

Sea Level Rise Recommendations, Planning, and Practice



**SOUTHEAST FLORIDA
REGIONAL COMPACT
CLIMATE
CHANGE**



Nichole Hefty, Chief

Office of Sustainability

Planning Division

Miami-Dade County Department of
Regulatory and Economic Resources

Debbie Griner

Sustainability Initiatives Coord.

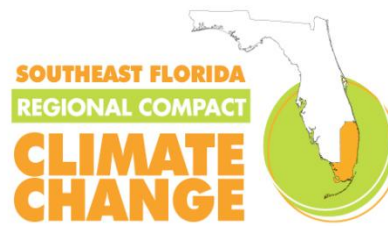
Office of Sustainability, Planning Division

Miami-Dade County Department of
Regulatory and Economic Resources

Topics

- Brief Compact History and Structure
- GreenPrint Overview
- Progress Update & Common Themes
- Discussion on Purpose of Task Force/Next Steps

Regional Response



Fully Ratified January 2010

Commitments include:

Policy Collaboration

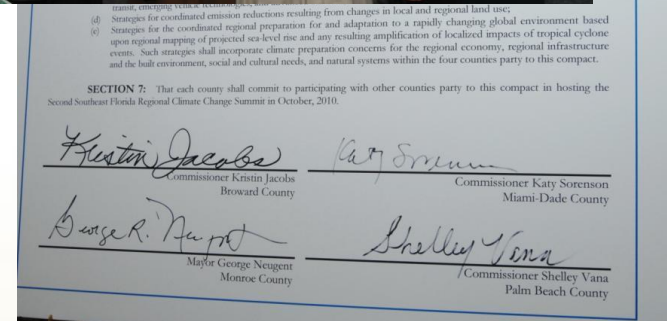
Develop Regional Tools

- *Unified SLR Projection*
- *Initial Vulnerability Assessment*
- *GHG Emissions Baseline*

Create a Regional Action Plan

- Mitigation and adaptation strategies

Convene Annual Summits

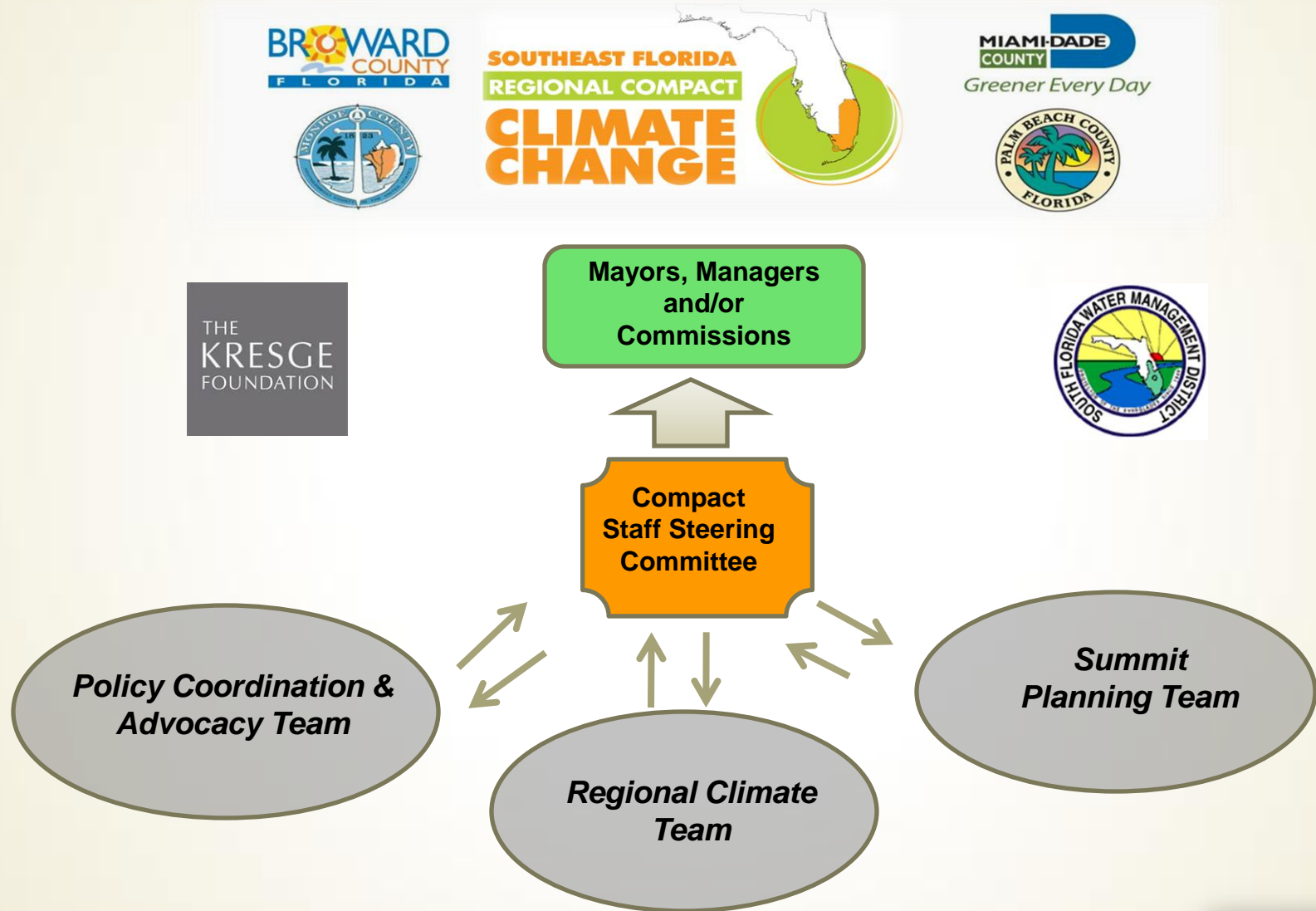


Miami-Dade County Sea Level Rise Task Force

November 21, 2013



Compact Structure



Miami-Dade County Sea Level Rise Task Force

November 21, 2013

Expansion of Steering Committee in 2012

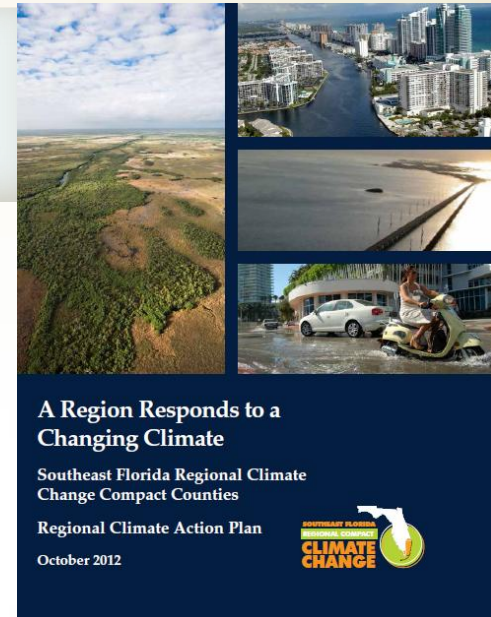
- **Municipal Representation**
 - City of Boynton Beach
 - City of Fort Lauderdale
 - City of Miami Beach
 - City of Key West
- **Environmental Representation**
 - Chris Bergh, Nature Conservancy



The Regional Climate Action Plan

*To **integrate** climate adaptation and mitigation into existing systems.
To implement through existing local and regional organizations.
5 year timeframe*

- **Sustainable Community and Transportation Planning**
- **Water Supply, Management and Infrastructure**
- **Risk Reduction and Emergency Management**
- **Energy and Fuel**
- **Natural Systems and Agriculture**
- **Outreach and Public Policy**

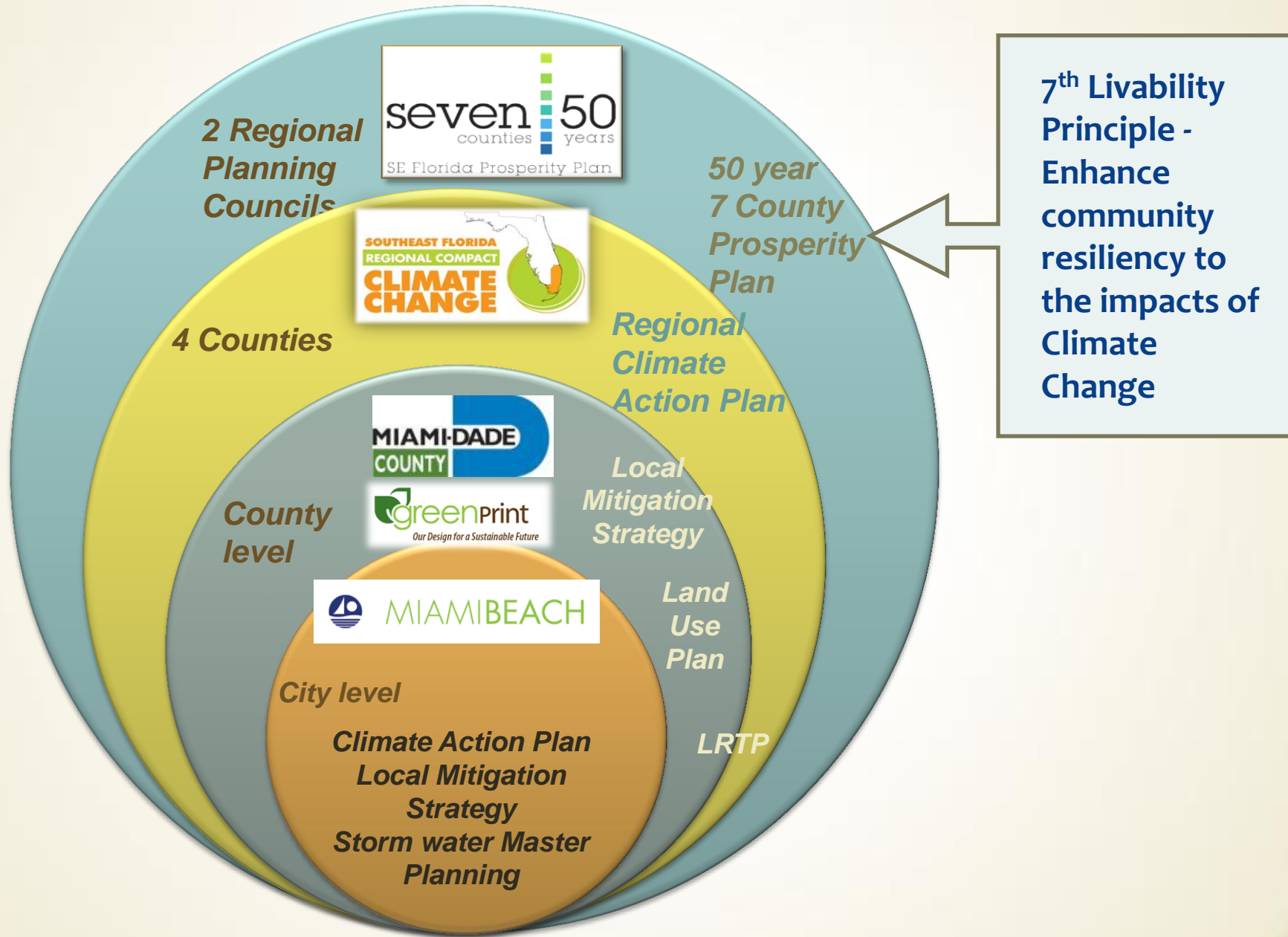


*Includes companion
Implementation Guide*

*>100 Recommendations
Adaptation and Mitigation*

[Download at www.southeastfloridaclimatecompact.org](http://www.southeastfloridaclimatecompact.org)

Building Livability and Resilience at Every Scale of Government



Local Response...

5 Year Plan

137 Initiatives

29 Strategies





the County's first Sustainability Plan

- County and community –wide action plan
- Culminates in County's 1st climate action plan
- Estimated to reduce 1.5 million mt of GHG over the first 5 yrs
- Estimated savings \$73,000,000 per year if fully implemented
- Preparing Progress Report
- Completed initiatives include: *Implement EECBG Projects, complete the AirportLink, Develop a Green Business Certification Program, Designate Bicycle Space on Metrorail Cars, Construct Earthen Plug in Card Sound Road Canal*



Understand and respond to current and future climate change impacts

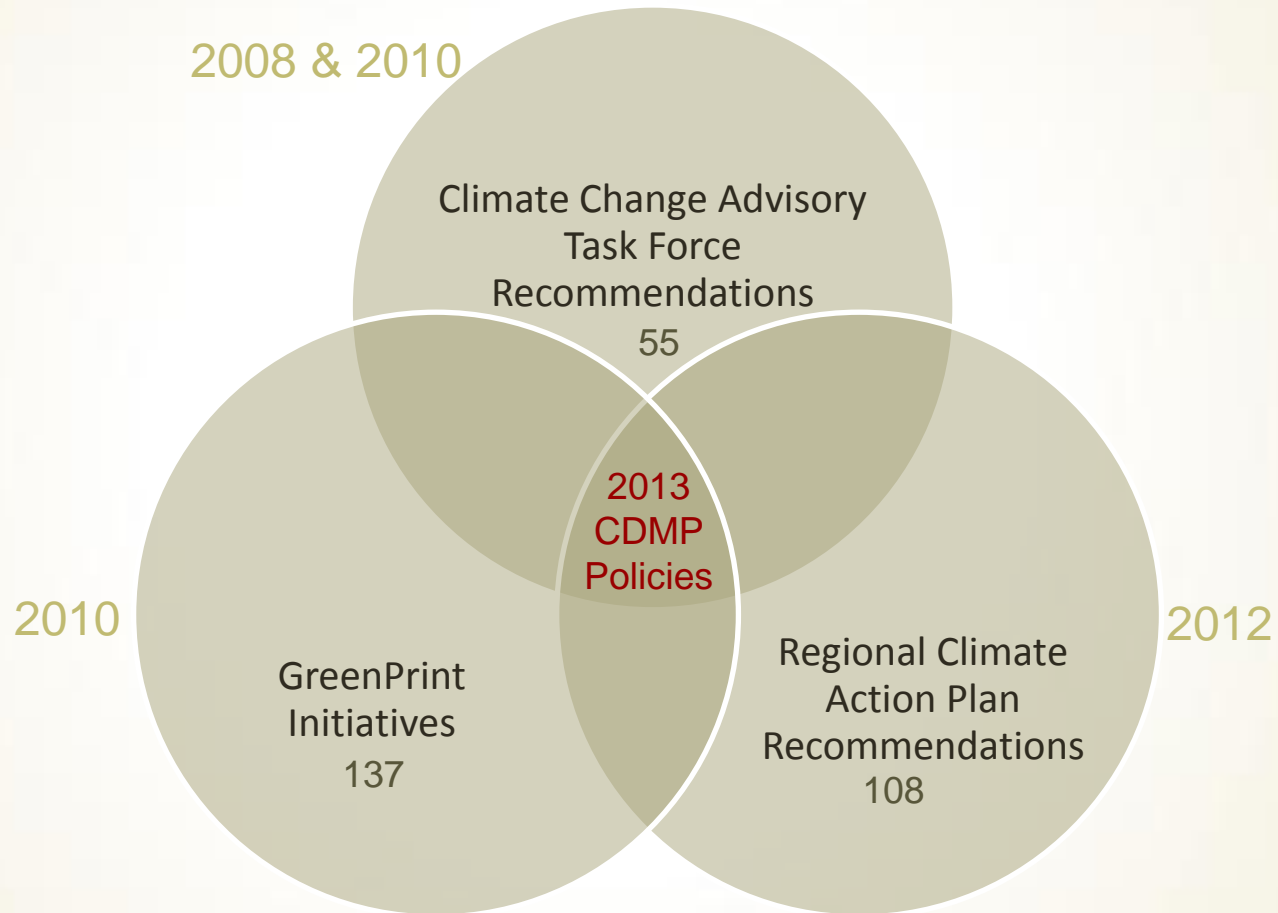
CLIMATE CHANGE ADAPTATION

- ❑ Prepare our community for the future impacts of climate change
- ❑ Communicate the need and urgency for action
- ❑ Turn science into action

Strategies

- Track local and regional climate change indicators and trends
- Develop local and regional climate change scenarios depicting various impacts and time frames
- Integrate future climate change impacts into community and government decision-making for capital, operational, and land-use issues
 - Continue to participate in and support the SE Florida Regional Climate Change Compact

Progress & Common Themes



CDMP – Comprehensive Development Master Plan

County Policy as a Strong Foundation

- Climate Change policies woven into existing elements

Land Use



Transportation



Water, Sewer & Solid Waste



Coastal Management



Conservation, Aquifer Recharge & Drainage



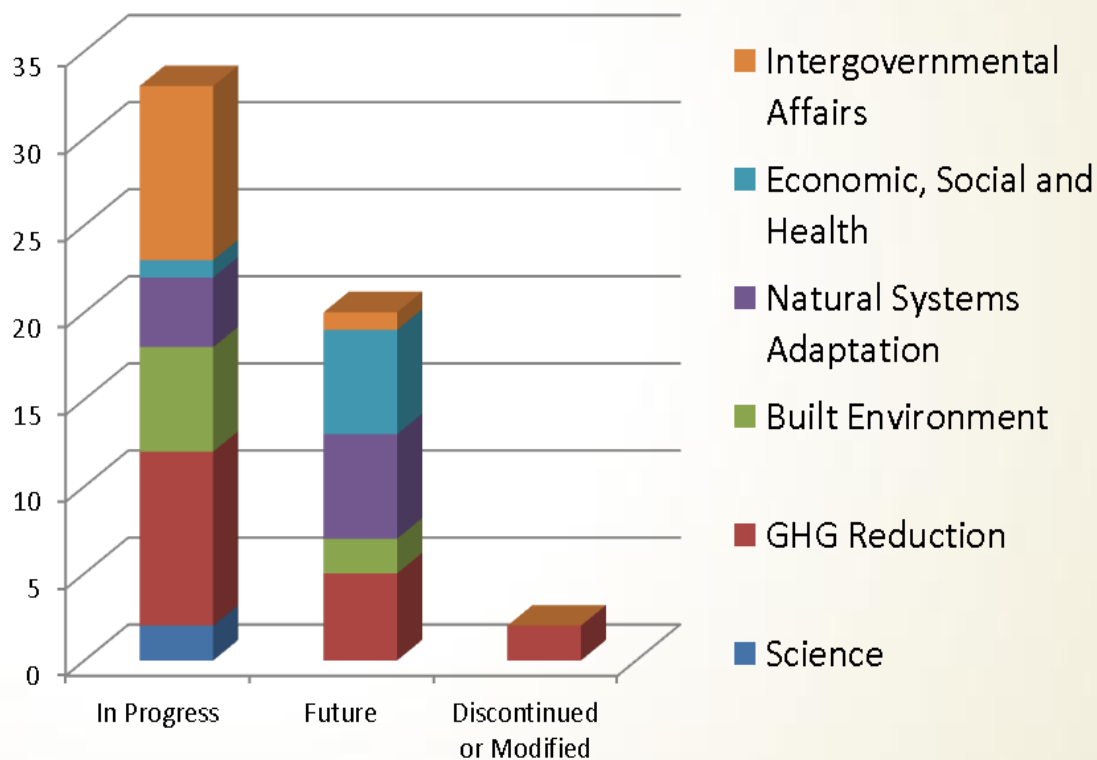
Intergovernmental Coordination



Climate Change Advisory Task Force

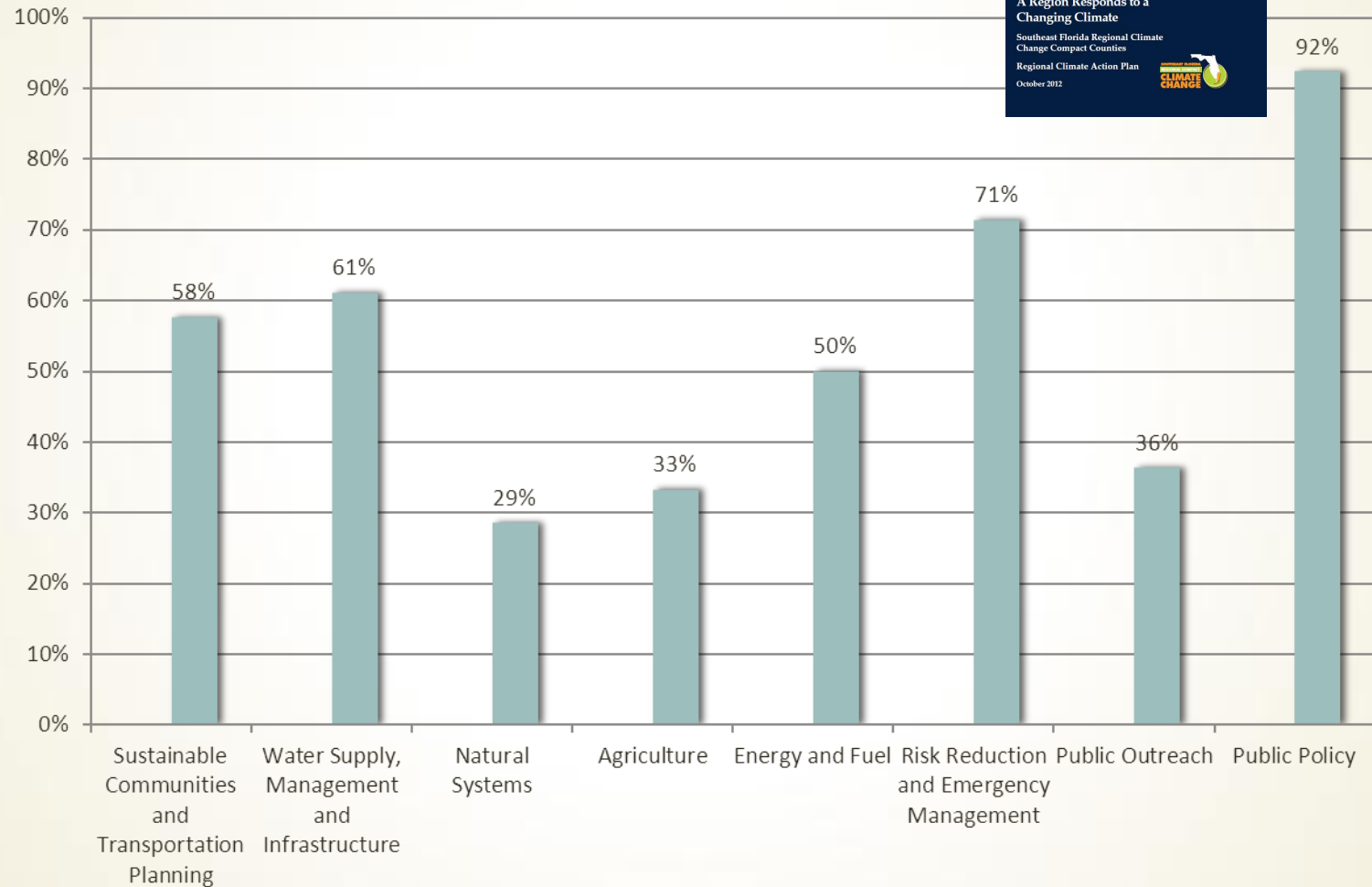
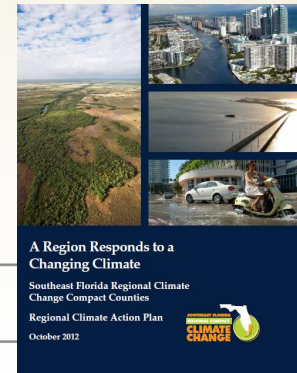
2008 – 35 Recs
2010 – 20 Recs

60% In Progress
36% Future Action
4% Discontinued/Modified
29 addressed in GreenPrint
33 addressed in the RCAP



Regional Climate Action Plan


Progress Scan



Compact Implementation Workshops: 2013 (2)
2014(8)

Tracking Progress

- Implementation Guide – partners, funding sources, milestones, and progress indicators
- Provides framework for local policies and action
- Recognizes differences in governing structures –
implementation can be tailored to individual needs of partners

Action #	RECOMMENDATION	PLANNING HORIZON	POTENTIAL PARTNERS	POTENTIAL FUNDING SOURCES	POLICY AND/OR LEGISLATION NEEDED	ESTIMATED RESOURCES REQUIRED	MILESTONES PROGRESS
AS PER REGIONAL CLIMATE ACTION PLAN		SELECT ONE	ADD OR DELETE	ADD	ADD	ADD	ADD
SUSTAINABLE COMMUNITIES AND TRANSPORTATION PLANNING (SP)							
SP-1 	Support Implementation of the Regional Climate Action Plan by including recommendations from the Plan into existing land use and policy decisions and related elements of the municipal and county Comprehensive Plans, as appropriate; and recognize the Plan as a basis for the development of new goals, objectives and policies through the appropriate local government Comprehensive Plans.	Immediate (0-2 years)	Regional Planning Councils, County and City Agencies, FDEO, Compact	US EPA, NOAA, FDEO, RPC's	Yes	Existing staff resources FLDEO Project of Special Merit	Finalization and Adoption of updated comp plan Develop and apply appropriate models to improve mapping Completion of FLDEO Project of Special Merit

Future	In Progress	Completed
28	47	10

Water and Energy Efficiency

13	Continue to implement the Water Use Efficiency Plan and the Non-Revenue Water Loss Plan initiatives to meet established reduction targets	58%	58%
14	Incentivize energy efficient development prioritizing walkable, transit-oriented areas	10%	10%
16	Promote and create innovative financing for energy efficiency	20%	20%
17	Create a Miami-Dade Energy Alliance with a diverse group of stakeholders to implement sustainable energy and building management system retrofits and practices that conserve energy, natural resources, and provide reinvestment savings	0%	0%
18	Continue to implement current campaigns and pursue additional funding	58%	58%
21	Develop and implement a government energy efficiency master plan	20%	20%
22	Continue to implement Energy Star Portfolio Manager Benchmarking of County facilities	5%	5%
25	Retrofit government facilities according to water efficiency audit recommendations	58%	58%

Our Environment

31	Implement Wastewater Reuse Projects consistent with the 20-Year Water Use Permit and the Miami-Dade Water and Sewer Department Master Plans to recharge the Biscayne Aquifer	0%	0%
34	Formalize an interagency working group to evaluate and address issues associated with salt water intrusion	0%	0%
35	Monitor the isochlor line and address spatial gaps in salt intrusion data gathering	60%	60%
36	Construct a water control structure on/near the Florida City Canal to isolate this canal from South Florida Water Management District's dry season agricultural drawdown	30%	30%
37	Construct a earthen plug at the Card Sound Road Canal	100%	100%
38	Continue to minimize the impact of development on natural resources such as air, wetlands, Biscayne Bay and coastal habitats, natural forest communities, and trees through regulatory programs	80%	80%
39	Identify dedicated funding sources for beach renourishment projects to maintain quality beaches and minimize the negative impacts of storm events	0%	0%
40	Continue to enhance and restore coastal habitats important for the health of Biscayne Bay	50%	50%
41	Develop appropriate indicators of the status and health of the resources of Biscayne Bay, through a collaborative approach with academic, governmental, nongovernmental organizations, and stakeholder entities	50%	50%

A Few Examples

In Progress

- Science Cte Statement of SLR used in development of the Regional Unified SLR Projection (A1)
- Ag Purchase of Development Rights Program – acquired additional \$6.5 million USDA funds (D5)
- Infrastructure planning / design (C-1)
 - 2006 Increase BFE 0.5 ft for the High Level Disinfection project
 - 2010 Increase 1.5 ft above the 100 yr flood level (designed, project cancelled)
 - Contracts for WASD improvements incorporate SLR
- Transportation Infrastructure – FHWA Vulnerability Pilot Project with 3 MPOs (C-5)
- Survey of Miami-Dade County municipalities to underway (F-1)

A Few Examples

In Progress

- Participation in the “Florida Water and Climate Alliance” - a collaborative effort to assist Florida’s Public Water Supply Utilities in integrating climate change in planning and operation (F-2)
- Drainage improvements to the FL City Canal - installation of an earthen plug within the Old Card Sound Road Canal, including the planting of mangroves to form a wetlands community (D-8)
- WASD/USGS Groundwater/Surface Water Modeling Project
- Use Analysis of 500-year events in Stormwater Master Planning for critical infrastructure/facilities
- Include surge protection criteria in coastal areas for Stormwater Master Planning

A Few Examples

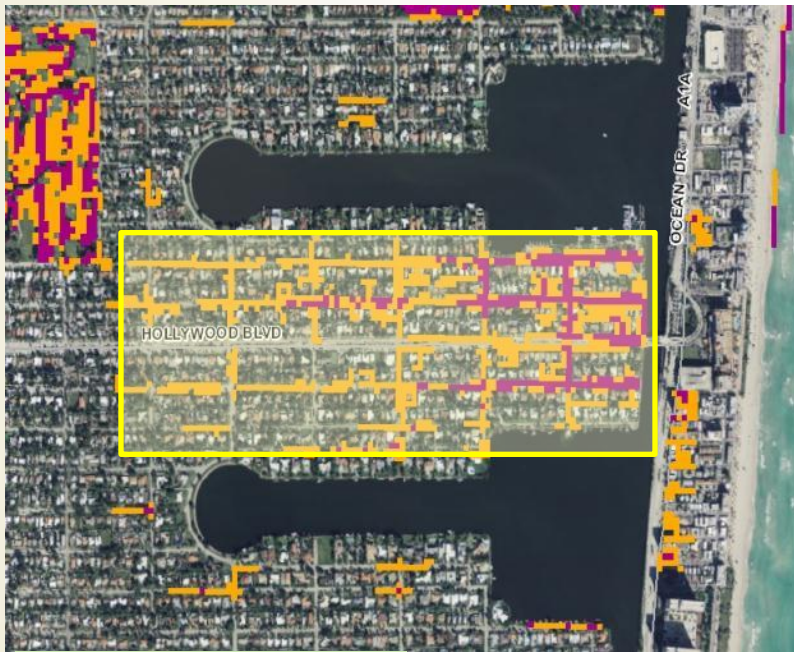
Future

- Develop Vital Signs (D-9)
- Consider SLR in design, location, and development of infrastructure and public facilities
- All County department plans include adaptation strategies
- Create a plan to locate infrastructure and dev. outside coastal or flood hazard prone areas using projections of SLR to identify those areas (D-4)
- Direct future population concentrations away from vulnerable areas

Implementation Tool

Adaptation Action Areas (AAA)

1-Foot SLR Scenario



LEGEND

Inundation

- Possible
- More likely

Example
AAA

Florida Law now allows local governments to:

- Designate AAA for the purpose of
 - Identifying areas of SLR/Coastal flooding concern
 - Prioritizing funding for adaptation
- Working regionally on a “how to” guide
- Working with Ft. Lauderdale on pilot implementation

A word from the Chair...

“For the plans that are developed or that will be developed for the infrastructure construction, I want to bring to your attention the importance that it has to include the possibilities of the sea level rise in every detail of the infrastructure. We have seen that it’s happening in Miami-Dade County. We see that the State of Florida is placed on the map as one state that is in incredible danger because of the changes in climate and in weather. If we don’t spend our money the proper way, creating the infrastructure that is necessary taking into consideration sea level rise we will be mispending that money because we will have to come back and we will have to fix the infrastructure. Now is the moment to have that into consideration for a safe Miami-Dade County and for spending the money safe.”

<http://miamidade.gov/wps/portal/Main/webcasting>

Miami-Dade Board of County Commissioners Meeting

November 19, 2013

Agenda Item 1B6 – Update by the Water and Sewer Dept. on the Infrastructure Program



Miami-Dade County Sea Level Rise Task Force

November 21, 2013



SLR Task Force

Purpose and Deliverables

- Purpose: Review the relevant data and prior studies, assessments, reports, and evaluations of the potential impact of sea level rise on vital public services and facilities, real estate, water and other ecological resources, water front property, and infrastructure,
- Deliverables:
 - Provide a **comprehensive and realistic assessment of the likely and potential impacts of sea level rise** and storm surge over time
 - Develop a **set of recommendations relative to** amendments to the Comprehensive Development Master Plan, capital facilities planning, budgetary priorities and other **County programs**

Discussion & Next Steps

- What are the gaps, additional information needed to complete “review of relevant information”?
- What information is needed to recommend:
 - Rate of estimated sea level rise and timing?
 - Method to establish vulnerability and priority adaptation areas?
 - Implementation strategies for CDMP Policies, capital facilities planning, budgetary priorities?
 - Priorities and propose a schedule or trigger mechanism for policy and project implementation?

