

An aerial photograph of a coastline, showing waves crashing against a sandy beach. The water is a deep blue, and the beach is a lighter tan color. The text is overlaid on the left side of the image.

Sea Level Rise Implications for the Natural and Built Environment

Leonard Berry, Ph.D.,
Director, Florida Center for Environmental
Studies
Co-Director, Climate Change Initiative
Florida Atlantic University

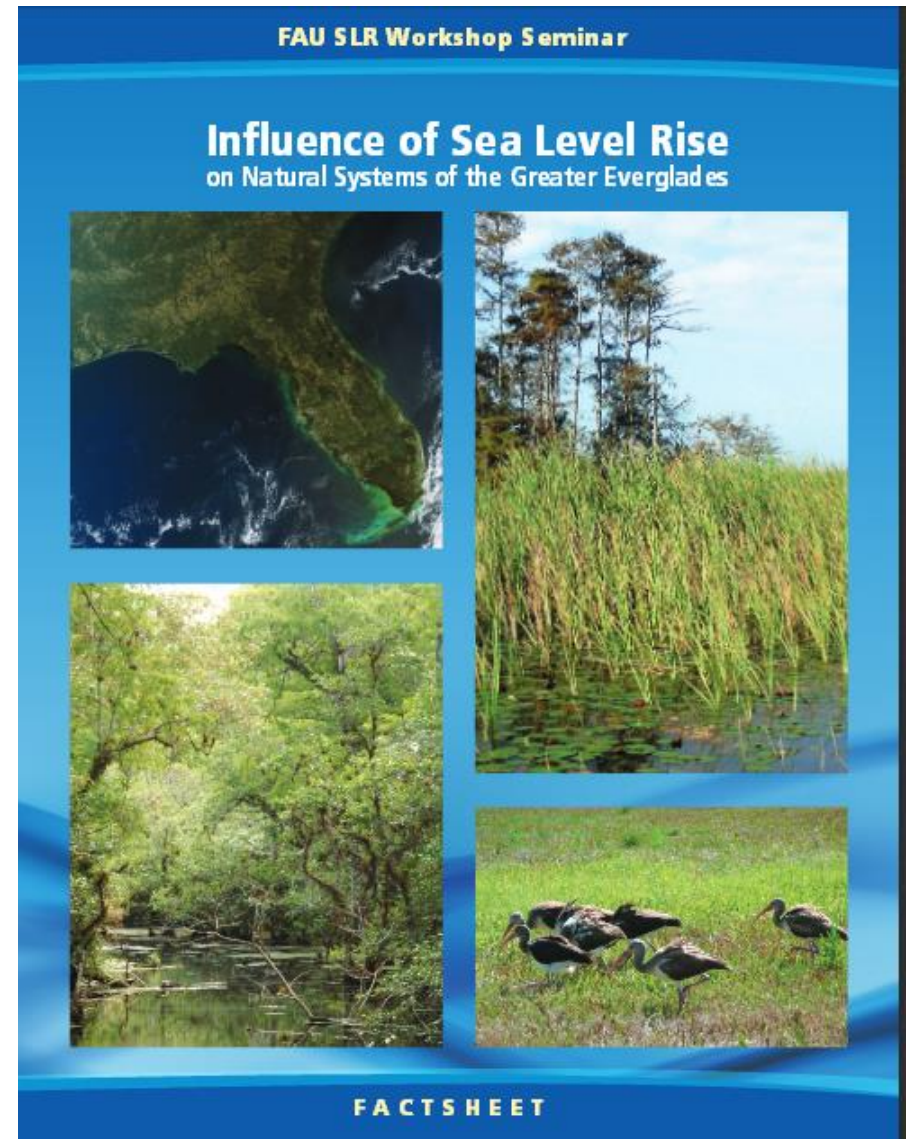
Three Workshops

- Influence of Sea Level Rise on Natural Systems in the Greater Everglades, 2011
- Hydrology of the Everglades in the Context of Climate Change, 2012
- Predicting Ecological Changes in the Florida Everglades in a Future Climate Scenarios, 2013

Influence of Sea Level Rise on Natural Systems in the Greater Everglades, 2011

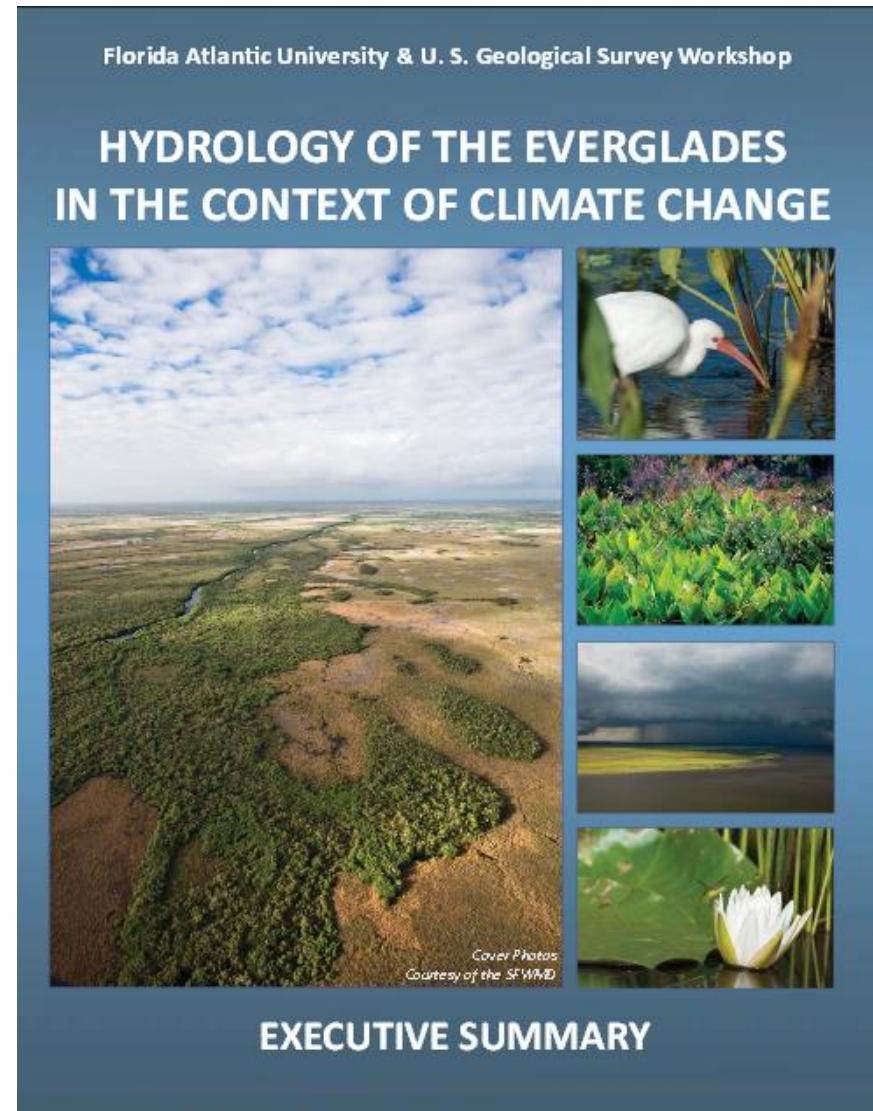
The purpose of the is CES, USGS and FL Sea Grant workshop was to provide a common understanding of the changes in precipitation, hydrology and sea-level anticipated as a result of climate change in South Florida. Using this common understanding, workshop presentations and discussions described in greater detail the changes to the ecological attributes (both structural and processes) of three important communities of the Everglades:

- Mangrove estuaries of the Florida Everglades
- Everglades ridge and slough
- Southern marl prairies



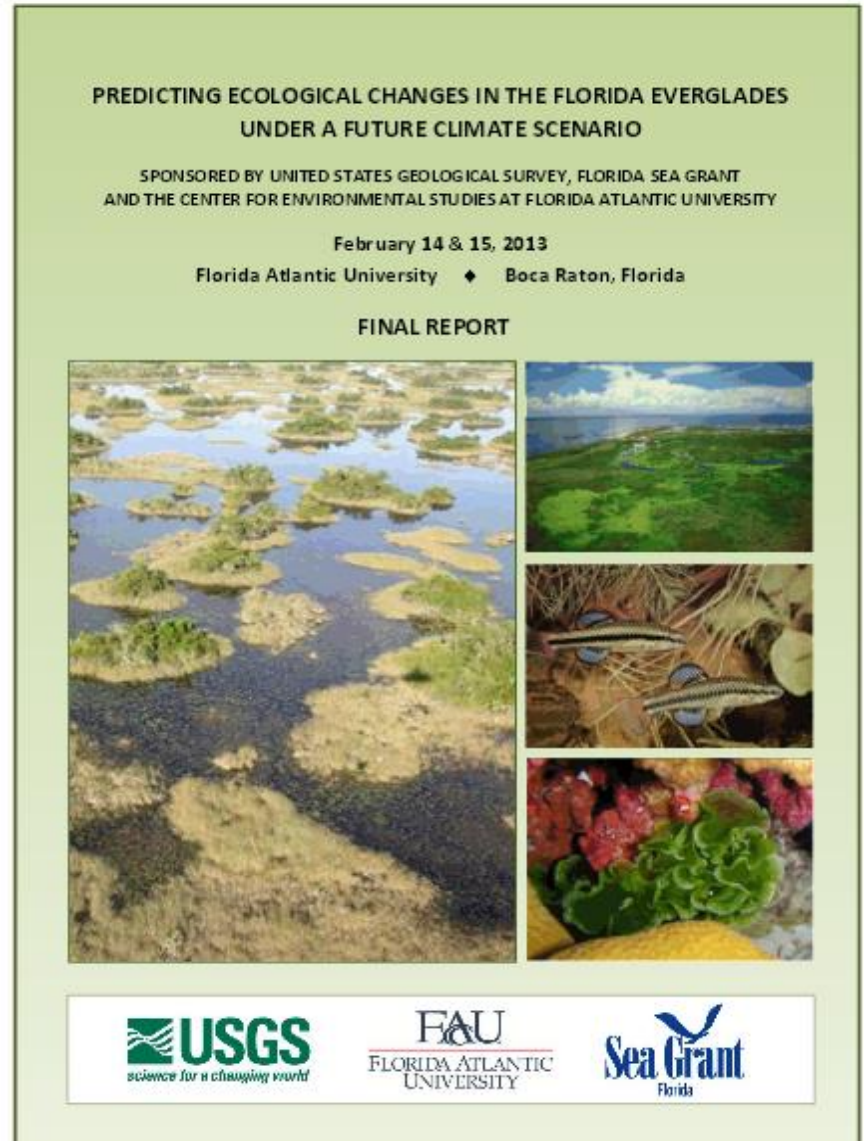
Hydrology of the Everglades in the Context of Climate Change, 2012

CES, USGS and FL Sea Grant hosted this two day event on the FAU Davie Campus. The workshop assessed the state of knowledge of the impacts of current and future climate change on the hydrological cycle in the Everglades which included gaining a greater understanding of downscaled hydrologic global models for the Everglades. It also examined each of the components of the cycle in the greater Everglades by identifying 1) our understanding of potential changes in precipitation quantity and intensity, evapotranspiration, percolation to groundwater, runoff and drainage, and 2) critical knowledge gaps with respect to future patterns and their impact.



Predicting Ecological Changes in the Florida Everglades in a Future Climate Scenarios, 2013

Presented by CES, USGS and FL Sea Grant, this technical meeting was held on the FAU Boca Raton Campus. The two day event brought together scientists and resource managers and included participants from academia, local, state and federal agencies and public and private organizations. Experts in Everglades ecology were asked to identify how hydrologic changes associated with possible future climate change regimes might influence ecosystem services, and to identify research gaps where it currently is not possible to make such projections with acceptable certainty.



Sea Level Rise Summits



“Resilience in the Face of Change” focused on the impacts on our economy, health and built environment, addressing the issues that professionals, local governments and communities face in adapting to sea level rise and other climate change related impacts. Local, national and international experts demonstrated best practices and state of the art research focusing on the needs of those planning our collective future



“Risk and Response” Sea Level Rise Summit in Boca Raton, Florida brought together over 300 attendees from public and private agencies and organizations and included seven panels that focused on the complex sea level rise issues in Florida and provided examples from other coastal regions within the U.S. and internationally.

Five Symposia

- Sea Level Rise and Storm Surge: A Damaging Combination
- Adversity, Opportunity and Resilience
Economic Implications of Sea Level Rise
- Integrating the Health Impacts of Sea Level Rise into Resiliency & Adaptation Planning
- Impacts on Built Environments:
Envisioning a New Paradigm
- Adaptation, Innovation and Resilience on Local, National and International Fronts



Implications for Water Management

- Natural systems will be different and less reliable
- Water management will need to be adaptable combining local and regional resources
- Water and sewer treatment facilities may need relocation and redesign
- Adaptive management at all levels