Session 3

Computational Methods in Geospatial Visual Analytics

Discussion

Summary of the papers

1. Extraction of geographical information from texts

   - Visual tools allow an expert to check and correct the outputs of automatic processing (next goal: capture the expertise and train computers)

2. Detecting statistically significant spatial clusters

   - VA helps to analyze the sensitivity of the clustering method to parameter settings and increases reliability

3. Territory division by means of clustering

   - Visualization helps to suit results to user's needs

4. Regression analysis + PCP (in hurricane studies)

   - Visual tools support understanding of computed results and exploration of links between variables

5. An infrastructure for managing spatio-temporal data

   - Data formats suited to visualization; support of collaboration

Discussion Topics (generalized)

- How to verify results of computational methods?
  - E.g. have I got true clusters or method's artifacts?
- Are there general approaches to investigating the sensitivity of computational methods?
- What is essential to visualize in order to support understanding of spatial clusters?
- Sensitivity, reliability, interpretation… What other issues arise in applying computational methods of analysis?
- How to judge or evaluate the success of VA methods?
- When and how can VA techniques be more effective than traditional domain-specific approaches?
- What kind of infrastructure would be good for spatio-temporal analyses? What are main requirements?