

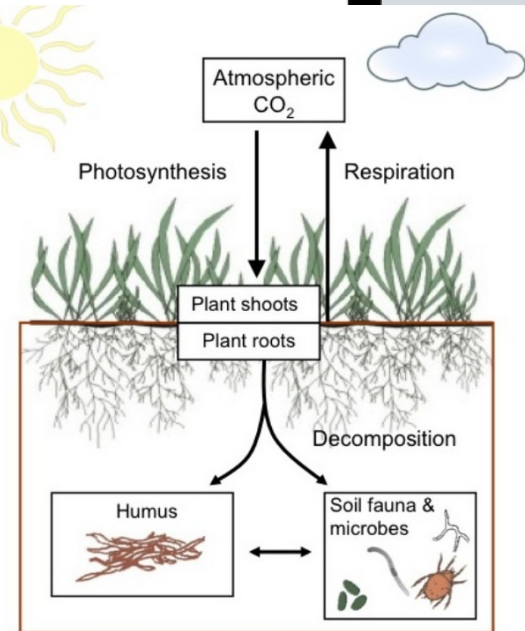
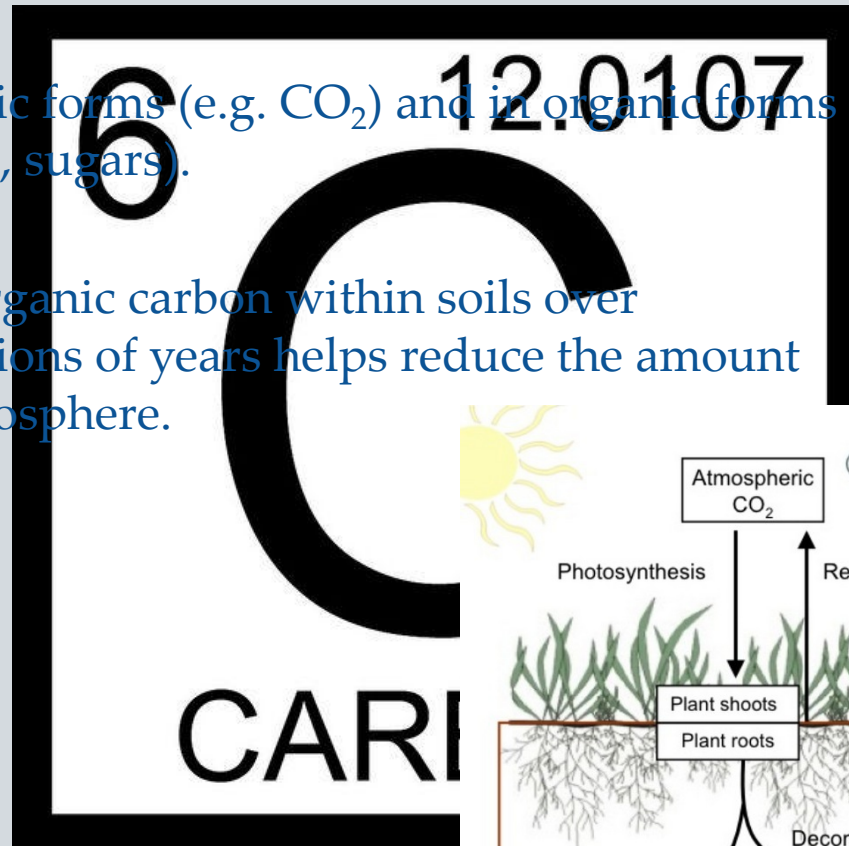


The Importance of Carbon Within Northern Florida Wetlands

Derrick Vaughn

Carbon: What is it and why is it important?

- Carbon: A common and abundant element on Earth.
- Found in inorganic forms (e.g. CO_2) and in organic forms (e.g. proteins, fats, sugars).
- Preservation of organic carbon within soils over thousands to millions of years helps reduce the amount of CO_2 in the atmosphere.



Ontl and Schulte, 2012

Blue Carbon

Definition: Carbon accumulating in vegetated, tidally influenced coastal ecosystems such as salt marshes, mangroves and seagrass meadows.

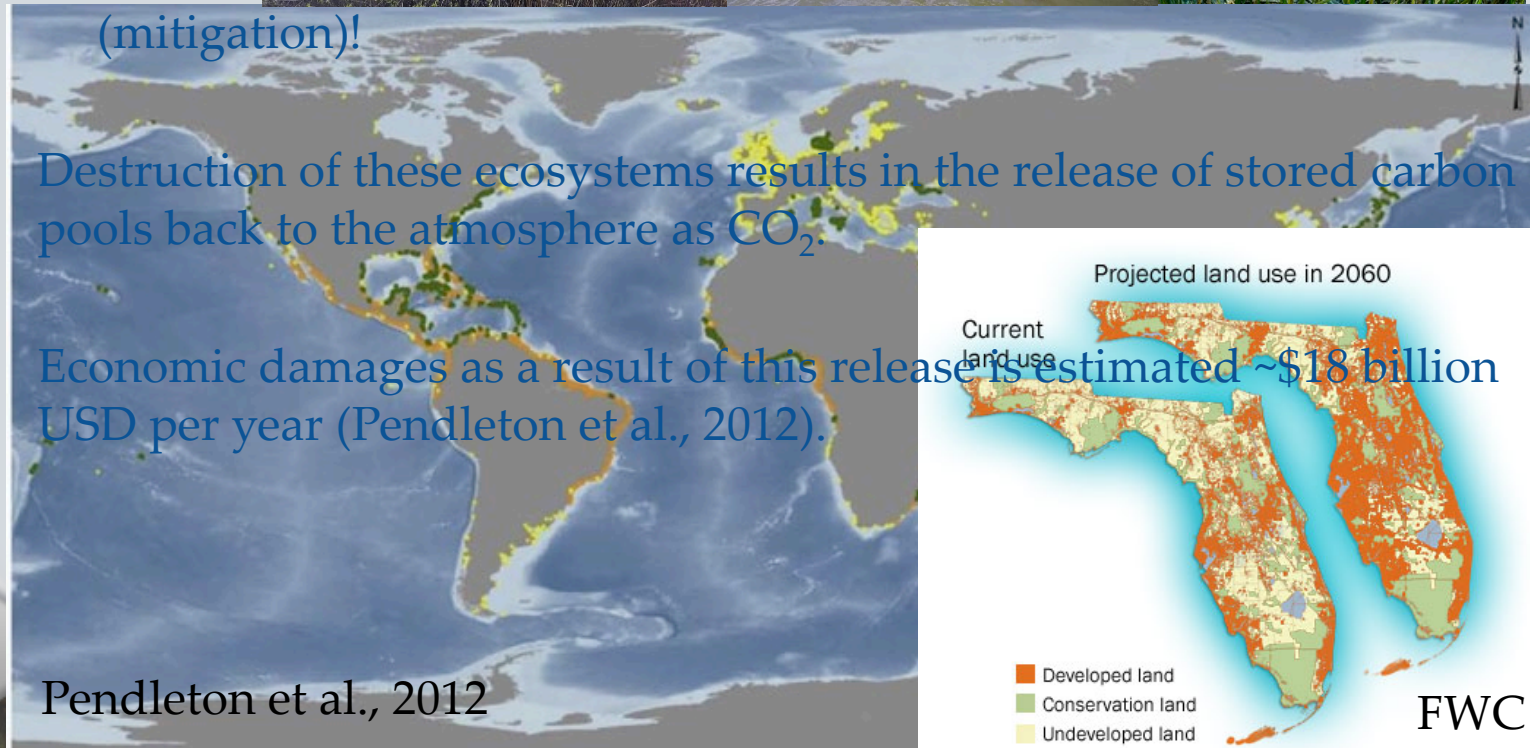
Blue carbon
terrestrial

- Great w
(mitigation)!

Destruction of these ecosystems results in the release of stored carbon pools back to the atmosphere as CO_2 .

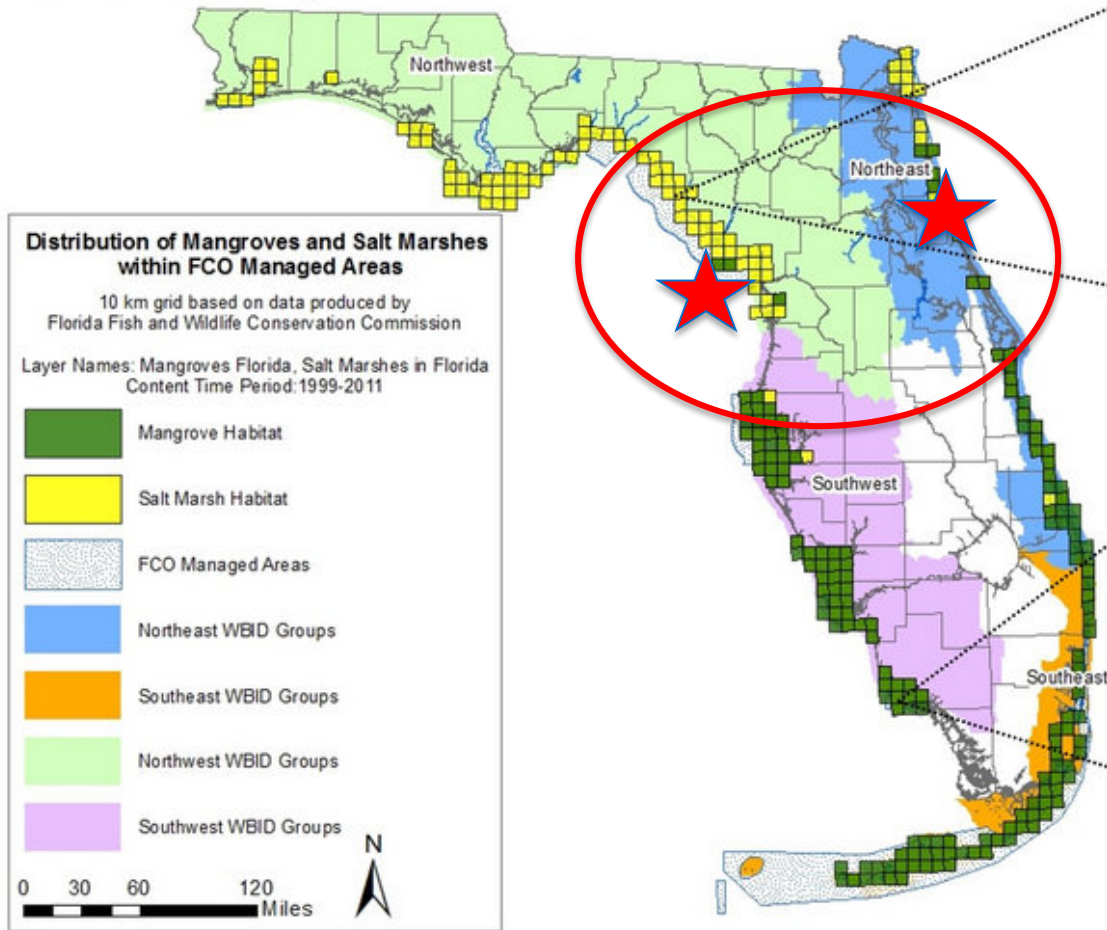
Economic damages as a result of this release is estimated ~\$18 billion USD per year (Pendleton et al., 2012).

Pendleton et al., 2012



Blue Carbon Habitats in Florida

Salt Marsh to Mangrove



Salt Marsh located in Big Bend Seagrasses Aquatic Preserve



Mangrove shoreline located in Coupon Bight Aquatic Preserve

**The indices: Salt Marsh to Mangrove, Exotic Proliferation, Disease Proliferation and Coral Bleaching are representative of Habitat Change within our managed areas.*

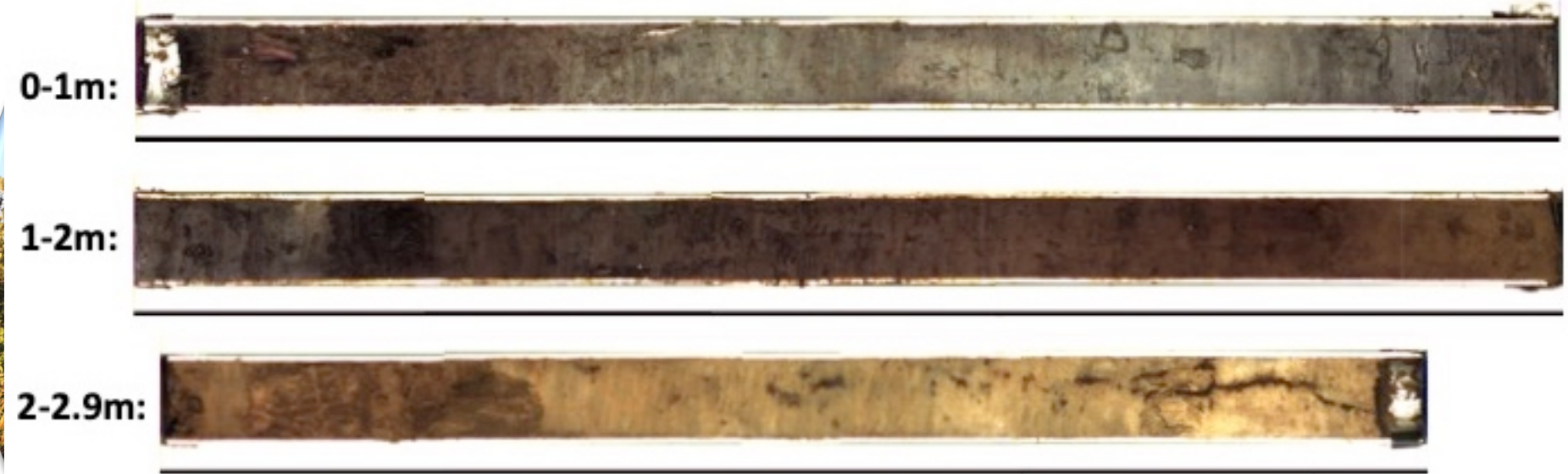
Florida Department of Environmental Protection

Core Collection



High Carbon Burial in Transition Sites

St. Augustine Transition



Habitat	Carbon Burial Rates (g C m ⁻² yr ⁻¹)		
	Atlantic	Gulf	Global Mean (McLeod et al. 2011)
Marsh	31 ± 13	9 ± 6	218 ± 24
Mangrove	82 ± 22	392 ± 46	226 ± 39
Transition	244 ± 42	465 ± 5	

A photograph of a mangrove forest with dense green foliage and complex root systems extending into a body of water. The scene is reflected in the calm water surface. The sky is blue with light clouds. The text "Thanks!" is overlaid in a large, bold, blue font, with a faint, mirrored version of the text below it.

Thanks!

Thanks!