

Biogeochemistry and Carbon Cycle of Lake Superior
August 17-18, 2009, Kemp Station, Woodruff, WI

All meals will be in the Kitchen-Dining Hall unless otherwise specified
The meeting will be held in the Boathouse Classroom

Monday, August 17

7:30 – 8:30 *Group breakfast*

8:30-9:00 Welcome and introductions

9:00-10:00 The imbalanced carbon budget of Lake Superior

Jim Cotner - *Accounting for carbon in Lake Superior: Why limnologists should stick to limnology and stay away from accounting*

10:00-10:30 Break

10:30-11:20 Physical Processes

Val Bennington - *Interannual variability in the circulation of Lake Superior*

Jay Austin - *Update on the Lake Superior mooring array*

11:20–11:45 Discussion

11:45-1:00 *Group lunch*

1:00-2:15 Production and Respiration

Bob Sterner - *Changes in Lake Superior carbon cycling between the cool 1990s and the warm 2000s*

Hunter Carrick - *The role of microplankton in Great Lake carbon balances*

Mike McKay - *Life Under Ice: Insights into winter production in the Great Lakes*

2:15 – 2:30 *Break*

2:30-3:45 Production and Respiration Continued

Randall Hicks - *Do Archaea and Nitrification affect the Lake Superior carbon cycle?*

Tom Hrabik - *Diel vertical migration in three trophic levels in the open water food web of Lake Superior*

Martijn Woltering – *Ecology of lacustrine Crenarchaeota in Lake Superior: implications for the application of the TEX₈₆ temperature proxy*

3:45-4:10 Air-lake gas fluxes

Noel Urban - *CO₂ fluxes, mass transfer coefficients, and putative respiration rates in Lake Superior: what do they tell us?*

4:10-5:00 Discussion

6:00 *Meet to go to dinner (drive to a local restaurant)*

Tuesday, August 18

7:30-8:30 *Group breakfast*

8:30 – 9:15 Small lakes

Paul Hanson – *The role of small lakes in landscape-scale carbon cycling*

9:15-10:30 Sediment Processes

Tom Johnson (given by Sergei Katsev) - *Spatial variability in C burial in the deep offshore basins of Lake Superior*

Sergei Katsev - *Sediment geochemistry and seasonality in benthic nutrient fluxes in Lake Superior*

Jiying Li - *Sediment diagenesis in East and West basins of Lake Superior*

10:30 – 10:50 *Break*

10:50-12:30 Modeling

Galen McKinley – *Carbon cycle variability in the open waters of Lake Superior: view from the coupled CyCLEs model*

Cory MacDonald - *Bayesian calibration of the CyCLEs ecosystem model: a test-bed approach*

Brooke White - *Modeling ice and biogeochemistry in Lake Superior*

Stephen Oni - *Terrestrial-aquatic carbon cycling in Lake Simcoe: how much can a process-based biogeochemical model explain?*

12:30-2:00 *Group lunch*

2:00-2:25 Remote Sensing

Colleen Mouw - *Preliminary evaluation of existing ocean color inversion algorithms on Lake Superior*

2:25-3:15 Land carbon cycling

Ankur Desai - *Signatures of the Great Lakes in atmospheric tracers*

Victoria Vasys - *Lake Superior's John Hancock: Unique atmospheric signature in tall tower CO₂*

3:15-4:15 Discussion of future research priorities

4:15 Adjourn