



Florida Resilient Coastlines Program (FRCP) Florida Coastal Resilience Forum Webinar

November 13, 2019
9:00 a.m. -11:00 a.m.

Notes

1. Welcome and Introductions

Whitney Gray, Administrator - FRCP

2. Adaptation Action Areas: The State of Play

Thomas T. Ankersen, Alexa Menashe, and Brandon Pownall - University of Florida College of Law Conservation Clinic

The presentation discussed research that investigated the creation of Adaptation Action Areas (AAAs) in Florida. Methodology included a global municode search, systematic review of local governments', and the Florida Department of Economic Opportunity websites. Findings were analyzed based on aspirational/operational distinction, thematic variation (built environment, natural resources and social equity, and policy approach (regulatory, and project based). Results indicated that 25 coastal municipalities amended their comprehensive plans AAA since Fernandina Beach became the first to do so in 2011; a skewed distribution toward South Florida and the Compact governments; absence of AAAs in the Big Bend Panhandle communities; and that prioritizing AAAs that don't account for social equity can lead to resources shifted from these considerations. Aspirational language that calls for but does not yet create a spatially explicit AAA was found in among 17 communities and operational language referring to adoption language or post-adoption actions that create a spatially explicit AAA was found in 9 communities. Recommendations included that the State should move beyond AAA planning grants to more substantial resources for adaptation-based capital improvements and local government should begin experimenting with spatially explicit revenue-generating policy tools within AAAs such as spatial assessments and tax increment financing.

3. Leveraging Data for Quantitative & Equitable Climate Resilience

Jeff Hicks and Aashka Patel (NEMAC+FernLeaf)

The presentation focused on development and application of the interactive Climate Resilience Toolkit <https://toolkit.climate.gov/t> developed from a collaboration between

Fernleaf + NEMAC, NOAA, the University of North Carolina-Asheville, and the previous Whitehouse Administration, via a public-private partnership with. The Toolkit offers a five-step includes (1) explore threats, (2) assess vulnerability and risks, (3) investigate options, (4) prioritize and plan, and (5) take action. The outcomes of the process include tailored assessments, prioritized plan of actions and strategies, transparent and defensible priorities and increased capacity for staff. More than 150 case studies and videos are available. The application was used in Tallahassee to address the social vulnerability of food infrastructure to floods, and in West Palm Beach with socio economic metrics showing homes below the poverty line experiencing flooding after rain fall events with no planned stormwater projects. Main takeaways: (1) Asset-scale assessments should account for local factors beyond exposure, (2) aggregate assessments for comparability since it is beneficial to showing at different scales, (3) use social vulnerability as an additional lens for assessment, (4) a quantitative view helps establish priorities by measuring different challenges in what may happen, and (5) consider equitability as a criteria for prioritization.

4. Adaptation of Coastal, Urban and Natural Ecosystems (ACUNE). The Role of Mangrove/Marsh in Flood and Wave Protection

Peter Sheng, Ph.D. - University of Florida

The presentation introduces a project, entitled “Adaptation of Coastal Urban and Natural Ecosystems” (ACUNE), funded by the NOAA’s Restore Science Program. The project’s goal is to develop a web-based decision support tool (ACUNE) which will be used by managers of urban and natural ecosystems in Southwest Florida for adaption planning in the context of increasing coastal inundation vulnerability due to increasing future storms and sea level rise. Using the best available climate, coastal, ecological, and economical sciences and models, the ACUNE team has been developing probabilistic coastal inundation vulnerability maps for Collier County, Naples, Marco Island, Everglades City, Big Cypress Basin, Rookery Bay National Estuarine Research Reserve, and Ten Thousand Island National Wildlife Refuge. The ACUNE project uses CH3D-SWAN, a robust 3D vegetation-resolving surge-wave modeling system with high grid resolution (~30m), along with the latest JPM-OS method and LiDAR DEM and vegetation distribution and structure, to produce flood maps for current climate, 2030, 2060, and 2100. These maps incorporate the combined effects of storms, sea level rise, and changing land use features, including mangrove and marsh. Overlaying these maps onto numerous asset maps of the region allows local governments and resource managers to conduct vulnerability assessment and adaptation planning. The ACUNE tool also includes economic analysis of residential and commercial properties in the region under a variety of current and future scenarios. For example, CH3D-SWAN accurately simulated the observed flood and wave during historical storms including Charley, Wilma, and Irma. During Irma, our economic analysis showed buildings in Collier County sustained ~\$90 million damage due to flood and wave, consistent with the FEMA National Flood Insurance Program’s loss claim of ~\$49 million. Had the vegetation been absent, the damage to buildings would have been \$8 million more.

5. Building Coastal Resilience with Florida’s Reefs and Mangroves

Michael W. Beck, Ph.D., Professor, University of California Santa Cruz

The presentation described the research collaboration between the University of California Santa Cruz, The Nature Conservancy, United States Geological Survey and the World Bank to quantify the benefits of coral reefs and mangroves as nature-based solutions in coastal

protection globally. A suite of models ranging from 5 to 12-step processes were applied for assessing the coastal protection value. The recommended approach included being able to estimate waves offshore, estimate waves nearshore, estimate the effects of waves on habitats and estimate and assess damage to people, property and nature caused by flooding. An output example were flood maps for the US Virgin Islands, Hawaii, Guam and the 3,000 miles of US coastlines. Annual expected benefits were estimated at \$1.8 Billion for property (business interruptions avoided) and \$675 Million annual expected benefits in Florida. Research in progress used long-term reef erosion maps to create hydrologic economic models for recovery and restoring coral reefs. These models indicate that coral reefs reduce the amount of damages cause to people and property. If the ratio for reef restoration is greater than 1, then these areas are eligible for FEMA recovery funding for reef restoration and pre-hazard funding.

6. Florida Resilient Coastlines Program Updates

- Alex Reed replaced Kevin Claridge as Director of the Office of Resilience and Coastal Protection at DEP.
- HUD's Community Development Block Grant (CBDG) program is providing \$660M in mitigation funding, administered by the Department of Economic Opportunity (DEO) to assist communities affected by Hurricanes Irma, Matthew, and Hermine. DEO is petitioning HUD to include the Panhandle region and is looking for large transformative projects like that used in Louisiana to relocate Native American villages. <http://floridajobs.org/rebuildflorida>
- The Florida Ocean Alliance received funding from the legislature to produce a Coastal Strategic Plan. Stakeholder workshops are being held on November 13th in Fort Lauderdale, November 14th in Miami, November 19th in Sarasota and November 20th at Port Canaveral. Meetings are from 6-8 PM.
- The Southeast Florida Climate Leadership Summit is December 3-5. <https://southeastfloridaclimatecompact.org/the-summit/>
- FRCP received 42 grant applications requesting \$2.7M for the 2020-2021 funding cycle. Awardees will be notified in April/May 2020. Visit <https://floridadep.gov/rcp/florida-resilient-coastlines-program> for new application procedures.
- FRCP will host regional grant managers' best practices workshops. E-mail Angel Baratta Angel.Baratta@FloridaDEP.gov for more information.
- January 8th - Special FRCP Webinar with Mark Anderson, Director, Conservation Science at The Nature Conservancy - Identifying Resilient Coastal Sites along the South Atlantic and Gulf of Mexico Coasts: Question and Approach. <https://attendeegotowebinar.com/register/525727489210980097>

7. Questions, Comments and Announcements