We are a research unit of ~70 people practicing science on 4 continents in support of management and conservation of working lands. We emphasize networked science, research in support of landscape level management, and development of ecologically based technologies. We build upon a long-term base of research.
Long Term Agroecosystem Research Network (LTAR)

- A USDA Agricultural Research Service formed network of 18 sites that includes 3 non-ARS sites
- Initially formed in 2012 with 10 sites and expanded to 18 in 2013
A NSF supported network of ~25 sites, including 2 urban sites, established from an original cohort of 6 sites in 1982.
National Ecological Observation Network (NEON)

- NEON is a non-profit organization, funded by NSF, to construct and operate this 60 site network
- Construction of fundamental instrumented tower units (FIU) and fundamental sentinel units (FSU) at all 60 sites initiated in 2013 to be completed in 2017
Collectively, these networks represent ~$3-4B in research infrastructure, BUT long term research...

- Doesn’t have to be expensive...

- Can be very small scale...

- Can emphasize many different skill sets...

- Can be synergistic w/ these larger networks...

- A key is quality measurements that are repeated, and that could be linked to other similar measurements...

- For example, plant phenology measurements at set locations for specific plant species over time...can contribute to the National Phenology Network...and NEON...and LTER...and LTAR...
Science Is About Telling Stories

• The scientific method is just an established manner of telling those stories based on observations and understanding prior stories

• Hypotheses are just our ideas about how we think the story will play out

• What are some of today’s quantitative, science story lines?
  – The Earth is warmer now
  – Microorganisms cross oceans faster now
  – Though different, we are all connected