

Perspectives on Climate Change Among Natural Resource Agency Professionals

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Problem

- South Florida Landscape is one of the most vulnerable regions to climate change in the U.S. Its low elevation makes it very susceptible to sea level rise and its fragile ecosystems are sensitive to changes in temperature and precipitation.

Average High Tide



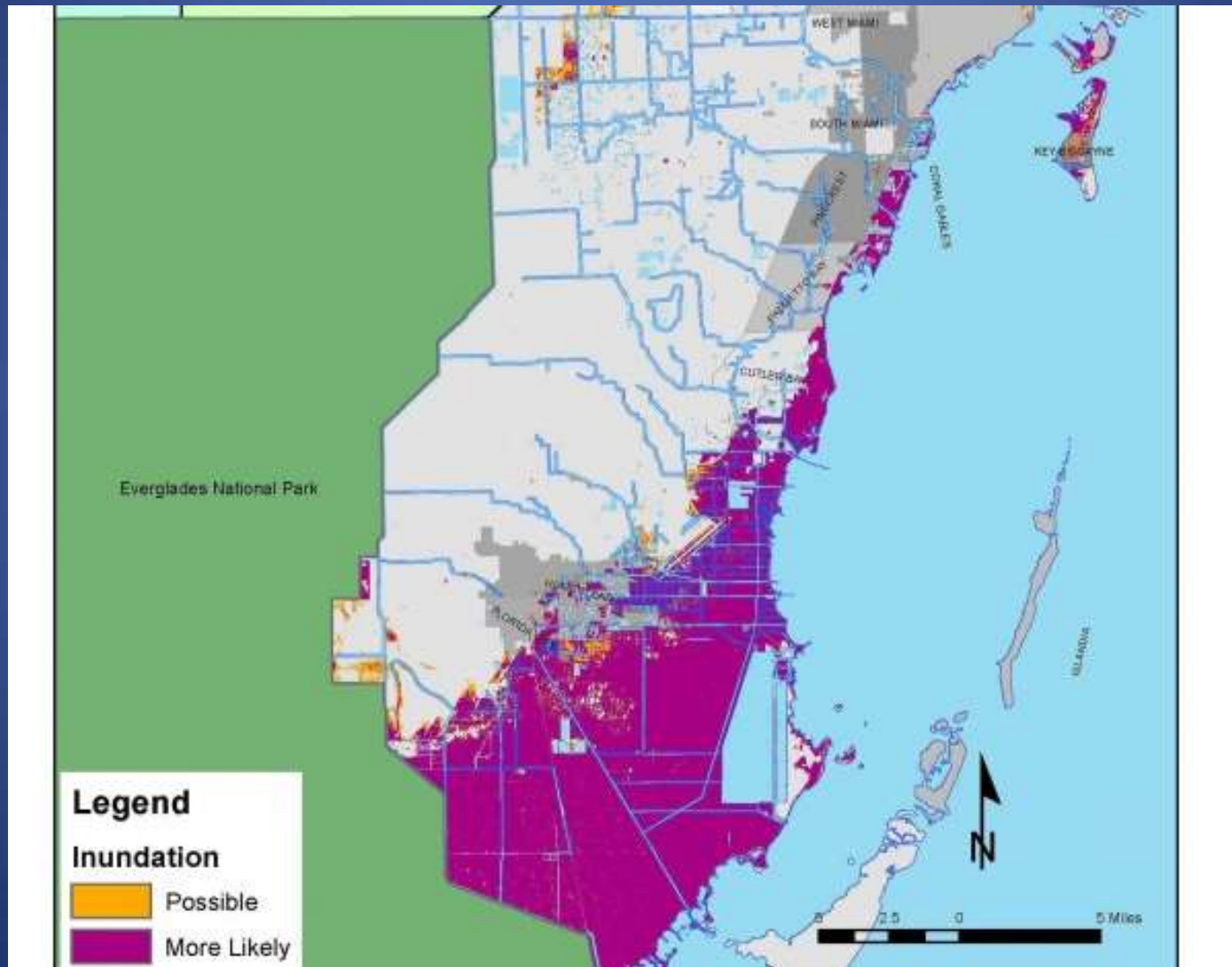
Extreme Seasonal High Tide



Problem

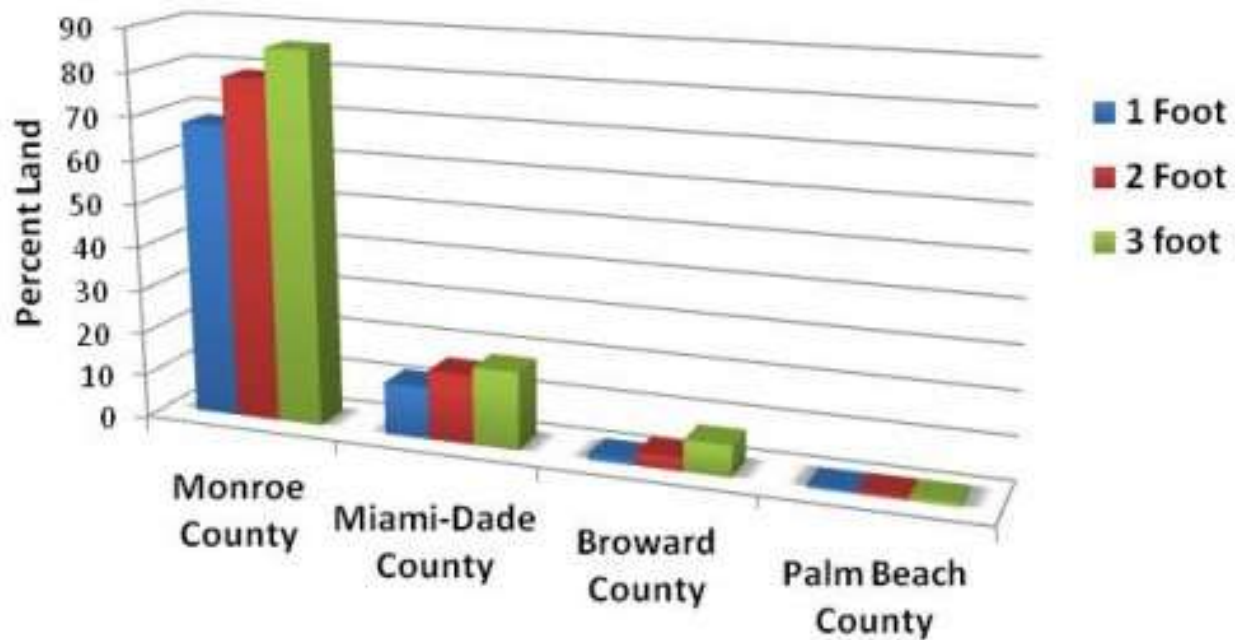
- From 1913 -2006 (94 years) there was an 8 inch sea level rise in Key West
- Current climate change scientists (IPCC) are now predicting a 1- 2 meter sea level rise by 2100
- A sea level rise of 1 meter would inundate 70% of Everglades National Park

3- foot sea level rise in Miami-Dade



Land Mass Impacted

**Percent of Total Land Mass Impacted
by Sea Level Rise in SE FL**



Purpose

Many natural resource agencies are working on climate change. We wanted to better understand

- *How professionals in these agencies are approaching climate change*
- *How these agencies are working together*

Complexity of Climate Change

- There are policies and resources at all levels of government, from the national level to the local/field level
- This can be a confusing mix for professional staff, especially when policies may change with change in administrations

What we hear employees say about climate change

- Not knowing who in their agency was the point of contact for climate change (e.g. within FWC)
- I'm trying to deal with day-to-day, and cannot focus on long term issues of CC
- Where do I go for climate change information?

Approach

- Develop a survey that would help us understand how professionals in different natural resource agencies think about and work on climate change
- Focus on South Florida as a pilot due to its susceptibility to sea-level rise and large scale restoration initiatives.

Survey Design

- Survey developed based on literature
- Online survey using Qualtrics
- 13 questions
 - 3 open ended
 - 3 multi question, scaled answers
- Distributed to 38 professionals via personal email who work on natural resources issues in South Florida
- 30 people completed the survey (79% response rate)

Approaches to Climate Change Among Natural Resource Professionals

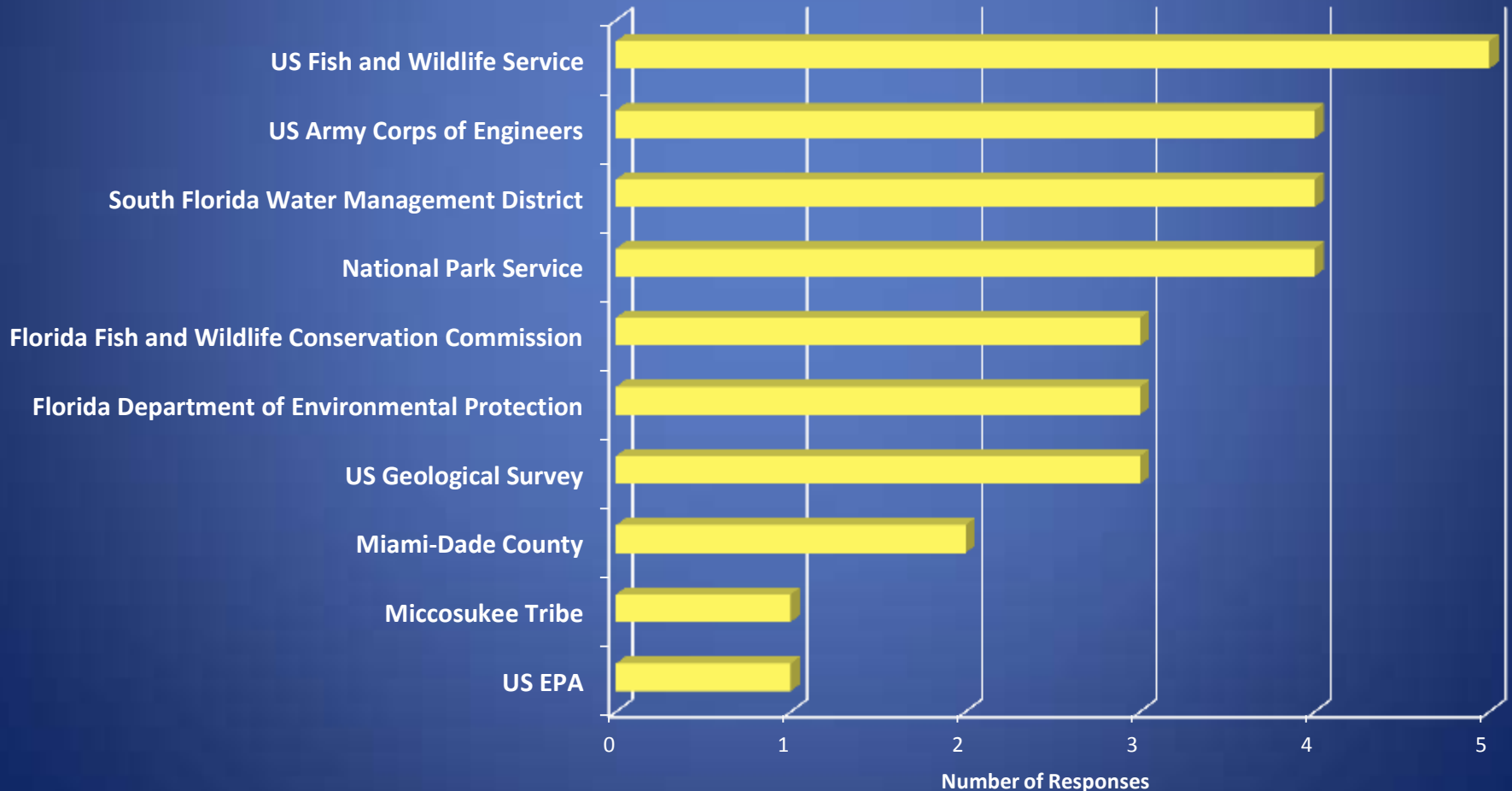
The following questions relate to your perception of your agency's approach to climate change.

(We will later ask you a series of questions that relate to your own work on climate change.)

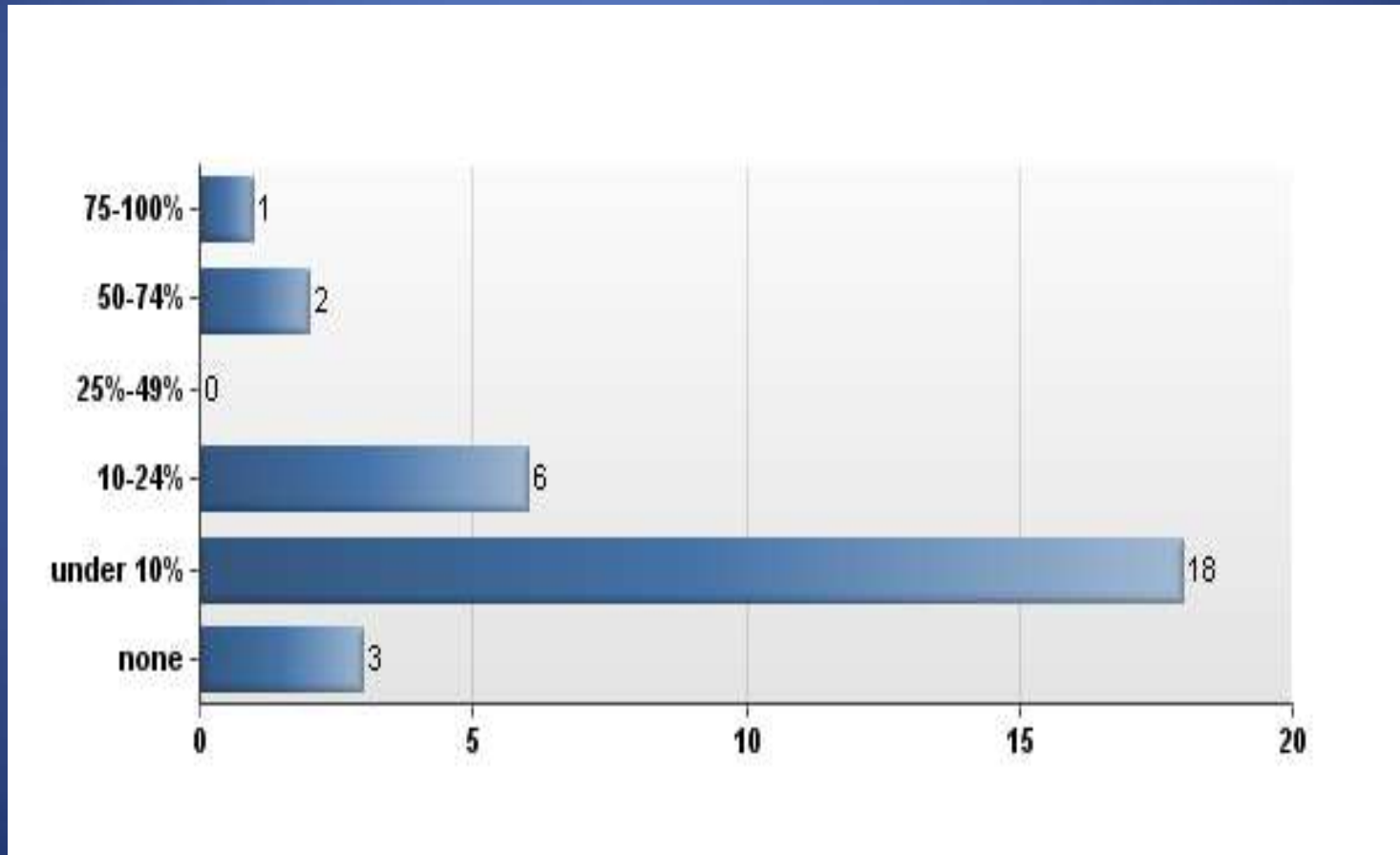
	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
My agency has a clear mandate to respond to climate change.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Responding to climate change is a management priority in my agency.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Activities pertaining to climate change adaptation are well-defined at the appropriate scale for my management unit.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My agency provides the autonomy required to make climate change-related decisions relevant to my management unit.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My agency has sufficient financial resources to adapt to climate change.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My agency has adequate staff to effectively respond to climate change impacts.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My agency supports continuous staff training on climate change.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My agency has adequate research, monitoring and reporting measures to effectively address climate change.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My agency develops climate change adaptation strategies with nearby and adjacent resource management agencies.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My agency's work on climate change will help ensure long-term sustainability of the south Florida ecosystems.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My agency uses an adaptive management approach when working on climate change.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Who Completed the Survey

10 agencies were represented
(5 Federal, 2 Statewide, 3 regional/county)



Percentage of day-to-day work time focused on climate change



Preliminary Results

Agency Approaches to Climate Change

Professionals feel

- Their agency has a clear mandate to respond to climate change (58%)
- Responding to climate change is a management priority in their agency (55%)

However,

- They don't have sufficient adequate staff (72%) or financial resources (66%)

Preliminary Results

Working with other Agencies

Professionals feel

- Collaborations result in better climate adaptation strategies (89%)
- Their work requires them to collaborate with other agencies on climate change (62%)

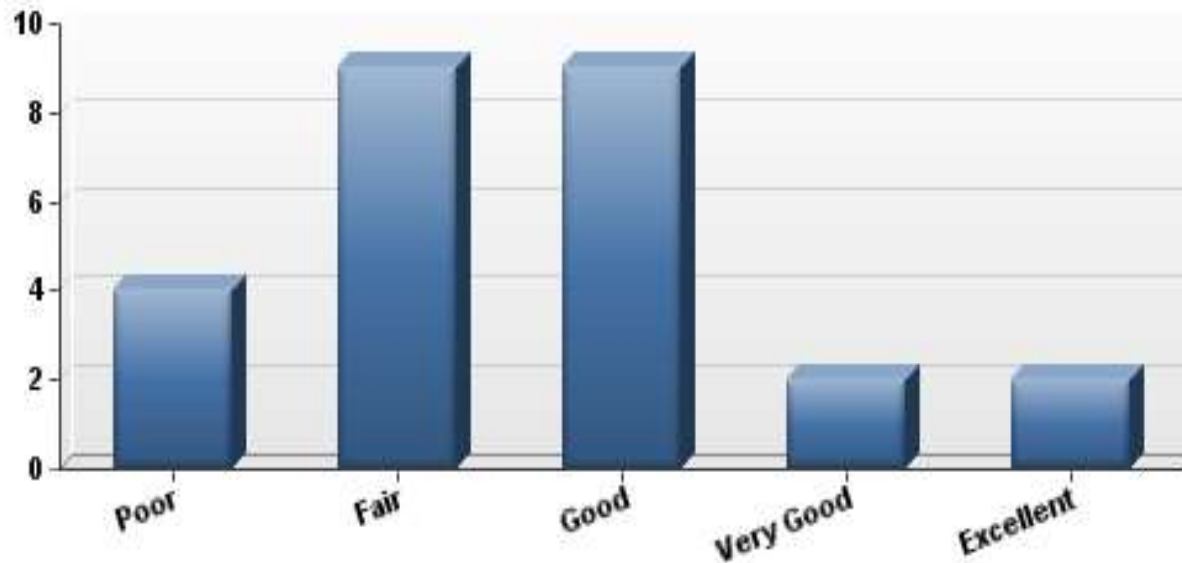
But

- Agencies many not always have similar goals or approaches to climate change (39%)

Preliminary Results

Collaborating with other Agencies

How well do you understand the climate change approach of agencies you work with?



Preliminary Results

Adaptive Management

- 75% feel that an adaptive management approach is the best way to address climate change now.
- 82% would like to learn more about climate change adaptation strategies.

But

- 64% feel that they **do not have sufficient financial resources** to work on climate change adaptation.
- 57% feel that they **do not have enough time** to effectively work on climate change adaptation.

Preliminary Results

Obtaining Information on Climate Change

- The majority (69%) use the internet:
 - IPCC
 - NOAA
 - USGS
 - EPA
 - ClimateCentral.org
 - Google searches
- 23% go to internal staff or specific individuals for information
- 8% rely on journals and articles

Next Steps

- Continue collecting survey data and analyze results
- Possibly revise and implement survey on a broader, statewide scale (potentially through NRLI network)
- Possibly conduct interviews with a sub-set of professionals to better understand the dynamics