Planning for Sea Level Rise: Broward County Responds

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About 1000 Friends of Florida:

- Founded in 1986, 1000 Friends of Florida is a 501(c)(3) nonprofit membership organization.
- We work to save special places and build better communities.
- We educate, advocate and negotiate to protect Florida’s high quality of life.
- Our bipartisan board of directors includes advocates and experts from across the state.
- Visit [www.1000friendsofflorida.org/alerts/](http://www.1000friendsofflorida.org/alerts/) to sign up for email alerts!
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Upcoming DeGrove Webinars:

- **Registration Open:** November 12, 2014, Noon to 1:30 p.m. Planning for Complete Streets in Florida
- **Wednesday, December 10, Noon to 1:30** Planning for Greenways: Florida’s Expanding System of Regional Connectors
- **January 14, 2015, Noon to 1:30 p.m.** Planning for Sea Level Rise: Legal Issues Facing Florida
- **February 11, 2015, Noon to 1:30 p.m.** Victor Dover on Street Design: The Secret to Great Cities and Towns
- **March 11, 2015, Noon to 1:30 p.m.** 2015 Florida Legislative Update
10-question anonymous Florida Sea Level Rise Survey on local and regional planning efforts at www.surveymonkey.com/s/FloridaSeaLevel
This Webinar Has Been Approved For:

- 2.0 AICP CM (#e.27939) for Planners
- 2 contact hours for Certified Environmental Health Professionals
- 1 CEC for Certified Floodplain Managers
- CLE (#1405924N) for Florida attorneys
QUESTIONS

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- Please click on “+” sign and type any questions in this box
- Please refer to the slide number and/or speaker when you post your question
- Please keep your questions succinct!
- Staff will ask the presenters questions, as time permits
- Please complete the survey in the post-webinar email
Presenters
- County-wide water resource policy and planning; advance County’s regional climate initiatives; administer stewardship programs; environmental monitoring.
- Oversaw development of Broward’s county-wide integrated water resources plan, convened regional water and climate change task forces, advanced multi-jurisdictional initiatives for sea level rise.
- Recognized by the White House as a Champion of Change for her leadership in climate resilience
- Currently lead staff for the Presidential Task Force on Climate Resilience and Preparedness Built Systems Work Group
- Original member of Steering Committee to the Southeast Florida Regional Climate Change Compact, co-authored Regional Climate Action Plan
- Ph.D. in Marine Biology and Fisheries from the University of Miami.
James Cromar, Director
Broward County Metropolitan Organization (MPO)

- Over 20 years of professional experience with focus on the integration of transportation and land use planning
- Combines private and public sector experience
- Spent twelve years as a Denver-based consultant
- More than ten years of planning at the municipal and County level in South Florida
- Responsible for planning activities of the Broward MPO with emphasis on increasing transportation options in communities and leveraging public investment to improve quality of life and address the environment.
• Focuses on asset-based community economic development through the Competitive Florida Initiative.
• Provides technical assistance on working waterfronts preservation, post-disaster redevelopment planning and sea level rise adaptation.
• Has written published articles and reports and presented to local, state and national audiences on subjects such as long-term recovery, asset-based economic development, coastal community planning, adaptation planning and hazard mitigation.
• Received Master’s Degree in Urban and Regional Planning from Florida State University.
Susanne M. Torriente, Assistant City Manager
City of Fort Lauderdale

- Oversees Sustainable Development, Transportation & Mobility, Public Work, Parks & Recreations and Structural Innovation.
- Previously Sustainability Director at Miami-Dade County, leading County’s first sustainability & climate action plan, *GreenPrint*.
- Member of the Southeast Florida Regional Climate Compact steering committee, major contributor to regional climate action plan.
- 2012 ICMA Sustainable Communities Fellowship (Wellington, New Zealand)
- 2013 ICMA CityLinks Cooperative Agreement with Durban, South Africa
- Member of FDEO Community Resiliency Focus Group and ICLEI’s
With City of Fort Lauderdale since 1994, serving in Planning & Zoning, Building, and Public Works Departments

Principal Environmental Strategist/Core Visioning staff team member with City’s newly created Public Works Department’s Sustainability Division

Authored *We Are Ready: We are a resilient and safe coastal community* and *Fast Forward Fort Lauderdale: Our City, Our Vision 2035* adopted in 2013

BS with Certificate in Planning Studies from FSU

Master of Urban and Regional Planning with Environmental Specialization from FAU
Regional Collaboration on Climate Resilience: The Southeast Florida Regional Climate Change Compact

Dr. Jennifer Jurado, Director
Broward County Natural Resources Planning and Management Division
Regional Collaboration on Climate Resilience:

The Southeast Florida Regional Climate Change Compact

1000 Friends of Florida Webinar
October 8, 2014
Introduction to Broward County

Characteristics

- 1.8 Million Residents
- 31 Cities
- 23 miles of coastline
- Flat and low-lying
- Dense coastal development
- Porous geology
- Built out
The Riches of Broward County
Growth in the 21st Century

Interstate 595 Expansion

Fort Lauderdale – Hollywood International Airport Runway Expansion

Port Expansion – Miami-Dade and Broward
Climate Trends and Predictions for South Florida

- Sea level rise
- Rising Temperatures
- Extreme rainfall and drought
- Coastal and inland flooding
- Increased storm intensity
- Beach erosion
- Saltwater intrusion
- Ocean acidification
Vulnerabilities are Compounded Regionally

Southeast Florida
- 4 Counties, 109 Cities
- 5.8 million residents
- Interconnected
- Accounts for 1/3 state GDP
- Major ports and airports
- Tourist driven economy
Compact Background

- Initiated in October 2009
- Product of 1st Annual Summit
- Response to shared challenges and needs
- Voluntary collaboration
Compact Commitments

Framework:

• Collaborate on Policy

• Develop Regional Baselines for Planning

• Create Regional Climate Action Plan

• Host Annual summits
Expansion of Steering Committee

- Two representatives from each county government
- One municipal representative from each county
- Non-voting representatives
  - Environmental
  - Regional Water Management
  - Facilitators/Advisors
Collaborating Partners
Regional GHG Baseline

Figure 2: Five-Year Average Regional GHG Emission by Sector

- Residential: 28%
- Commercial: 44%
- Industrial: 1%
- Transportation: 26%

Figure 1. GHG emissions by Year and County

Southeast Florida Regional Climate Compact
Regional Greenhouse Gas Emissions Inventory
Baseline Period: 2005 - 2009

Produced by the Regional Compact GHG Inventory Working Group
November 2011
Unified Sea Level Rise Projection

The graph shows the projected sea level rise at Key West, Florida, from 1914 to 2060. The key data points are:

- **2010**: Sea level = 0
- **2030**: 3-7 inches
- **2060**: 9-24 inches

The projections are based on USACE guidance and the continuation of historic sea level rise rates.
Vulnerability Assessments

- **Inundation Mapping**
  - Regional digital elevation model
  - 1, 2, and 3 foot scenarios
  - Common method to express potential risk

- **Vulnerability Analysis**
  - Prioritized infrastructure for analysis
  - Included uncertainty
## Economic Assessment

### Taxable Value of Property

<table>
<thead>
<tr>
<th></th>
<th>Monroe</th>
<th>Broward</th>
<th>Palm Beach</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 foot</td>
<td>$2,763,294,786</td>
<td>$403,069,831</td>
<td>$396,618,089</td>
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<tr>
<td>2 foot</td>
<td>$8,388,138,219</td>
<td>$1,751,104,870</td>
<td>$1,251,877,561</td>
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<tr>
<td>3 foot</td>
<td>$15,087,755,147</td>
<td>$6,900,509,868</td>
<td>$3,559,471,158</td>
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</table>
SE Florida Regional Climate Change Action Plan

- Completed October 2012
- Adopted Spring 2014
- Reflects contributions of 135+ Work Group members
- Details 110 recommendations across 7 planning areas
- Implementation across the region

Download at www.southeastfloridaclimatecompact.org
Action Strategies

- **Focal areas:**
  - Sustainable Communities and Transportation Planning
  - Water Supply, Management, and Infrastructure
  - Natural Systems
  - Agriculture
  - Energy and Fuel
  - Risk Reduction and Emergency Management
  - Outreach and Public Policy
Broward projects & Regional efforts
Progressive Planning

• Integration of Climate Change Across Planning Processes
  ▫ Comprehensive Plan
  ▫ Land Use Plan
    • Mapping of areas at risk of sea level rise
  ▫ 10-Year Water Supply Plan
  ▫ Local Mitigation Strategy
  ▫ Capital Budget Process
Resilient Communities Project

- Outreach to 13 coastal municipalities
- Development of individual assessments (maps, elevations, infrastructure)
- Delivery of policy and planning resources
Hydrologic Modeling

- Integrated models
  - Sea level rise
  - Storm events
  - Extreme tides
- Analysis of impacts
  - Flooding and water supply
- Testing of adaptation strategies
- Update standards
Movement of 250 mg/L Salt Front with Varying Sea Level Rise Estimates

0 cm

24 cm

48 cm

88 cm

SOUTHEAST FLORIDA REGIONAL COMPACT
CLIMATE CHANGE
South County Trends and Predictions

20 year trend
> 1 ft increase
Water Resources and Infrastructure

Proposed C-51 Reservoir:
- Flood management
- Alternative water supply
- Reduced freshwater discharges
- Saltwater abatement
Beach Management

- New strategy for future projects
  - Smaller, targeted, truck haul projects
- Planned sand bypass at Port Everglades
- Prominent use of dunes, regionally and locally
Shoreline Resilience Work Group

- Coordinate “living shorelines” as part of local and regional planning efforts
- Supported by The Nature Conservancy
- Participants include cities and counties
- Map existing features
- Identify and prioritize projects for future investments
Mitigation Activities

• 20% renewable energy goal
• Renewable Energy Action Plan
• Plans for county-wide PACE program
• Florida Go Solar Project
  ▫ Permitting
  ▫ Design
  ▫ Financing
• Community Energy Strategic Plan
Regional Convenings

- Community Solar
- Comprehensive Planning
- Water Supply and Climate
- Adaptation Action Areas
- Work Groups
  - Shoreline Resilience
  - Sea Level Rise
  - Climate Indicators
South Florida Resilient Redesign

• Compact convening focused on integration of resilient design concepts in the urban landscape

• Analysis of three model sites with objective to develop transferable design solutions for landscapes common to south Florida
  ▫ Dense urban- Miami Beach
  ▫ Urban/commercial – Dania Beach
  ▫ Suburban – Unincorporated Miami-Dade
Policy Advancements

- Annual Summits
- Annual Development of Joint Legislative Programs
- Resolutions and Advocacy
- Joint Delegation Meetings
- Successful Legislative Amendment
Benefits of Regional Process and the Compact

- Expanded access to resources
- Enhanced capacity as a region
- Accelerated planning
- Better leveraging of resources
- Improved communications
- Credibility
- Momentum
Questions?

Jennifer L. Jurado, Director
Environmental Planning and Community Resilience
Broward County
jjurado@broward.org

http://southeastfloridaclimatecompact.org
The Federal Highway Administration’s Climate Resiliency Project

James Cromar,
Broward County Metropolitan Planning Organization
South Florida Climate Change Vulnerability Assessment and Adaptation Pilot Project

Presented to:
1000 Friends of Florida
October 8, 2014

Presented by:
James Cromar
Broward MPO
Early Warning Signs
Climate Stressors

- Sea level rise (SLR)
- Storm surge and related inundation
- Heavy precipitation and related flooding (including impacts from SLR – groundwater interactions)
Regional Coordination

Monroe County
Southeast Florida Regional Climate Change Compact (Compact)
South Florida Regional Transportation Authority (SFRTA)
South Florida Regional Planning Council (SFRPC)
Treasure Coast Regional Planning Council (TCRPC)
Florida Department of Transportation District IV/District VI
Study Area

- Palm Beach County
- Broward County
- Miami-Dade County
- Monroe County

- Focus on regional transportation network
Goals

- Build upon existing vulnerability assessments.
- Minimize impacts of extreme climate events and Sea Level Rise (SLR) on regional transportation network.
- Develop tools that integrate climate change adaptation goals into the transportation decision making process.
- Prepare a climate change adaptation model for other public transportation agencies.
Overall Approach

Inventory and exposure assessment

Examine adaptive capacity

Assess risk

Integrate into decision making
Task 1: Inventorying Exposed Assets

- **Goal:** Inventory/map assets exposed to key climate stressors
  - Sea level rise, options…….
    - Compact methodology and results
    - FDOT/U of F Geoplan tool
    - ClimateCentral tool
  - Precipitation and surge induced flooding
    - Overlay current FEMA floodplains
- Exposed assets carried forward into Task 2
# Data Collection Efforts to Date

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<tr>
<th>Name/Type</th>
<th>Data Collected</th>
<th>Accuracy</th>
<th>Source</th>
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<tr>
<td><strong>LiDAR Derived Elevation Contours and DEM</strong></td>
<td>DEM-FLiDAR Mosaic</td>
<td>5-meter mosaic for the entire Florida state</td>
<td>FGDL</td>
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<td></td>
<td>DEM's</td>
<td>10-ft DEM's available for all 4 counties</td>
<td>SFWMD</td>
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<td></td>
<td>Elevation Contours-FDEM</td>
<td>2-ft Contours available for all 4 counties</td>
<td>FGDL</td>
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<td><strong>NED</strong></td>
<td>NED 1/9th Arc Second Data</td>
<td>1/9 arc second available for Miami Dade, Broward, Palm Beach and Monroe County Coast</td>
<td>USGS</td>
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<td><strong>FEMA</strong></td>
<td>Flood Zone Maps for Miami Dade and Monroe</td>
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<td>FEMA-NFHL</td>
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<tr>
<td></td>
<td>Official &amp; Preliminary Flood Zone Maps for Broward County</td>
<td></td>
<td>Broward County GIS</td>
</tr>
<tr>
<td></td>
<td>Official &amp; Preliminary Flood Zone Maps for Palm Beach County</td>
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<td>Palm Beach County &amp; FEMA</td>
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## Data Collection Efforts to Date, cont’d

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<td>FDOT-UFL-Geoplan Tool</td>
<td>Inundation Surfaces</td>
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<td>UFL-Geoplan Website</td>
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<tr>
<td>FDOT-UFL-Geoplan Tool</td>
<td>Affected Infrastructure</td>
<td></td>
<td>UFL-Geoplan Website</td>
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<tr>
<td>Transportation Network</td>
<td>Transportation Data</td>
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<td>FDOT-GIS</td>
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<tr>
<td>SLR Scenarios based on NOAA Tidal Surface information</td>
<td>1ft, 2ft, 3ft SLR for Miami Dade, Broward, Monroe County's</td>
<td></td>
<td>Broward County GIS</td>
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</table>
Network Irregularities

Inset

Network Roadway Comparisons

- NAVTEQ-based Network
- MPO-based Network

Topography (10ft DEM)
- High (168.1')
- Low (-12.9')
FEMA Data Example

False inundation examples
(road on embankment)
South Florida Climate Change Vulnerability and Adaptation Pilot Project

Inundated Infrastructure: Current 100-Yr Flood
Palm Beach County
- Regional Road Network
- Inundated roads
- Current FEMA 100-Yr Floodplain
South Florida Climate Change Vulnerability and Adaptation Pilot Project

Inundated Infrastructure: Current 100-Yr Flood
Broward County
- Regional Road Network
- Inundated roads
- Current FEMA 100-Yr Floodplain
South Florida Climate Change Vulnerability and Adaptation Pilot Project

Inundated Infrastructure: Current 100-Yr Flood

Miami-Dade County
- Regional Road Network
- Inundated roads
- Current FEMA 100-Yr Floodplain
South Florida Climate Change Vulnerability and Adaptation Pilot Project

Inundated Infrastructure: Current 100-Yr Flood

Monroe County
- Regional Road Network
- Inundated roads
- Current FEMA 100-Yr Floodplain

Gulf of Mexico
FEMA 100-Yr Storm Impacts

- Percent of regional network inundated by current 100-yr storm
  - Palm Beach County: 10.7%
  - Broward County: 9.3%
  - Miami-Dade County: 21.0%
  - Monroe County: 57.0%
Additional Risk Elements

- **Sea Level Rise**
  - 1, 3, and 5 foot increments

- **Storm Surge**
  - Following GeoPlan methodology

- **Inland Flooding**
  - Development of Index based on USGS input
Task 2: Considering Adaptive Capacity

- **Goal:** Develop and apply an adaptive capacity index to the exposed assets
- **Focus on road & passenger transit/rail assets**
- **Two components of the adaptive capacity index**
  1. **Loss of service / detour impacts**
     - Added travel time
     - Cost to users
     - No SLR flooded routes to be used as detours
  2. **Service restoration time**
     - Estimate from historical experience
     - Multiplier to the user costs
**Task 3: Assessing Risk**

Goal: Develop a vulnerability ranking score for each asset to determine adaptation priorities

- Three components of vulnerability scores:
  1. **Exposure**: Degree to which a transportation facility is subject to adverse climate changes
  2. **Sensitivity**: Capacity of an asset to deal with changes in a climate stressor
  3. **Adaptive capacity**: Ability of the transportation network to deal with the loss of an impacted asset
Task 3: Assessing Risk

Identify Assets of Interest
- Regional road network
- Tri Rail network

Calculate the Vulnerability Scores for Each Asset

**Exposure**
- % of segment inundated by SLR (1, 2, & 3 Ft.)
- % of segment inundated by 100-yr surge (current, +1, +2, & +3 Ft. SLR)
- Inland flooding index (current, +1, +2, & +3 Ft. SLR)
  - Groundwater table depth
  - SLR impact distance-decay factor
  - Elevation & distance relative to FEMA 100-yr precip floodplain
- Location in VE zone
- Previous flooding issues

**Sensitivity**
- Pavement condition rating (weighted average by segment) (roads)
- Bridge condition index
- Number of bridges per segment
- Scour rating (roads)
- Substructure condition rating (roads)

**Adaptive Capacity**
- Average annual daily traffic (roads)
- Heavy commercial average daily traffic (roads)
- Bus ridership on segment (roads)
- Tri-Rail ridership on segment (rail)
- Detour length (roads)
- Maximum volume / capacity ratio on detour route (roads)

Rank Flood Vulnerabilities by County
Task 4: Integrating into Decision Making

- Transportation Planning and Prioritization
- Rehabilitation or Reconstruction of Existing Facility in High Risk Areas
- New Facility on New ROW in High Risk Areas
- Operations
- Maintenance
Transportation Planning and Prioritization

- Develop goal statement relating to climate change that can be used as part of the transportation planning process
- Identify Climate change-related prioritization criteria that can be used as part of the project priority/programming process
- Apply Tools that can be used to identify and assess climate change-related impacts
DRAFT Strategy Options

- Rehabilitation or Reconstruction of Existing Facility in High Risk Areas
  - Consider new road and transit design approaches and standards to minimize potential disruption due to extreme weather events (e.g., profile elevation)
  - Near coastal areas and over longer term, consider sea level rise as a “given” in design of coastal facilities.
  - Redesign drainage systems to handle larger flows.
Rehabilitation or Reconstruction of Existing Facility in High Risk Areas

- Harden or armor key infrastructure components (e.g., embankments or bridge piers) against additional extreme weather-related stresses.
- Incorporate “early warning indicators” for potential extreme weather-related risks into asset and maintenance management systems.
New Facility on New ROW in High Risk Areas

- Apply design criteria - but in addition if possible, consider realignments or relocation away from high risk areas.
Operations

- Identify pre-planned detour routes around critical facilities whose disruption or failure would cause major network degradation.
- Although Florida already has well-tested emergency response action plans, in light of the results of this study, coordinate with FDOT and emergency responders to identify potential strategies for dealing with the identified risks.
DRAFT Strategy Options

- **Maintenance**
  - Avoid significant disruptions and maintenance demands by “hardening” such items as sign structures and traffic signal wires.
  - Keep culverts and drainage structures debris free and maintained to handle flows.
Process / Work Products

- Assess Inventory
- Determine Adaptive Capacity
- Assessing Risk from Climate Events
- Integrating Vulnerability in Decision Making: Sept-Dec
- Final Report: January 2015
Responding to Change . . .
THANK YOU!

Broward Metropolitan Planning Organization
James Cromar
Director of Planning
954-876-0038
cromarj@browardMPO.org
www.browardMPO.org
Adaptation through the Community Resilience Initiative

Julie A. Dennis
Division of Community Development,
Florida Department of Economic Opportunity
Adaptation Action Areas

Section 163.3164(1), Florida Statutes

“Adaptation action area” 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.
At the option of the local government, develop an adaptation action area designation for those low-lying coastal zones that are experiencing coastal flooding due to extreme high tides and storm surge and are vulnerable to the impacts of rising sea level. Local governments that adopt an adaptation action area may consider policies within the coastal management element to improve resilience to coastal flooding resulting from high-tide events, storm surge, flash floods, stormwater runoff, and related impacts of sea-level rise. Criteria for the adaptation action area may include, but need not be limited to, areas for which the land elevations are below, at, or near mean higher high water, which have an hydrologic connection to coastal waters, or which are designated as evacuation zones for storm surge.
Project of Special Merit

- Implementing “Adaptation Action Area” Policies in Florida
- Partnership with City of Ft. Lauderdale, Broward County, South Florida Regional Planning Council and Southeast Florida Regional Climate Compact.
- Address AAA in City of Ft. Lauderdale Local Comprehensive Plan.
- Create guidance for statewide dissemination.
Adaptation Action Area Planning: the Fort Lauderdale Journey

By Susanne M. Torriente, Assistant City Manager
Jim Koeth, Principal Environmental Strategist
1000 FRIENDS OF FLORIDA WEBINAR
Planning for Climate Change
at the Municipal Level

ADAPTATION ACTION AREA PLANNING
The Fort Lauderdale Journey

SUSANNE M. TORRIENTE, ASSISTANT CITY MANAGER
CITY OF FORT LAUDERDALE

JIM KOETH, PRINCIPAL ENVIRONMENTAL STRATEGIST
PUBLIC WORKS - SUSTAINABILITY DIVISION
CITY OF FORT LAUDERDALE

OCTOBER 8, 2014
The Fort Lauderdale Journey

- Timeline
- Integrating
- Connecting the Dots
- Grant Timeline
- Outreach
- Draft Language
- Next Steps
A snapshot of our City’s story

2011
- Florida State Community Planning Act
- Start of new City administration
- AAA grant awarded to City
- Began Citywide Re-organization

2012
- 2012 Regional Climate Action Plan Adopted
- Creation of Sustainability Office housed in Public Works
- Began Neighborhood Surveys
- Began Visioning Initiative Phase II

2013
- Vision Plan and Strategic Plan Adopted
- AAA Interlocal Agreement signed & executed
- Began AAA Outreach
- Outreach to City of Fort Lauderdale Civic Associations

2014
- AAA Climate Adaptation Open House outreach
- We Are Ready Climate Resiliency Booth outreach
- AAA Reviews and Approvals
- Proposed Comprehensive Plan AAA Goal Objective and Policies

City of Fort Lauderdale’s Timeline
WE ARE READY

Connecting the dots: Our Vision & Strategic Plans

2011 2012 2013 2014

WE ARE READY

Connecting the Dots

2035 Vision

Strategic Plan

Commission Annual Action Plan
Fiscal Year Budget
Community Investment Plan
Other Key Plans and Tools
Department Scorecards

Direct Vision Ideas in the Strategic Plan in Progress

66%
### OBJECTIVE 2:
Reduce flooding and adapt to sea level rise

<table>
<thead>
<tr>
<th>STRATEGIC INITIATIVES</th>
<th>LEAD:</th>
<th>PARTNERS:</th>
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<tbody>
<tr>
<td>1. Incorporate sea level rise and resiliency projections into the Stormwater Management Plan and the Flood Hazard Mitigation Program</td>
<td>PWD</td>
<td>FLFR, BC, Compact, Seven50, SFWMD</td>
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<td>2. Implement the Stormwater Management Plan and examine funding rate structures based on vulnerability</td>
<td>PWD</td>
<td>BC, Compact</td>
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<tr>
<td>3. Implement the Flood Hazard Mitigation Program for residents</td>
<td>PWD</td>
<td>CMO-BDGT, DSD, FLFR, BC, FDEM, FEMA</td>
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<tr>
<td>4. Utilize a multi-agency advisory group to evaluate and implement solutions to address flooding concerns</td>
<td>PWD</td>
<td>BC, Consultant</td>
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<tr>
<td>5. Identify potential Adaptation Action Areas (AAA) and develop AAA policies</td>
<td>PWD</td>
<td>DSD, FLFR, T&amp;M, PNZ, CA, DEO, DEP, NOAA, SFRPC</td>
</tr>
<tr>
<td>6. Examine and update the Save Our Swales program to include bio-swale options</td>
<td>PWD</td>
<td>Neighbors</td>
</tr>
</tbody>
</table>

» Indicates an idea from the Vision Plan. For more information on strategic initiative partners, see Cylinders of Excellence Community Partners.
Neighbor Outreach

**Timeline**

- **Oct 2013**: Council of Fort Lauderdale Civic Associations
- **Jan 2014**: Climate Adaptation Open House
- **Apr 2014**: Sustainability Advisory Board
- **June 2014**: Hurricane Expo Climate Resiliency booth

**Review and Approval Process**

- **Jan 2014**: Drafting of Policy Language
- **Apr 2014**: Development Review Committee
  - No public comment
- **May 2014**: Planning and Zoning Board
  - Unanimously voted: Recommendation to City Commission
- **June 2014**: City Commission
  - Unanimously voted: Transmittal to State
In 2013, we started community outreach & dialogue with our Neighbors.

Broward County Sustainability Stewards
Broward American Planning Associations Workshop • June 2013

City of Fort Lauderdale Civic Associations • October 2013
Broward County assisted with maps, on display at outreach events.
WE ARE READY

We are a resilient and safe coastal community

CLIMATE ADAPTATION OPEN HOUSE

January 21, 2014

BROADCASTED LIVE ON FLTV

STREAMED ONLINE

INCORPORATED SOCIAL MEDIA: TWITTER & FACEBOOK

Dialogue with Neighbors at the Climate Adaptation Open House.
We are first to write Adaptation Action Areas into our Comprehensive Plan.
AAA Policies

City of Fort Lauderdale Comprehensive Plan
Proposed AAA Goal, Objective and Policies

Policy 3.1.1 – **Identify** public investments and infrastructure
Policy 3.1.2 – Adaptation Strategies
Policy 3.1.3 – Adaptation Action Areas (AAA)
Policy 3.1.4 – AAA adaptation strategy options
Policy 3.1.5 – **Considerations** for AAA designation
Policy 3.1.6 – **Basis** for the designation of AAAs
Policy 3.1.7 – City Commission **mechanisms** for designating AAAs
Policy 3.1.8 – **Funding** Sources

We are first to write Adaptation Action Areas into our Comprehensive Plan.
AAA Policies

City of Fort Lauderdale Comprehensive Plan
Proposed AAA Goal, Objective and Policies

**Policy 3.1.9** – Integration of AAAs into existing city processes and plans

**Policy 3.1.10** – Alignment with national, state, and regional adaptation strategy documents

**Policy 3.1.11** – Participate in other appropriate agencies’ proposed application requests for funding adaptation implementation projects

**Policy 3.1.12** – Collaborate and coordinate

**Policy 3.1.13** – Allow for flexible adjustments

**Policy 3.1.14** – Foster effective collaborations and coordination to identify risks, vulnerabilities and opportunities associated with coastal hazards and sea level rise

We are first to write Adaptation Action Areas into our Comprehensive Plan.
Next Steps

- Final City Commission approval – Oct-Nov
- Stay tuned for
  - AAA Designation
  - Prioritized Funding
Conclusion

- Talk and listen to ALL audiences
- Build staff capacity
- Integrate early and often
- Leverage different projects with common goals
Thank you.

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- **January 14, 2015, Noon to 1:30 p.m.**
  Planning for Sea Level Rise: Legal Issues Facing Florida

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- **March 11, 2015, Noon to 1:30 p.m.**
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