

Upgrade the Datasets in NSDI for Smarter Services – with the Cases of China

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ABSTRACT:

The presentation firstly introduced the development of Spatial Data Infrastructure in China. The multi-scale digital maps were briefly described, including the national level datasets (1:4 million to 1:50000 scale), the provincial level datasets (1:10000), and the municipal level datasets (1:2000 to 1:500).

The requirements for data upgrading arising from on-line geo-spatial services in the field of e-government, emergency and disaster management were described. And the gap between the current digital maps and the feature-oriented geo-framework suitable for on-line services were analyzed.

To meet the requirements mentioned above, the National Administration of Surveying, Mapping and Geoinformation of China initiated a national-wide plan aimed at upgrading the multi-level datasets, connecting them via networks, and constructing a platform to provide on-line geo-spatial services.

The presentation briefly introduced the methods used in data upgrading and services, including:

- (1) Data Harmonization: To conduct on-line integrated services we must harmonize datasets produced and managed in different departments and places. The consistency processing covered (both spatial and temporal) scale aspects, data definition and data model, data coordination system, data format and data quality. To maintaining the relationships between social-economic information and the related geo-entity, ontology-based and geometry-based methods were also used to matching and linking the features in different scale datasets representing the same geo-entity.
- (2) Data model improvement: Feature-oriented geo-framework has to be constructed based on current digital map datasets. The framework will be more suitable for integrating the social-economic information and the geo-features so to support applications in e-government, emergency and disaster management. Temporal identifiers are also designed for incremental updating and version management.
- (3) On-line services: To make the dataset easy access and use by the users via networks, further processing is needed, including product making, map decoration, service releasing, website construction, etc.

In the end of the presentation, concludes were given and some examples of application were introduced.