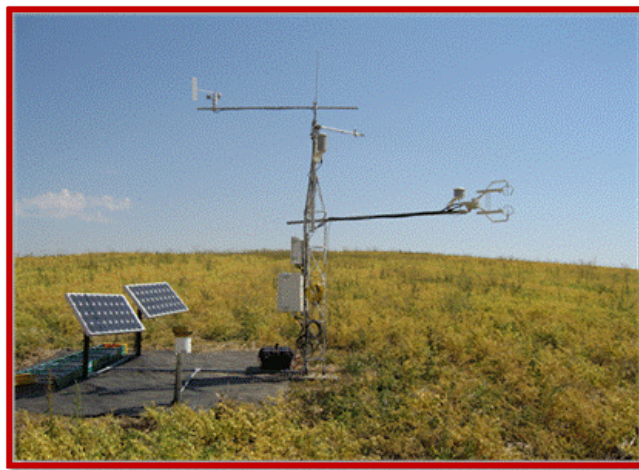
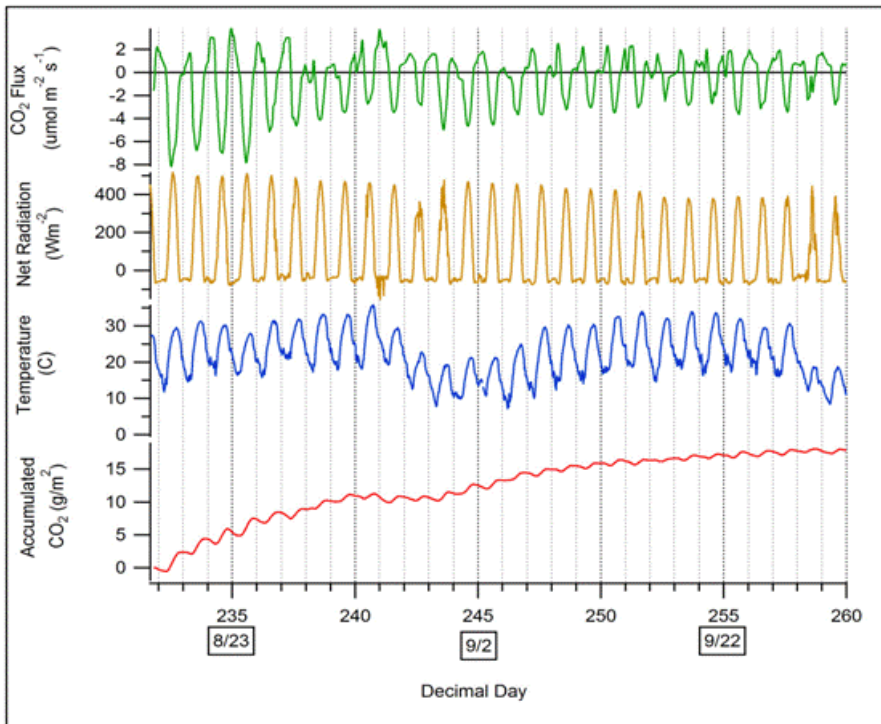


- Approach
  - Eddy covariance flux measurements
    - instrumented towers at six sites
    - Continuous, automated operation year round for CO<sub>2</sub>, H<sub>2</sub>O
    - “hot moment” flux measurements for N<sub>2</sub>O
  - Automated chamber operations
    - Multiple chambers for a matrix of treatment methods
    - Initial deployment at the Cook Agronomy Farm (CAF)
  - Water erosion and N, C loss
    - C and N measurements in water runoff at several annual cropping sites
  - Wind erosion and N, C loss
    - C and N analysis of archived dust storm sediment samples
    - Collection of new samples at the Lind tower site

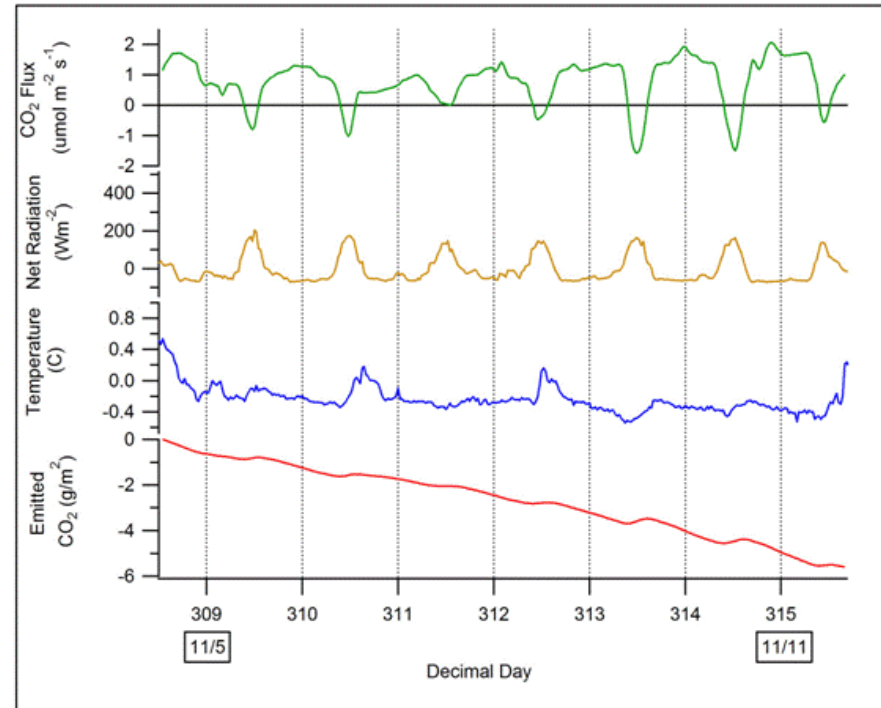
- Flux Tower Deployment, Operations and Plans
  - Flux sites
    - Systems installed and running at CAF (no-till, annual cropping) and at Lind (wheat fallow rotation)
    - Sites identified for conventional till near CAF and higher rainfall site near Moscow, ID; towers to be deployed in March/April
    - Irrigated sites and CRP site need to be located
  - Flux Data
    - Automated data retrieval each night, displayed on an internal web site for QA purposes [http://lar.wsu.edu/reacch/reacch\\_cfnt.aspx](http://lar.wsu.edu/reacch/reacch_cfnt.aspx)
    - Development of post-processing of fluxes for final data storage
    - Begin using Cropsyst for analysis of flux data
  - Preliminary N<sub>2</sub>O flux deployment at CAF
    - Building trailers for N<sub>2</sub>O instrument for spring deployments
    - Investigate use of REA method for long term N<sub>2</sub>O flux measurements



## CAF pre-harvest, carbon accumulation

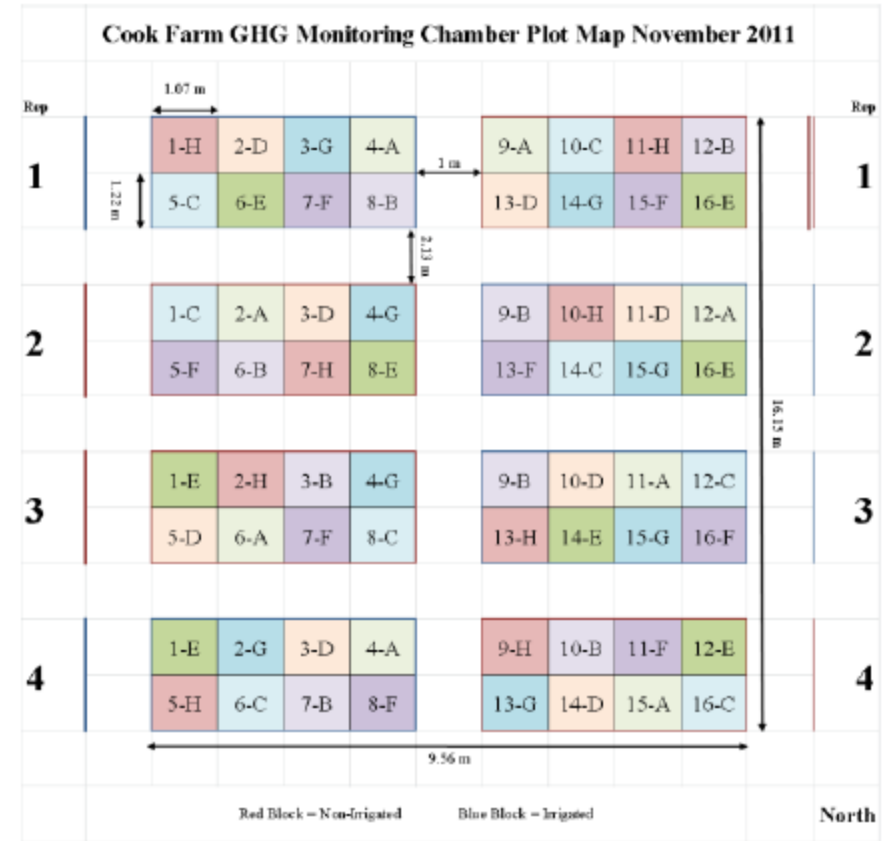
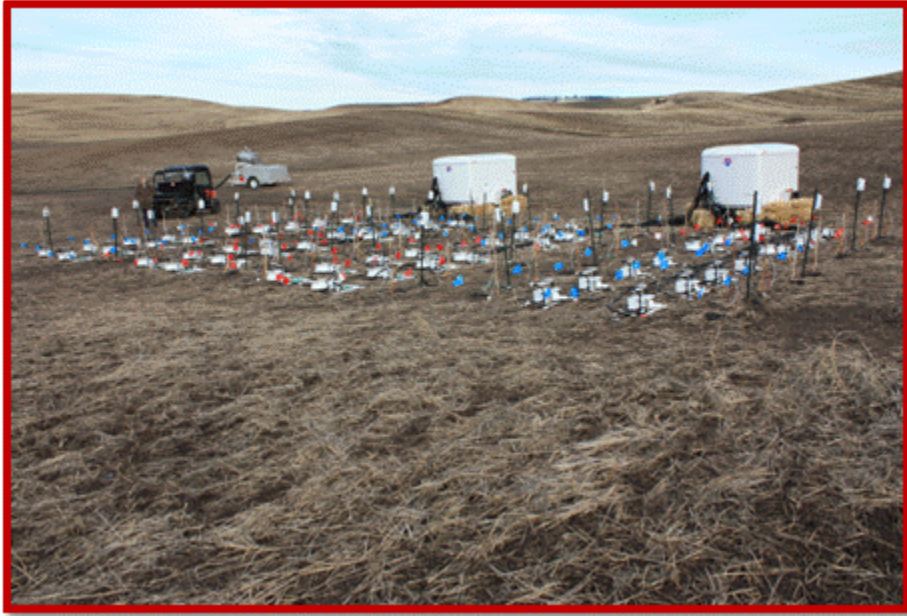


## CAF post-harvest, carbon respiration





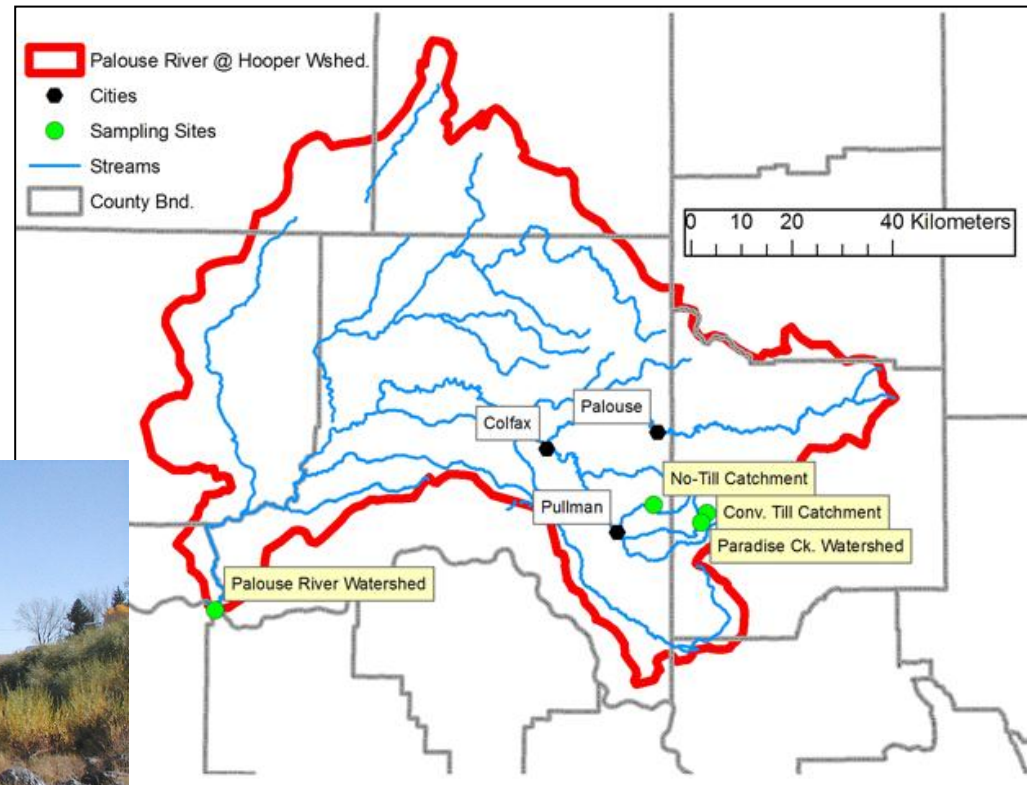
# Objective 2: Chamber Monitoring Deployment



- Microplot gas-flux field study at the CAF.
- Treatments consist of four N levels, two glucose levels and two water levels.



- Assessing the Effects of Scale and Management on C, N Export
  - Field Scale Catchments ( $\sim 1 \text{ km}^2$ )
    - No-Till
    - Conventional Tillage
  - Watershed Scale ( $\sim 90 \text{ km}^2$ )
  - Basin Scale ( $\sim 6,500 \text{ km}^2$ )





**REACCH**  
Regional Approaches  
to Climate Change –  
PNA

## Objective 2: Water Erosion Monitoring C, N loss



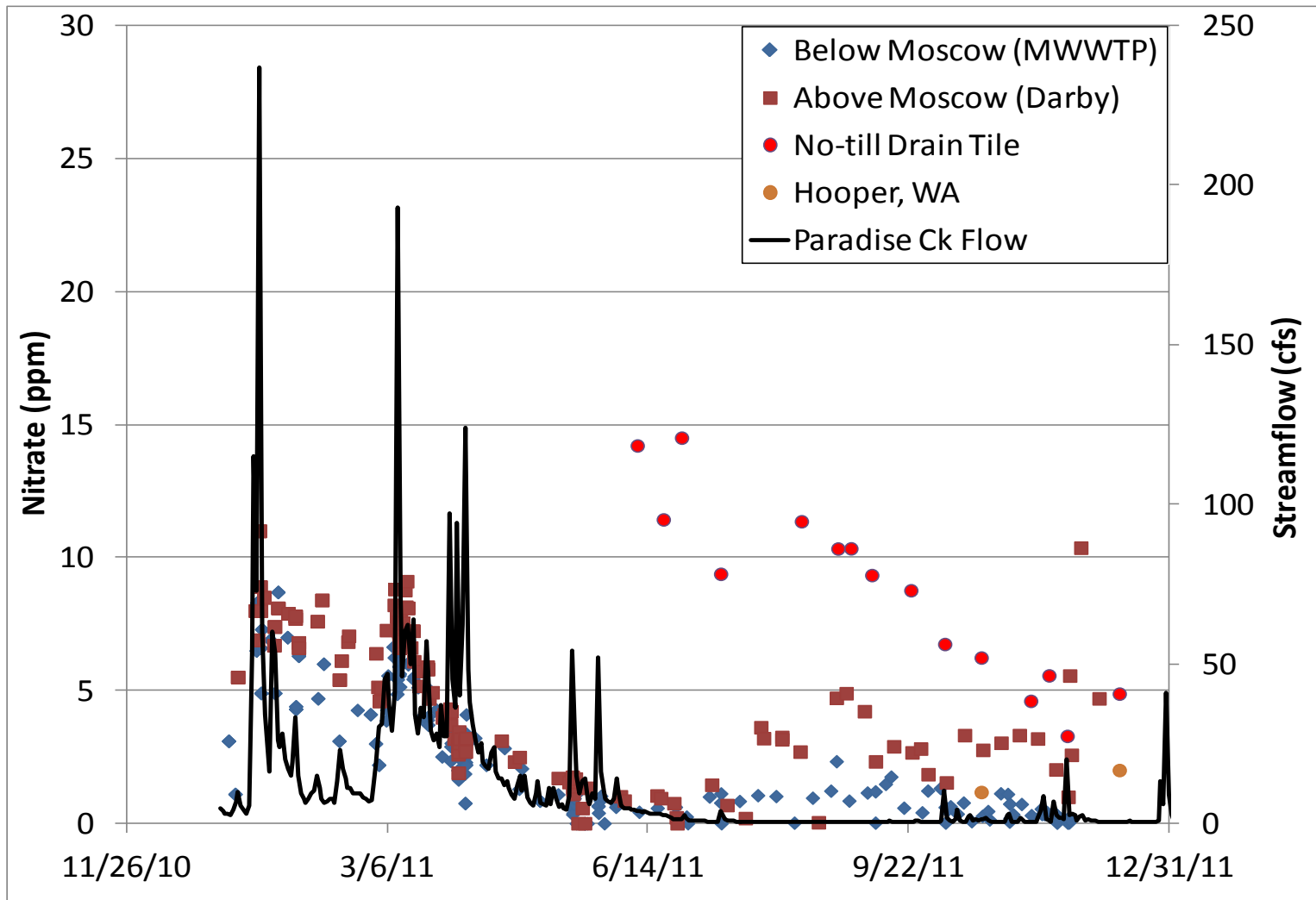
Surface Runoff Flume at CAF

Drain Tile at CAF



**Examining both  
surface and subsurface  
C and N contributions**

- Load measurements based on event-based measurements
  - Flow, Sediment, Nitrate, Ammonia, DOC, POC







- Incorporate carbon loading into a simple web-interface program for education and outreach

## Hydrologic Characterization Tool

Incorporating Process-Based  
Understanding into Watershed Planning

Select Region:

- All Regions
- Goodwater Creek MO
- Lake Tahoe Basin
- Lincoln Lake AR
- Little River GA**
- Paradise Creek ID

Start

[Background on Tool Development](#)

[Comments?](#)

