

ICA/EuroSDR Generalisation and MRDB Workshop for NMAs

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IGN France - Abstract

Modern cartography is evolving quickly thanks to new tools and devices. Maps spread widely through the Internet. The growing possibility for anyone to create maps results in a wide range of cartographic quality and shows a need for intuitive on demand mapping tools and online services. IGN France, as a National Mapping Agency, is deploying data and services to take part in these evolutions.

The “Carte à la carte” project team is taking part in the conception of tools for on-line on demand mapping purposes at IGN. The team is working on 3 topics: producing automatically high quality, and up-to-date cartographic products; offering high-level and innovative customization possibilities on these products; making those possibilities available through web services.

New mapping tools are based on a semi-automatic process currently in use to produce 1:25,000 scale paper and digital maps at IGN (they are a fork of this process). Each step has been automated as far as possible with current research results, including generalization, networks matching and offsetting, automatic labeling and quality controls. The project’s automatic process aims at producing a vector DCM at 1:25,000 scale covering whole France, with a production time reduced to a couple of weeks. This map differs from the current one being more up-to-date, customizable, but displaying less data with less interactive corrections, and still taking advantage of IGN’s mapping experience.

The team also provides a full pyramid of maps at different scales to enable integration in online services (Web Map Service – WMS). Small scales maps are already produced and frequently updated by IGN’s mapping department in vector databases. DCMs at different scales have been gathered in the same software architecture: PostgreSQL/PostGIS for storage, GeoServer for rendering.

Work has been carried on to offer a consistent legend to all scales including scales larger than 1:25,000 (scale range extends from 1:4,000 to 1:1,000,000), focusing on symbolization of features, without changing the existing data schemas. This kind of “multi-scale DCM” allows customizing the cartographic background (colors and content) thanks to a configurable symbolization implemented in the SLD (Styled Layer Descriptor) profile for WMS. Using an automated process that takes advantage of GeoServer publishing capabilities, maps can be easily computed in a raster format with different legends.

Work is on-going to provide tools to assist users making their own map legends, showing them inspiration sources such as map samples and color palettes derived from famous paintings. Results from previous research on the use and perception of colors in cartography, carried by the IGN France COGIT laboratory are applied for this purpose. Cartographer’s expertise is maintained and user creativity is favored as well. Besides colors choices, layers are grouped so that users can choose whether to display all themes or not: roads, rivers, names, land use...