Content of variable-scale maps

**Keywords:** Map Generalization, scale, smooth zoom and pan, updates spatial data structures

**OTB Department / GIS Technology**

**Area of Research:** Geographical Information Science

Research Summary: This research develops principles of variable scale (vario-scale) maps. The vario-scale approach is an alternative for obtaining and maintaining geographical data sets on different map scales. It is based on a specific topological structure called tGAP (topological Generalized Area Partitioning) and deals with open issues of current solutions for managing spatial data sets on different map scales such as redundant data, inconsistency of map scales, data update and progressive transfer of data in a web environment.

Research Methodology: The designing and extending of the variable scale data structures is the main goals of this research. Therefore, we have adopted the paradigm of design science. In this paradigm, knowledge and understanding of a problem domain and its solution are achieved in the building and application of the designed artefact. It includes a phase of critical assessment of own results and comparison with earlier known results.

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Key Publications:

Main Question: How can we realize a paradigm shift towards vario-scale geo-information with minimal redundancy, supporting progressive transfer for the delivery of refinements in a web environment?

Deliverables:
- Extension of existing variable scale data structures
- Software prototypes with new tools for map generalization
- A new methods new algorithms and founding concepts
- Journal papers and PhD thesis

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