
Geospatial Visual Analytics



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<http://geoanalytics.net>



International Cartographic Association

Commission on GeoVisualization

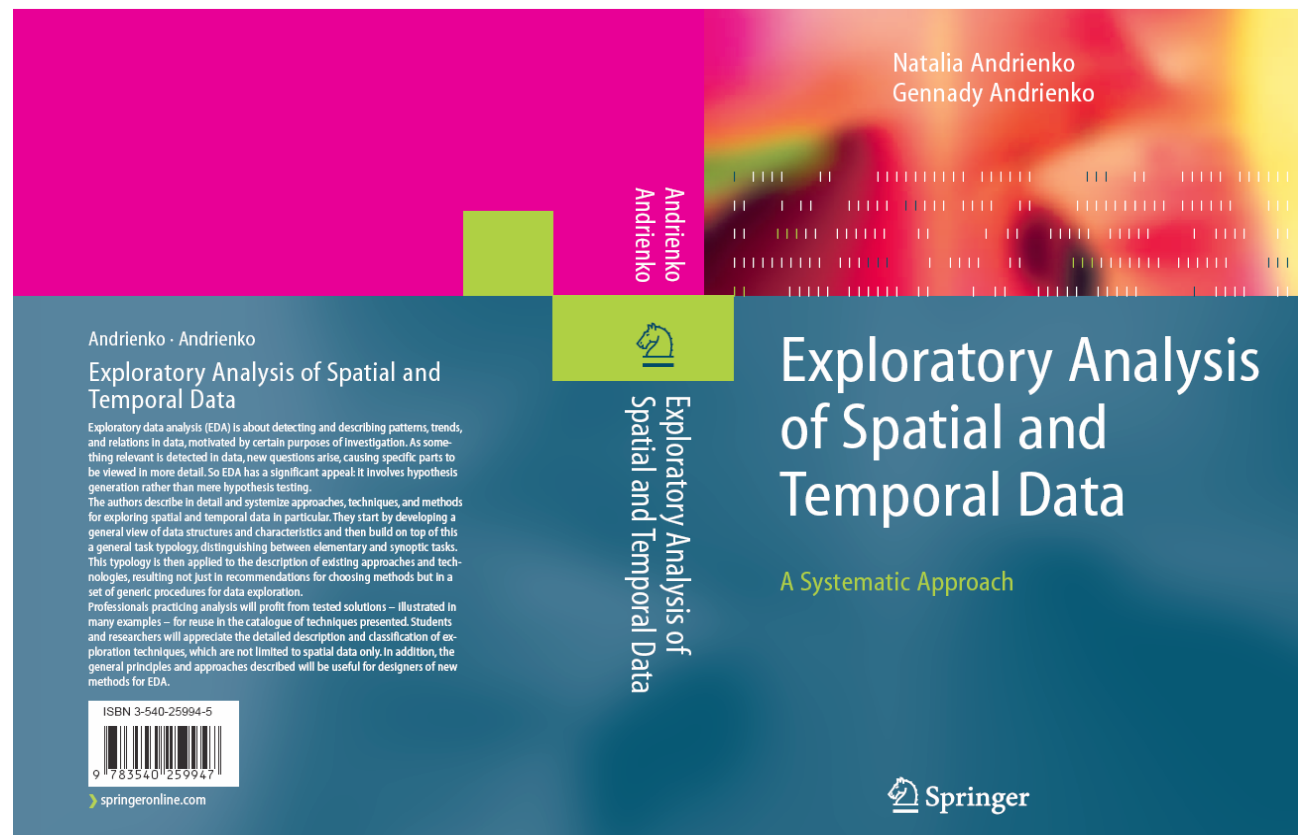
Outline

1. Introduction to Visual Analytics
 2. Interactive Maps and Multiple Coordinated Views in Visual Geoanalytics
 3. Data Transformations for Visual Geoanalytics
 4. Visual Analysis of spatio-temporal Data (time series)
 5. Visual Analysis of spatio-temporal Data (events)
 6. Visual Analysis of spatio-temporal Data (behaviors of moving objects)
 7. Visual Analysis of spatio-temporal Data (collective movement)
 8. Spatial Decision Support
- Concluding Remarks

EDA: A Systematic Approach

- ❖ How can tool designers know what tools are needed?
 - ❖ What capabilities should be provided?
 - ❖ What kinds of tools can properly do this? What requirements they should meet?
- ❖ How several tools providing complementary capabilities can be properly combined?
- ❖ How can we teach the users when and how to apply what tools?

We made an attempt to generalise our experiences in designing and applying EDA tools



Visual analytics resources

- Visual Analytics Digital Library: <http://vadl.cc.gatech.edu/>
- InfoVis Community Platform: <http://www.infovis-wiki.net/>
- Software
 - Many tools from HCIL lead by B.Shneiderman: <http://www.cs.umd.edu/hcil/> (TimeSearcher and others, also extensive archive of publications)
 - InfoVis toolkit by J.-D.Fekete / INRIA: <http://ivtk.sourceforge.net/>
 - Prefuse toolkit by J.Heer / UC Berkeley: <http://prefuse.org/>
 - InfoVis CyberInfrastructure by K.Boerner / Univ. Indiana: <http://iv.slis.indiana.edu/sw/index.html>
 - GeoVista Studio from Penn State lead by A.MacEachren: <http://www.geovistastudio.psu.edu/jsp/index.jsp>
 - GAV Framework from Linkoping University lead by M.Jern: <http://servus.itn.liu.se/projects/geowizard/>
 - Geospatial Visual Analytics toolkit based on Iris, Descartes, CommonGIS from Fraunhofer IAIS: <http://www.commongis.com>



- <http://geoanalytics.net>
- “Exploring Geovisualization”, edited by J.Dykes, M.-J.Kraak and A.MacEachren Elsevier, 2004
- GIScience 2006 workshop outcomes: Special issue on “GeoVisual Analytics for Spatial Decision Support”, including “Setting the Research Agenda” paper Int.J.GIScience, 2007, v.21(8)
- AGILE 2008 workshop outcomes: Special issue on “GeoVisualization of Dynamics, Movement and Change” Information Visualization, 2008, v.7 (3/4)
- ... more to come

