

Regional Water Supply Planning Integrating Climate Considerations



FLORIDA WATER & CLIMATE ALLIANCE

NOVEMBER 5, 2014

**Barbara Powell, Water Resource Manager
EPCRD, Broward County**

Presentation Outline



- Review: Comprehensive Planning & Water Supply Facility Work Plans
- Integrating: Climate change impacts with water supply facility planning
- Tools available for water supply managers and planners

Water Supply Facility Works Plans



- Updated within 18 months after Regional Water Supply Plan updated– Lower East Coast Water Supply Plan Update- **Sept. 2013**
- 10 yr. planning horizon minimum
- **Data and analysis** demonstrating that adequate water supplies and associated public facilities will be available to meet projected growth demands
- Identify conservation and reuse measures to meet future needs

Water Supply Facility Works Plans

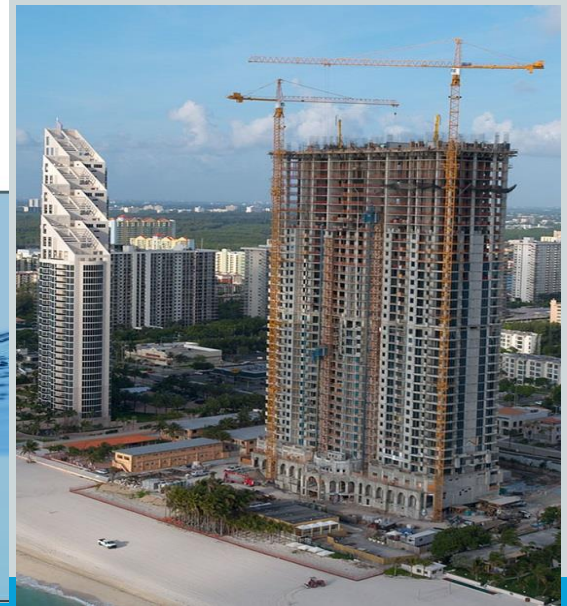
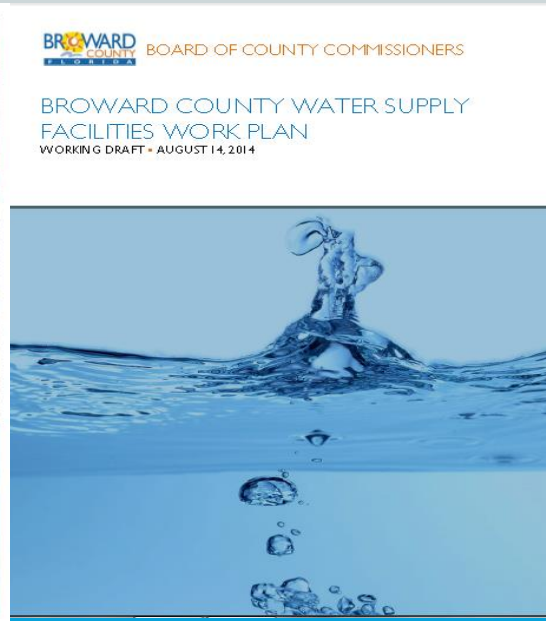
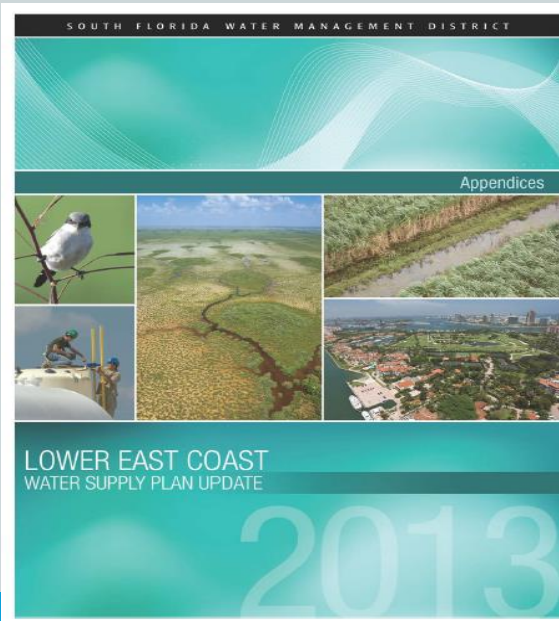
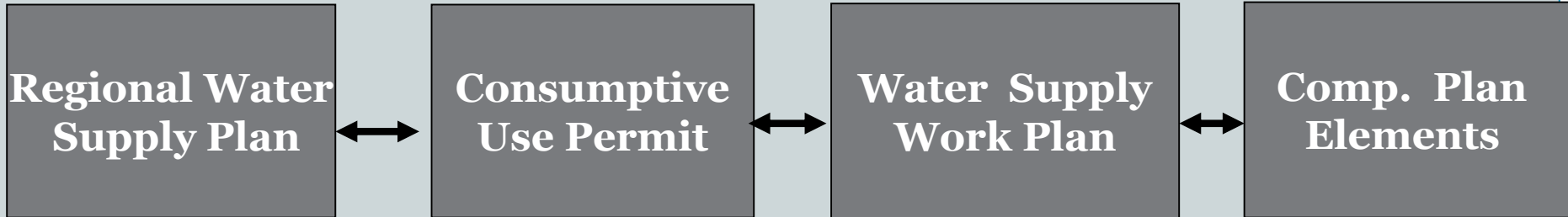


- Assess **annually** and **update** the status of project development and potential funding sources
- Utilize to **identify** and **plan** for water supply sources and facilities needed to serve existing and new developments
- Use to **prioritize** and coordinate the expansion and upgrade of facilities

Water Supply Challenges



Consistency of Water Supply Projects



Using the WSP Facility Works Plans



Formats:

- Facility Master Plans
- Consumptive Use Permitting
- Capital Improvement Programs

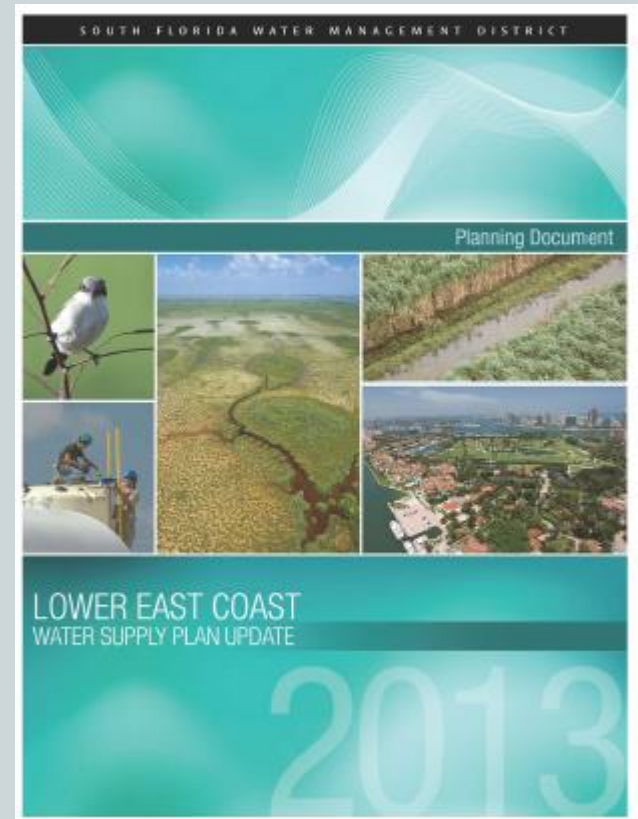


If Data and analysis is consistent & transferable this can be used for many other programs

Comprehensive Planning



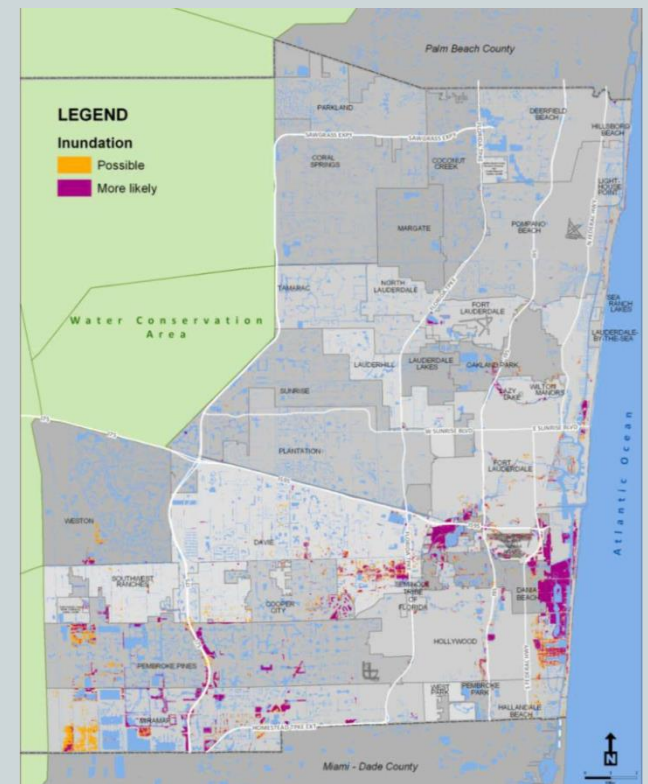
- Updated within 18 months after Regional Water Supply Plan updated
- Based upon the **data and analysis**, and include goals, objectives and policies necessary to implement the Water Supply Facilities Work Plan



Comprehensive Planning

Elements Updated

- Potable Water
- Sanitary Sewer
- Conservation
- **Climate Change**
- Stormwater/Drainage
- Coastal Management
- Intergovernmental Coordination
- Capital Improvement



Climate Impact Integration



SE Florida Regional Climate Change Compact 2010

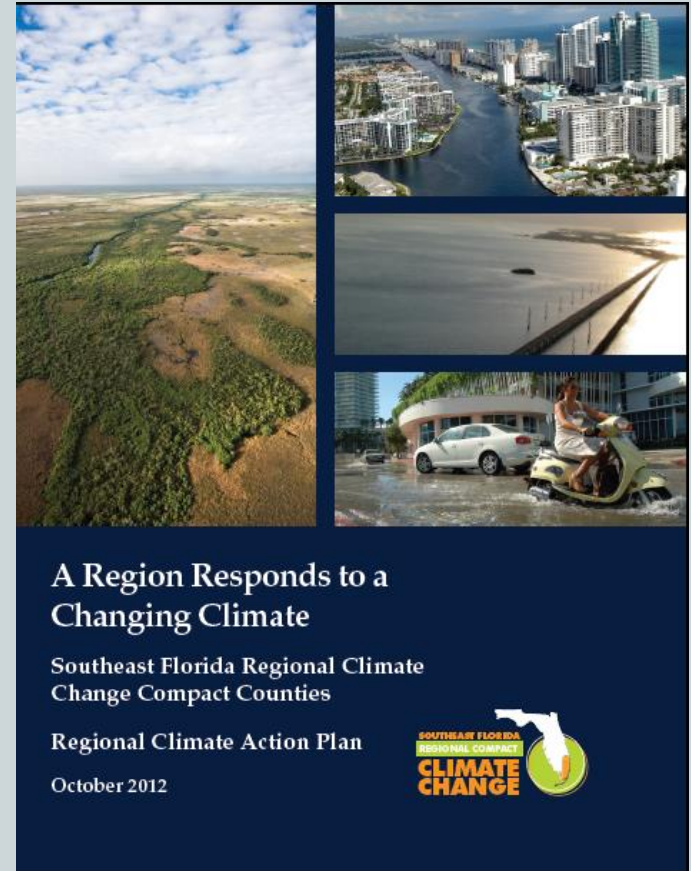
The screenshot displays the website's navigation menu and a grid of document cards. The navigation menu includes: Who We Are, Calendar, Compact Documents, Related Links, News, The Summit, and a search icon. The document cards are as follows:

- Analysis of the Vulnerability of Southeast Florida to Sea Level Rise**
Category: Supporting Documents
Analysis of the Vulnerability of Southeast Florida to Sea Level Rise
- A Unified Sea Level Rise Projection for Southeast Florida**
Category: Supporting Documents
The white paper on sea level rise projections for use in Compact planning as developed by the SLR Technical Ad Hoc Working Group.
- Integrating Climate Change & Water Supply Planning In Southeast Florida**
Category: RCAP Implementation Support Guidance Series
This Compact Guidance Document is one in a series of publications designed to assist county and municipal policymakers, administrators and program staff with the nuts and bolts of voluntarily implementing the 110 recommendations contained within the Southeast Florida Regional Climate Change Compact's 2012 Regional Climate Action Plan. The publication series is produced by the Institute for Sustainable
- Adaptation Action Areas write Paper**
Category: Supporting Documents
Adaptation Action Areas White Paper
- Regional Greenhouse Gas Emissions Inventory: Baseline Period 2005 -2009**
Category: Supporting Documents
The Regional GHG Emissions Inventory documents baseline emissions from the Transport and Built Environment Sectors from 2005—2009.
- Policy & Advocacy Implementation Report**
Category: Supporting Documents
Policy & Advocacy Implementation Report
- Implementation Guide**
Category: Southeast Florida Regional Climate Action Plan
The purpose of this guide is to provide guidance and suggestions for implementation. Recognizing that implementation can be a daunting task, the Compact Staff Steering Committee and the work group chairs have presented information here to facilitate the thought process involved in planning and decision making. This is not intended to be an exhaustive guide, but rather provide sufficient information to prompt discussion that can be tailored to the individual requirements and needs of the implementing jurisdiction(s).

Climate Impact Integration



- 2012 - Regional Climate Action Plan (RCAP) completed
- 110 recommendations
- 2012 – Awarded Kresge Implementation Grant



RCAP Implementation Workshops



Integrating Climate Change & Water supply Planning

- Designed to support Water Supply Planning Process and Comp Planning
- Regional attendance
- Broad participants
 - Planners
 - Water utilities
 - Water managers
 - Consultants



Planning Considerations



- Review of challenges, information, and needs
- Presentation of regional data
 - Sea level rise projections
 - Saltwater intrusion maps
 - Narrative text
 - Model goals, objectives and policies



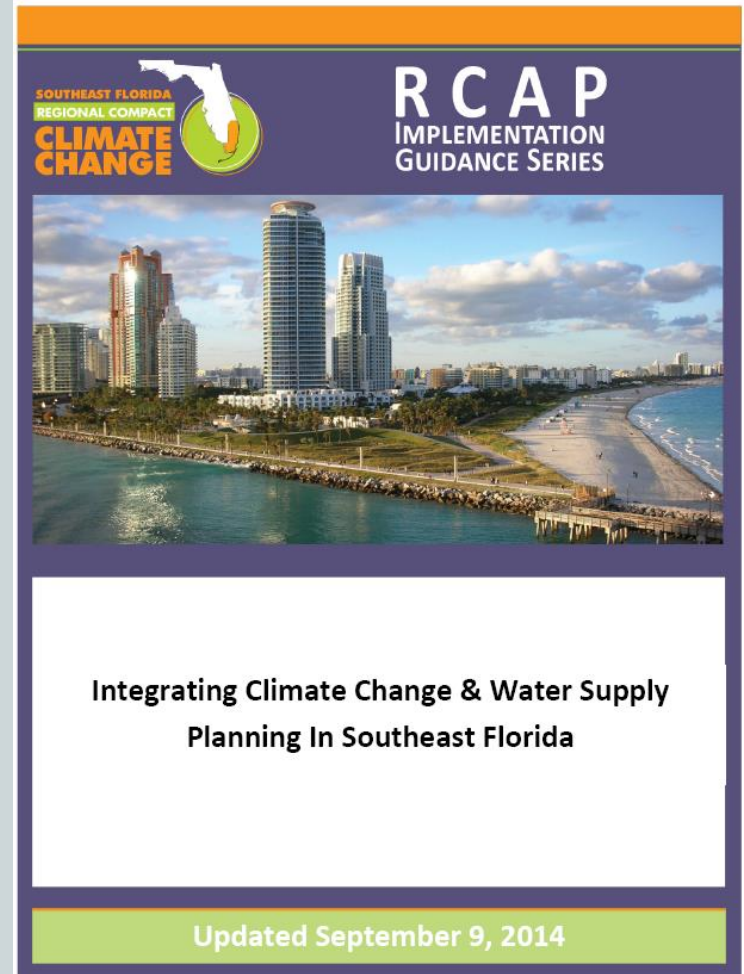
Climate Change Planning Tools

Guidance Document: *Integrating Climate Change & Water Supply Planning In Southeast Florida, Sept. 2014*

*For more on the Southeast Florida Regional
Climate Change Compact:*

www.southeastfloridaclimatecompact.org

*For more on the Institute for Sustainable
Communities: www.iscvt.org*



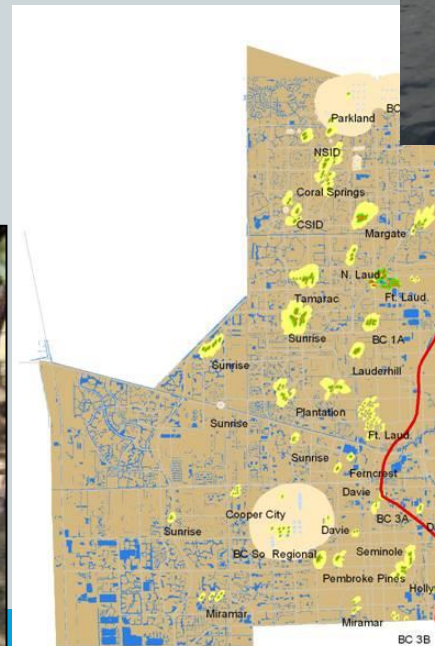
Compact Guidance Document



- Background/Issues & Model Language
- Available Maps, Projections and Technical Tools
- Model Goals, Objectives and Policies
- Linking Strategic Goals, Objectives and Policies to Local Comprehensive Planning
- Comprehensive Planning Statutory Provisions
- Additional Reference Materials

Planning Considerations

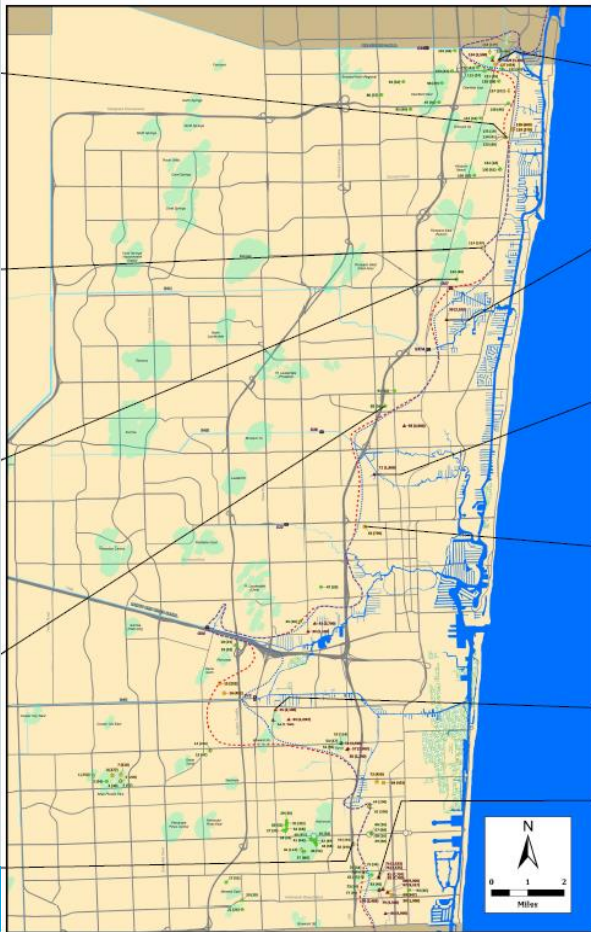
- Increasing SLR
- Saltwater Intrusion
- Extreme Events
- Infrastructure Investments



Planning Tools



Broward County
 Estimated Position of the Saltwater Interface
 Surficial Aquifer System
 March/April/May 2014



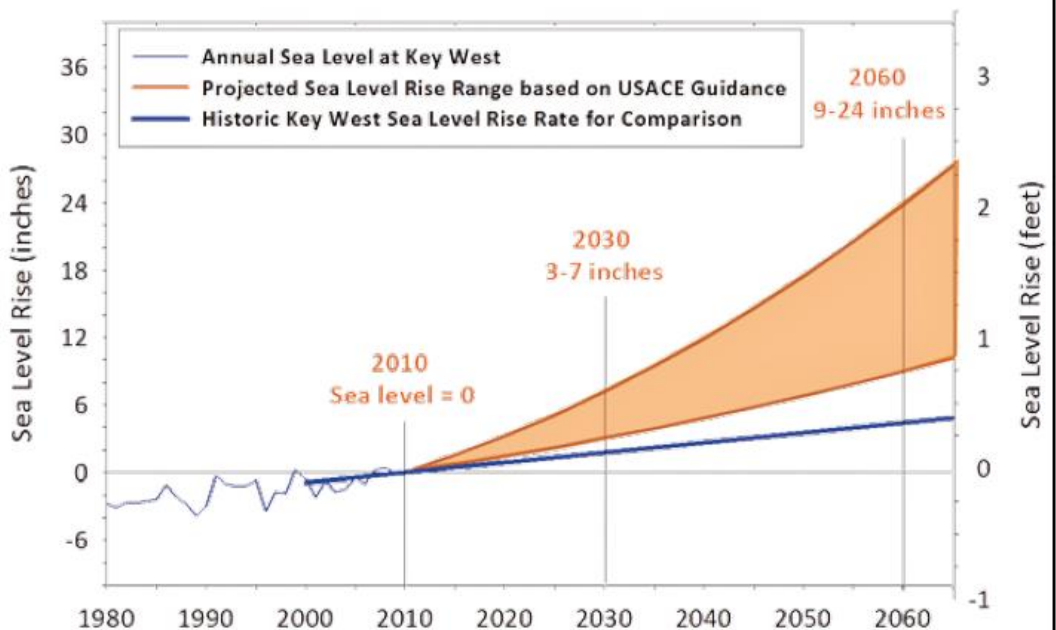
SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Utilities of Concern in the
 Lower East Coast Region
 and
 Lake Okeechobee Service Area
 September 27, 2007



SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Water Utilities
 WATER DEMAND REDUCTION
 During the
 2007-2009 Water Shortage Restrictions



Example: Model Climate Change GOPs



Potable Water Sub-Element:

Assess the adequacy of water supply infrastructure to effectively capture, store, treat, and distribute potable water under variable climate conditions, including changes in rainfall patterns, sea level rise, and flooding, with potential water quality and quantity impacts.

Example: Model Climate Change GOPs



Capital Improvement Element:

Coordinate adaptive management implementation strategies for water and wastewater resources that address the potential impacts of climate change for long-term operations.



Linkage of Strategies to GOPs



Demonstrates how to link the model goals, objectives and policies to various sections within planning documents

Example:

- Ensure a sustainable, climate resilient community (1,2,3,4,5,6,7,8,9)
- Adopt revised storm design maps for stormwater and environmental permitting (5,6,7)

Key to the Strategy to Comp Plan Element Mapping

1. Potable Water
2. Sanitary
3. Conservation
4. Climate Change
5. Stormwater/Drainage and Natural Aquifer Groundwater Recharge
6. Coastal Management
7. Future Land Use
8. Intergovernmental Coordination
9. Capital Improvement

Statutory Provisions



Section 163.3177(1)(f), Florida Statutes

Data and analysis. All mandatory and optional elements of the comprehensive plan and plan amendments must be based upon relevant and appropriate data and an analysis by the local government that may include, but not be limited to, surveys, studies, community goals and vision, and other data available at the time of adoption of the comprehensive plan or plan amendment. (§163.3177(1)(f), F.S.)

Section 163.3177(4)(a), Florida Statutes

Coordination of the local comprehensive plan with the comprehensive plans of adjacent municipalities, the county, adjacent counties, or the region; with the appropriate water management district's regional water supply plans approved pursuant to s. 373.709; and with adopted rules pertaining to designated areas of critical state concern must be a major objective of the local comprehensive planning process. (§163.3177(4)(a), F.S.)

Section 163.3177(3)(a), Florida Statutes

The comprehensive plan must contain a capital improvements element designed to consider the need for and the location of public facilities in order to encourage the efficient use of such facilities and set forth: (§163.3177(3)(a), F.S.)

The capital improvements element must be reviewed by the local government on an annual basis. (§163.3177(3)(b), F.S.)

Water Supply Plan Support/SFWMD

SFWMD Offers Support and Expertise

The District offers technical assistance and expertise to local, regional and state agencies on water resource issues and policies. The District seeks to establish ongoing partnerships based on strategic collaboration.

These collaborative intergovernmental partnerships include a wide range of commitments: »

Water Supply Facilities Work Plans

A Water Supply Facilities Work Plan identifies and plans for the water supply sources and facilities needed to serve existing and new development within a county's or municipality's jurisdiction. Within 18 months of the District adopting or updating a Regional Water Supply Plan, each local government within that region must prepare and adopt a Work Plan that will become part of its comprehensive plan.

The District has the following tools available to assist local governments in developing their Work Plans: »



Additional Planning Tools



SE Florida Regional Climate Change Compact

Climate Change Element

Adaptation Action Areas

Florida DEO

CLIMATE CHANGE ELEMENT

- b) Negotiating inter-local agreements with County, State, municipal and private entities to share existing and proposed infrastructure; and
- c) Developing expedited permitting processes for private installation of alternative fuel and electric vehicle charging infrastructure.

Mitigation, Protection and Adaptation within the Transportation System

Objective 19.2. Advance transportation and land-use choices that: reduce fossil fuel use and vehicle miles travelled; improve the mobility of people, goods and services; provide a diverse, efficient and equitable choice of transportation options; and increase the County's resiliency to the impacts of climate change.

Policy 19.2.1. Broward County shall promote efforts to create a regionally coordinated and effective public transportation system throughout Southeast Florida, in order to reduce vehicle miles travelled and carbon emissions by:

- a) Providing infrastructure and support facilities to encourage and enhance the use of public transit;
- b) Maintaining consistency with the Broward MPO 2035 Long Range Transportation Plan, which focuses on the enhancement of transit; and
- c) Establishing a regional vehicle miles travelled reduction target and a mechanism to annually evaluate progress toward the target.

Policy 19.2.2. Broward County shall continue to support and coordinate with local municipalities to further mixed land uses which promotes functional, walkable mixed-use development designs and projects by providing flexibility in development review for these projects, revising the zoning and land development codes to support such projects, and promoting the adoption of specific goals in local Comprehensive Plans to support and establish sustainable development patterns, especially in areas at reduced risk to sea level rise, as defined by the Priority Planning Areas for Sea Level Rise Map in the Broward County Land Use Plan.

Policy 19.2.3. Broward County shall continue to support linking the broad range of local and state infrastructure investments to improve and integrate mixed land use patterns and transit corridors that promote multi-modal transportation options in order to encourage reductions in vehicle miles traveled and greenhouse gas emissions, improve energy efficiency, increase affordable housing proximate to urban work centers, and make progress toward other sustainability and quality of life measures.

Policy 19.2.4. Broward County shall support, and encourage all local municipalities to include, within their adopted comprehensive plans, policies and standards which encourage connectivity between all modes of transportation, and improve access to and availability of low carbon emission mobility options.



RCAP IMPLEMENTATION WORKSHOP

August 28, 2014
10 AM - 4:30 PM

Allie Hob Nativé Center | 751 Sheridan Street | Hollywood

Adaptation Action Area Planning

AGENDA

Pursuant to Florida Statutes 183.3 (8)(4), Adaptation Action Area (4444) or adaptation area means a designation in the coastal management element of a local government's comprehensive plan which identifies one or more areas that experience coastal flooding due to extreme high tides and storm surge and that are vulnerable to the related impacts of rising sea levels for the purpose of prioritizing funding for infrastructure needs and adaptation planning. The purpose of this workshop is to provide planners and other local government professionals with information and ideas for implementing 4444s.

How Countries, States, and Florida Address Sea Level Rise

A Compendium of Climate Adaptation Research



Additional Planning Efforts



Sea Level Rise Workgroup

- Providing recommendation for potential update of Compact's Unified SLR Projection
- Focused on review of state of science and findings from IPCC and National Climate Assessment
- Likely focus on projection timeline as well as range
- Recommendations expected by December 2014

Stormwater Workshop-- Upcoming



Questions?



Barbara Powell

Water Resource Manager

bapowell@broward.org

(954) 519-0356

Environmental Planning and Community Resilience
Division, Broward County, FL