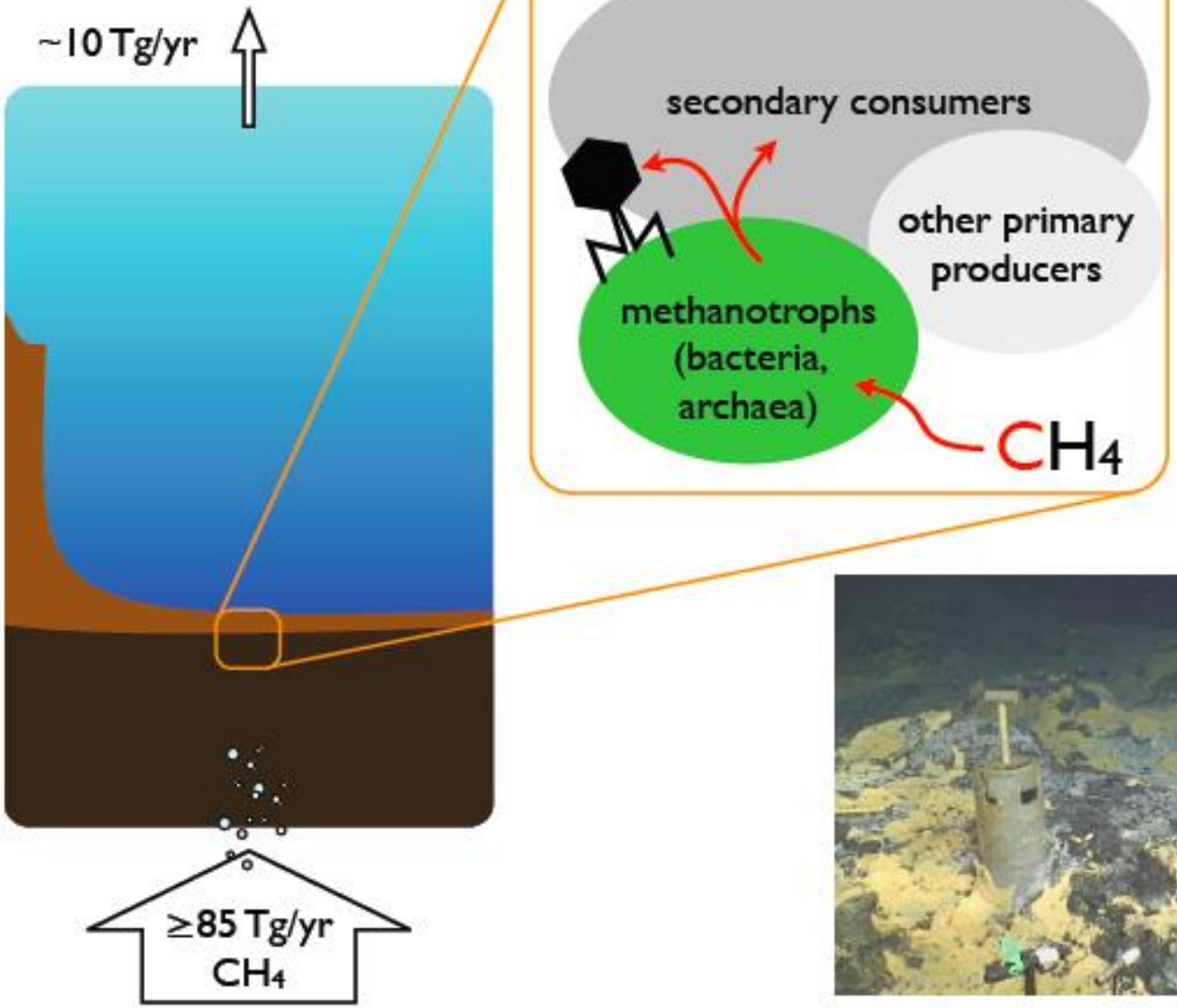
Fleet Improvement Committee
Early Career Scientist Program

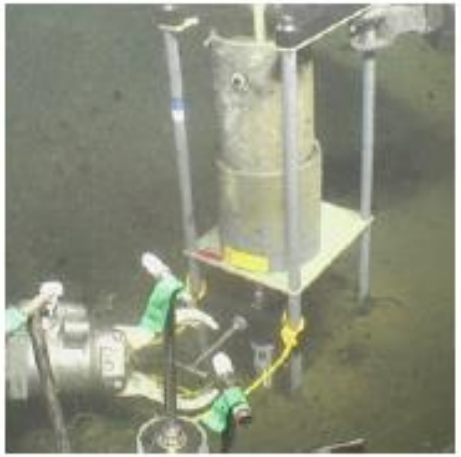
Chief Scientist Training Cruise
Participant Introductions

Microbial biodiversity and evolution at marine cold seeps

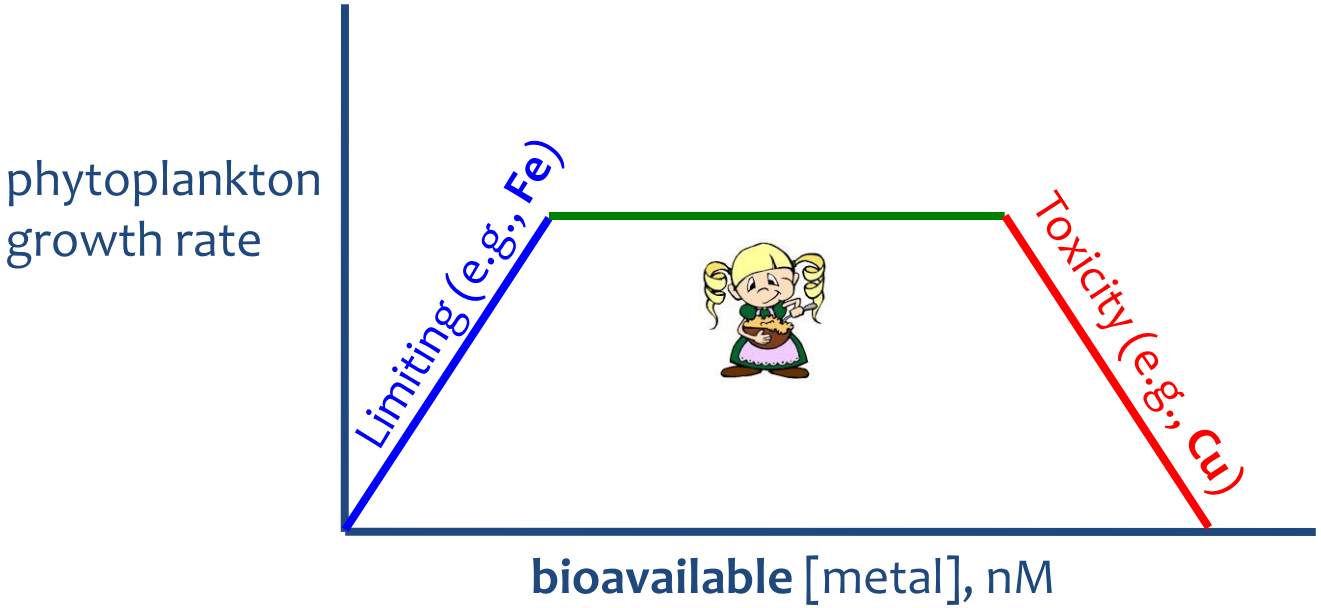
Sarah Bagby (Valentine lab, UCSB)

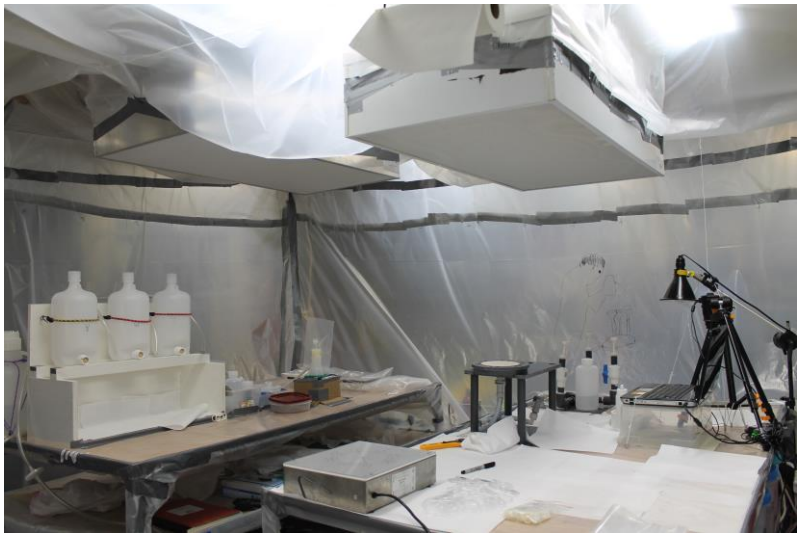


We use novel incubators to track these processes and players in situ



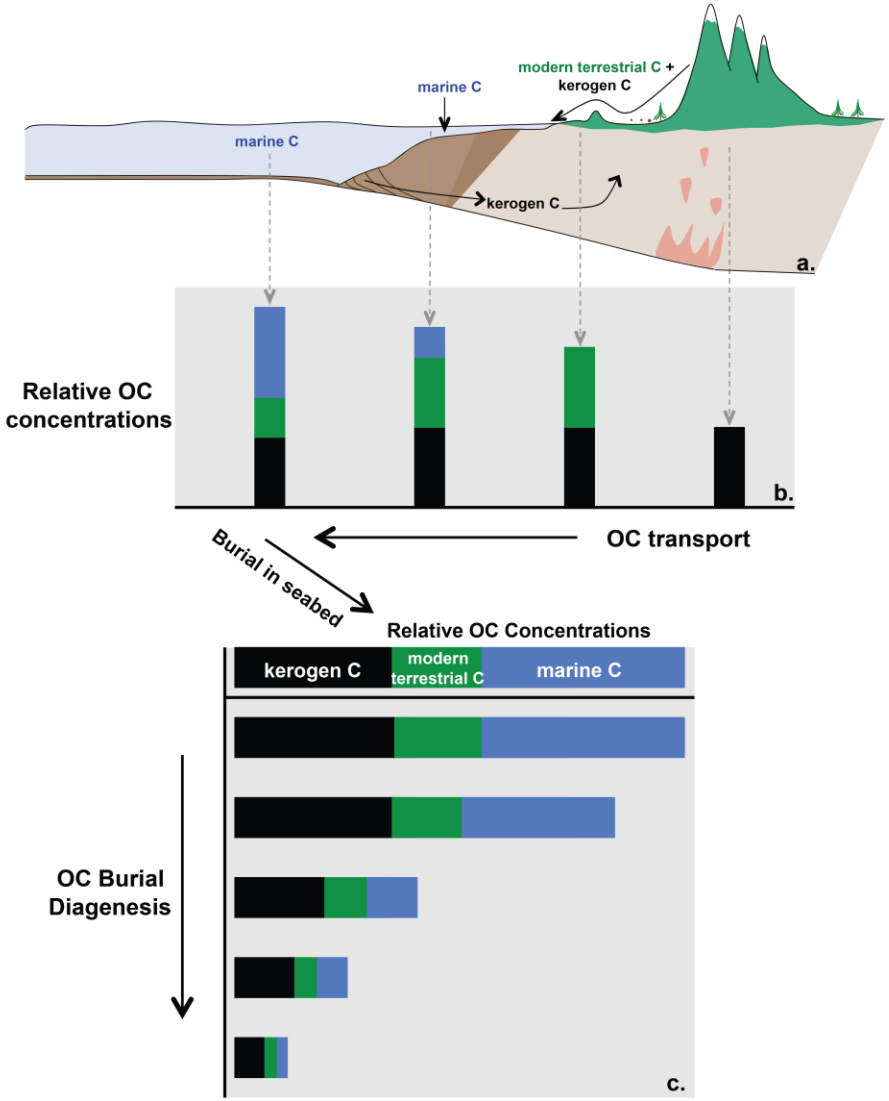
Kristen Buck: Trace Metal Biogeochemistry





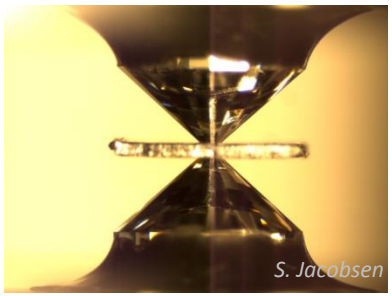
Laurel Childress

Active Margin Carbon Cycle



- elemental, stable isotope measurements
- biomarkers: lignin, n-alkanes, fatty acids, etc.
- spectroscopy: FTIR and Raman

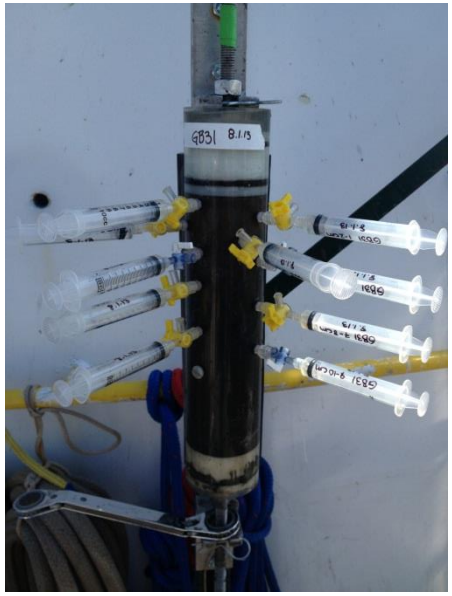
Other related research:

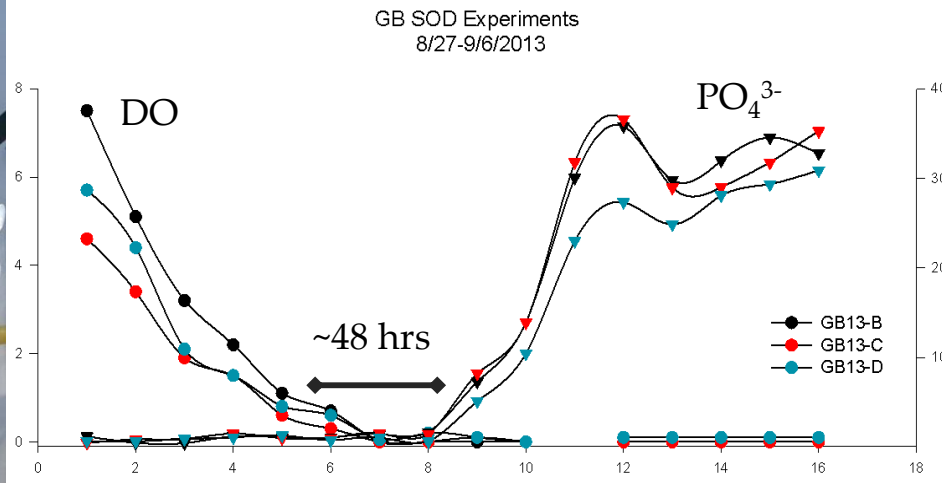


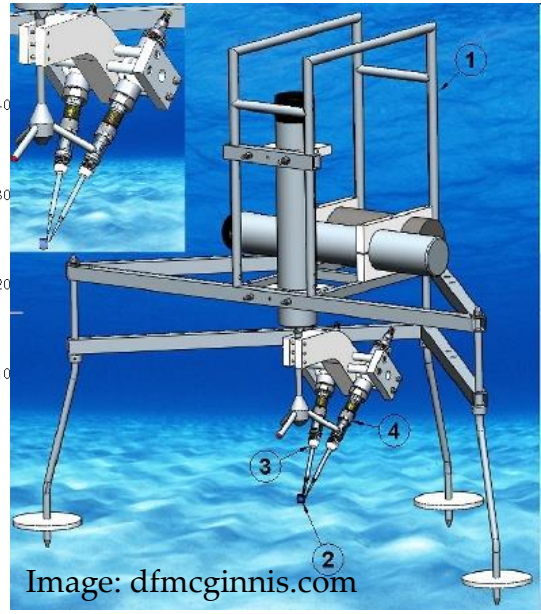
simulated subduction zone experiments
high temperature-high pressure anvil cells

Broader Impacts: Societal importance

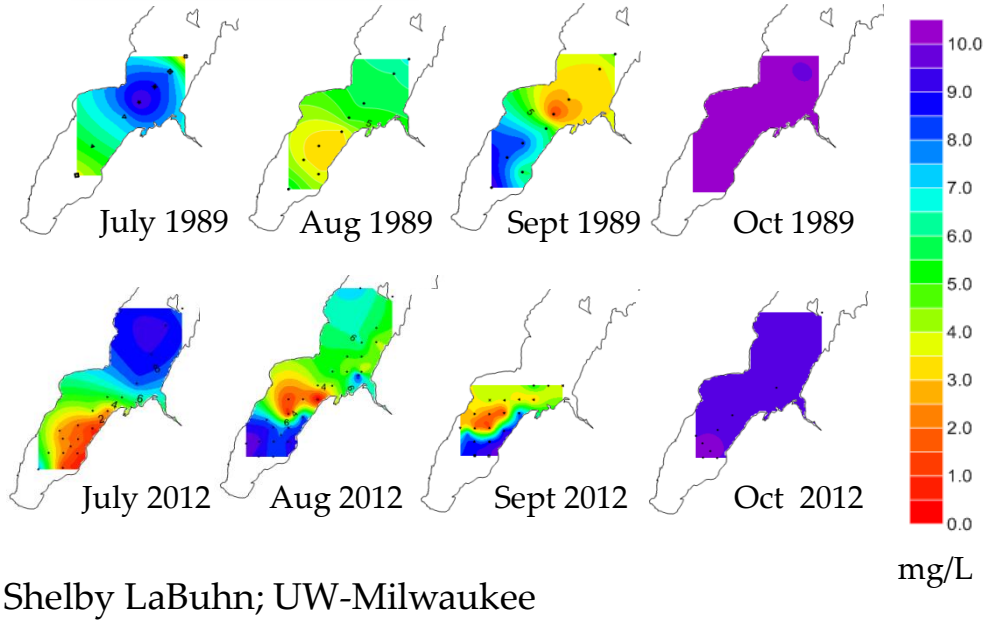
Research highlights and emphasis



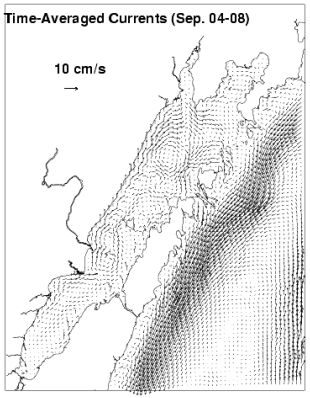




Bottom water dissolved oxygen



Shelby LaBuhn; UW-Milwaukee

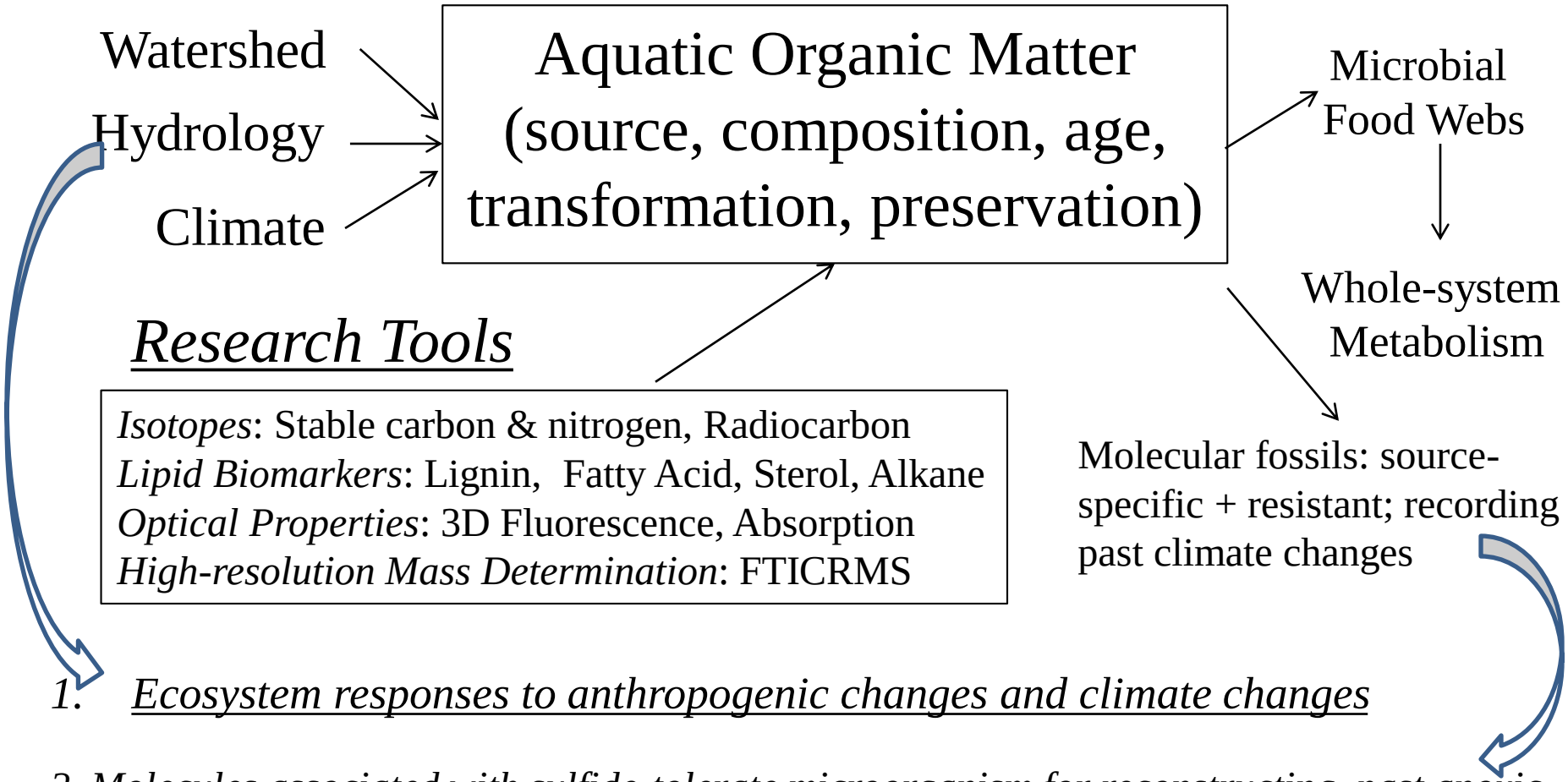


BGC experiments
+
Historical Data
+
Long-term monitoring

Improved ecosystem understanding → Societal benefits

Yuehan Lu
Assistant Professor in Organic Geochemistry/Biogeochemistry; Department of Geological Sciences, University of Alabama

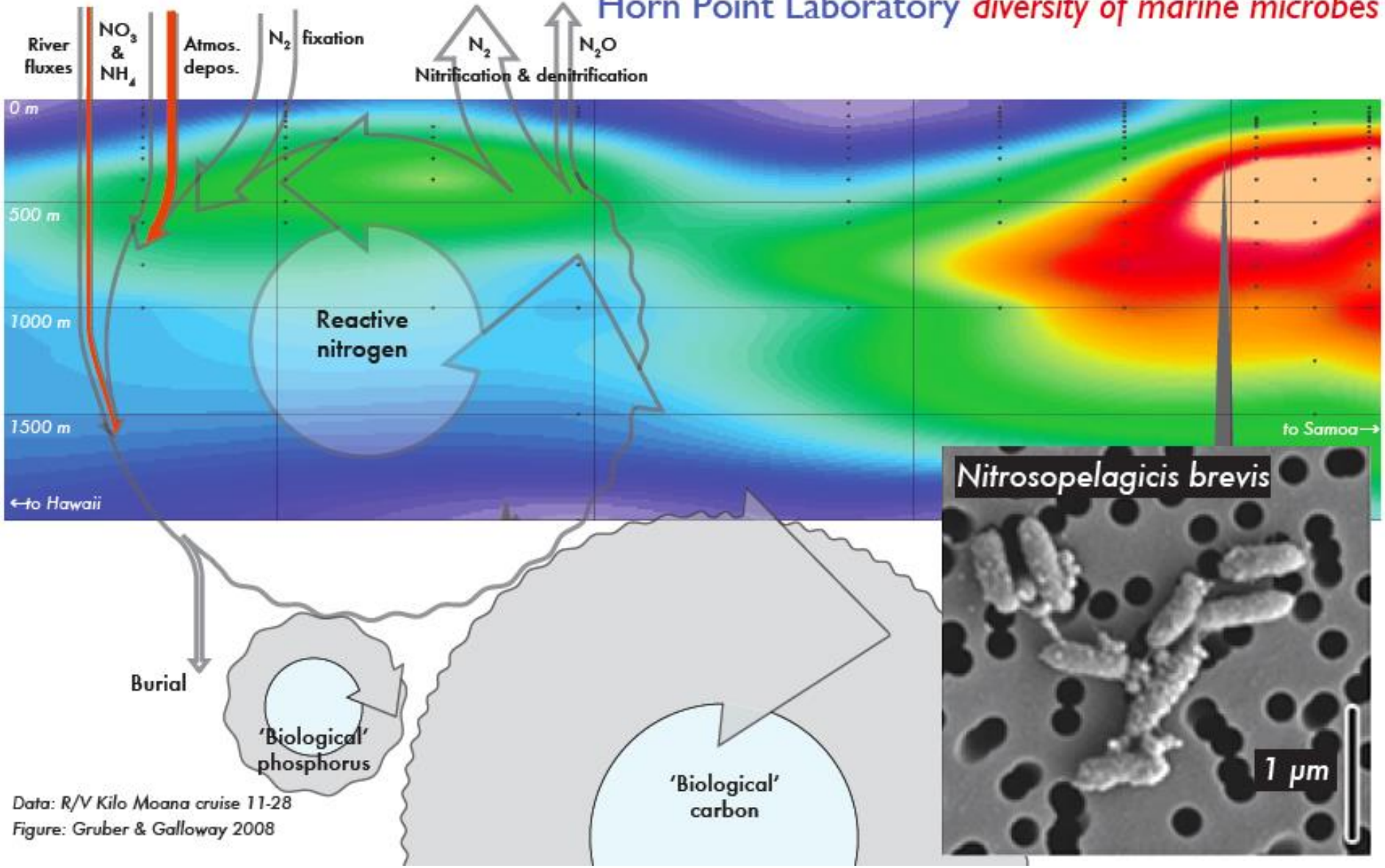
Research Theme



1. *Ecosystem responses to anthropogenic changes and climate changes*

2. Molecules associated with sulfide-tolerate microorganism for reconstructing past anoxic events.

Alyson Santoro *Biogeochemical activity &*
Horn Point Laboratory *diversity of marine microbes*



Data: R/V Kilo Moana cruise 11-28
Figure: Gruber & Galloway 2008

Trueblood Lab: Marine Environmental Physiology

Examine the impact environmental changes have on physiological processes