A Vision of Everglades Restoration

- Historic Flow
- Current Flow
- Restored Flow
Scenarios of Everglades Inundation from Sea-level Rise (with no ecological feedback)

From: J. Park et al. 2017
Mangrove-dominated Coastal Wetlands Cover Half of Everglades National Park’s Land Area
Everglades Agricultural Area ground surface was at the post’s top in 1924

From Snyder, G. H. (2004)
Peat Collapse Apparent in Brackish Marshes

from: Ben Wilson, 2018
Collapse of Salt Marshes, Expansion of Ponds Documented

From: Kim Andres, 2016
Causes of Peat Collapse?.. Experiments with Seawater Dosing

From: Troxler et al. 2015
Experimental Results: 
Salt & Drying can Cause Wetland Soil Elevation Loss

Root loss with salt added

from Ben Wilson

CO$_2$

Elevation loss with salt or salt + drying:

2.3 cm /y  4.4 cm/y

results from Sean Charles, Ben Wilson

modified from Ben Wilson
Soil Collapse & Erosion can Impact Coastal Ecosystems via Nutrient and Particle Export

Before seagrass die-off

After seagrass die-off with algal bloom in Florida Bay
Fire Management Affects Coastal Wetland Plant Communities – and may Inhibit Mangrove Establishment and Expansion

Above photos by Nicole Sebesta
Left photo by Michael Gu