Responding to Irma: Planning Strategies to Promote Resiliency in Florida’s Communities

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Presenters
- Firm President of Erin Deady, P.A.
- Licensed attorney in Florida, a certified land planner by the American Institute of Certified Planners (“AICP”) and a LEED AP.
- Frequent lecturer and author on climate change, energy, environmental restoration and public finance issues statewide and nationally.
- Specializes in large-scale environmental restoration initiatives involving areas such as the Everglades, Lake Okeechobee, Gulf of Mexico and Mississippi River and southern Louisiana wetlands.
- Also specializes in land use, water resource, sustainability and climate change matters and has a strong track record in securing grants for governmental and agricultural clients.
- Erin L. Deady, P.A. is a full service legal and consulting firm also serving Of Counsel to Corbett and White, P.A.
Charles Pattison, FAICP

- Executive Director of Monroe County Land Authority from 2016 to present
- Past President and Policy Director of 1000 Friends of Florida from 1998 to 2016
- Director for the Division of Resource Planning and Management at the Department of Community Affairs from 1992 to 1998
- Field Representative for The Nature Conservancy’s Virginia Coast Reserve from 1989 to 1992
- Opened and ran the DCA Keys Field Office in Key West between 1983 and 1989, serving as Monroe County Planning, Building and Zoning Director and first Executive Director of the Monroe County Land Authority
Christopher D. Moore, CFM

- Principal Planner with the Pinellas County Planning Department
- Department lead on the County’s resiliency planning efforts, including project manager for the County’s upcoming vulnerability assessment to gauge impact of sea level rise and storm surge on countywide critical infrastructure
- Previously was Director of Operations at the Make It Right Foundation, overseeing all aspects of organization’s efforts to build more than 100 LEED Platinum Homes for residents of New Orleans’ Lower Ninth Ward
- Earned MBA from the University of South Florida with a specialization in Building Sustainable Enterprise
Evolution of the Law of Climate Change

Erin Deady, JD, AICP, LEED AP
Evolution of the Law of Climate Change

Erin L. Deady, Esq., AICP, LEED AP

November 13, 2017
PART 1: THE BIG PICTURE AND HOW IT IMPACTS THE LOCAL DISCUSSION
# International Climate Agreements

<table>
<thead>
<tr>
<th>Agreement</th>
<th>Targets Established</th>
<th>Signatories</th>
<th>U.S. Ratification</th>
</tr>
</thead>
<tbody>
<tr>
<td>United Nations Framework Convention on Climate Change (UNFCCC) 1994, Rio</td>
<td><strong>Voluntary</strong> goal of reducing GHGEs from developed countries to 1990 levels by 2000</td>
<td>198 Countries (“Parties”) have signed on and ratified</td>
<td>Treaty and received US Senate ratification</td>
</tr>
</tbody>
</table>
| Kyoto Protocol 2005 | 1st Commitment period: **Binding** targets to reduce GHGEs 5.2% below 1990 levels by 2012  
2nd Commitment period: 18% below 1990 from 2013 to 2020 | Focus on “developed” Countries (37 total + EU)-over 120 countries signed | U.S. non-“ratifier” |
| Copenhagen Accord 2009 | 4% below 1990 levels by 2020 – **not binding.** Cuts in emissions required to hold the increase in global temperature below 2 degrees Celsius | 114 Parties- Submit individual plans | No U.S. Senate Ratification needed |
| Paris Agreement December 12, 2015 | Global rise in temperature “well below” 2 degrees Celsius + limit increase to 1.5 degrees Celsius (**you chose your target and plan to achieve it “NDCs”**) | 195 Countries (developed/non-developed) | Acceptance & approval are both methods to bind a nation |
Why the Paris Accord is Different

• Nationally determined contributions (non-binding)
  – “Legally binding” for CO2-reduction plans but no specified reductions or penalty process for failure to meet the binding aspects
• 5 year reporting & goal review (start 2023)
• Developed countries agree to $$ help $100 billion/year in climate finance by 2020, and continue mobilizing finance at the level of $100 billion a year until 2025 (US $3 Billion commitment made)
• No legal mitigation or finance targets, so Agreement considered an “executive agreement” rather than a treaty therefore no U.S. Senate ratification needed
• 196 Countries signed on (not Syria).
• 4 years to exit Paris, 1 year UNFCCC
• COP 23 Bonn – UNFCCC (starts Nov. 6th) (Fiji Presides)
US Approach to GHG Reductions

• Response within U.S. (Prior to Paris):
  – In 1965 President Lyndon B. Johnson’s Scientific Advisory Committee Panel on Environmental Pollution reported that unabated CO2 emissions would, by 2000, alter the climate, and Johnson charged Congress to address the problem
  – Numerous attempts at legislation
  – Section 1605(b) of the 1992 Energy Policy Act has program to track GHG emissions, weak reporting standards, no verification, and no penalties for companies that do not report
  – *Mass v. EPA*: EPA has authority to regulate CO2 as pollutants based on the definition provided in CAA section 302(g)

• Endangerment finding = 6 GHGs may be reasonably anticipated to endanger public health and welfare, and four of them—CO2, methane, NOx and hydrofluorocarbons—are emitted from automobiles, which would allow their regulation under CAA section 202
• Additional Federal Rulemaking and now shifting Federal priorities
• “Red Team/Blue Team”
The Law: Where Does Climate Change Show Up?

- ESA
- NEPA
- CAA
- CWA
- MMPA
- FOIA/1st Amendment
- Energy Policy Act
- Global Climate Change Research Act
- Corporate Reporting/Securities Disclosure
- FTC

- “Cap-and-trade” regulation where GHGE’s are capped and allocated through the distribution of “allowances” representing a right to emit.
- Regulate vehicle standards
- Regulate activities (public and private), failing to regulate or regulating too much
- Green & Energy Building/Codes (New Mexico case)
- Protestors and scientists
- Failure to consider climate in permits
- Money damages and common law claims
- Protect my future
### Other Evolving Legal Aspects

<table>
<thead>
<tr>
<th>NFIP Reform</th>
<th>CRS</th>
<th>Corps of Engineers</th>
<th>NEPA</th>
<th>FFRMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIRM Existing Flood Risk</td>
<td>Sea Level Rise Credits ~ 500 pts.</td>
<td>Corps &quot;(Engineer Technical Letter 1100-2-1) covering Procedures to Evaluate Sea Level Change: Impacts, Responses and Adaptation&quot; (July 2014)</td>
<td>Agency experience and expertise to determine whether an analysis of emissions/changes in climate change would be useful</td>
<td>Federal investments implemented through Hazard Mitigation Assistance Program and the Public Assistance Program</td>
</tr>
<tr>
<td>Technical Mapping Advisory Council</td>
<td>Mapping</td>
<td>Previous “Incorporating Sea-Level Change Considerations in Civil Works Programs”</td>
<td>“Rule of reason” to ensure the type and level of analysis is appropriate for the anticipated environmental effects of the project.</td>
<td></td>
</tr>
<tr>
<td>Future flood risk</td>
<td>Improvement of rating score</td>
<td>Sea level rise calculator (2017) with 3 scenarios</td>
<td>8/2/16 Guidance on GHGEs if feasible &amp; indirect effects</td>
<td></td>
</tr>
<tr>
<td>Expired 9/30 and reauthorized until 12/8</td>
<td>Example- County x receives a CRS score of 5, but to improve to a 4, these points are pivotal.</td>
<td>Guidance on Inland Climate Change</td>
<td>Early 2017- CEQ directed to withdraw</td>
<td></td>
</tr>
<tr>
<td>Band aid or full reform?</td>
<td></td>
<td>Principles for Risk in Planning</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Plaintiff v. Fossil Fuel Companies

- **Kivalina** - Nuisance claim for flooding damage caused by climate change.
- **Connecticut v. AEP** - Congress had entrusted EPA to decide how GHGs should be regulated, and it was not for the federal courts to issue their own rules.
- **Comer v. Murphy Oil** - MI Fed Court finds claims preempted by the Clean Air Act and plaintiffs could not demonstrate that their injuries caused by the companies’ conduct (nuisance / trespass claims damage property in Katrina).
- **San Mateo County, Marin County and the City of Imperial Beach v. Chevron** - (37 D’s) public nuisance, failure to warn, design defect, private nuisance, negligence, and trespass - they knew and hid it and now….
- **NY State Attorney General email investigations**

USSC in Kivalina - if an individual driving a car (and thus contributing to emissions) could also be a defendant, how can a court determine who was liable?

- **Causation v. “substantial factor”**
- **Vulnerability assessments as evidence?**

- “coordinated, multi-front effort” to “discredit the growing body of publicly available scientific evidence and persistently create doubt.”
- NY State Attorney General email investigations
Borough of Harvey Cedars v. Karan

- 3 story beach front home v. 22’ barrier dune protection project

- Without project Karans had 56% chance of storm damage (over 30 years), with it, had 200 year “protection life”

- Karans sought to exclude testimony on benefits

- Court determines “just compensation” when a portion of private property is taken for a public project – how do you calculate the “benefits”?

- Benefits are general or special

- Trial jury awarded $375k in just compensation (upheld at appellate level)

- NJ Supreme Court says erroneous valuation – look at FMV before and after project

- Reverse and remand - so what did they get???????
Future Flood Risk Litigation:

- Sue the Corps over operations and takings (popular but difficult)
- TX reservoir releases & Post Katrina
- Buy outs (valuation) - Post Sandy
- Sue the developer
- Sue the mortgage company
- Sue proximate property owners
- Sue the local or state entity that manages levies, rivers or drainage (inverse condemnation)

Source: National Climate Assessment
On a Recent Front -
Center for Biological Diversity v. USFWS (Potentially?)

• April 20, 2010, CBD petitioned USFWS to list the Florida Keys mole skink as threatened or endangered under the ESA

• September 27, 2011, USFWS issued a positive 90-day finding

• September 23, 2013, CBD and USFWS entered a stipulated settlement agreement that USFWS would submit a 12 month finding on the petition to list the skink by September 30, 2017

• October 5, 2017, USFWS issued a finding that listing the Florida Keys mole skink is "not warranted"

• CBD files 60 Notice of Intent (11/6/17) to sue USFWS for violations of ESA concerning "not warranted" listing decision

• Alleges arbitrary and unlawful decision depriving protection in the face of rising seas and climate change leaving it at risk of extinction

• Asserts impacts to remaining habitat from sea level rise
PART 2: WHAT’S GOING ON AROUND THE STATE?

Image: Terrell Forney
Florida Policy on GHG Reductions and Climate

- Adaptation Action Areas (2011)
- HB 7117 (Energy Bill- 2012)- increase solar output
- 2015- 5 Bills Passing Related to flood insurance, wind insurance, construction standards/building codes, Citizen’s insurance, Peril of Flood (SB 1094)
- 2016- Solar Constitutional Amendments
- 2017- SB 90 on solar disclosures and Amendment 4 Implementation & Natural Hazards coordination
- On deck: State Office of Resilience?
Natural Hazards Coordination- SB 464

• “Natural hazards" includes, but is not limited to, extreme heat, drought, wildfire, sea level change, high tides, storm surge, saltwater intrusion, stormwater runoff, flash floods, inland flooding, and coastal flooding

• Executive branch, WMDs, PSC and DEM

• ¼ meetings

• Progress reports to Governor, House and Senate
What are local governments doing?
Adaptation Action Areas

• 195 local governments have Coastal Management Element
  – 161 municipalities and 34 counties

• As of May 2017:
  – Approximately 43 (22%) explicitly mention or address sea level rise in their Comprehensive Plans
  – Eleven (11) mention AAAs in their Comprehensive Plans
    • Five (5) have a physical designation:
      – **Satellite Beach** designates Coastal High Hazard Areas as AAAs
      – **Village of Pinecrest** designates AAAs
      – **Broward County** sand bypass project at Port Everglades
      – **Ft. Lauderdale** 16 areas 38 stormwater projects
      – **Yankeetown** designated natural resource AAA
What are the principle requirements?

1. Development and redevelopment principles and strategies, that reduce the flood risk in coastal areas from high-tide events, storm surge, flash floods, stormwater runoff, and the related impacts of sea-level rise.
2. Best practices for the removal of coastal real property from FEMA flood zones.
3. Site development techniques that may reduce losses and claims made under flood insurance policies.
4. Be consistent with, or more stringent than, the flood-resistant construction requirements in the Florida Building Code and flood plain regulations.
5. Construction activities consistent with Chapter 161.
6. Encourage local governments to participate in the National Flood Insurance Program Community Rating System.
Sample Planning Strategy

How do these requirements relate to or affect planning activities and infrastructure investments in the short- and mid-term?

**Short Term**
- Compliance (POF) Strategy (timeline and scope)
- Frame “development”
- Short term capital projects
- AAAs

**Mid Term**
- Comp Plan Goals, Objectives and Policies
- Review land uses

**Long Term**
- LDRs: Development / design standards
- Areas subject to flooding
- ESLs
- Infrastructure LOS
### Example Planning Efforts Around the State (not all listed)

<table>
<thead>
<tr>
<th>Jurisdiction</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>West Coast</td>
<td>Regional Collaboration and involvement of regional planning councils</td>
</tr>
<tr>
<td>Southeast Florida</td>
<td></td>
</tr>
<tr>
<td>Broward</td>
<td>Enhanced modeling: seawall heights and future conditions groundwater maps</td>
</tr>
<tr>
<td>Miami Beach</td>
<td>Stormwater pumps, road elevation and seawall policy</td>
</tr>
<tr>
<td>Ft. Lauderdale</td>
<td>Adaptation Action Areas (19), seawall ordinances for design criteria</td>
</tr>
<tr>
<td>Monroe County</td>
<td>Road elevation policy accounting for sea level rise and demonstration projects &amp; SLR Modeling through CRS (to achieve “4” rating)</td>
</tr>
<tr>
<td>East Central FL</td>
<td>Satellite Beach- HAZUS modeling and plan development (new Volusia and Brevard initiatives)</td>
</tr>
<tr>
<td>St. Augustine</td>
<td>Historic properties, post-Matthew infrastructure and planning</td>
</tr>
<tr>
<td>Multiple Cities/Counties</td>
<td>Sustainability/Climate/Vulnerability planning initiatives (Central FL, West Coast, South Florida)</td>
</tr>
<tr>
<td>DEO</td>
<td>Pilot / demonstration vulnerability analyses in 3 communities</td>
</tr>
</tbody>
</table>
PART 3: BRINGING IT ALL TOGETHER: A LOCAL SCENARIO
## Basic Legal Concepts in Government Actions/Liability for Capital Improvements and Roads

<table>
<thead>
<tr>
<th>1. What is the maintain v. upgrade obligation?</th>
<th>Generally cases have found there is a duty to “maintain” (roads) but no duty to “upgrade”. There is no direct case on duty to maintain or upgrade from sea level rise yet…</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. What actions can be taken or not? Planning versus operations.</td>
<td>Duty to maintain or upgrade due to sea level rise could depend on whether road design decisions are deemed “discretionary planning” actions or “non-discretionary operations/maintenance” actions.</td>
</tr>
<tr>
<td>3. Why is planning versus operation important?</td>
<td>Once you build it, you must maintain it with “reasonable care” to function as designed (now it becomes a non-discretionary operations).</td>
</tr>
<tr>
<td>4. Sovereign Immunity</td>
<td>Discretionary planning decisions are immune from liability under the Tort Claims Act. Cases have held there is no liability for failure to build, expand or modernize capital improvements, cases have deemed these “planning” actions (road widening). Nor liability for basic design of roadway and decision on whether or not to upgrade (planning level).</td>
</tr>
</tbody>
</table>

But wait, there’s one more thing to consider… government inaction *(Jordan v. St. John’s County)*…
Monroe County Case Study

• New Energy and Climate Element
• References to sea level rise in the Coastal Management Element of their updated Comprehensive Plan
• SLR factor to consider in Capital Improvements Element
• Comprehensive Plan Amendment through 2030 approved by DEO June 2016
Big Pine Key and Vicinity, Present Day
Big Pine Key and vicinity, 24 inches Sea Level Rise (2060, High Scenario)
Implementation Considerations

LOCAL CONDITIONS AFFECTING FINAL DESIGN RECOMMENDATIONS

Sensitive Lands / Mitigation

Future Sea Level Rise

Elevation of Water Table

Water Quality Requirements For Permitting

Roadway Elevation & Condition

Adjacent Property Elevation

Driveway Access

Space for Drainage Improvements

ROW Requirements

Electrical And Water/Sewer Utilities

Stormwater System Maintenance Costs Including Staff
Some Solutions

• Immediate, case specific:
  – Work with property owners to design upgrades (recognizing new inherent obligations to maintain)

• Capital planning & funding: general revenue, special assessments, infrastructure bond referenda, etc.
  – Special assessments can apportion risk (similar to CPTED or neighborhood improvement assessments)
  – Referenda can require voter support (Miami Forever $400M)
  – Doing nothing can risk bond ratings (Moody's "Climate Change & Sovereign Credit Risk"

• Better regulations and incentives:
  – Integrate “future conditions” into permitting
    • Old Ex: FFRMS (government buildings/facilities)
    • Ex: Broward groundwater capacity
  – “Above code” resilience incentives
Thank You

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Land Acquisition: The Florida Keys Story

Charles Pattison, FAICP
Land Acquisition

Florida Keys Story
1987-2017
Implementing the Local Comprehensive Plan

- Area of Critical State Concern 1979
- 380.0663, FS, enabling statute
- Takings awareness
- Initial funding from Legislature $6 Million
- Willing sellers only/no eminent domain
- Valuing property to be acquired
- MOA with DEP and ILA with Monroe County
Fact Sheet

- County generates $200 Million + annually in sales tax revenues
- Tourism industry provides 33,000 jobs and sales revenue of 2.7 Billion+
- 80% of state’s spiny lobster taken here
- Recreational fishing provide 7,000 jobs and $433 Million in expenditures
- Important military presence - Key West NAS, US Army special forces and US Coast Guard generate $800 Million/year and 8,000 jobs
Monroe County Comprehensive Plan Land Authority

• Purpose/uses
• Governance
• Funding TOURIST IMPACT TAX and State Park surcharge
• 35% budget set-aside
• Holdings to date include 4,000+ properties
• Acquisition process and priorities
• Coordination with County, state and feds
• Land Steward for management
Acquisitions 1988-2016

- Conservation - $41,662,725
- Affordable housing - $43,143,202
- Recreation - $ 6,643,924
- Solid waste - $ 2,212,500
- TOTAL $93,662,351

Note – 1,550 transactions, 4,185 parcels and 3,942 acres
Rate of Growth Ordinance (ROGO)

- 24 hour evacuation clearance time
- Competition for ROGO awards
- 3 allocation areas
- Successfully defended in court
- 171 permits/year County; 197 total
- 2023?
The Dilemma

• 6200+/- parcels remain in 2013
• Estimated value $188 Million
• If incorporated areas included, 7800+ parcels and estimated value of $317 Million
• Potential liability $300-$500 Million
• Significant state purchases to date for conservation at $244 Million+
• FY 18, County allocates $6 Million and Land Authority $4+ Million for land acquisition
After Irma – Now What?

• Refocus on workforce housing in the face of short, medium and long range needs while continuing to accommodate tourism
• Acquiring sites one lot at a time v. acreage tracts
• Possible statutory change regarding construction dollars and/or added land acquisition funding
• Continue retirement of development rights especially in hazard areas
• Continue coordination meetings with local, state and federal program officials
• Evaluate storm resistant tiny house sites as mobile home replacements
IRMA – Now What? Part 2

• Acquire properties for debris removal, vehicle staging areas (first responders, utility crews, hospitality workers), temporary housing sites
• Consider work force housing needs
• Less-than-fee program
Summary

• Land acquisition is a critical component for implementing a comprehensive plan – purchases must be consistent with the plan
• Be specific about how you sell the program benefits to the public
• Critical to have a stable funding source(s)
• Do not change uses for purchased properties, i.e., conservation land to affordable housing
Countywide Sea Level Rise and Storm Surge Vulnerability Assessment

Christopher Moore, CFM
Countywide Sea Level Rise and Storm Surge Vulnerability Assessment
SE FL Regional Climate Change Compact: Asset Analysis

Physical features:
- Ports and airports
- Hospitals
- Schools
- Water & wastewater treatment plants
- Power plants
- Marine facilities
- Landfills
- Railroads
- Evacuation routes
- Emergency shelters

Types of outputs generated for each sea level rise scenario:
- Total acres impacted
- Taxable value of property
- Impact on assets
- Miles of road by FDOT category
- Critical habitat by category (mangroves, wetlands, etc.)
- FLU categories by acre
Project Goals:

• Identify transportation assets vulnerable to sea level rise and storm surge

• Develop adaptation strategies for a subset of the vulnerable assets

• Econometric modeling using REMI to assess cost/benefit of the strategies

• Incorporate results into LRTP
Countywide Vulnerability Assessment

• $300k RESTORE Act grant to assess the vulnerability of our critical infrastructure to sea level rise & storm surge

• Project Partners: Forward Pinellas, Pinellas Municipalities and Tampa Bay Regional Planning Council

• Consultant Team: WSP Parsons Brinkerhoff and the University of Florida

• 5 phases of project; up to a 2-year study
Phase 1: Project Management

Project Kickoff:

- Kickoff Meeting
- Document goals & objectives
- Identify/establish working groups and planning teams
Phase 2: Data Collection & Preparation

**Hazard Data:**
- Tidal Flooding
- Storm Surge

**Infrastructure Data:**
- Transportation
- Water Supply
- Wastewater
- Stormwater
- Natural Gas
- Electricity
Phase 3: Vulnerability Analysis

Three main components:

1. Asset exposure analysis (frequency of inundation)
2. Economic analysis of exposed assets (cost of each inundation)
3. Vulnerability scoring and ranking
Phase 3 Vulnerability Assessment: Asset Exposure Analysis

Maps:
- Future out-years
- SLR Scenarios
- Flooding Frequency

*Credit: WSP*
Depth-damage functions
- Relationship b/t severity of flood and cost
- Tipping points
- Vulnerability Index
GIS Decision Support Tool
Phase 4: Adaptation Assessments

- 11-step Process
- Minimum of 5 Assessments
- Varied Approach
- Tool for Future Assessments

*Credit: WSP*
Phase 5: Final Report

- Conclusions and Recommendations
- Lessons Learned
- Future Assessments
- Public Outreach / Web content
Additional Pinellas County Efforts

- New Stormwater Manual
- Capital Improvements Tool
- Operations and Maintenance
- Regional Partnerships
Questions?

Chris Moore

cdmoore@pinellascounty.org
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  - 1000 Friends has applied for credits for Florida attorneys (CLE) and but cannot guarantee they will be approved.

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