From Cartography to Geovisual Analytics

- Introduction
- (Geo) Visual Analytics
- Detect the expected and discover the unknown
- Some examples
- Conclusions

From Cartography to Geovisual Analytics

What happens in cartography?

[Source: New York Times]
What happens in cartography?

Cartographers and map makers

Exploratory tools
A little history

- Cartography
  - geography, design, art
  - exploratory data analysis
  - scientific visualization
  - human computer interaction
- Computer cartography
- Geovisualization
  - information visualization
  - visual analytics
- Geovisual analytics

Beyond Geovisualization: Visual Analytics

- The science of analytical reasoning facilitated by interactive visual interfaces (Thomas & Cook, 2005)

http://nvac.pnl.gov/agenda.stm

Detect the expected and discover the unknown

- Alternative insight in performance

Running
Running

Sense making

b)

data

modelling

visualization

knowledge

transformation

data mining

model building

model visualization

parameter refinement

user interface

Working environment for visual exploration

Geovisual analytics

• Geovisual analytics focuses on visual interfaces to analytical methods that support reasoning with and about geo-information – to enable insights about something for which place matters

(MacEachren, 2012)
Cartographers and domain experts at work

Problem: Understand the behavior of suburban dwellers

When... What... Which... How often...

User task

Data

Visualization environment

Visualization strategy

Design guideline

source: Irma Kveladze

Tallinn data

Tallinn: Space and time

Traffic jam?

a)
Maps?

- are effective because they present a selection from reality via a well-designed symbolization, but....

- (many) of today’s maps show data complexity (geovisual analytics) or chaos (neo-geography)

- Is it really problematic or is there a new generation of users with other visual ‘capabilities’?

- Do we need new maps / new principles?
Conclusions

• Maps are healthy
• However, constantly evaluate (and when necessary adapt) our mapping principles in new contexts