

Day II

Social Science Infrastructure Needs:

Group I

- Patricia McDowell (Moderator)
- What are the primary facilities needs of social scientists independent of natural science equipment?
- How can planned natural science infrastructure be leveraged to also support social science integration?

High-resolution remote sensing

- Urban areas
- Multiple variables: building height, impervious surface, green space, vegetation cover, traffic (foot and vehicle), etc.
- Questions:
 - Cities as ecosystems
 - LU/LC change response to political and economic drivers
 - LU/LC change regulating flows of water, nutrients, etc.

Other remote sensing

- Detailed sensor networks at “observatories”
- Use RS for scaling up from detailed data to region, nation, etc.

Human sensing

- General interest and support
- Uses/questions:
 - More realistic input on human behavior for agent-based models
 - Human response to disasters
 - Exposure to air pollution; current sensors don't measure the environments that people actually live in
 - Traffic: how people respond to traffic conditions
 - Epidemiological: where/how people catch diseases
 - Sustainability: allocating resources in building where people are

Decision theaters

- General interest and support
- Portability – take it to the people
 - Staff needs
- Uses/questions:
 - How stakeholder groups make decisions; improving their decision-making
 - Interdisciplinary science colaboration
 - Multiple-agent models; i.e., understanding individual, economic, institutions, etc. factors in land-use change
 - How visualization influences uncertainty in decision-making

Virtual observatories

- Explore remote site, data available on it
 - Do you want to use it as a research site?
 - Comparison with your existing sites
- Uses/questions:
 - How people perceive their environment/
changes in their environment
 - Environmental valuation, eco. services
valuation
 - Allow social scientists to use experimental
approach (more)

Virtual observatories

- Need to include social science data
- Use more standard data visualization; does not need to be immersive
- Think about costs relative to benefits, to the research
- Worry about uncertainties
- Ecologists should go in the field; so should social scientists

Other thoughts and questions

- Cyber-information infrastructure (CUAHSI HIS): seamless data to analysis
 - General support
- Importance of geospatial data
- It is still hard to “plug and play” with data
- Geospatial data servers as an example of cyber infrastructure
 - Have not yet fully met their promise
- Challenges of increasingly large data bases

Conclusion