

## Soil and Water Sciences Department Graduate Student Research Seminar

**Speaker:** Cayla Sullivan  
M.S. Thesis Degree Candidate

**Advisor(s):** Laura Reynolds, Ph.D.

**Title:** Understanding the Landscape Level Impacts of Increased Temperature – The Influence of Mangrove Encroachment on Seagrass Meadows.

**Date:** Friday, October 18th

**Time:** 3:00 pm – 4:00 pm

**Location:** McCarty Hall A, Room G186



As global temperatures increase, species' geographical ranges are shifting. In the intertidal zone of the Gulf of Mexico (Cedar Key, FL), tropical mangroves are expanding into regions historically dominated by temperate salt marshes, changing animal communities and nutrient cycling. Marine systems are closely connected; therefore, we expect that shifts in intertidal plant communities may alter functions of adjacent subtidal seagrass meadows. We addressed the following questions: Do shifts in intertidal plant composition influence 1) biogeochemical cycling, and 2) seagrass meadow composition and stature - specifically, a) plant biomass and productivity, b) epiphyte biomass, c) invertebrate community assemblage, and d) genetic diversity? There are clear differences in seagrass biogeochemical cycling between adjacent intertidal habitat types, but the magnitude or direction of change differs seasonally. This is likely due to changes in timing of outwelling. Mangrove biomass senesce in the fall, and salt marsh biomass senesce late in the winter. Shifts in intertidal plant communities also effect seagrass stature and epifaunal community structure. However, we did not see shifts in all measured parameters. Epiphyte biomass, infaunal communities, and seagrass genetic diversity show evidence of habitat redundancy.

This seminar can be viewed via live or watched later via this link: [Cayla Sullivan](#). Viewers of the live stream may now ask questions by clicking on the message icon at the bottom. Questions will be read at the end during the question and answer portion. In addition, all seminars are archived for viewing on our [SWSD Seminar Page](#).