

Key topic 3:
Social Science Infrastructure
Needs

CLEANER, CUAHSI AND NEON: Natural science infrastructure plans



Hopkin, 2006, Nature

- Observation on new spatial and temporal scales
 - Distributed and automated instruments, dense spatial networks
 - Remote sensing
 - Geospatially-referenced data, analysis
 - Near real-time data reporting; long term consistency
- Connections
 - Cyber-infrastructure to connect researchers
 - Data repositories
 - Communication networks to reach wider audience

Current social science research tools

- Observing and recording
- Surveying or testing individuals
 - On site, mail, phone, internet
- Qualitative data analysis
- Quantitative data analysis
- Simulation modeling and forecasting
- Data display and visualization
 - Georeferencing data
 - Data extraction from remote sensing



USDA NRCS



To improve understanding of
human-environment systems,

**What new kinds of social science
tools and infrastructure
are needed?**

Some potential needs

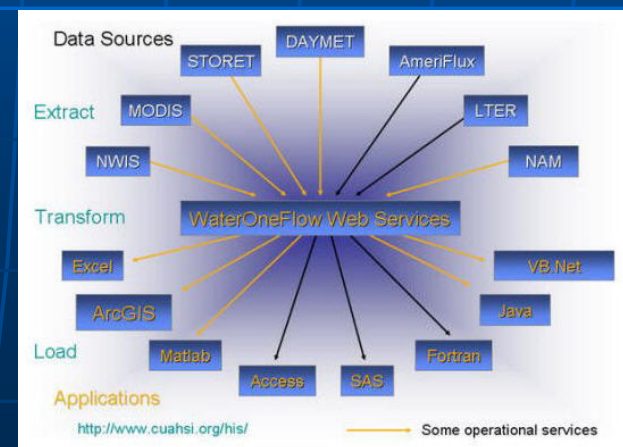
- Monitor resource use
 - For individuals, households, landowners
- Capture human activity, interaction and individual and group decision-making
- Allow for correspondence with natural science observations
 - Real-time, dense, geospatial data collection
- Others?

Social science infrastructure examples

- Monitoring human behavior – consumption, recreation, etc.
 - Human sensors
- Understanding decision-making
 - Decision theaters
- LU/LC, spatial patterns of consumption
 - Remote sensing
- Others?



Fernando et al., Measures presentation, <http://cleaner.ncsa.uiuc.edu>, 12/06



CUAHSI HIS Plan

Questions to be discussed in breakout groups:

What kinds of infrastructure and facilities do social scientists need?

- What emerging methods and technologies will be most useful in the social sciences?
- How can the planned natural science infrastructure be used to also support social science integration?