



Adapting to Climate Change in the Everglades:

Restoration projects key to protecting vulnerable wildlife and habitat

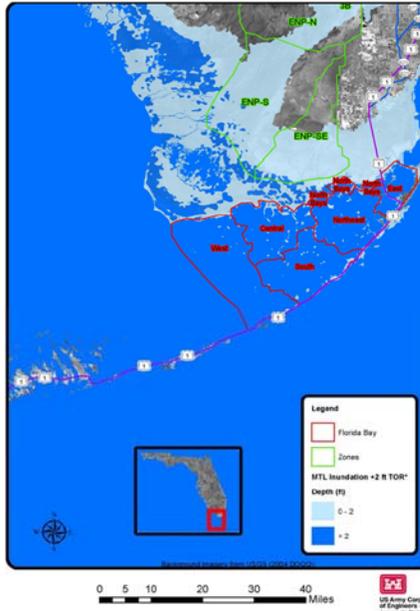
Introduction

Florida is increasingly vulnerable to multiple impacts of a changing climate including: sea level rise (SLR), flooding, droughts, rising temperatures, warming seas, erosion, saltwater intrusion of aquifers, and habitat loss. Sea level rise has already led to changes in the environment in South Florida.

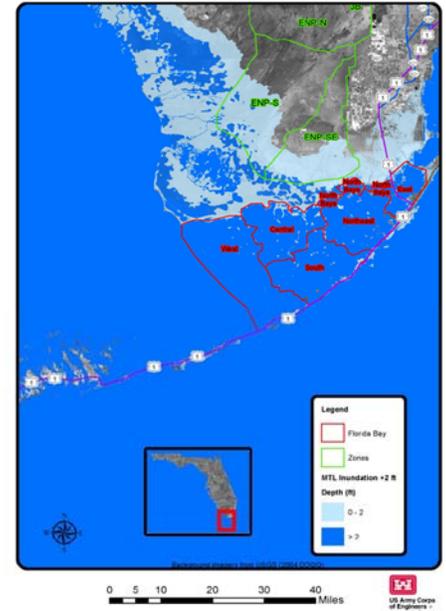
At Cape Sable in Everglades National Park and in the Ten Thousand Islands, mangroves are growing further inland than in previous years. In northeast Florida Bay salinities and water levels have been increasing in coastal freshwater habitats that Roseate Spoonbills rely on for foraging. This is due to higher sea level combined with the disruption of the historic flow pattern of freshwater from the Kissimmee River and Lake Okeechobee south to the Southern Everglades. As the salinity of soil and water in coastal areas increases, plants and animals who evolved around a freshwater environment will be displaced by those that can tolerate saltier conditions.

As these changes occur, it is important to remember that healthier ecosystems respond better to change. Adaptive planning and management, along with continued restoration of the Everglades, are effective strategies to lessen the impacts of a changing climate.

2 ft SLR Marsh Loss w/o



2 ft SLR Marsh Loss w/ Restoration



Everglades Restoration: Essential for Climate Change Adaptation

“The 2014 National Climate Assessment confirms that South Florida is already experiencing sea level rise due to climate change. Speeding up Everglades restoration will be key to reducing the impact of rising seas and slowing the intrusion of saltwater into our aquifer.”

**- Julie Hill-Gabriel,
Deputy Director for Policy**

Fortunately, the Comprehensive Everglades Restoration Plan (CERP) is already in place. Full implementation of CERP and other Everglades restoration projects will help improve the health and resilience of the ecosystem. Restoring the flow of freshwater through the Everglades will help push back against higher sea levels, reducing salt water intrusion into the aquifer, and slowing rates of coastal land loss while maintaining vital freshwater habitats near the coast. The National Park Service has called CERP “South Florida’s preeminent adaptation strategy against climate change” and stated that CERP projects will “delay the impacts of sea level rise along the coast, and buy precious time for wildlife to deal with their changing environment.”¹

1. Everglades National Park. (2015). Everglades: Climate Change <http://www.nps.gov/ever/learn/nature/ccadaptation.htm>

Adapting to Climate Change in the Everglades



Restoring wetlands can also play a role in mitigating future climate impacts. Reducing CO₂ levels in the atmosphere is one of the most important ways to reduce the worst impacts of climate change. Freshwater and coastal wetland ecosystems act as carbon “sinks” that naturally remove CO₂ from the atmosphere. Wetland plants take in CO₂ through the process of photosynthesis, then release oxygen back into the atmosphere while the remaining carbon is then stored in the plants and surrounding soils.

The Southeast Florida Regional Climate Change Compact

The Southeast Florida Regional Climate Change Compact is a cooperative agreement between Miami-Dade, Broward, Monroe, and Palm Beach Counties, intended to facilitate regional cooperation and planning to mitigate, and adapt, to the impacts of climate change on South Florida. Staff and experts working with the Regional Compact developed the Regional Climate Action Plan (RCAP), a document that outlines actions that can be taken at regional, county, and municipal levels to lessen the impacts of climate change. RCAP notes that a successful strategy to combat climate change must include restoring the Everglades which will lead to “improved delivery and distribution of water flow to provide both natural resources and water supply benefits.”



The Everglades

Our best defenses against climate change will include taking steps to mitigate impacts, while also preparing and planning to adapt to changing conditions. Speeding up the implementation of restoration will provide multiple benefits to the Everglades to make it more resilient to the impacts of climate change, as well as providing necessary improvements to flood control and municipal water supplies in South Florida.

Audubon Florida’s Recommendations to Combat Climate Change in the Everglades

1. Construct the Tamiami Trail Next Steps project to reconnect flow that provides a freshwater barrier to sea level rise and salt water intrusion.
2. Authorize and construct the Central Everglades Planning Project to remove barriers to the sheetflow of clean freshwater and prevent water from seeping out of the Everglades. Develop additional water storage projects in the Everglades Agricultural Area to provide an upstream source of freshwater for the Southern Everglades and Florida Bay.
3. Improve water quality in the Everglades Agricultural Area and the Northern Everglades so that additional water can be sent south without causing further damage to native flora and fauna.
4. Expand the Everglades Headwaters National Wildlife Refuge, expand the Florida Panther National Wildlife Refuge and establish the Fisheating Creek National Wildlife Refuge to provide habitat corridors and a refuge for wildlife if climate change impacts reduce the quality of habitat.
5. Fund and construct Phase II of the Cape Sable Dams Restoration to minimize coastal land loss by slowing saltwater intrusion and preventing marsh collapse.
6. Develop a combined operations plan for Modified Water Deliveries, C-111 South Dade, and the C-111 Spreader Canal Western Project that increases freshwater flows to the Southern Everglades and Florida Bay.