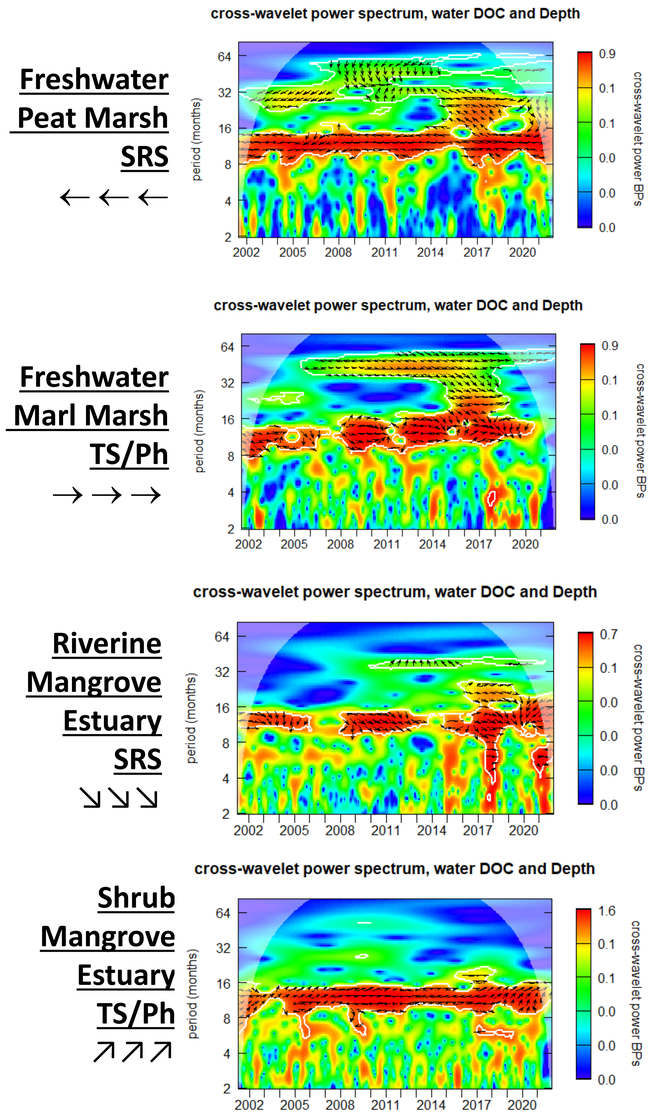


Figure 1. Cross wavelet power between DOC and water depth from 2001-2021. Arrows indicate the phase differences between DOC and water depth. Arrows facing right indicate DOC and depth are in phase, while arrows facing left indicate they are out of phase. Arrows facing upwards indicate DOC is leading, while arrows facing down indicate water depth is leading.

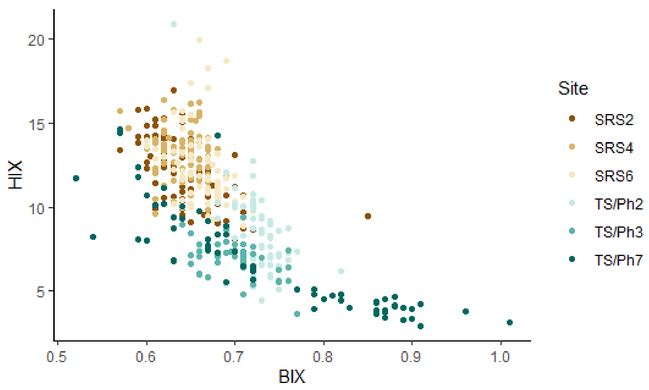
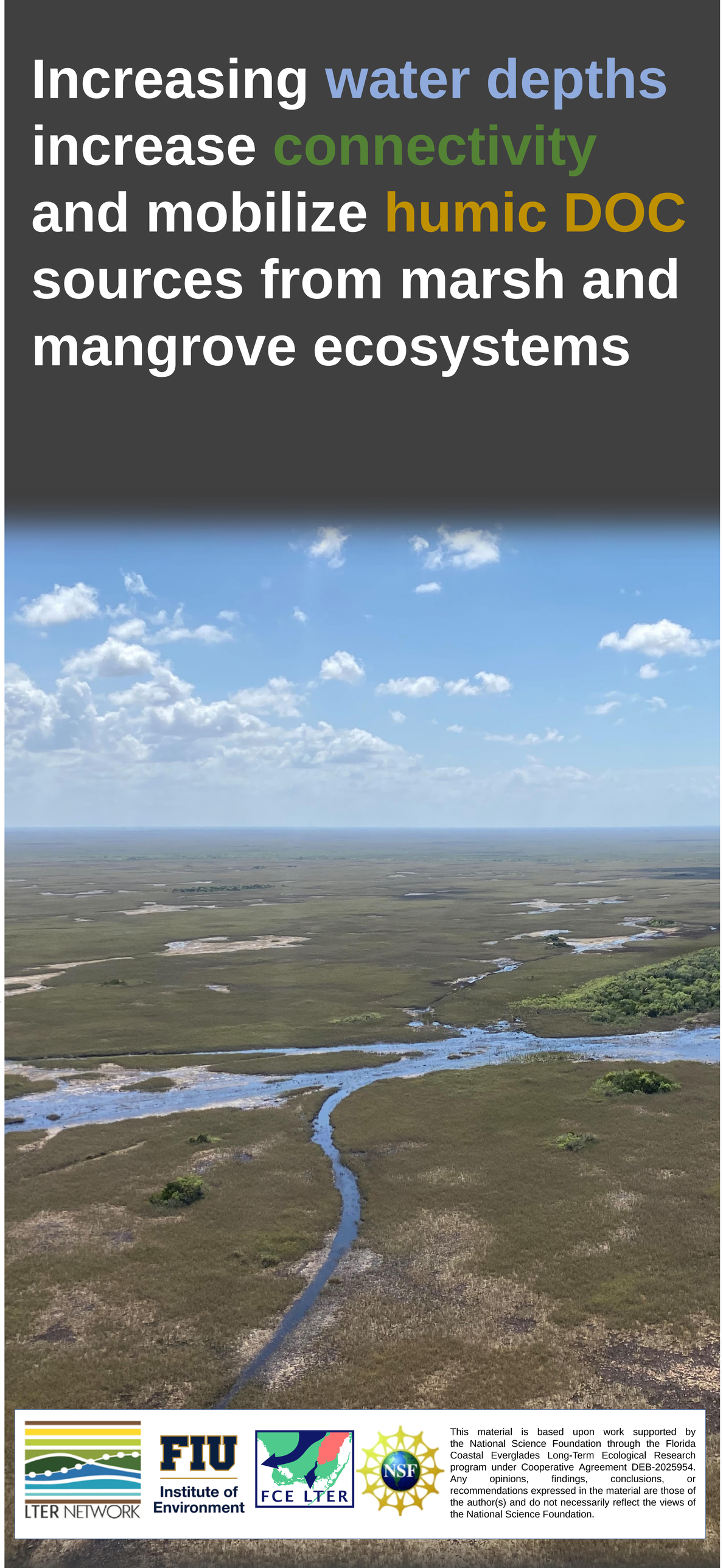


Figure 2. Dissolved organic matter composition along Shark River Slough (SRS) and Taylor Slough/Panhandle (TS/Ph) from 2012-2021. Increasing HIX indicates increasing humic influence to DOM, increasing BIX indicates increasing autochthonous influence to DOM.

Increasing water depths increase connectivity and mobilize humic DOC sources from marsh and mangrove ecosystems



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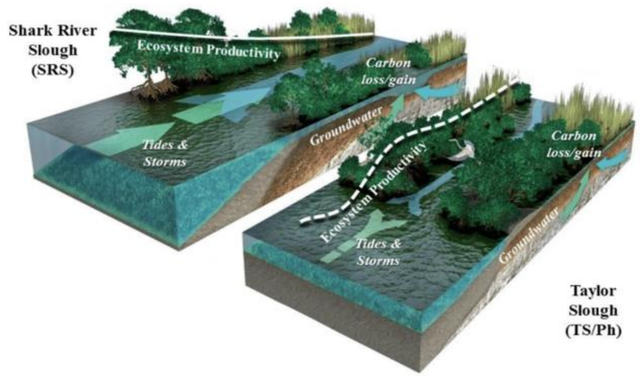
How are increases in marine and fresh water changing coastal wetland DOC?

Kenneth J. Anderson,

John S. Kominoski

Background

Climate and water management are impacting carbon cycling in coastal ecosystems by altering water depths across coastal wetland ecosystems. With this study our goal is to track the sources and fates of DOC fluxes – through changes in its concentration and composition as climate and water management change water depths along coastal wetland gradients.



Conclusions

Increased water levels:

- Decrease autochthonous DOC in peat marshes
- Increase allochthonous DOC in marl marshes.
- Shift riverine and shrub mangrove ecosystems towards upstream DOC sources

Decreased water levels:

- Shift DOC to more marine sources in mangrove ecosystems