

Day II  
Social Science Infrastructure Needs:  
Group I

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# What are the primary facilities needs of social scientists independent of natural science equipment?

- Cameras: produce more than one type of data
  - Quick and dirty
  - Pictures
- Motion sensors
- Mobile versions of fixed infrastructure
  - To see rapid change
  - To understand recreational use patterns
    - Hikers
    - Hunters
    - Water sports

# Ideal...

- Infrastructure may need infrastructure
  - Network of collection: takes information from the sensors and brings it to the central repository
  - Putting in cell tower coverage in domains of interest
- Context model
  - Fairly constrained: how well do you understand the situation
  - Badges in the social situation
  - People have to buy into this: benefit and utility necessary
- What we have learned from NCEAS
  - Build a network that uses this model
  - One is not enough
  - This could be a “theatre” for viewing the entire network

# Approaches to identifying infrastructure needs

- Look at systems to ask infrastructure questions
  - i.e. based on the ecosystem
- Focus on the questions: an organizing principle
- Divide infrastructure needs into categories

# How to link up to biophysical infrastructure...

- Geographically explicit data needed
- Data funnels
  - Towers etc.
  - NEON already designed with power capabilities
    - Guarantee for data collection capacity over time
- Digitize
  - “hard-copy” data, improve utility
  - An infrastructure to digitize the existing 200 so years of social science data
    - Iceland: genetic data

# How can planned natural science infrastructure be leveraged to also support social science integration?

- Joint human and animal sensing
  - Audubon citizen science work as model
- Sensors infrastructure tied into already existing natural science infrastructure
  - Deborah Estrin's work
    - Inform discussion: current and future capacity groundtruthing
  - Sound sensing

# Problems to address...

- Encouraging adoption of sensing devices
  - Incentives essential
    - Competition
    - Family history
    - Safety
- Volume
  - The band-width must be cut down

# Testing on real places

- Complimentary exercise
  - 1. Asking LTER social scientists: what are your big research questions, what are you collecting, what would you like to collect
  - 2. To test novel social science infrastructure at LTER sites
  - Associate with NEON RFI
    - Already testing sensors

# Concluding thoughts

- Co-designing opportunities to make infrastructure decisions
  - Frontiers workshops
  - Three years, rolling membership
  - Explicit focus on infrastructure synergies/commonalities between disciplines
    - Outcomes all the way back to the drivers
    - Do the end to end solution on what is needed
    - A great way to gel engaging questions