Florida Water & Climate Alliance Webinar
Sept. 25, 2020
Water Utility Risk and Resilience to Climate Change Impacts
Breakout Session Full Summary

The Florida Water & Climate Alliance (FloridaWCA) held a webinar on September 25, 2020 on Water Utility Risk and Resilience to Climate Change Impacts. Following a session of panel presentations and discussion, participants were divided into 12 breakout groups and given the following prompts to discuss:

1. What are some of the barriers to incorporating climate resilience in FL water sector? What information or resources are you lacking?
2. What are some successes you've either participated in or seen/heard of?
3. What resources (websites, articles, data, groups for collaboration) do you know of that are available

Participants took notes on an online google document based on the group discussion. The notes from each group are compiled and categorized into key themes below.

BARRIERS

What are some of the barriers to incorporating climate resilience in FL water sector? What information or resources are you lacking?

- Funds are lacking
  - Have a cap on what we (utilities) can collect
  - Need capital funding for private and public sectors
  - Need professional resources
  - Lack of resources for smaller utilities, particularly private investor owned utilities (<100 customers). Have limited ability to raise rates, older systems at risk

- Politics and policy:
  - Lacking continuity of policies
  - Weak policy direction from State in previous years, which are increasing in the more recent past and helping to advance solutions
  - Lack of willingness to discuss the topic of climate change as a reality/politics
  - Current administration/politics
  - Lack of direction from top level of state government. Localities have been left to their own devices
  - State SLR task force hasn't gotten a lot of traction. State Chief Resiliency Officer only stayed 7 months
  - State level Officials are not acting with sense of urgency. Push from Governor has fizzled
  - Focus on certain parts of the state over others

- Structural issues with FL water management:
  - Conflicting demands of water supply/flood control

    - Past or historical norms
    - Lack of integration among Agencies to implement projects and solutions – need to collaborate on resources and tools
    - Regulations and compliance that can delay project implementation
    - Water supply plan should include climate change-SLR, salt water intrusion
    - Too busy trying to catch up with growth and being unable to plan for all contingencies including climate change
    - Population/regulation/climate change issues are all important

- Lack of data, knowledge, and tools to support decision making
    - Need more info on groundwater modeling / surface water transport and modeling, to assess what water surface elevations are needed to improve situation
    - Incorporating SLR into modeling
    - Understanding changes in storm intensity and flooding etc. How should building codes be changed for development
    - Knowledge of climate impacts & adaptation
    - Storm surge scenarios seem extreme and are dismissed
    - Drought forecasting is a barrier, challenge, and difficult to develop
    - Uncertainty of population growth and impacts

- Water infrastructure limitations:
    - Need more storage to store excess water
    - Energy to use to move water around - cost effectiveness of pump, store and distribute
    - Salt water intrusion (encroaching on wellfields)
    - Increase in Lightning strikes-Disruption
    - River system supplies are limited
    - Variability with rain events limit river withdrawals; planning for resilience is challenging
    - Capability of getting the water to the high growth area in the County

- Public participation, communication and education issues
    - Communication of results to public and stakeholders
    - Public acceptance of climate change/adaptation
    - Public acceptance/perceptions of potable water reuse
    - Public participation in developing solution
    - Stakeholders who are unconvinced, or uninterested / don't understand

- Uncertainty of climate change data:
    - Future predicted in amount and timing of climatic data
    - Planning horizon uncertainties
    - Weather variables impacting us-Unknown
    - Future rainfall projections reliability

- Time constraints:
    - Timeframe for planning and engineering is not fast enough
    - Do not have luxury of time

- COVID has thrown a wrench in things

What are some of the barriers to incorporating climate resilience in FL water sector? What information or resources are you lacking?

SUCCESSES

What are some successes you've either participated in or seen/heard of?

- Collaboration across different levels of government
  - Seems to be a growing alignment between local, regional, and state agencies, etc. this helps with consistent messages for public support
  - Collaborating at state, national levels-sharing information and tools

- Regional climate change/resiliency compacts & coalitions
  - Southeast FL Regional Climate Change Compact
    - Unified SLR projections to help get past the discussion of how much to consider, to have an agreed upon SLR levels
    - Coordination; brings awareness
    - Good information and guidance
  - Tampa Bay Regional Resiliency Coalition
  - One Water Master Planning in process in Central FL

- City/County level resiliency efforts
  - Repair projects in Broward county are incorporating climate change
  - Boynton Beach - $75k grant for adaptation areas and evaluation of risk
  - Pinellas County (tools and resources)
  - Broward County rehabilitation programs
  - Seminole county water conservation
  - Tampa Bay Water (utility):
    - Indirect potable reuse along the Tampa coastal region
    - Demand Management Program (TBW w/member governments)
    - Regional water conservation program - reducing water use with members
    - Regional reservoir (C.W. Bill Young)
  - South Hillsborough Aquifer Recharge Program (SHARP): reclaimed water for direct or in-direct potable usage.
  - In-progress SE FL municipal efforts (many!)
  - Lakeland - Polk Regional Water Co-operative partnering together to plan for water resources supply and demand, while sharing costs and coordinating with the District
  - Interconnection in the Peace River region
  - FL Keys - elevation of structures and road options
  - Resiliency study at the whole City/County level
  - Resilient 305 (Miami)

- Restoration efforts
  - Everglades Restoration Projects - help to increase resilience to changing climate
  - 4G Ranch project (Pascoe County) for recharge and wetland restoration using reclaimed water

- State/National level examples:
  - Florida Water & Climate Alliance

    - FDEP Coastal Resiliency Grants - funded projects to increase resilience in our region
    - Use of ET data and SLR in modeling by Florida WMDs and USGS
    - FEMA is updating 100-year flood zone
    - FEMA is updating on raising well heads
    - Water Research Foundation Projects: climate change data impacting Utilities in US

- International level
    - Netherlands and Germany treat water from river and store in the ground to use in the future - effective implementation example

- Successful methods/approaches
    - Supply sources have to be diversified for; robust reclaim plan
    - Tying existing flooding issues to the discussion of the potential future - king tide scenarios as a window into the future
    - Incorporate LID projects
    - Development of desalination - which is not dependent on rainfall
    - Incorporating equity into resilience studies
    - Incorporating scientific interaction-better collaboration-data and tools
    - Public involvement/education
        - Acknowledgement of climate change impacts
        - Public becoming more aware as the changing climate has visible impacts
    - Using existing data and illustrations and plans like St. Pete and Tampa that address stormwater issues. Showing the issues related to existing issues such as king tide flooding, helps with acceptance (rather than showing extreme storm surge)

RESOURCES

What resources (websites, articles, data, groups for collaboration) do you know of that are available?

Funding:

- Cost share funds in districts--help utilities in alternative sources exploration
- District and State co-funding

Groups/organizations for collaboration or as a resource

- Southeast Florida Climate Compact - collaboration 4 Counties (Miami, Broward, Palm Beach and Monroe)
- EPA Programs and Resources on Water Resilience / Strategies
- Florida Water & Climate Alliance – webinars and workshops
- Water ReUse Association
- Water Research Foundation: Sewershed surveillance for COVID, resilience projects
- Florida State Resilience Officer & Chief Science Officer
- Water Management Districts
- Climate Central. Climate matters highlights
- City and County mitigation strategies and plans:
    - Palm Beach County Local mitigation strategy

    - Pinellas County
    - Resilience 305
- Universities:
    - Local universities monitoring data
    - UF; UF-IFAS Extension - some counties have resilience and sustainability agents: South FL and IRL
    - FIU
    - UMRSMAS
    - Yale Climate Central

Web tools, data, maps, projections:

- NOAA
    - NOAA National Centers for Environmental Information. Climate at a glance: Statewide time series.
    - NOAA National Centers for Environmental Information. Climate at a glance: Global mapping.
    - NOAA National Centers for Environmental Information. State of the climate: National climate report for April 2020.
    - NOAA Office for Coastal Management. 2020. Sea level rise viewer.
    - NOAA Center for Operational Oceanographic Products and Services. 2020a. Tides and Currents.
    - NOAA Center for Operational Oceanographic Products and Services. 2020b. Tides and Currents.
    - National Weather Service. River observations. Advanced Hydrologic Prediction Service.
    - NOAA National Centers for Environmental Information. U.S. Climate Extremes Index. Graph, Southeast, Extremes in Days with/without Precip (Step 5*).
- USGS:
    - USGS. Water level and salinity analysis mapper.
    - USGS. USGS current water data for Florida. Daily streamflow conditions.
- NASA
- FEMA
- US ACE Models
- The Climate Explorer. 2020.
- U.S. Climate Resilience Toolkit. 2020. Water Resources Dashboard.
- U.S. Global Change Research Program. n.d. USGCRP indicators catalog.
- Simeral, D. 2020. U.S. Drought Monitor Southeast. March 31, 2020. University of Nebraska-Lincoln National Drought Mitigation Center, United States Department of Agriculture, and National Oceanic and Atmospheric Administration.
- The Southeast Regional Climate Center. Southeast climate perspectives. The University of North Carolina – Chapel Hill.
- USEPA. Climate change indicators: Heavy precipitation.
- Regional storm surge and SLR projections
- Climate change project data
- Seasonal forecast of 32 variables available to share
- Local and national data on sea level rise