

GIS tools for Generalization and Multi-Scale Mapping

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ABSTRACT

This presentation provides a brief overview of tools and facilities of a modern GIS that are relevant to multi-resolution data, and of the generalisation and multi-scale mapping processes involved in its creation and visualisation.

Esri has been researching, developing and providing specific tools for generalization and multi-scale mapping for many years. In parallel, the spatial data processing capabilities of the underlying ArcGIS platform have reached a level of richness that has enabled complex spatial abstraction processes to be built as model sequences of generic geoprocessing tools.

In the past two years we have reached a tipping point where multiple NMCAs have been able to implement automated generalisation workflows using combinations of these specific and generic tools. The rise of Web GIS has changed the way that static 2D maps were presented, giving way to dynamic story maps, 3D scene viewers, and focussed mobile apps. Spatial data models also have evolved to cope with 3D, and with multi-resolution, multi-scale mapping.

The presentation summarizes the evolution of the generalization capabilities of ArcGIS, its current trends, and the relationship to new multi-scale visualization capabilities such as vector map tiles and 'Earth' viewers.

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