, scientist and decision maker) gaining the full benefit of geospatial information, to the extent that in many cases the geospatial information is not used. This reduces the efficiency and effectiveness of the plans and decisions made.

The main challenges encountered in developing the core global geospatial datasets are discussed (in no particular order). These challenges are:

- Incomplete coverage of available core geospatial datasets;
- Different spatial positioning datums, horizontal and vertical, making integration of datasets across national and regional boundaries difficult;
- Varying data quality (in particular currency and accuracy) affects data integration and usability;
- Institutional capacity and capability to collect, maintain and disseminate core geospatial datasets;
- Willingness to share geospatial data;
- Legal and political regimes making it difficult to share geospatial information and provide support for the collection and maintenance of core geospatial datasets;
- Varying formats and standards impacts on data integration and usability;

- Lack of understanding of users' needs for geospatial information
- Different classification schema affects integration of datasets;
- Countries in conflict make it difficult to collect and maintain geospatial data;
- Lack of knowledge of available geospatial datasets;
- Cost of geospatial datasets could make access unaffordable;
- Inability to integrate geospatial information with other datasets reduces the potential of synergistic datasets;
- Datasets produced by organisations other than authoritative geospatial data collectors;
- ICT connectivity impacts on accessibility of datasets

These challenges set the agenda for the relevant national, regional and international authorities and professionals to work towards finding solutions for enhancing the efficiencies and effectiveness of decisions.