

# Environmental Science Seminar

## *The Hydrological Drivers of Marsh Migration in the Coastal Critical Zone*

As sea level rises, land conversion from upland to marsh is accelerated by stronger and more frequent coastal storms that cause both flooding and salinization. Episodic events are magnified by slow and steady sea level rise. Along the Delaware Bay, Chesapeake Bay, and Atlantic Ocean, rapid loss of land at both coastal farms and forests is occurring as marsh migrates inland. Our study aims to understand the role of fast (flooding, storm surges) and slow (sea-level rise) hydrologic processes driving land conversion at three farm sites and three forest sites along the Delmarva Peninsula. Observations show increases in soil and groundwater salinity during both storm surges and periods of drought that take months to recover. The extent of salinization and timing of recovery varies based on the hydrogeologic regime of the site. With this study, we can better understand the temporal and spatial changes to coastal landscapes caused by combined fast and slow hydrologic forcings



**Dannielle Pratt**  
**University of Delaware**

**Friday 31 March 2023**

**12:00pm**

**Fisher Hall 214**

RSVP at <http://bit.ly/DuqESseminar>

