



University of New Hampshire

Fall 2020 Environmental Sciences Seminar Series

Wednesday, October 28

2:30–3:30pm Online via Zoom—Register [here](#)

Sparkle Malone

Assistant Professor, Biological Sciences, Florida International University
*Integrating Aquatic Metabolism and Net Ecosystem CO₂ Balance in
Calcareous Short- and Long-Hydroperiod Subtropical Freshwater Wetlands*

To understand how aquatic primary productivity influences the C sequestering capacity of wetlands we evaluated the magnitude and variability in aquatic C dynamics and compared them to net ecosystem CO₂ exchange (NEE) and ecosystem respiration (Reco) rates within calcareous freshwater wetlands in Everglades National Park. These measurements were coupled with ecosystem CO₂ fluxes measured with the eddy covariance method over 5 years (2012-2016) in a short-hydroperiod freshwater marl prairie and a long-hydroperiod peat-rich freshwater marsh. Daily net aquatic primary productivity (NAPP) rates in both wetlands were generally net heterotrophic. Ecosystem CO₂ fluxes in both the short- and long-hydroperiod wetlands were not explained by NAPP, suggesting that water column metabolism is not captured by the vertical flux of CO₂ between the ecosystems and the atmosphere. This result indicates that Everglades short-hydroperiod marl prairies can become a stronger source for CO₂ under inundated conditions even when Reco is expected to decline, suggesting that the carbonate cycle may drive carbon storage potential of calcareous freshwater wetlands.



Seminar Host: [Ruth Varner](#), Professor, Earth Sciences/ESRC

Series sponsored by the Natural Resources and Earth Systems Science (NRESS) Ph.D. Program, in partnership with the Earth Systems Research Center, and the Natural Resources and the Environment and Earth Sciences Departments.

Free - All are Welcome - Full Series and Registration [HERE](#).