Hubbard Brook

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LTER SCIENCE COUNCIL MEETING 2018

MADISON, WI

NATIONAL SCIENCE FOUNDATION

LTER NETWORK

LONG TERM ECOLOGICAL RESEARCH

Site News

- **First year of new LTER grant**
  - **New conceptual model**
  - **New LTER investigators**
  - **New initiatives: stream studies, salamanders, large mammals, bats**
  - **New focus on synthesis questions**
  - **New flux tower**

- **New grant: Public Engagement with Science at LTER sites**

View from HBR flux tower

Organic Matter - Who/How

OM is central to almost everything we do at HBR:

- Measurement of forest biomass, soil OM, NPP, decomposition, DOC, OM in streams
- Limitations on OM production
- Controls on microbial processing of OM pools
- OM chemistry (plant, soil, detritus, microbes)
- Experiments removing OM (harvest, ice storm) and following natural OM disturbances (windstorms, defoliations)

What do we know?

- Long term patterns in many OM pools and fluxes
- Carbon budget for forest
- Disturbance impacts on some OM pools

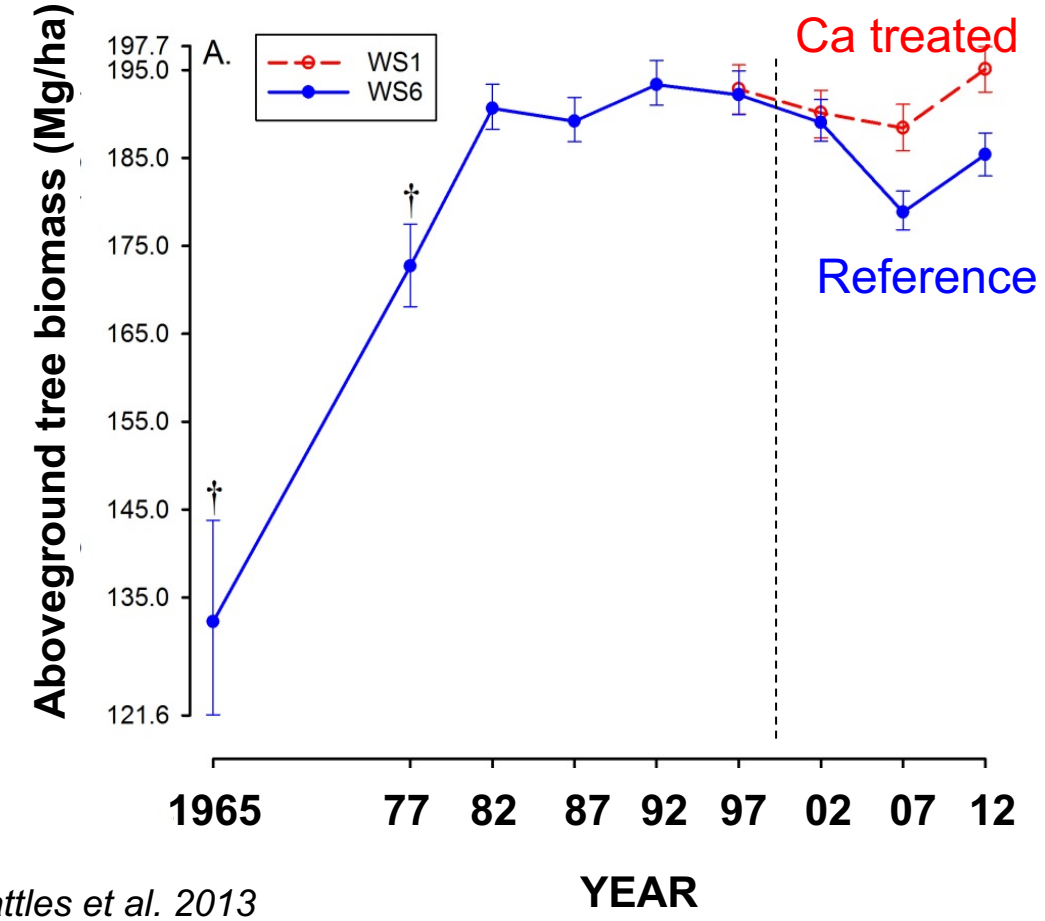
Key gaps:

- Predicting future OM dynamics under multiple, concurrent, environmental changes: climate, declining acid deposition, succession, invasive species
- Dynamics of “difficult” pools- especially mineral soil OM

Organic Matter - Results

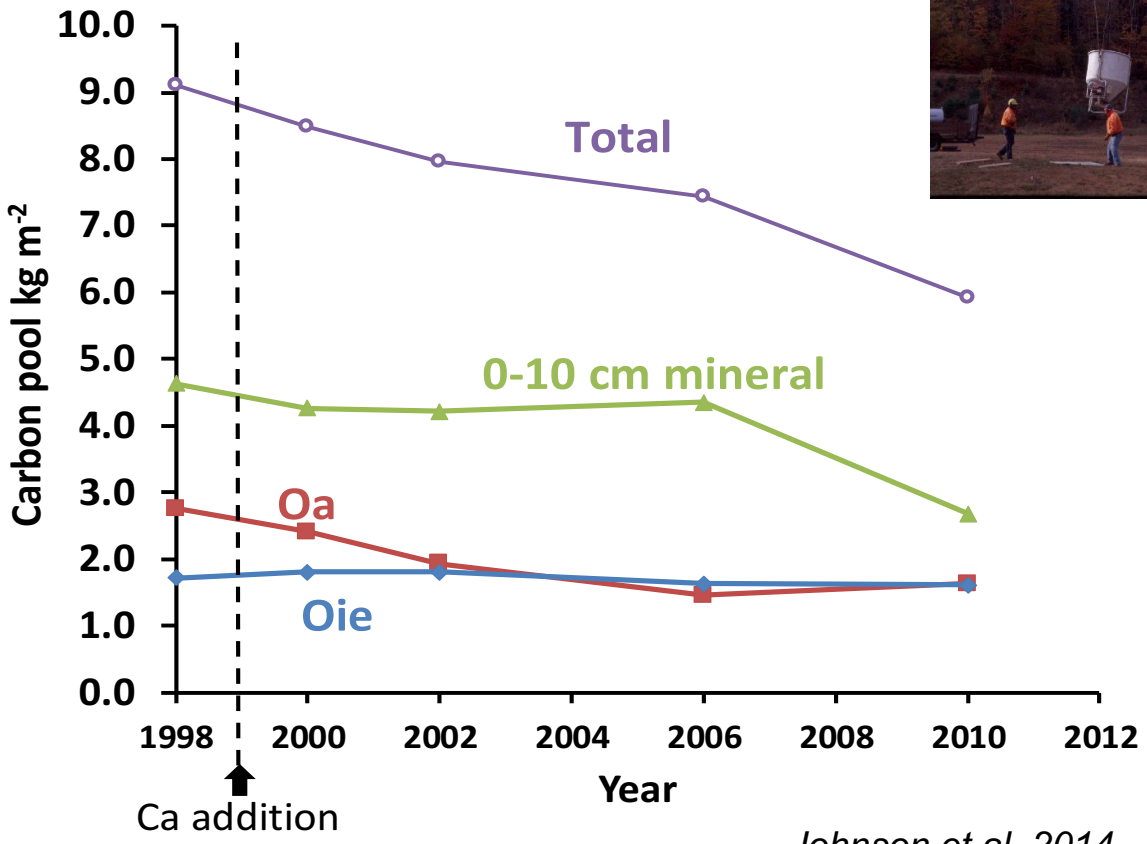
Whole-watershed $CaSiO_3$ addition

Reversed forest decline



Battles et al. 2013

Reduced soil organic C



Johnson et al. 2014