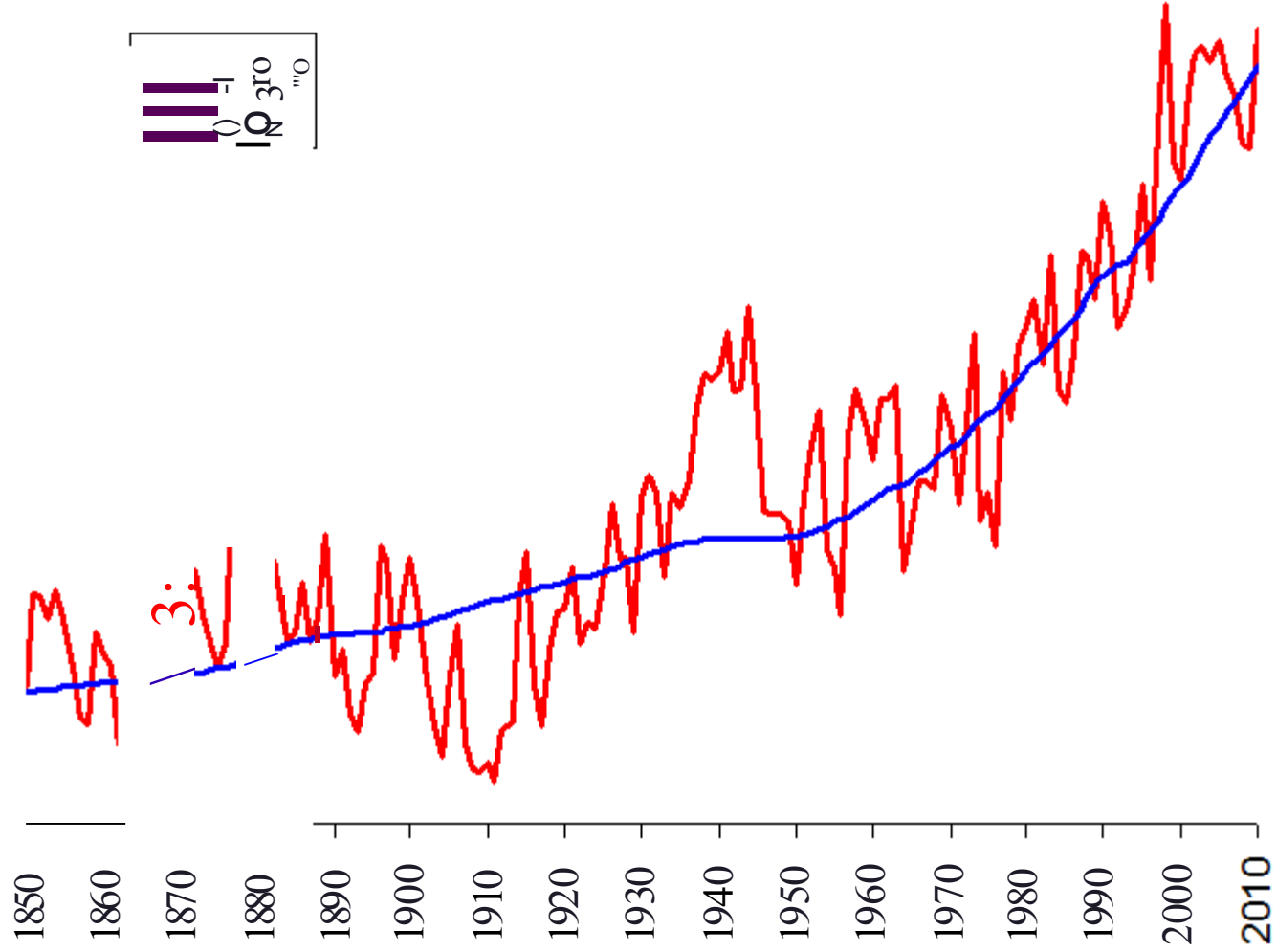


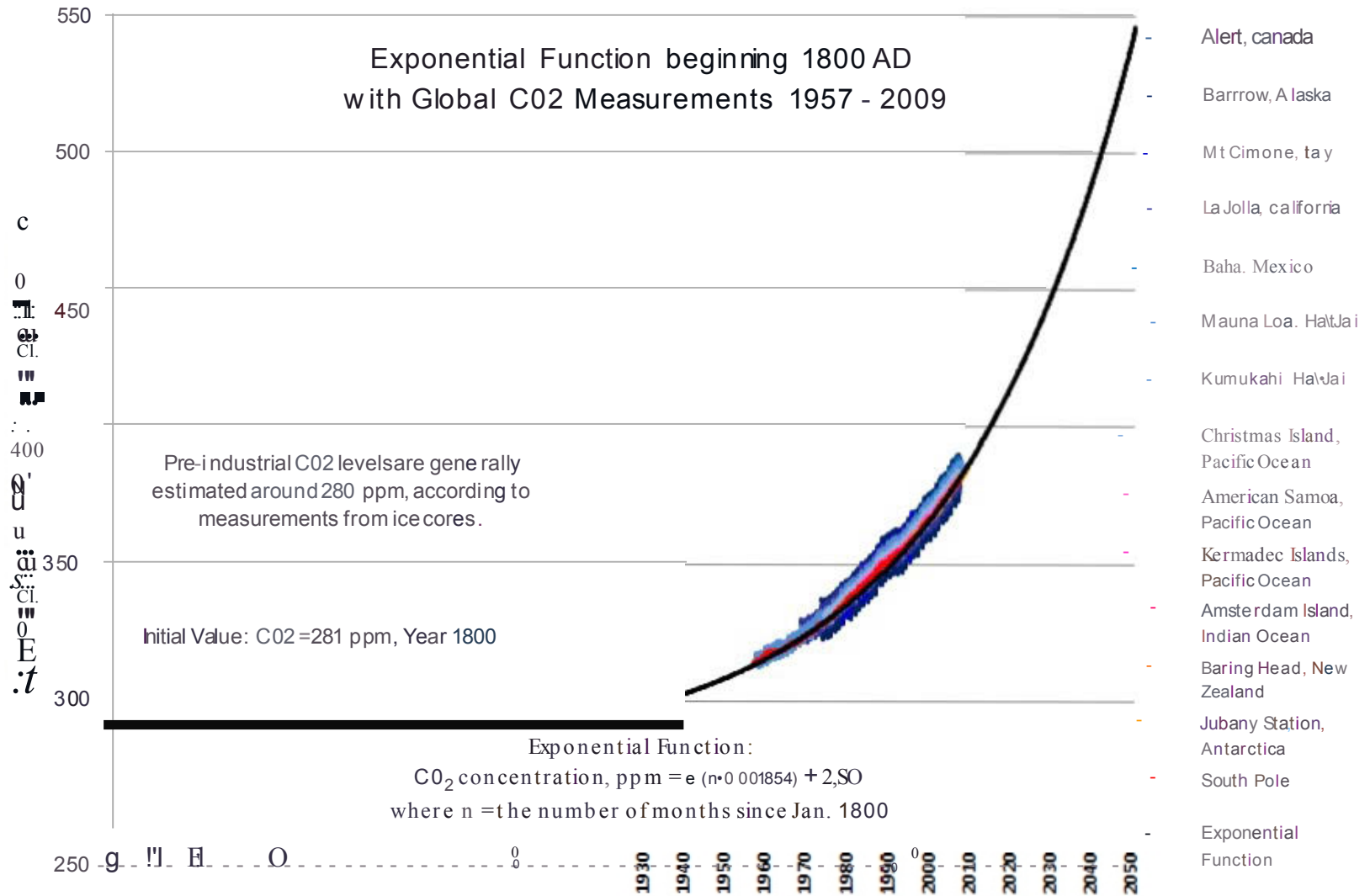
# Climate Impacts, Outreach and Equity



ICE BREAKER



# Global Atmospheric CO2 Forecast to 2050



Data from Keeling et al <http://cdiac.ornl.gov/trends/co2/>





# Encroaching Tides

*How Sea Level Rise and Tidal Flooding Threaten US.  
East and Gulf Coast Communities over the Next 10 Years*



Union of  
Concerned Scientists

# Surviving and Thriving in the Face of Rising Seas

*Building Resilience for Communities on the Front Lines  
of Climate Change*



Union of  
Concerned Scientists

# Climate Change Impacts

```
graph TD; A[Climate Change Impacts] --> B[Where]; B --> C[When]; C --> D[Ground Truthing]; D --> E[Local Outreach]; E --> F[Resiliency]
```

Where

When

Ground Truthing

Local Outreach

Resiliency

What does this look like in practice?

# What is Miami?







# Miami-Dade County





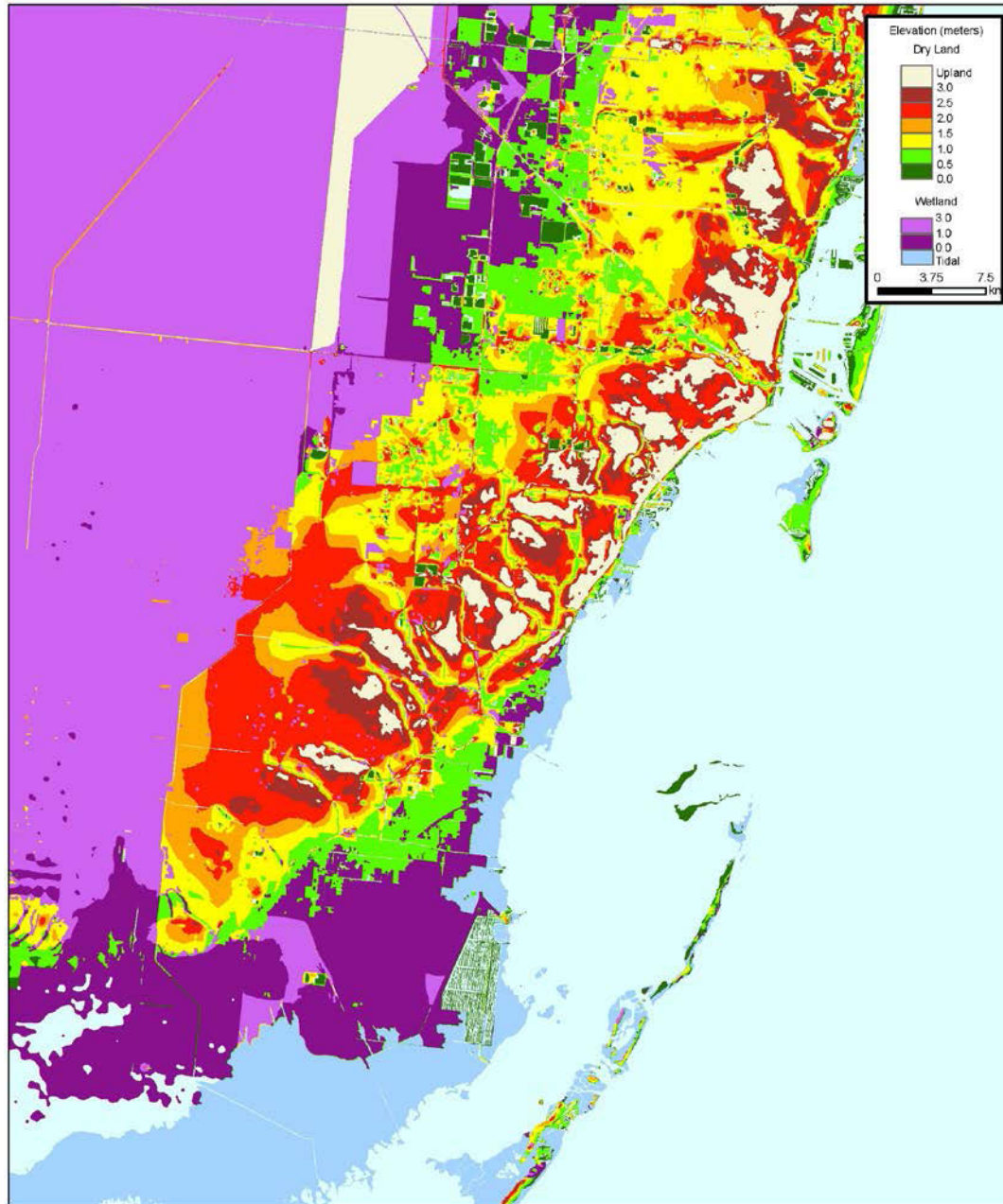






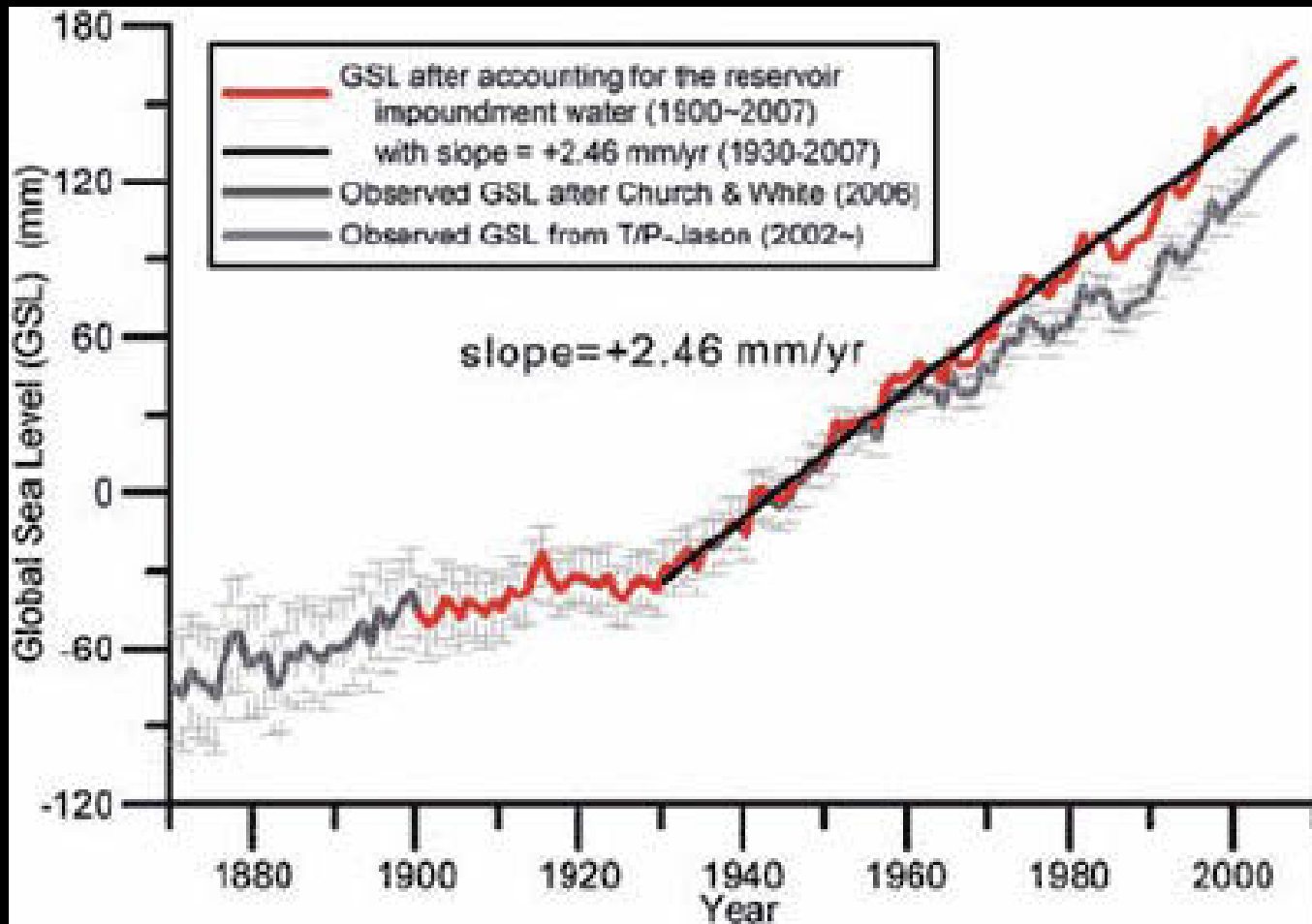
# Florida

## Miami-Dade County

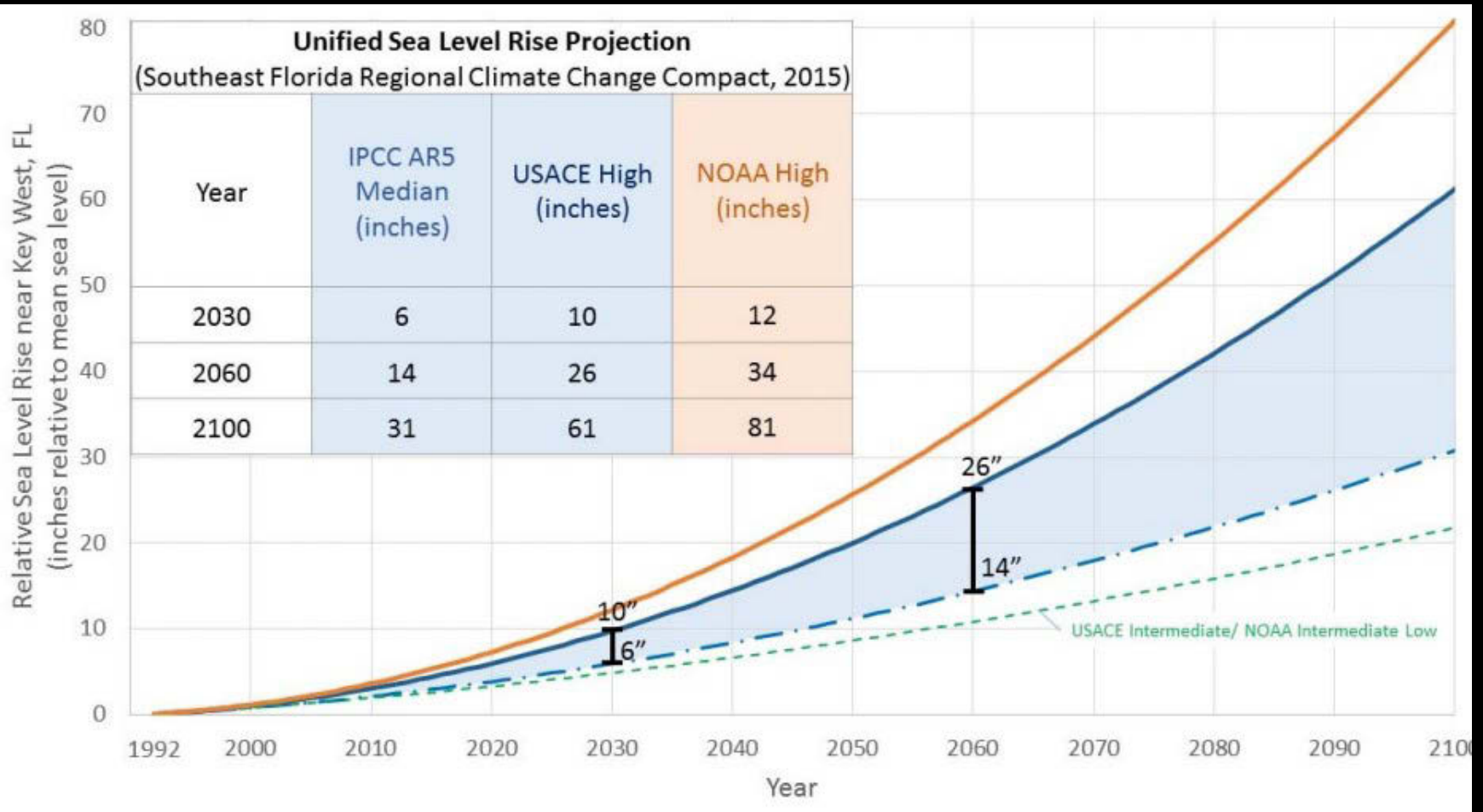




# Historic Sea Level Rise



# Sea Level Rise Projections



# Sea Level Rise Projections

+ 1 Foot



+ 3 Feet



+ 6 Feet



# Sunny Day Flooding





# Expanding Reach of Tidal Flooding



# Flood Control

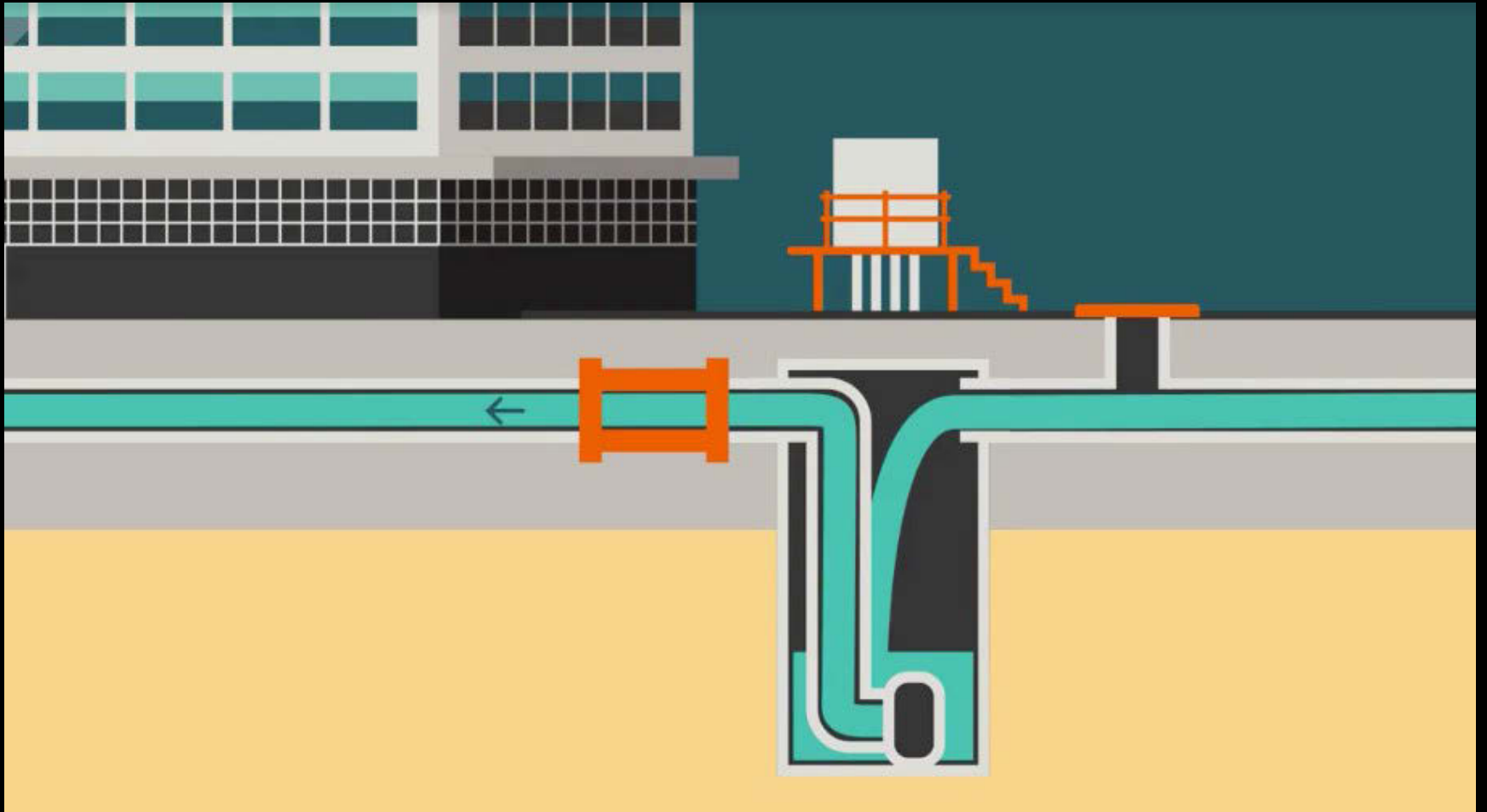




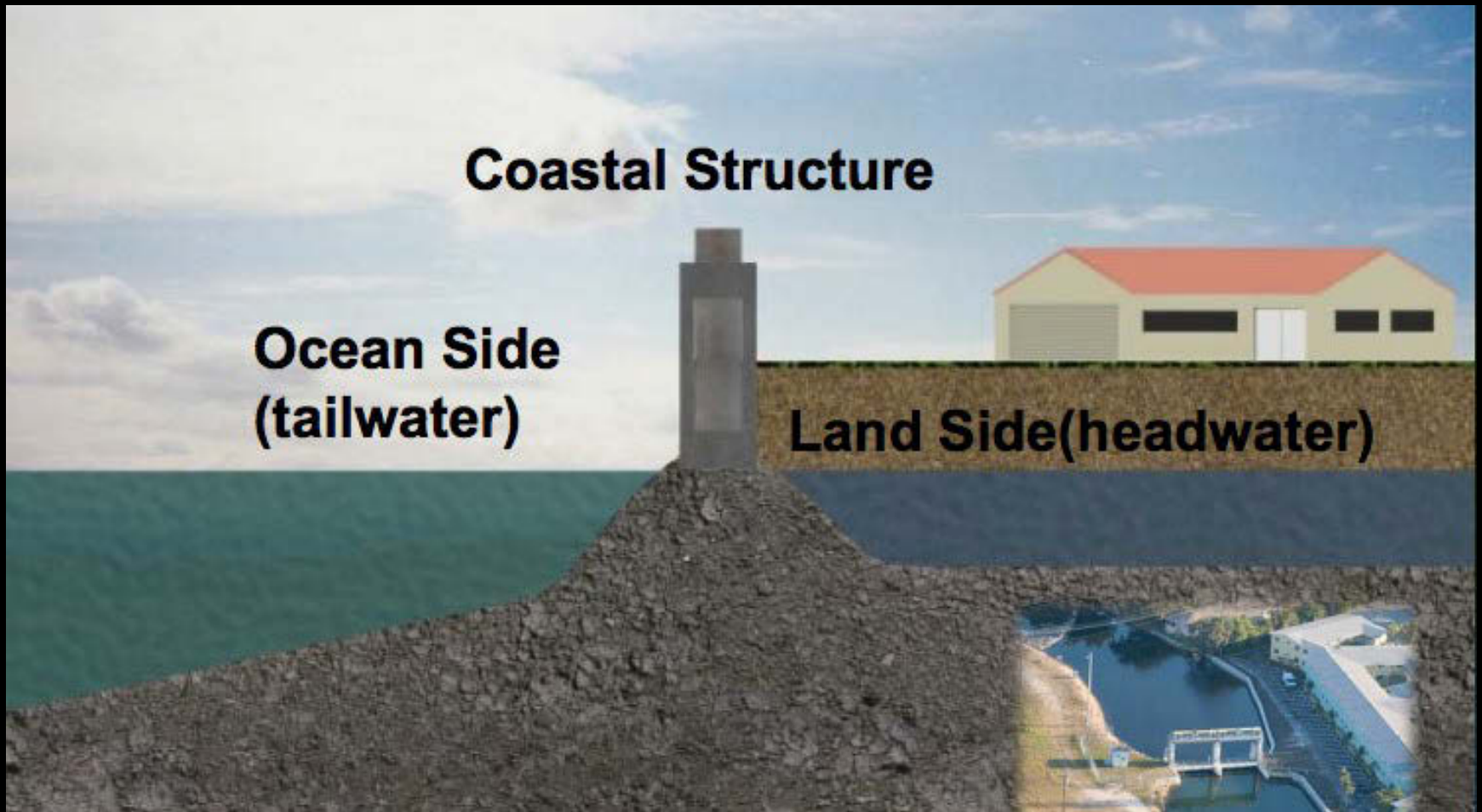
# Flood Control



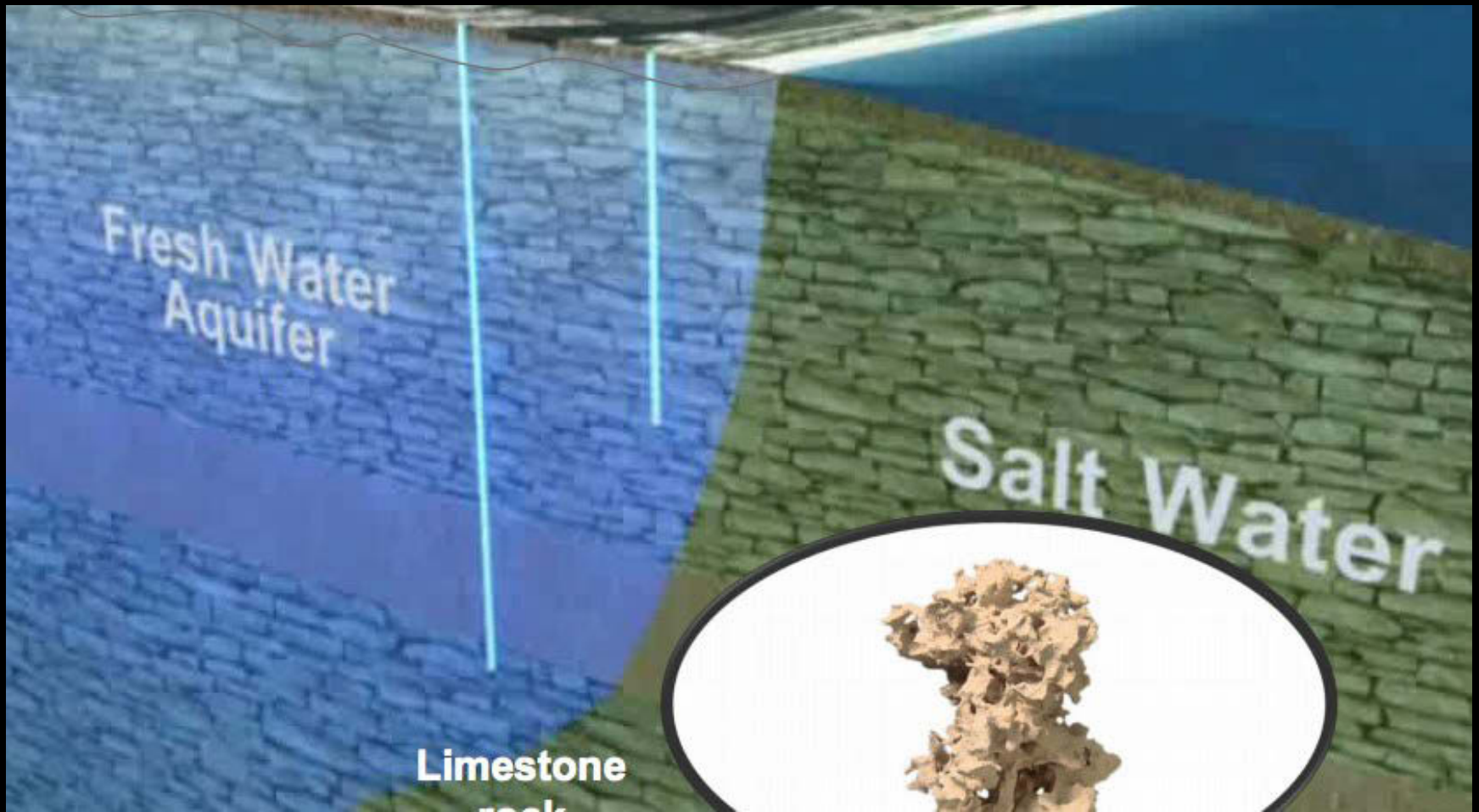
# Flood Control



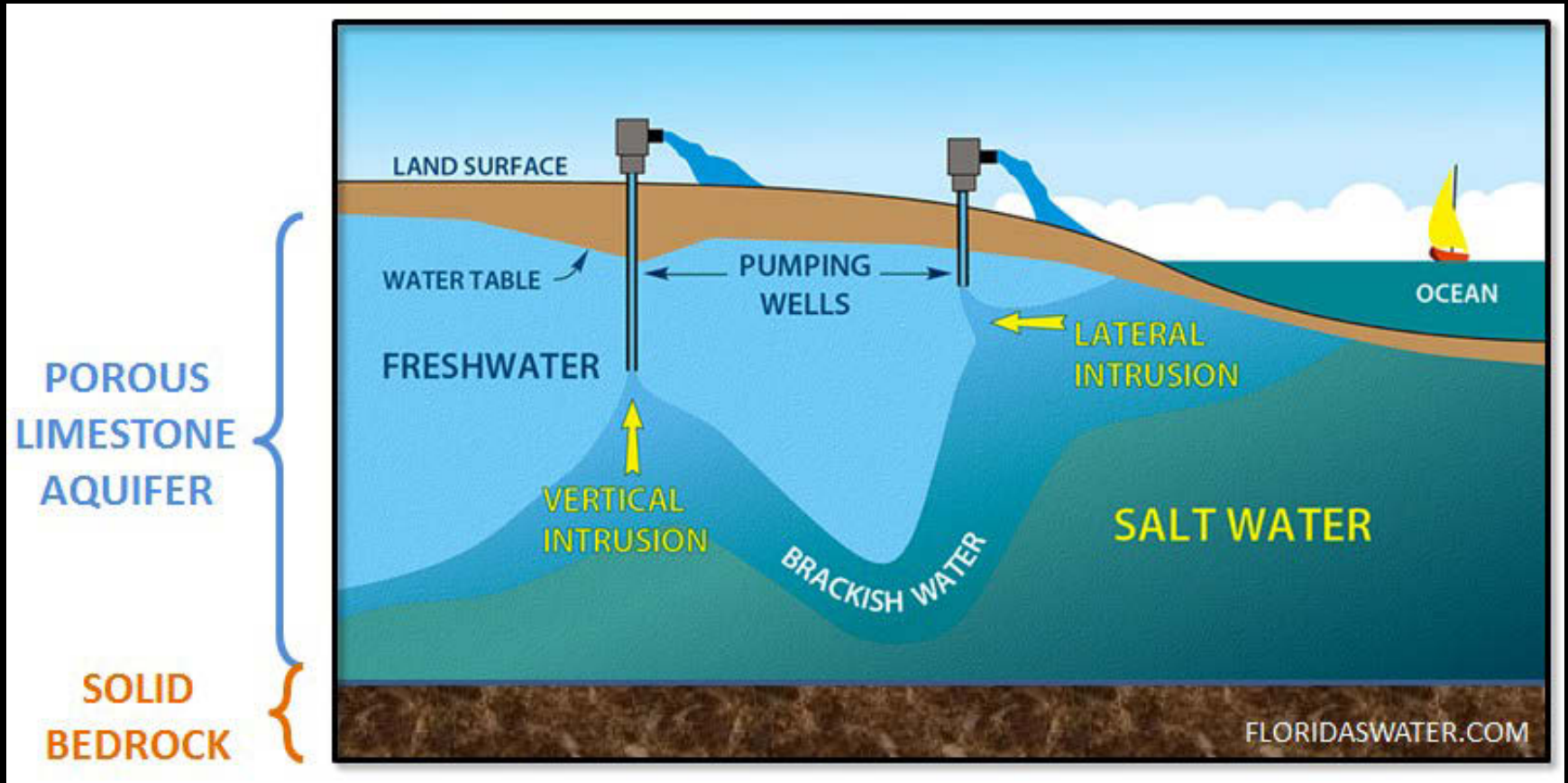
# Flood Control



# Saltwater Intrusion



# Saltwater Intrusion





A. 1904

10 km



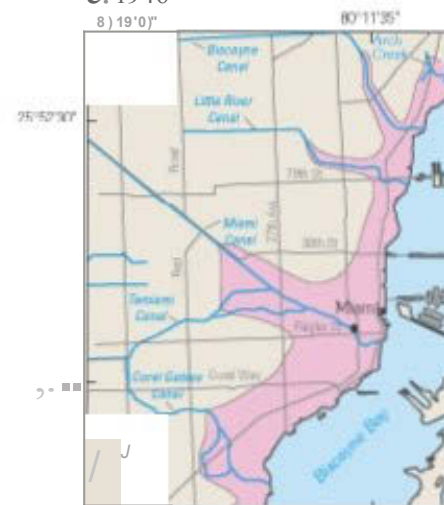
8. 1943

ea pr.



C. 1946

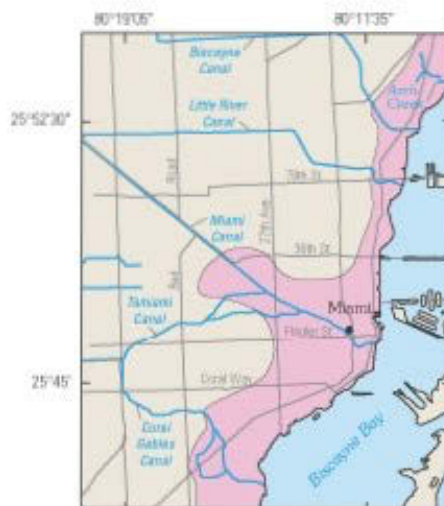
8) 19'0\"



D. 1953




E. 1977



F. 1995



EXPLANATION

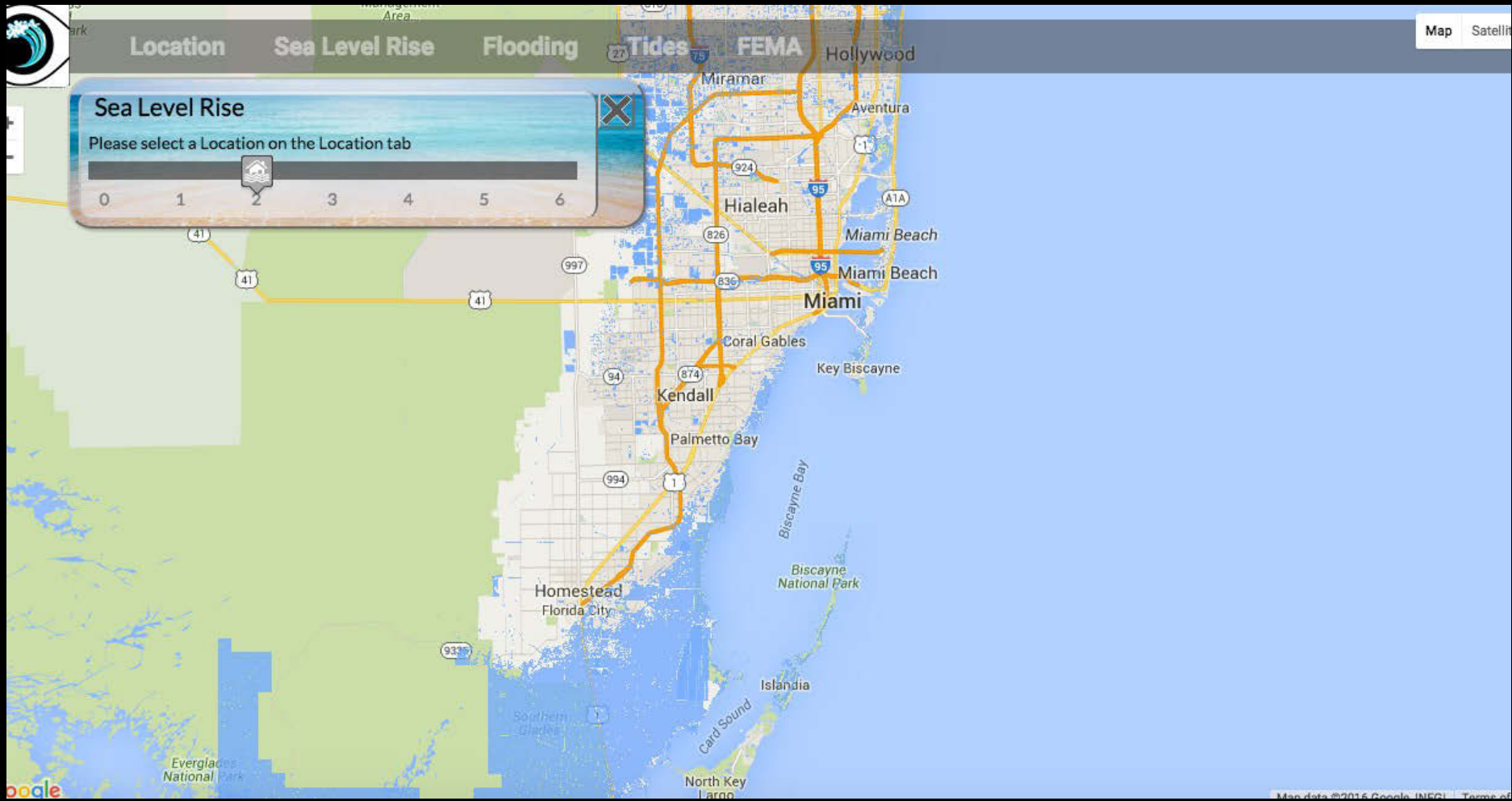
 Extent of saltwater intrusion at base of Biscayne aquifer



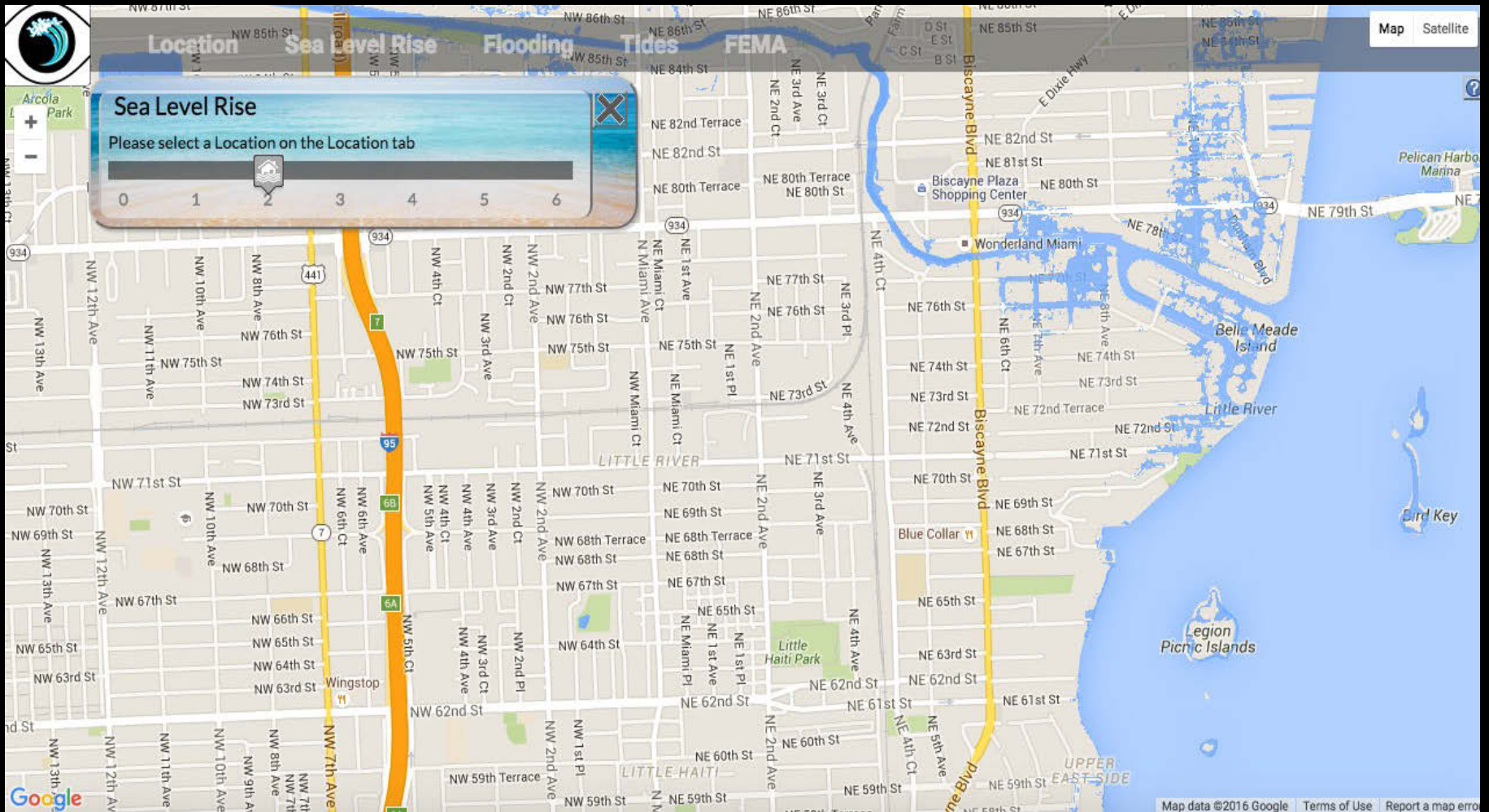
Outreach

Town or City	Intersection	Google Map	WI
Miami Beach	hd Ian Creek Road between 28th and 29th Street Flamingo Drive	<a href="https://www.google.com/maps/place/Miami+Beach,+FL+33141/@25.8051499,-80.9125805,15z">https://www.google.com/maps/place/Miami+Beach,+FL+33141/@25.8051499,-80.9125805,15z</a>	2
Miami Beach	Collins Ave. and 24th St	<a href="https://google.com/maps/@25.8051499,-80.9125805,15z">https://google.com/maps/@25.8051499,-80.9125805,15z</a>	9:2
Miami Beach	Collins Ave. and 29th SL	<a href="https://google.com/maps/@25.8051499,-80.9125805,15z">https://google.com/maps/@25.8051499,-80.9125805,15z</a>	9:2
Miami Beach	North Bay Rd. between W. 27th St. a	<a href="https://google.com/maps/@25.8051499,-80.9125805,15z">https://google.com/maps/@25.8051499,-80.9125805,15z</a>	9:2
North Bay Village	S. Treasure Dr. and Adventure Ave.	<a href="https://google.com/maps/@25.8051499,-80.9125805,15z">https://google.com/maps/@25.8051499,-80.9125805,15z</a>	10:
Venetian Islands/ San Mar	3rd San Marino Terrace and E. San I	<a href="https://google.com/maps/@25.8051499,-80.9125805,15z">https://google.com/maps/@25.8051499,-80.9125805,15z</a>	10:
Miami	N.E. 77th St. and N.E. 7th Ct.	<a href="https://google.com/maps/@25.8051499,-80.9125805,15z">https://google.com/maps/@25.8051499,-80.9125805,15z</a>	9:5
Miami	N.E. 10th Ave. and N.E. 78th St	<a href="https://google.com/maps/@25.8051499,-80.9125805,15z">https://google.com/maps/@25.8051499,-80.9125805,15z</a>	9:5
Miami	N.E. 7th Ave. and N.E. 32nd St	<a href="https://google.com/maps/@25.8051499,-80.9125805,15z">https://google.com/maps/@25.8051499,-80.9125805,15z</a>	9:5
Palm Island	N. Coconut Ln.	<a href="https://google.com/maps/@25.8051499,-80.9125805,15z">https://google.com/maps/@25.8051499,-80.9125805,15z</a>	9:5
Coral Gables	Matheson Hammock Park	<a href="https://google.com/maps/@25.8051499,-80.9125805,15z">https://google.com/maps/@25.8051499,-80.9125805,15z</a>	9:5
Sweetwater	SW . 5th Ter. and S.W. 114th Ave.	<a href="https://google.com/maps/@25.8051499,-80.9125805,15z">https://google.com/maps/@25.8051499,-80.9125805,15z</a>	9:5
Cutler Bay/Homestead	SW . 240th St. and S.W. 97th Ave.	<a href="https://google.com/maps/@25.8051499,-80.9125805,15z">https://google.com/maps/@25.8051499,-80.9125805,15z</a>	9:5
Tamiami/Kendall West	North of 2423 S.W. 147th Ave.	<a href="https://google.com/maps/@25.8051499,-80.9125805,15z">https://google.com/maps/@25.8051499,-80.9125805,15z</a>	9:5
Hialeah	W. 31st St. and 14th Ln.	<a href="https://google.com/maps/@25.8051499,-80.9125805,15z">https://google.com/maps/@25.8051499,-80.9125805,15z</a>	9:5
Hialeah	W. 6th Ave. and W. 25th St.	<a href="https://google.com/maps/@25.8051499,-80.9125805,15z">https://google.com/maps/@25.8051499,-80.9125805,15z</a>	9:5
Hialeah	W. 23rd St. and W. 9th Ave.	<a href="https://google.com/maps/@25.8051499,-80.9125805,15z">https://google.com/maps/@25.8051499,-80.9125805,15z</a>	9:5
North Miami	N.E. 141 St between N.E. 3rd Ct. an	<a href="https://google.com/maps/@25.8051499,-80.9125805,15z">https://google.com/maps/@25.8051499,-80.9125805,15z</a>	9:5
BBC Campus	Bay Vista Blvd between AC2 Parking Lot and Kovens	<a href="https://google.com/maps/@25.8051499,-80.9125805,15z">https://google.com/maps/@25.8051499,-80.9125805,15z</a>	9:5
MMC Campus	SW 112th Avenue and East Campus Dri	<a href="https://www.google.com/maps/@25.7600926,-80.3755174,18z">https://www.google.com/maps/@25.7600926,-80.3755174,18z</a>	9:5

# FIU Sea Level Rise App



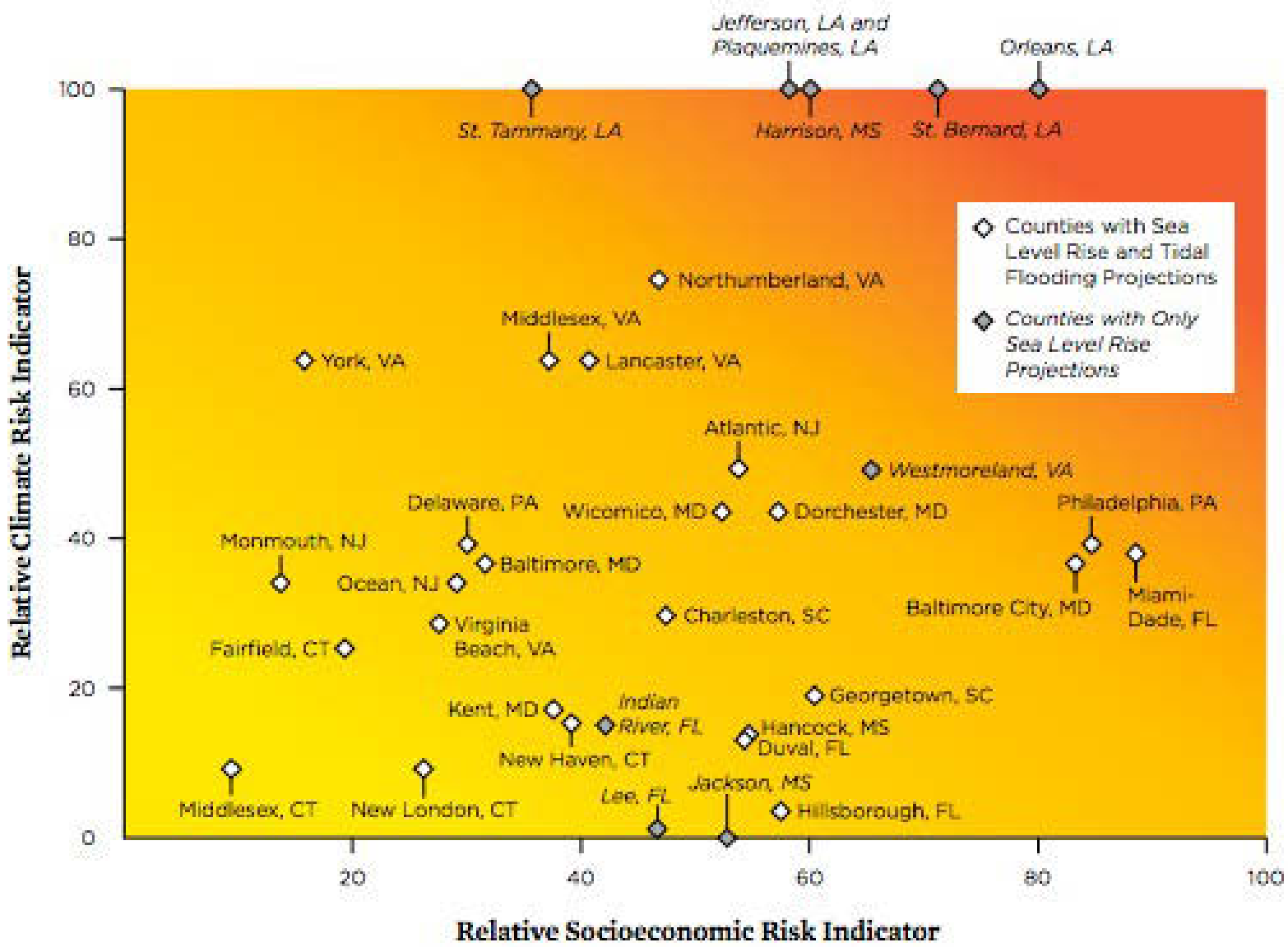
# FIU Sea Level Rise App











# Ground Truthing



# Residents



Yuzbeny Escobar, 2015



# Research



**FIU** | Sea Level  
Solutions Center  
FLORIDA INTERNATIONAL UNIVERSITY

**FIU**

Journalism  
& Mass  
Communication

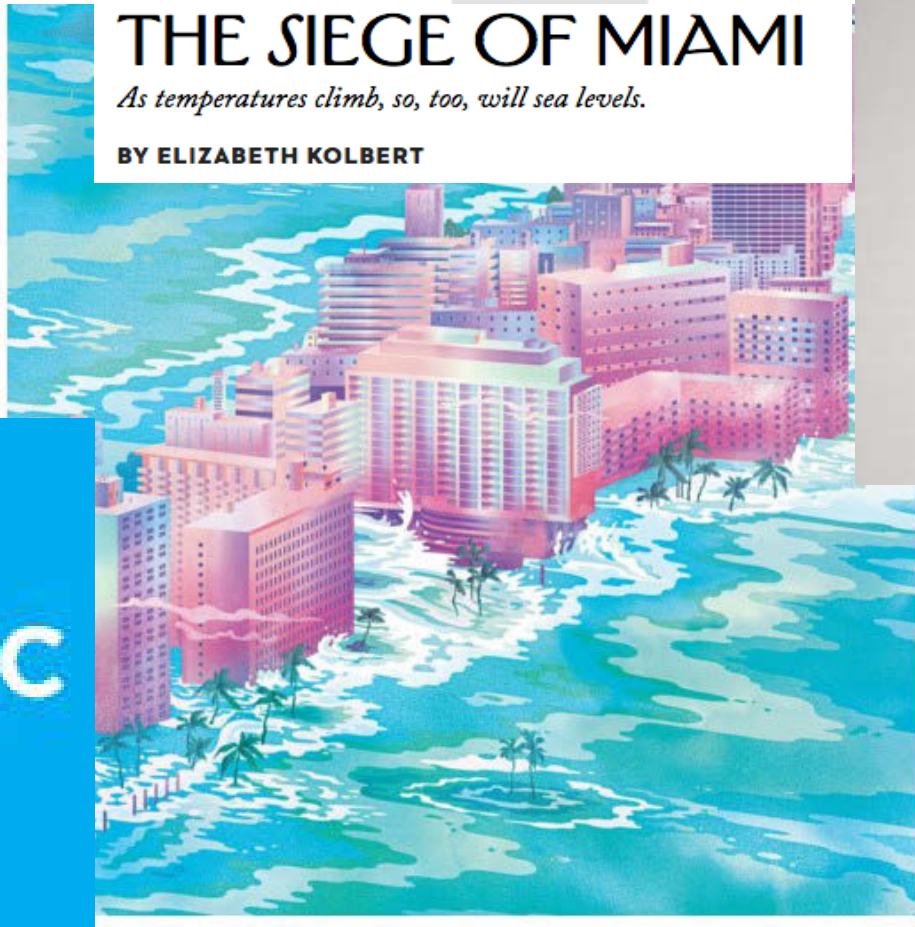
# Media

## THE NEW YORKER

### THE SIEGE OF MIAMI


*As temperatures climb, so, too, will sea levels.*

BY ELIZABETH KOLBERT





# Local Government

The logo for Miami-Dade County features a large, stylized blue letter 'D' on the right side. The text 'MIAMI-DADE' is written in a bold, black, sans-serif font across the middle of the 'D'. Below this, the word 'COUNTY' is written in a white, sans-serif font inside a green rectangular box.

**MIAMI-DADE**

**COUNTY**

# Community Partners



# Town Hall



Town Hall Photos,  
David McDougall 2016

# Town Hall





# Town Hall





# Messaging

- Make the connections between tidal flooding and climate change

# Messaging

- Listen to residents and make sure they are key contributors in designing resiliency

# Messaging

- Focus on solutions that address the short term problem within the context of large scale solutions

# Next Steps

- Meeting with county and city leadership
  - Sustainability
  - Emergency management
  - Public works department
  - Health department

Good evening,

Your efforts and your willingness to be involved have lead us to some progress! These are very much first steps so your continued engagement is important.

Last week I met with folks in the County and the City of Miami to talk about the flooding in Shorecrest. It was productive and resulted in some next steps. Here is an update from the County:

“The Department of Transportation and Public Works is evaluating NE 10 Avenue from NW 79 Street to NW 90 Street, which is under the maintenance jurisdiction of Miami Dade County, for potential impacts due to king tides. The Department has received complaints of salt water surging in the area during the peak of king tides. A survey of the NE 10 Avenue and the adjacent properties will be completed and used to identify areas whose elevation is lower than the historical and projected king tides. This information will be used to determine if any actions can be undertaken to help mitigate the surging being experienced.”

Additionally, Shorecrest is on the agenda for this week's sea level rise meeting. It would be great if you could attend the meeting. Here is the information:

The City of Miami Sea Level Rise Committee next meets on Monday March 14, at 6 PM in the Miami City Hall Commission Chambers – 3500 Pan America Drive, Miami FL 33133.

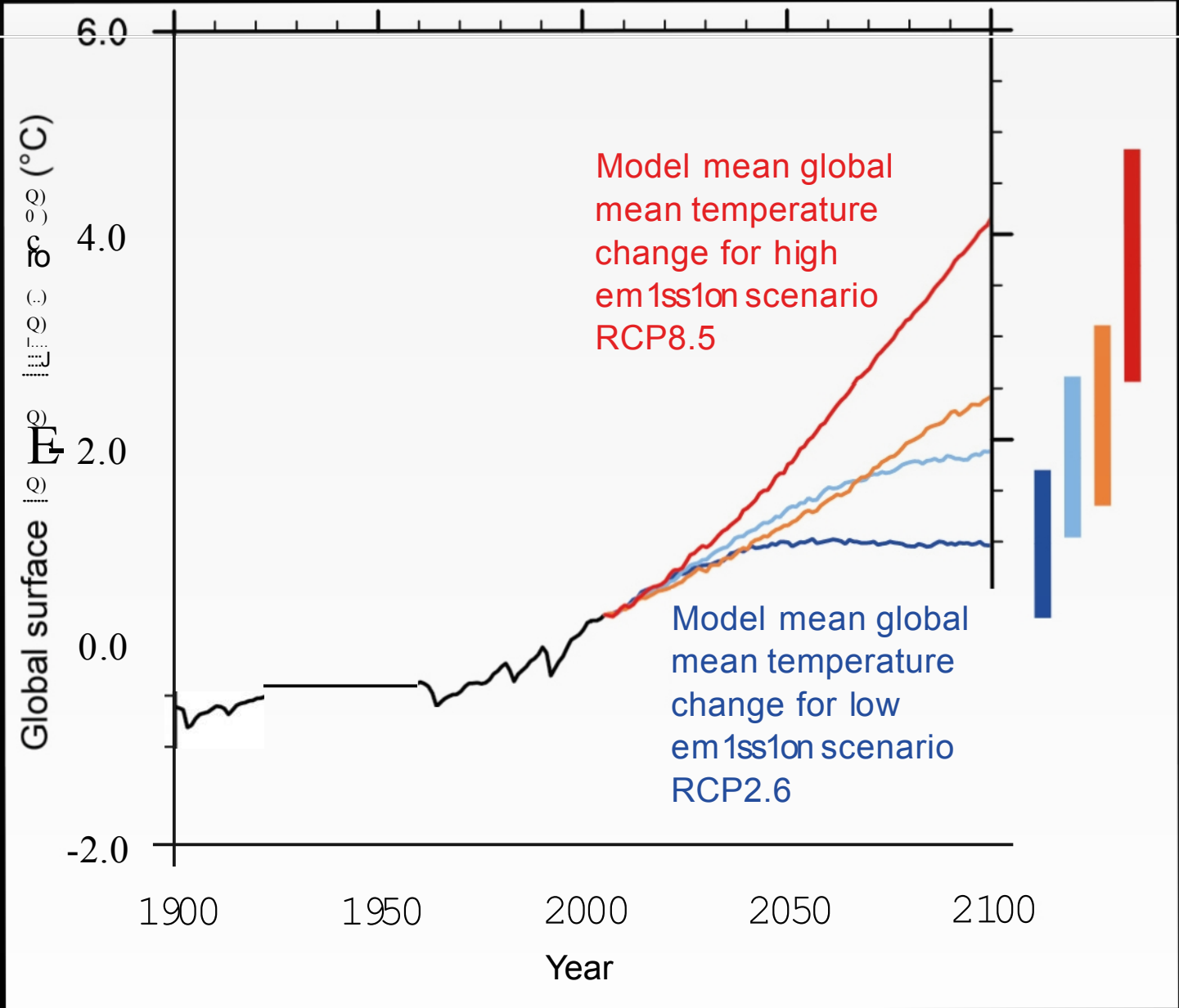
Best,

Nicole Hernandez Hammer



How can this be replicated?

ICE BREAKER

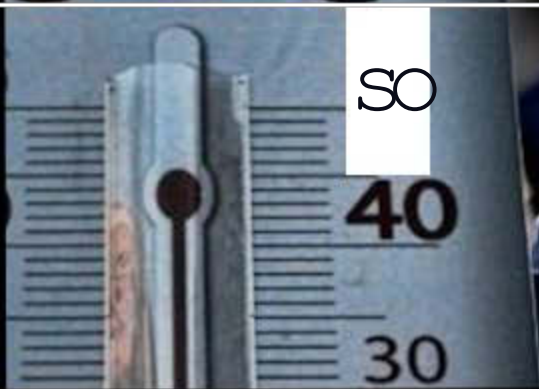


Model mean global mean temperature change for high em1ss1on scenario RCP8.5

Model mean global mean temperature change for low em1ss1on scenario RCP2.6



C °C

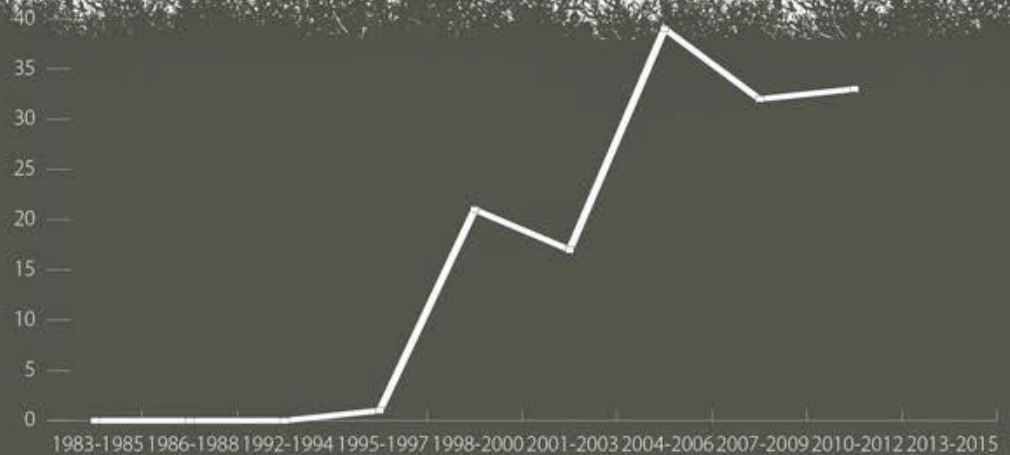


so




## Wildfires' Impacts Are Growing Exponentially

Number of wildfires,  
larger than 100,000 acres  
in size, that burned each year



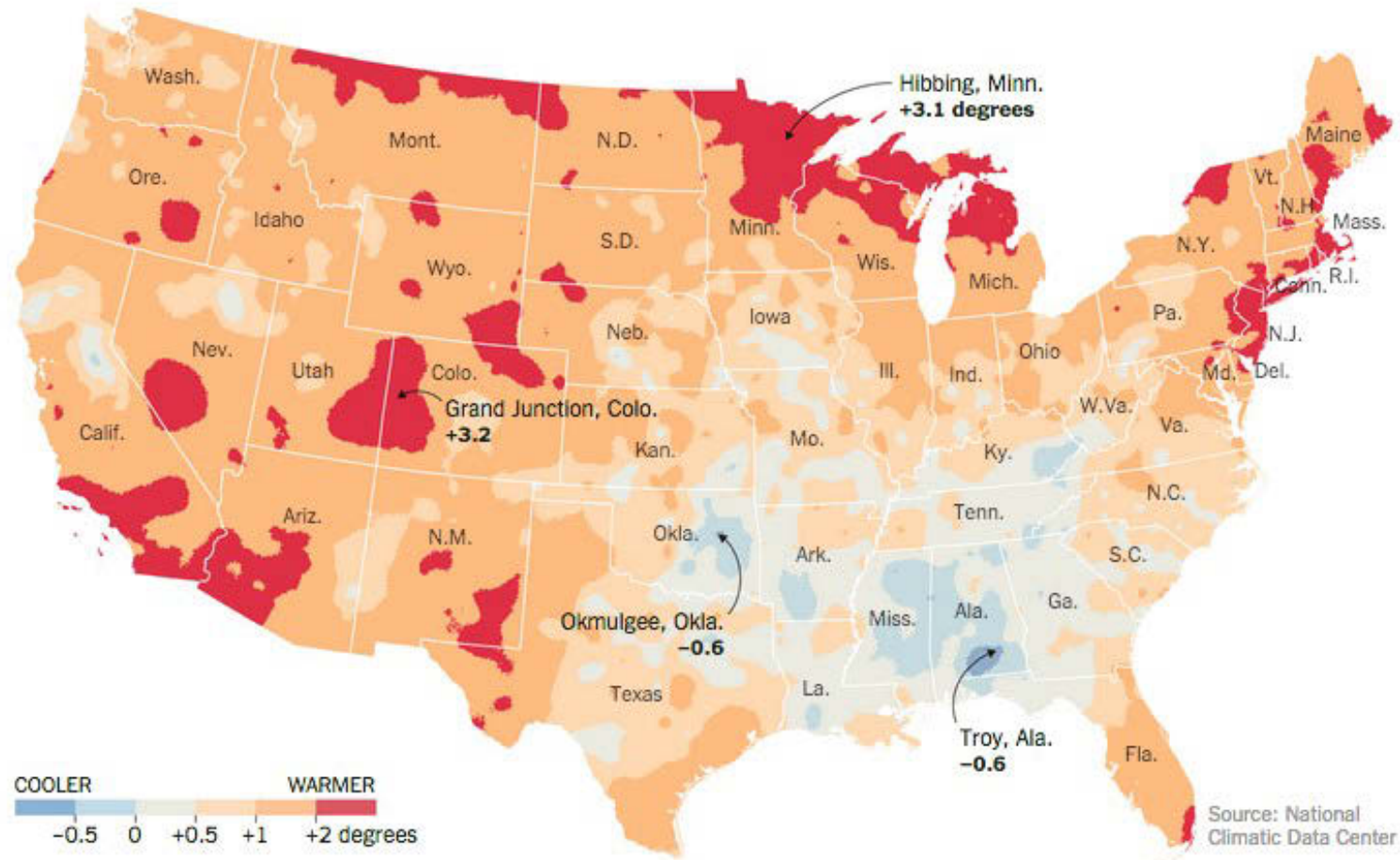
**Senator Maria Cantwell, Ranking Member**  
Senate Energy and Natural Resources Committee

 **@SenateEnergy**

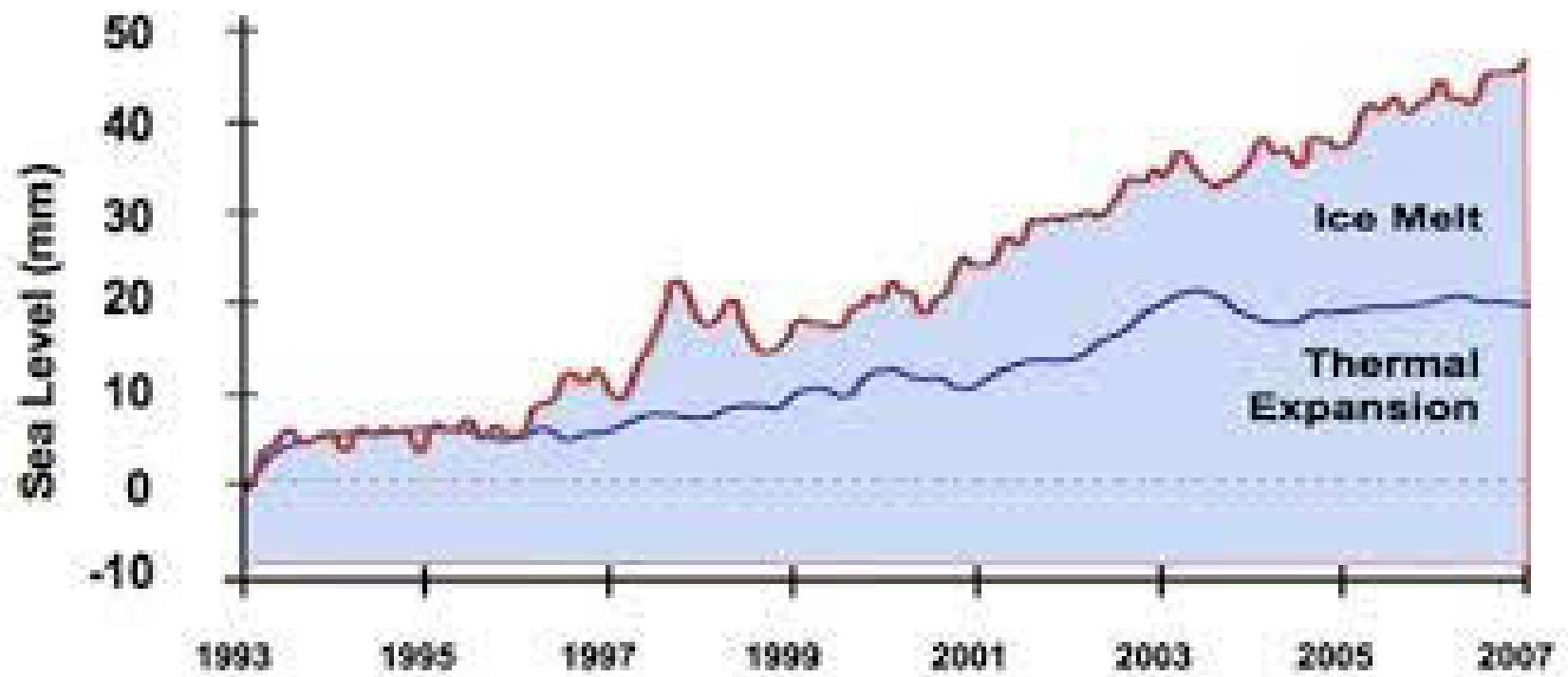


Where?

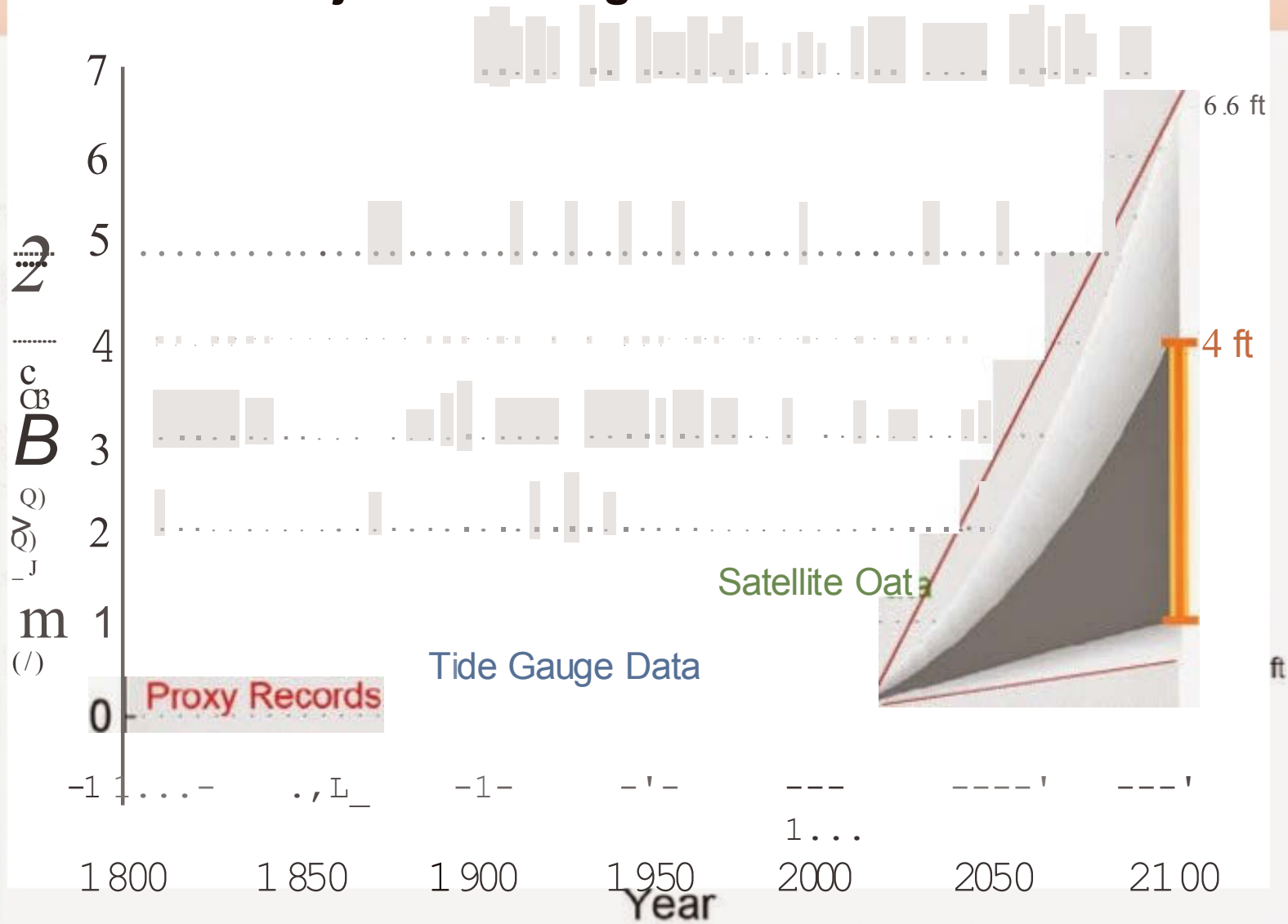
# Heat



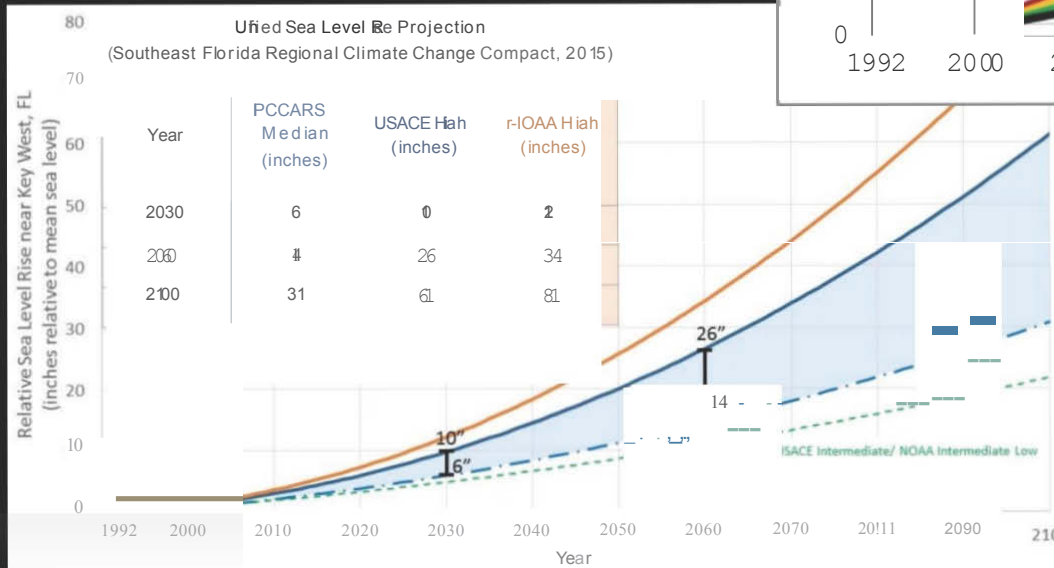
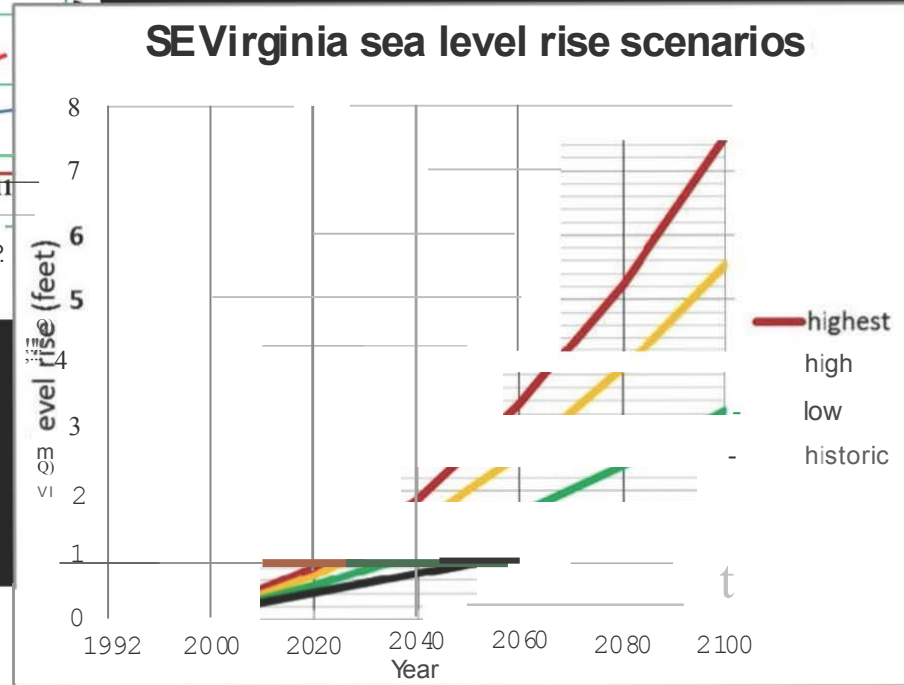
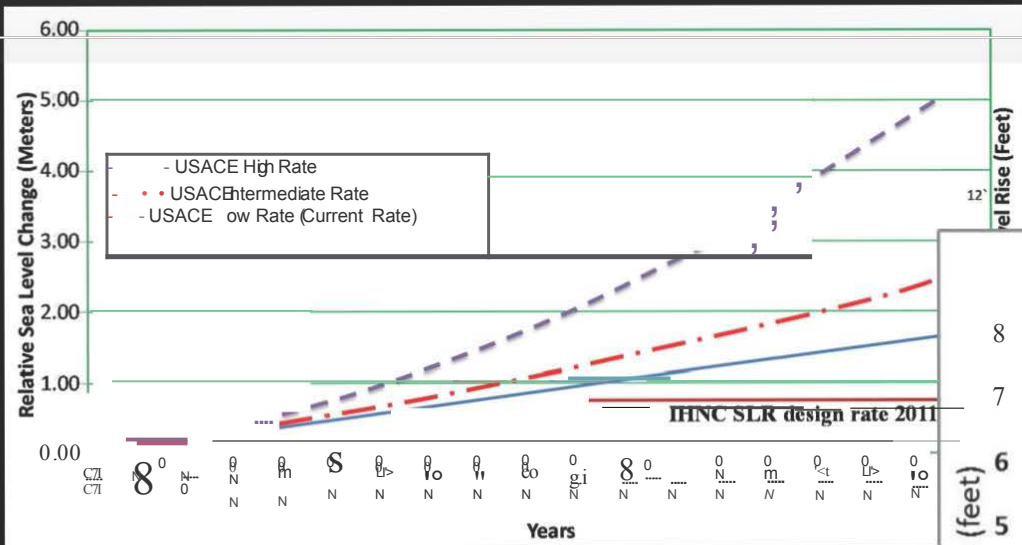




# Past and Projected Changes in Global Sea Level Rise



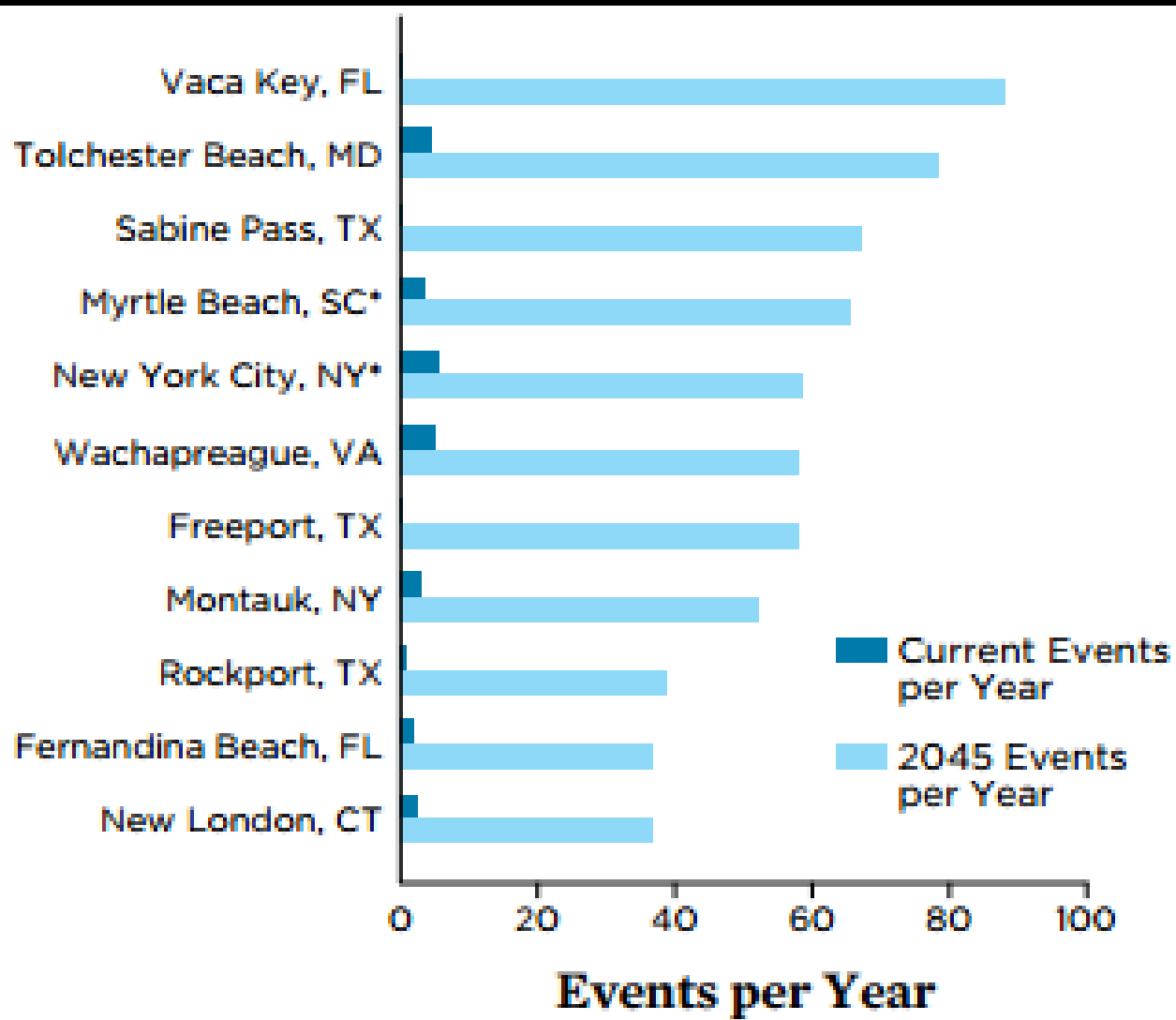






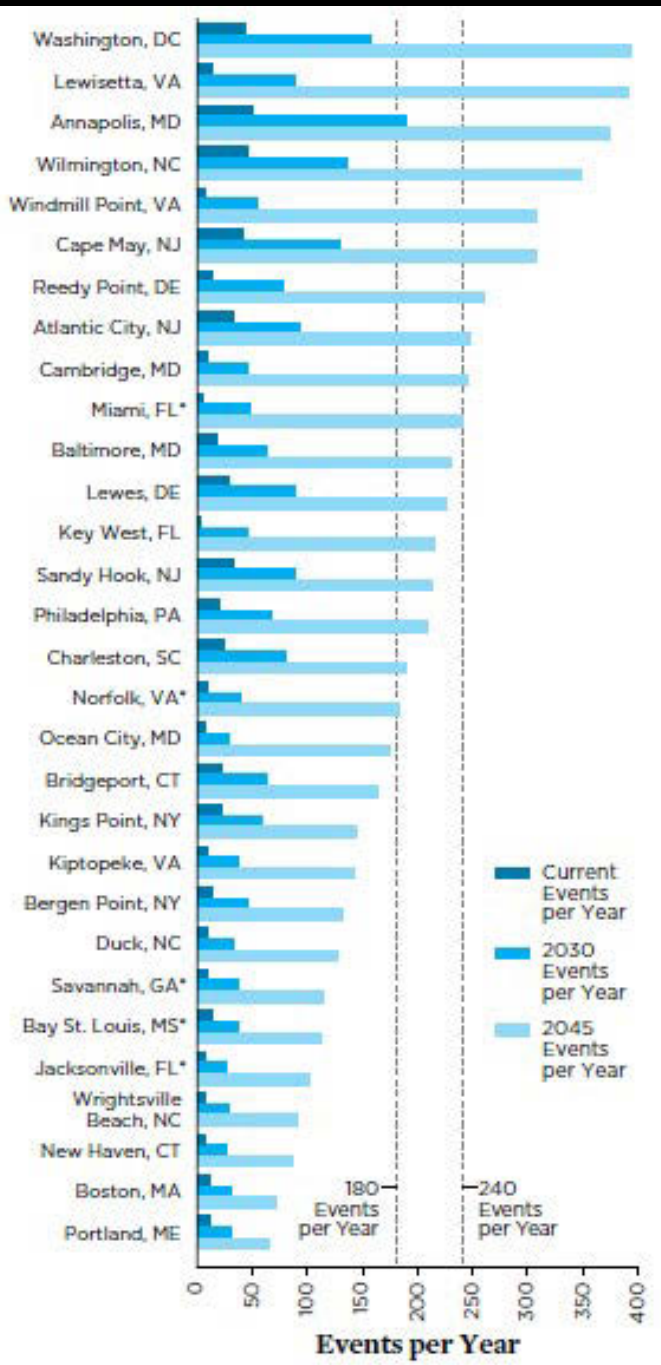


King Tide, Annapolis MD, 2012. Amy McGovern, Eldersburg, MD, Flickr / CreaBve Commons



# Present, 2030, 2045

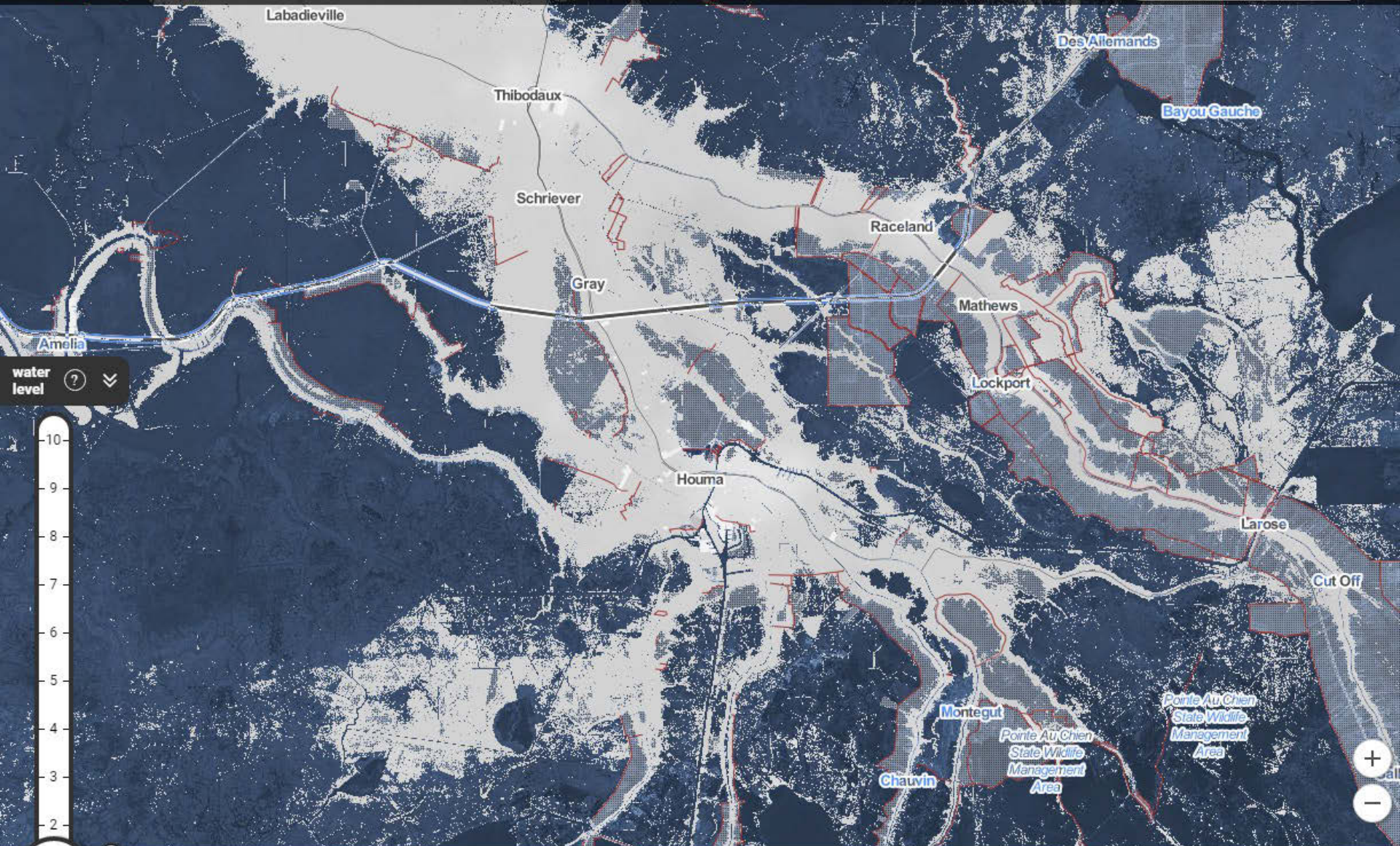
- Of the 52 locaBons , 30 can expect at least two dozen Bdal floods per year by 2030.
- By 2045, one-third of the locaBons we analyzed can expect 180 or more Bdal floods per year.
- Nine locaBons could average 240 or more Bdal floods a year by 2045





# Surging Seas RISK ZONE MAP

Houma, Louisiana



**1** ft m

Below water level    Below but isolated    Levee    Tide gauges

See projections   **Legend**   Social vulnerability   Population   Ethnicity   Income   Property   Landmarks

Elevation data courtesy of NOAA

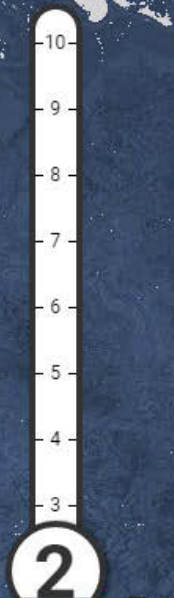


# Surging Seas RISK ZONE MAP

Houma, Louisiana



water level



- Below water level
- Below but isolated
- Levee
- Tide gauges

- See projections
- Legend**
- Social vulnerability
- Population
- Ethnicity
- Income
- Property
- Landmarks

Elevation data courtesy of NOAA



# Surging Seas RISK ZONE MAP



water level ? ▾



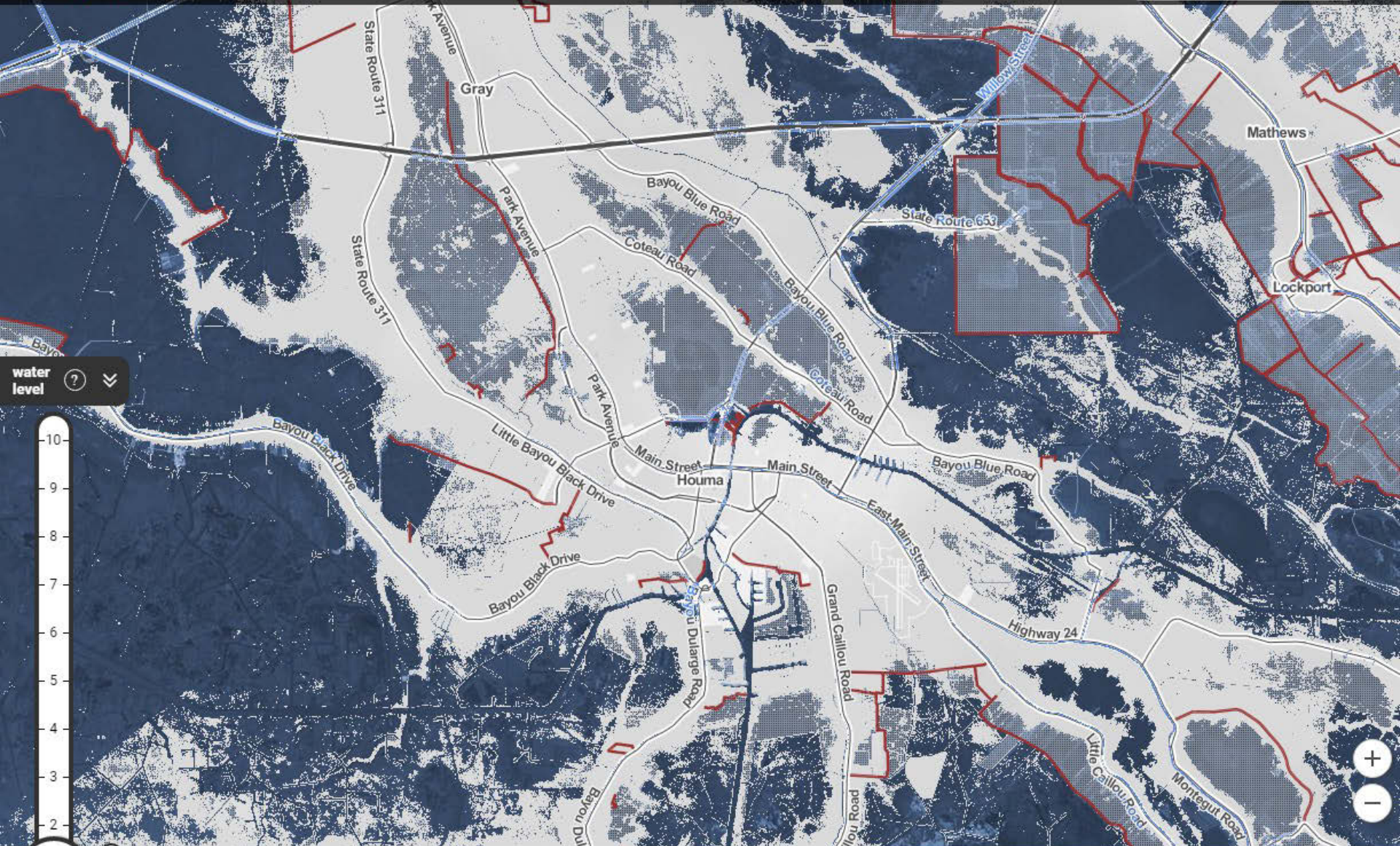
- Below water level
- Below but isolated
- Levee
- Tide gauges

- See projections
- Legend**
- Social vulnerability
- Population
- Ethnicity
- Income
- Property
- Landmarks
- Elevation data courtesy of NOAA



# Surging Seas RISK ZONE MAP

Houma, Louisiana



water level ? ▾

10  
9  
8  
7  
6  
5  
4  
3  
2

1 ft  
m

- Below water level
- Below but isolated
- Levee
- Tide gauges

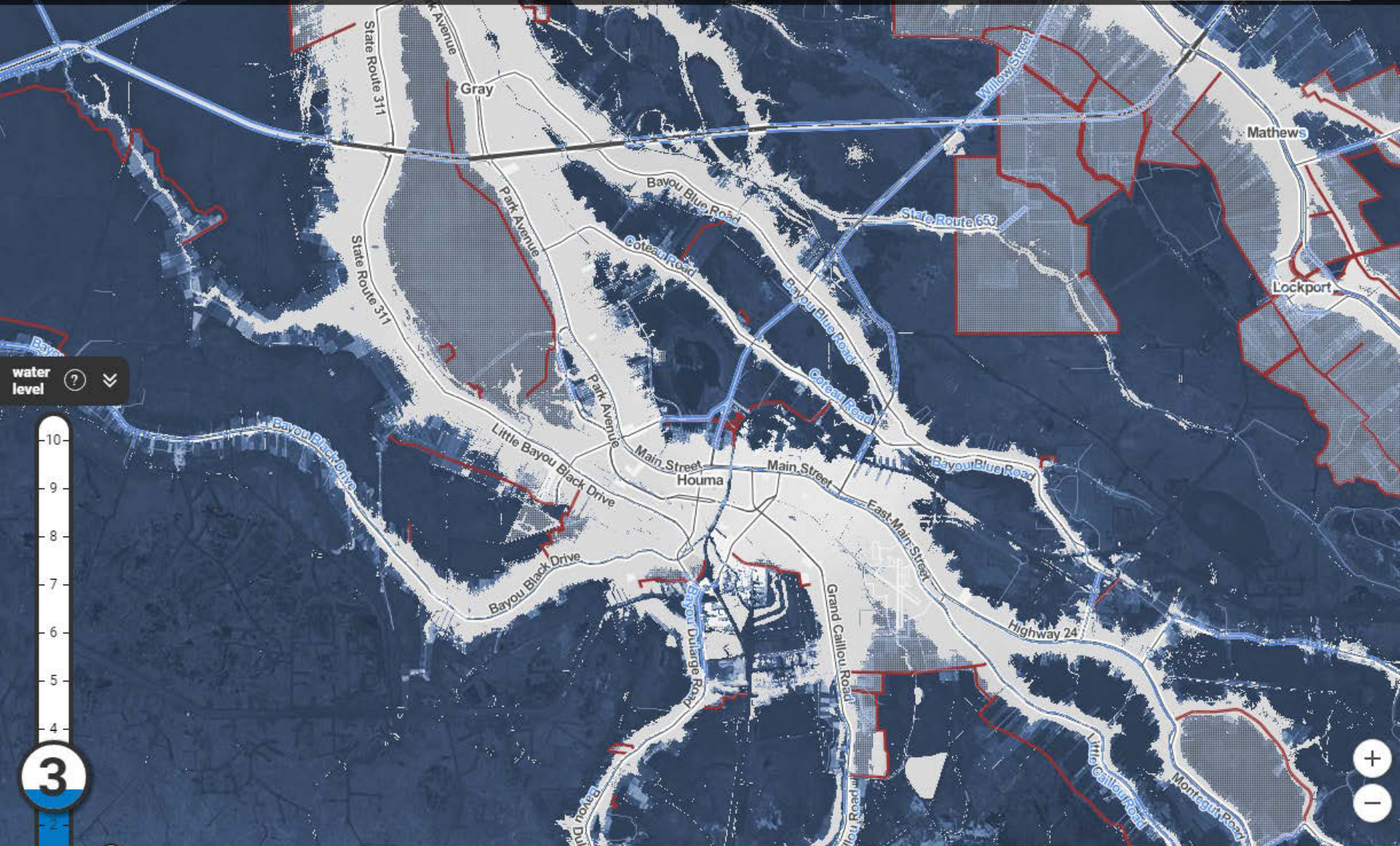
- See projections
- Legend**
- Social vulnerability
- Population
- Ethnicity
- Income
- Property
- Landmarks

Elevation data courtesy of NOAA



# Surging Seas RISK ZONE MAP

Houma, Louisiana



water level



- Below water level
- Below but isolated
- Levee
- Tide gauges

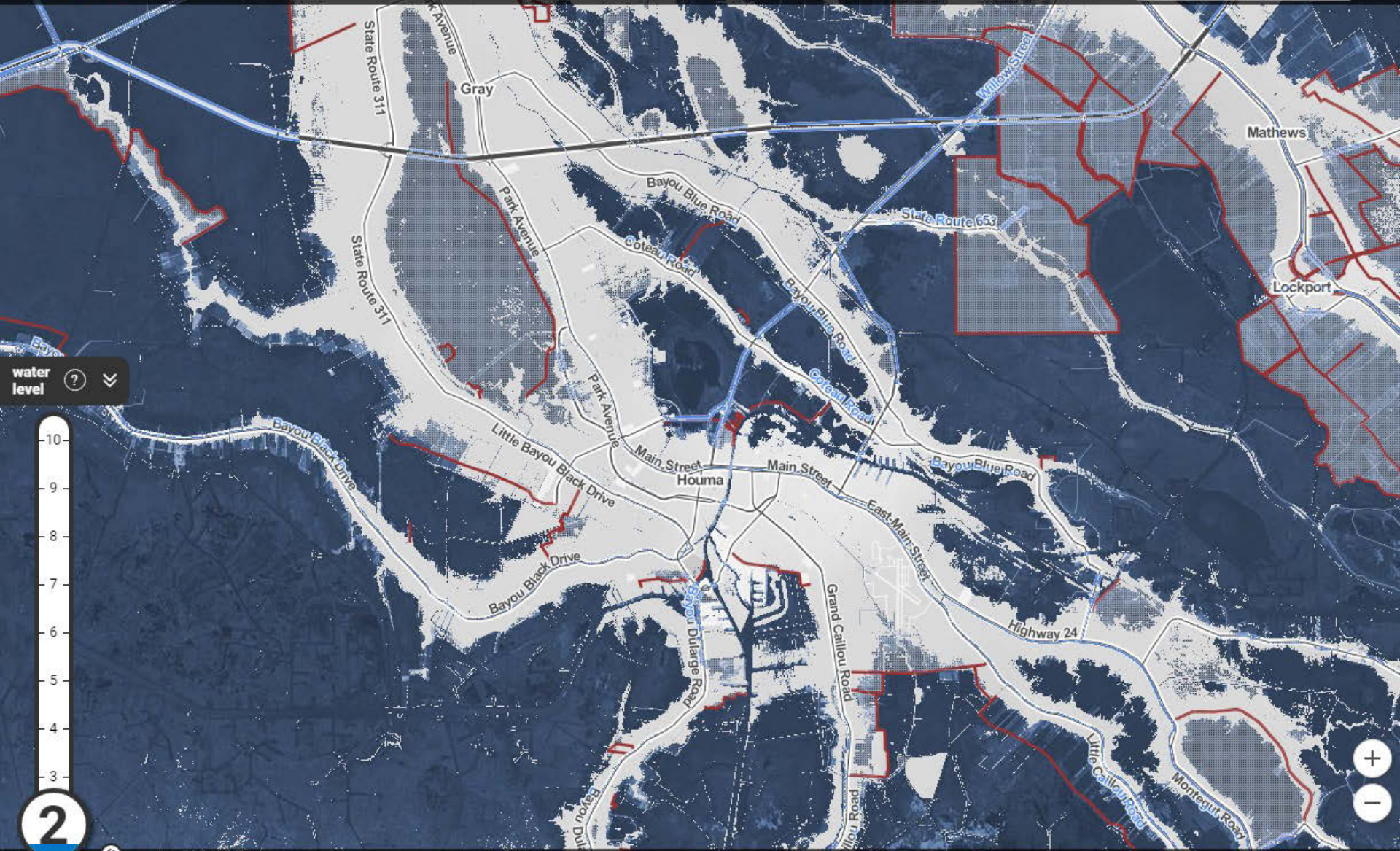
- See projections
- Legend**
- Social vulnerability
- Population
- Ethnicity
- Income
- Property
- Landmarks

Elevation data courtesy of NOAA



# Surging Seas RISK ZONE MAP

Houma, Louisiana



water level



- Below water level
- Below but isolated
- Levee
- Tide gauges

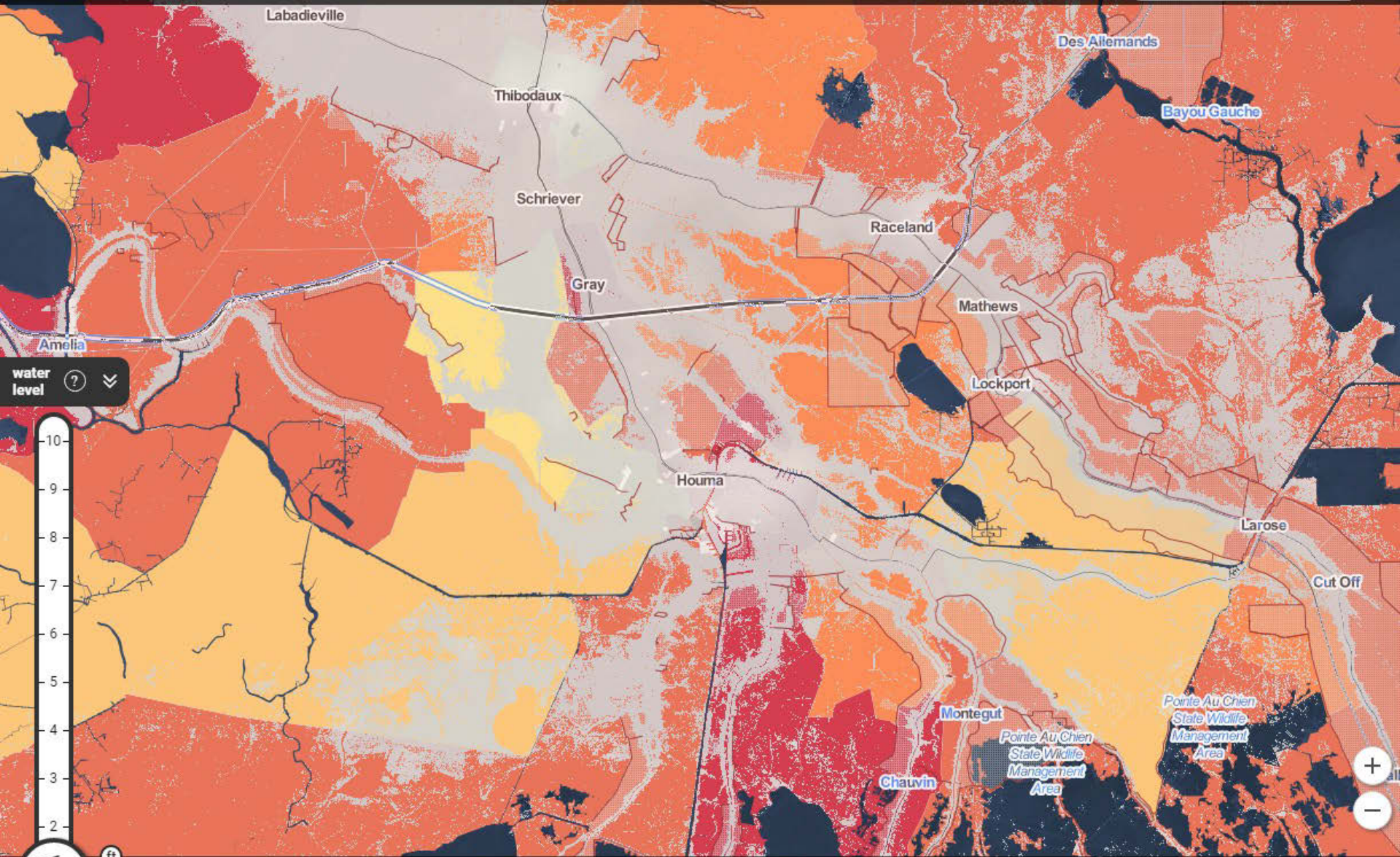
- See projections
- Legend**
- Social vulnerability
- Population
- Ethnicity
- Income
- Property
- Landmarks

Elevation data courtesy of NOAA



# Surging Seas RISK ZONE MAP

Houma, Louisiana



water level ? ▾



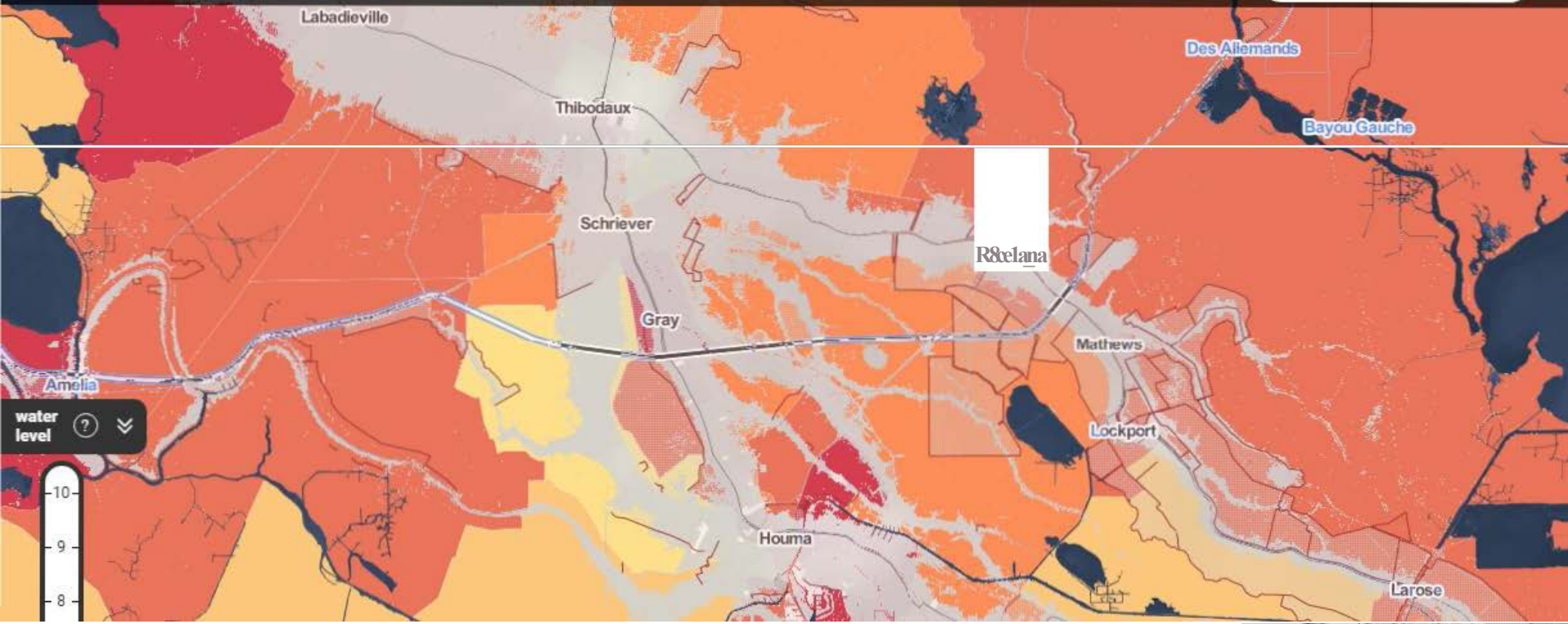
Percentile: ● 80-100% ● 60-80% ● 40-60% ● 20-40% ● 0-20%

See projections | Legend | Social vulnerability | Population | Ethnicity | **Income** | Property | Landmarks

Elevation data courtesy of NOAA



# Surging Seas RISK ZONE MAP

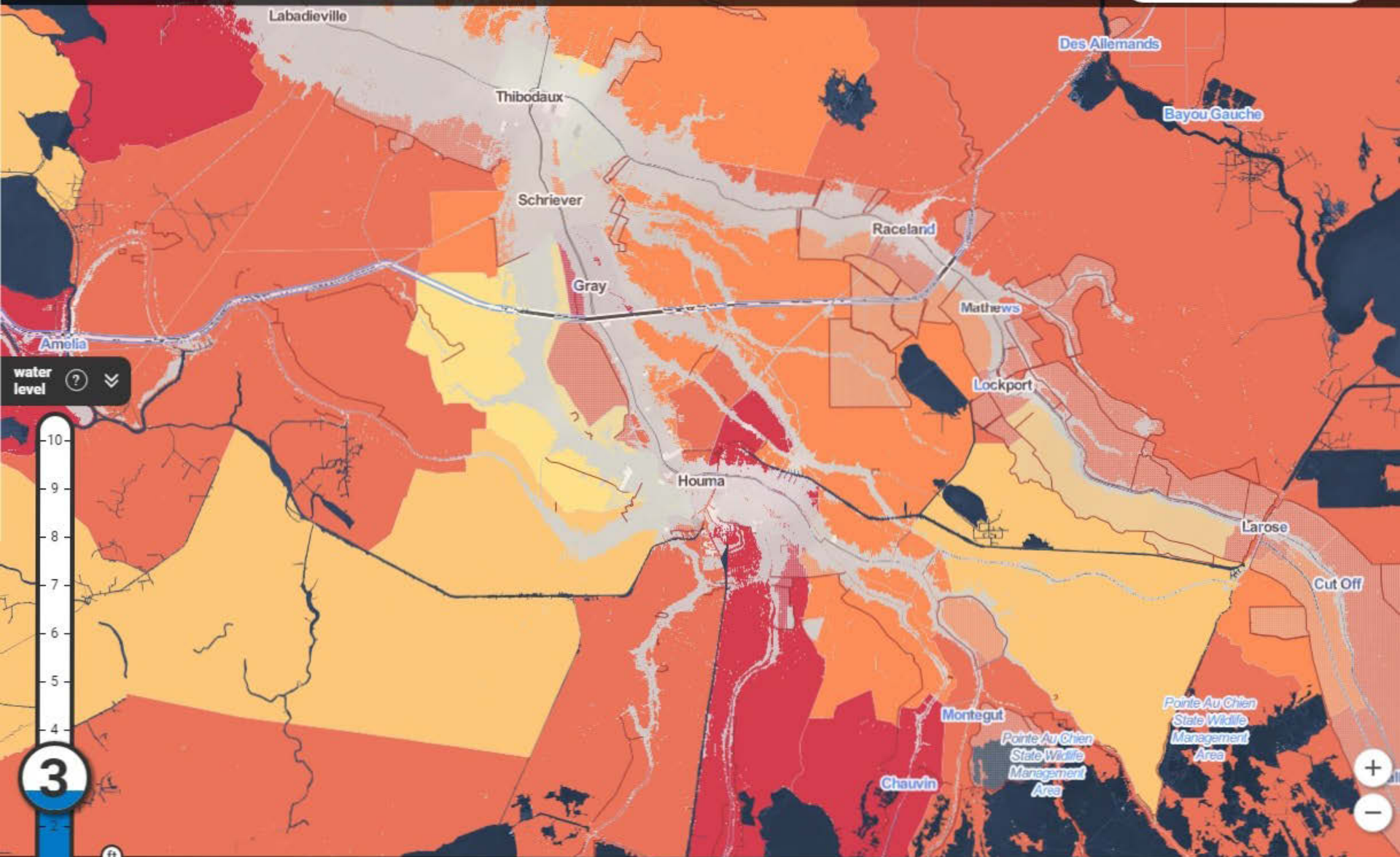


Percentile: ● 80-100% ● 60-80% ● 40-60% ● 20-40% ● 0-20%

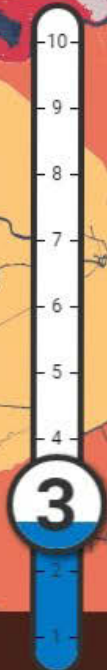


# Surging Seas RISK ZONE MAP

Houma, Louisiana



water level



Percentile: ● 80-100% ● 60-80% ● 40-60% ● 20-40% ● 0-20%

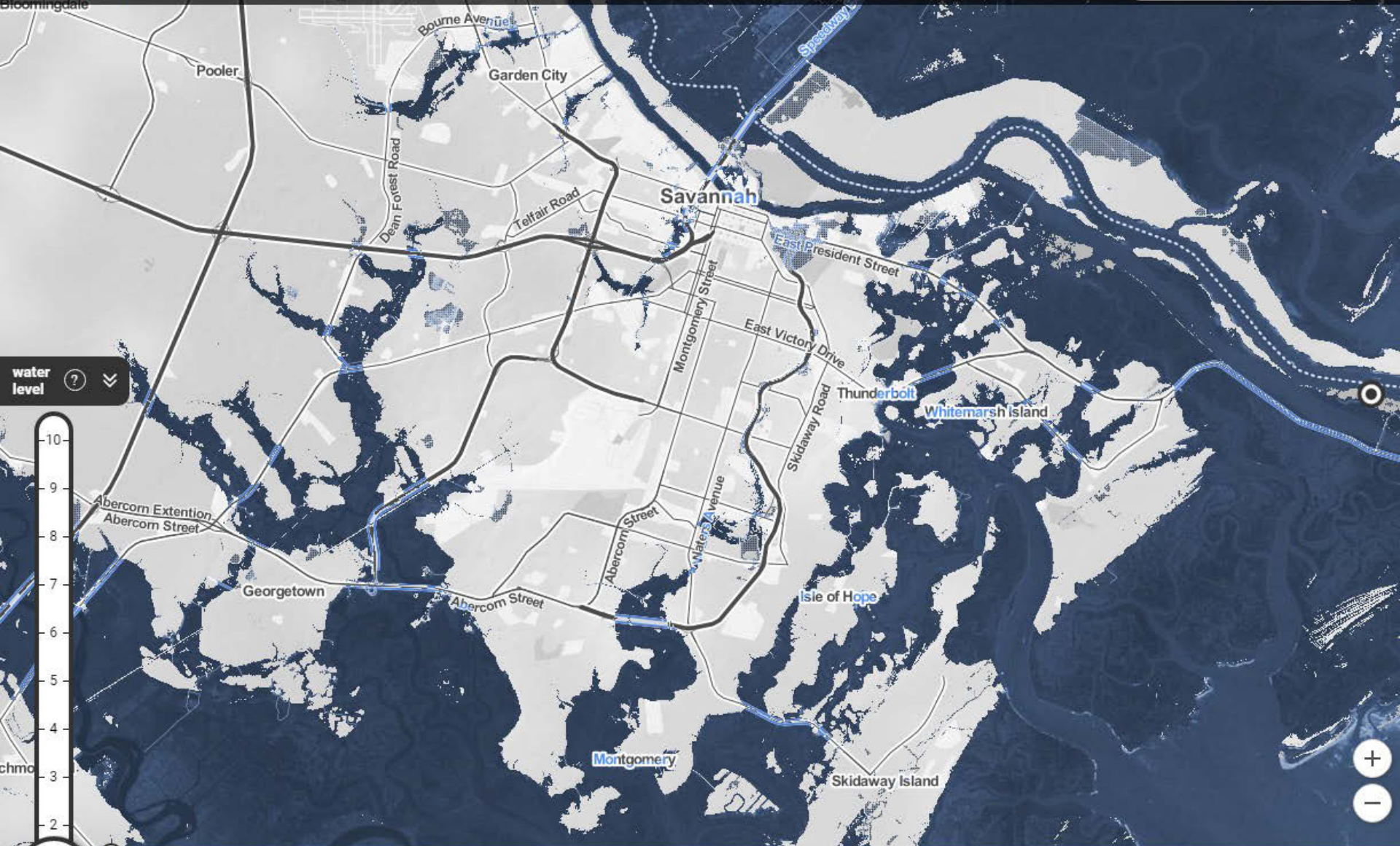
See projections | Legend | Social vulnerability | Population | Ethnicity | **Income** | Property | Landmarks

Elevation data courtesy of NOAA



# Surging Seas RISK ZONE MAP

Savannah, Georgia



water level



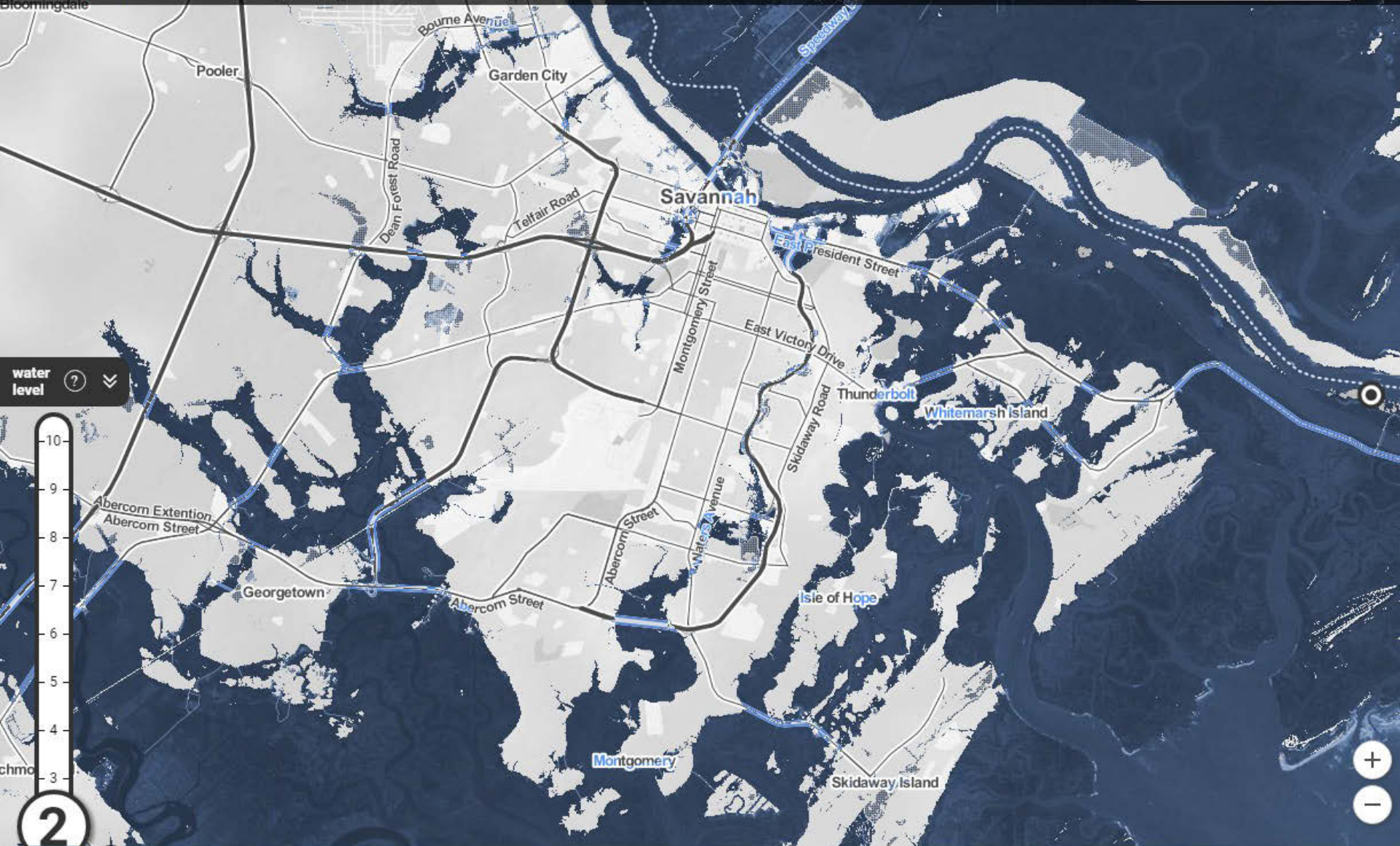
- Below water level
- Below but isolated
- Levee
- Tide gauges

See projections **Legend** Social vulnerability Population Ethnicity Income Property Landmarks

Elevation data courtesy of NOAA



# Surging Seas RISK ZONE MAP



water level

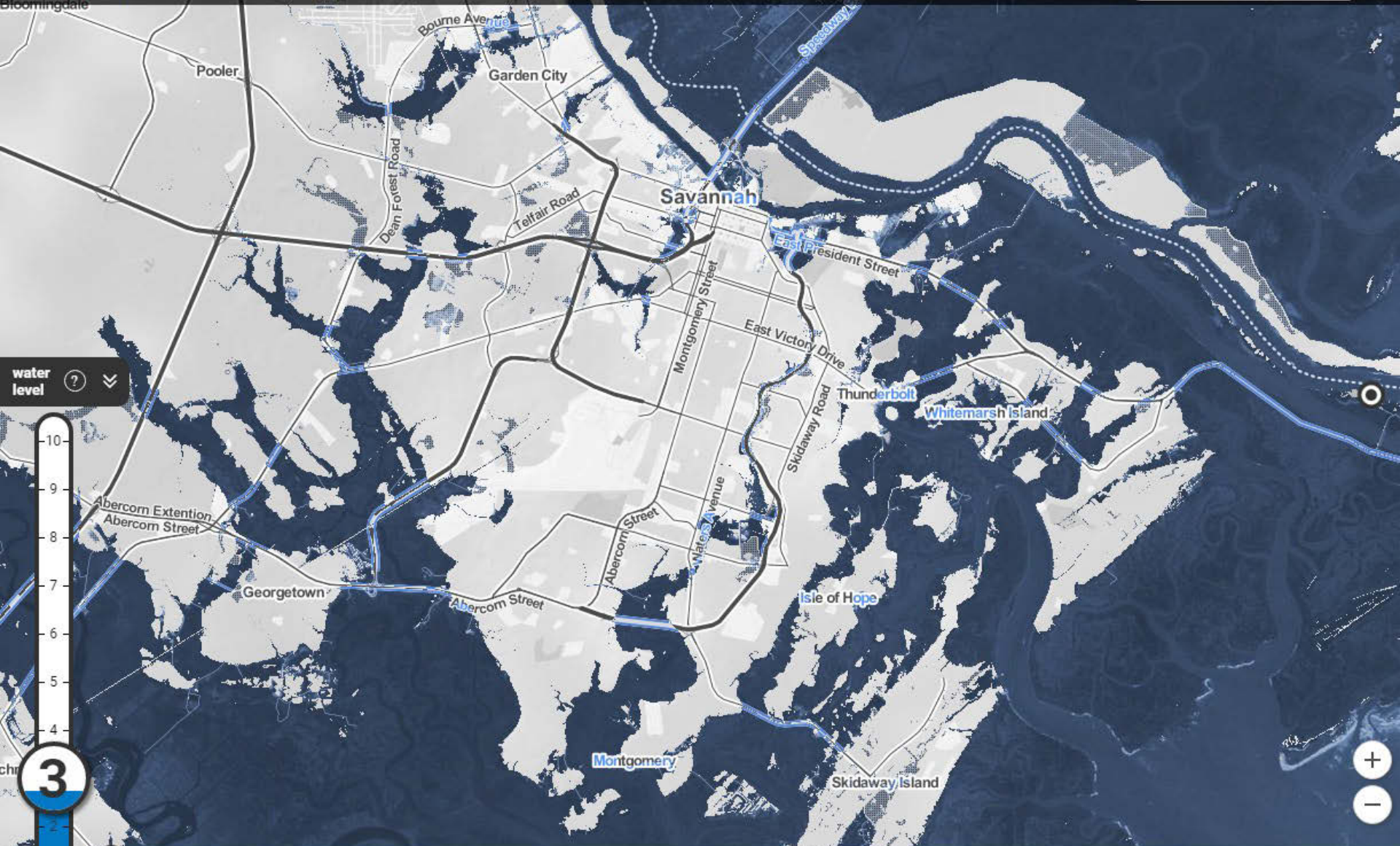


- Below water level
- Below but isolated
- Levee
- Tide gauges

- See projections
- Legend**
- Social vulnerability
- Population
- Ethnicity
- Income
- Property
- Landmarks
- Elevation data courtesy of NOAA



# Surging Seas RISK ZONE MAP



water level



- Below water level
- Below but isolated
- Levee
- Tide gauges

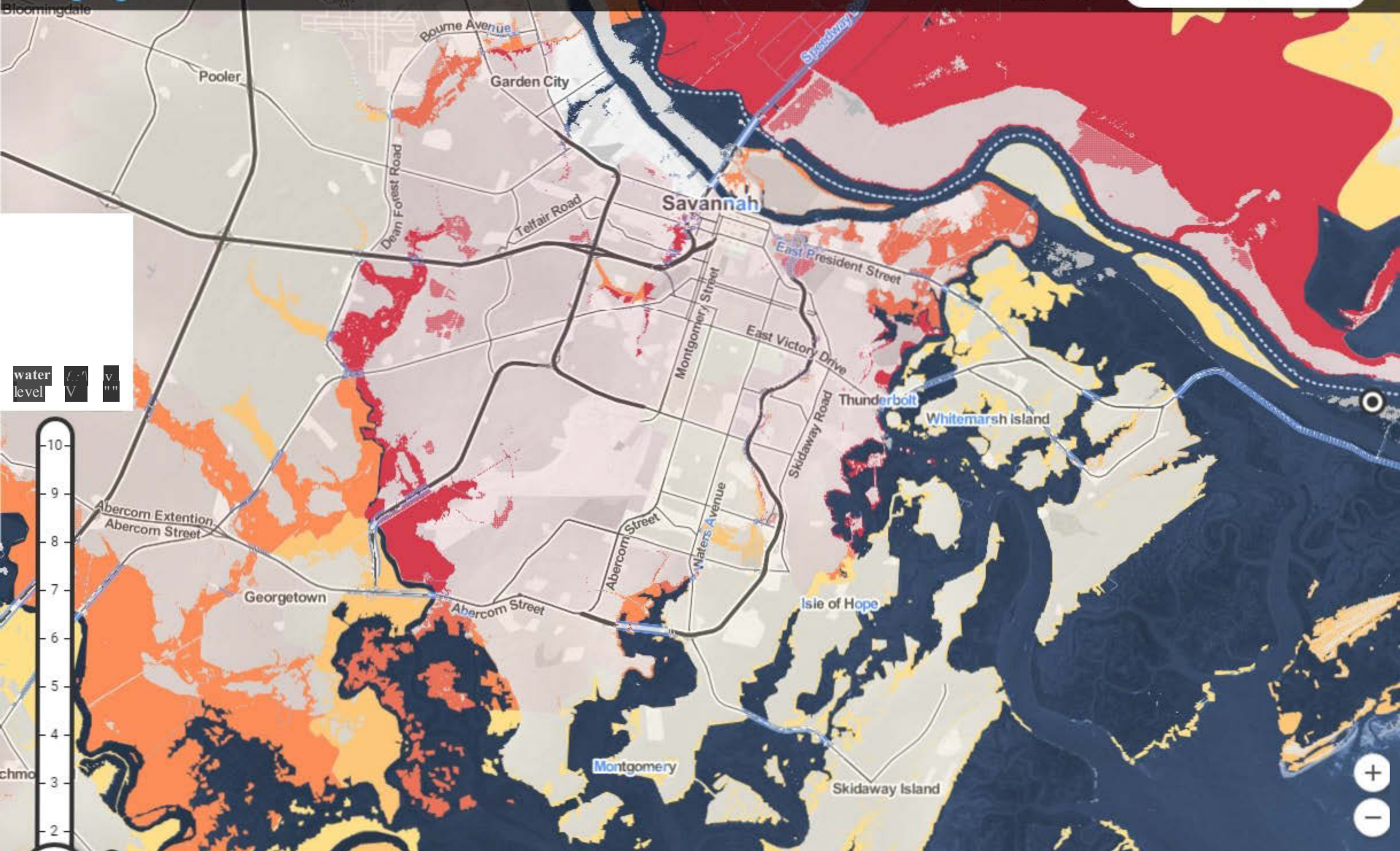
See projections | Legend | Social vulnerability | Population | Ethnicity | Income | Property | Landmarks

Elevation data courtesy of NOAA



# Surging Seas RISK ZONE MAP

Savannah, Georgia



Percentile: ● 80-100% ● 60-80% ● 40-60% ● 20-40% ● 0-20%

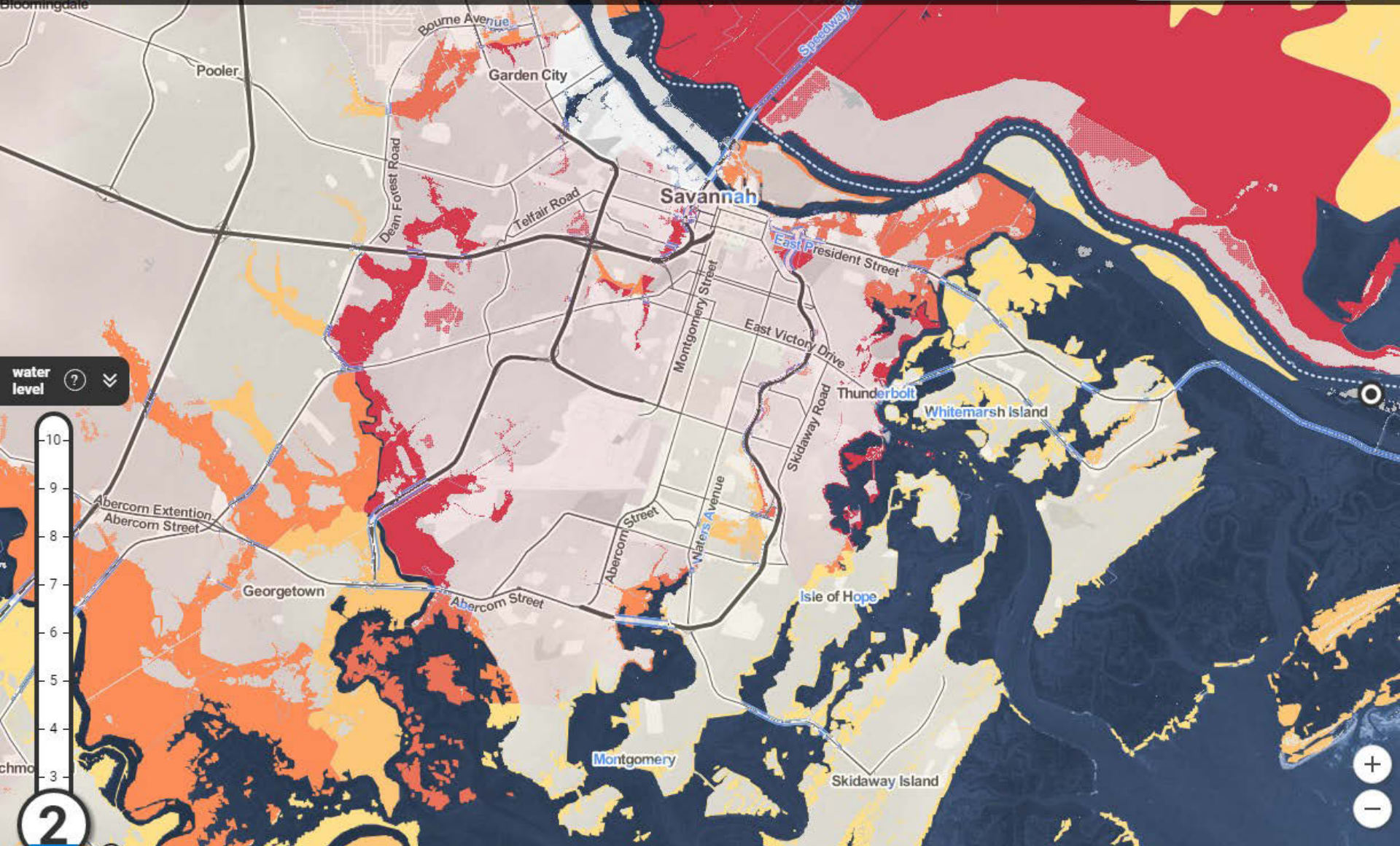
See projections | Legend | Social vulnerability | Population | Ethnicity | **Income** | Property | Landmarks

Elevation data courtesy of NOAA



# Surging Seas RISK ZONE MAP

Savannah, Georgia



water level



Percentile: 80-100% 60-80% 40-60% 20-40% 0-20%

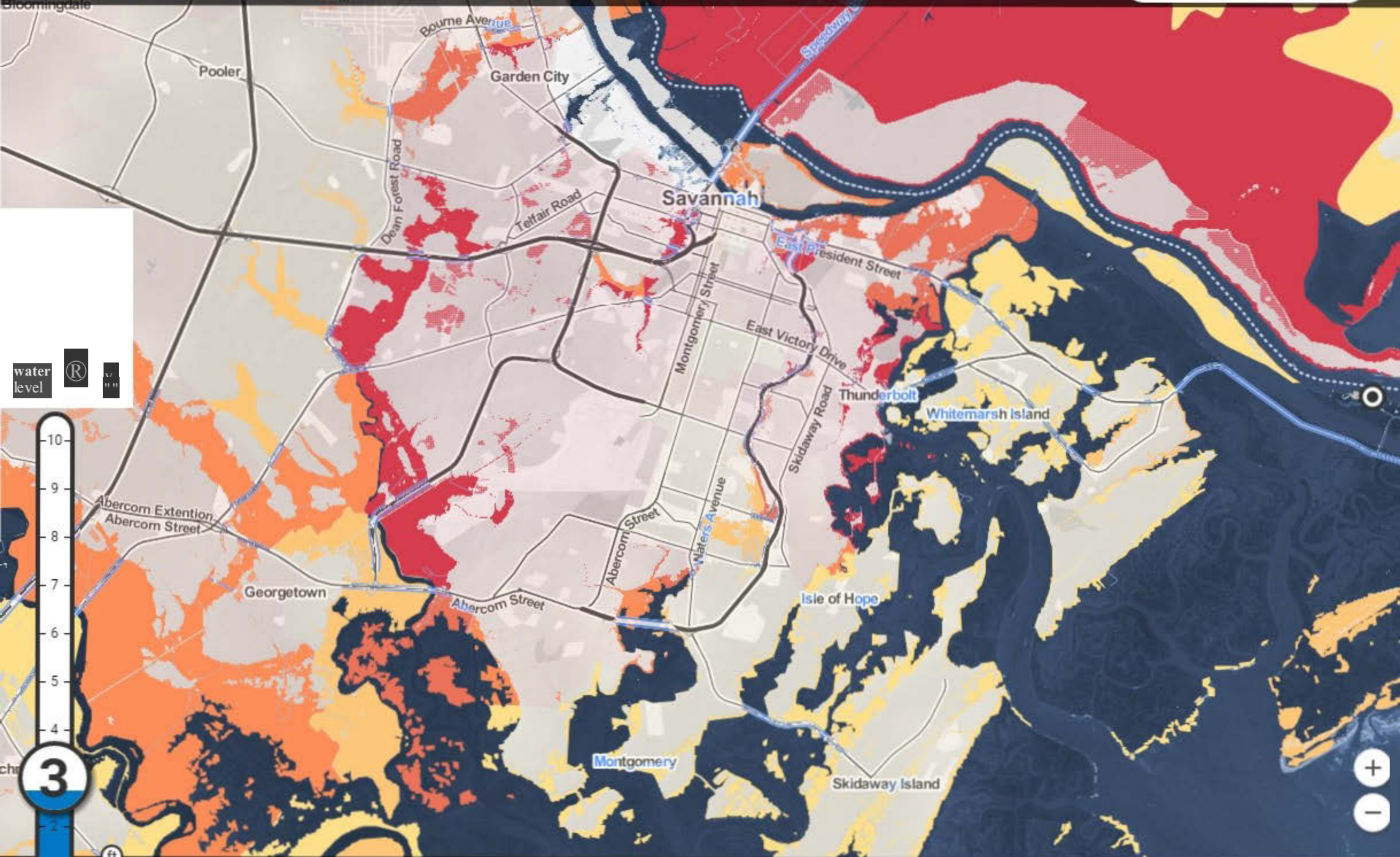
See projections Legend Social vulnerability Population Ethnicity **Income** Property Landmarks

Elevation data courtesy of NOAA



# Surging Seas RISK ZONE MAP

Savannah, Georgia



water level



Percentile: ● 80-100% ● 60-80% ● 40-60% ● 20-40% ● 0-20%

See projections | Legend | Social vulnerability | Population | Ethnicity | **Income** | Property | Landmarks

Elevation data courtesy of NOAA





# Sea Level Rise and Coastal Flooding Impacts

Sea Level Rise Confidence Marsh

Vulnerability Flood Frequency

Socioeconomic Vulnerability

0 1 K/SIR

### Legend

- Water Depth
- Unconnected Areas
- Area Not Mapped
- Leveed Areas

### Social Vulnerability

High Medium Low

### Social

#### Overview

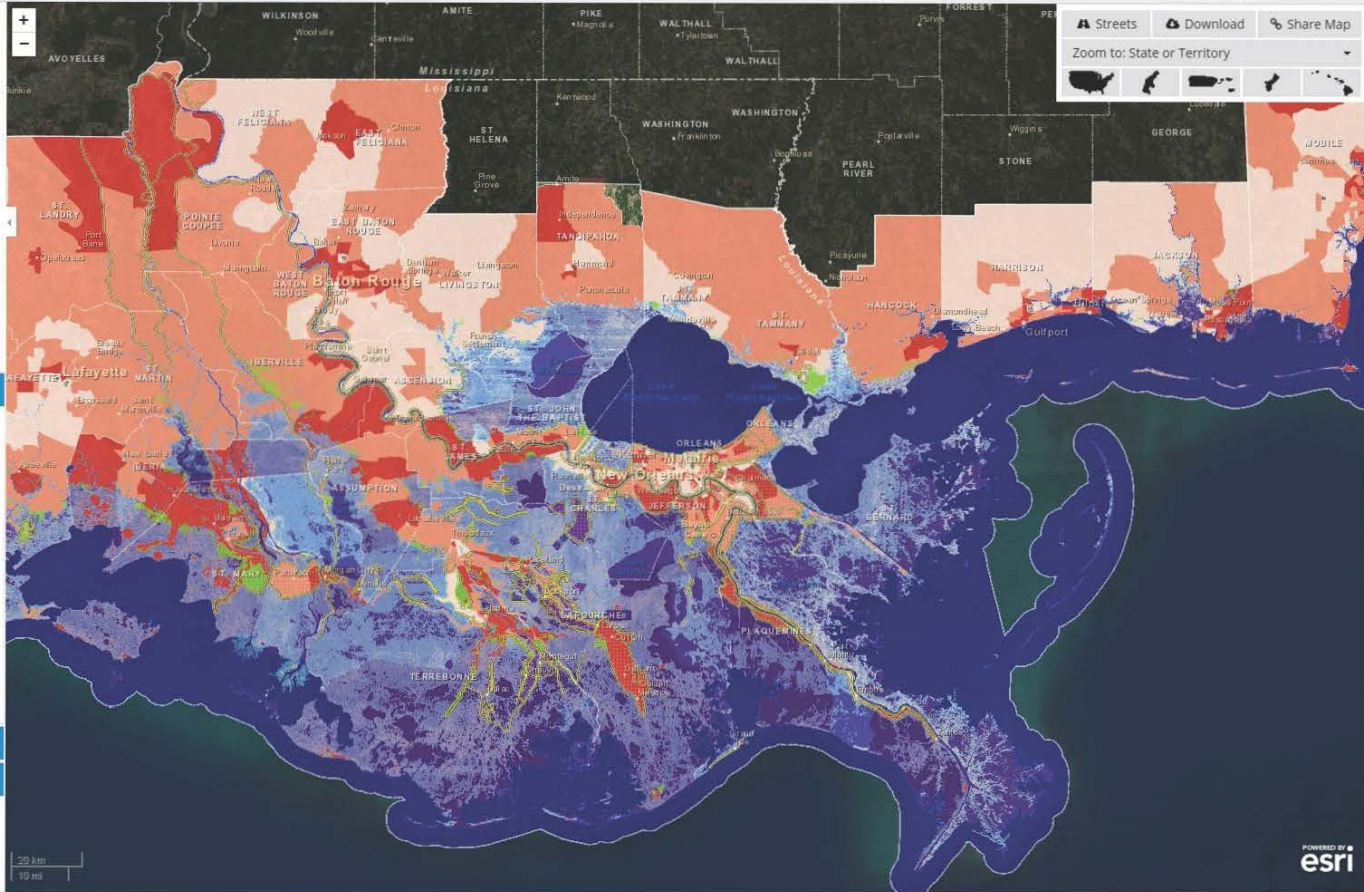
By overlaying social and economic data on a map that depicts sea level rise, a community can see the potential impact that sea level rise can have on vulnerable people and businesses.

The Social Vulnerability Index, which shows areas of high human vulnerability to hazards, is based on population attributes (e.g., age and poverty) and the built environment. By looking at the intersection of potential sea level rise and vulnerable Census tracts, one can get an idea of how vulnerable populations might be affected by sea level rise.

Dark red indicates tracts having a high vulnerability, and the lighter reds indicate decreasing vulnerability.

#### Understanding The Map

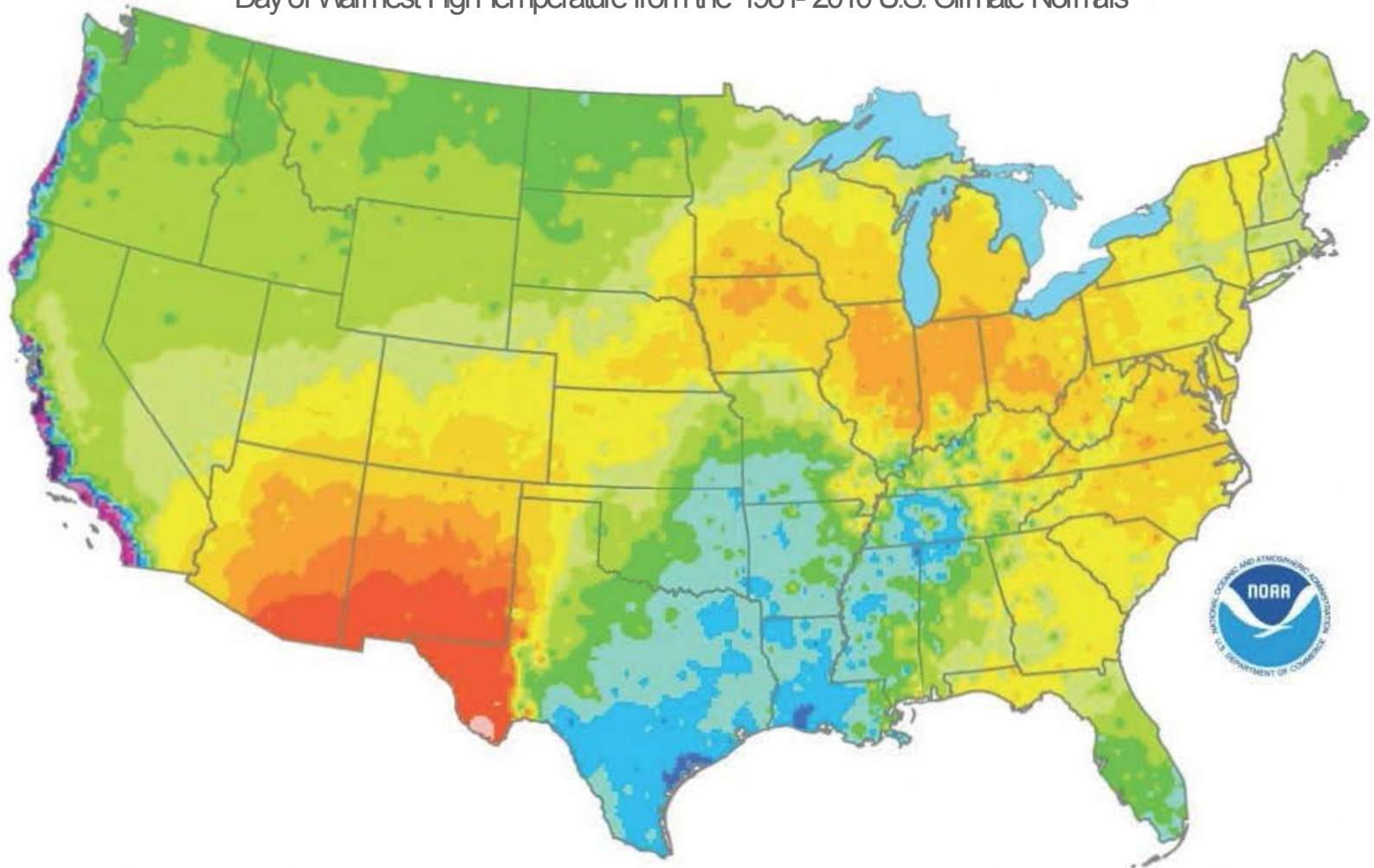
#### Additional Information



When?

# Warmest Day of the Year

Day of Warmest High Temperature from the 1981- 2010 U.S. Climate Normals



Jun 1-15 Jun 16-30 Jul 1-5 Jul 6-10 Jul 11-15 Jul 16-20 Jul 21-25 Jul 26-31 Aug 1-5 Aug 6-10 Aug 11-15 Aug 16-20 Aug 21-25 Aug 26-31 Sep 1-30

CHANGE IN AVG TEMPS

1986-2005 TO 2081-2100

SOURCE: IPCC

RCP 2.6



RCP 8.5



-2 -1.5 -1 -0.5 0 0.5 1 1.5 2 3 4 5 7 9 11 (°C)

Chief Meteorologist John Morales Looks at Climate Change Ahead of UN Summit



# High Tides



StationId:8723178  
 Source:NOAA/NOS/CO-OPS  
 Station Type:Harmonic  
 Time Zone:EST/EDT  
 Datum:mean lower low water (MLLW) which is the chart datum of soundings

NOAA Tide Predictions

## GOVERNMENT CUT, MIAMI HARBOR ENTRANCE, Florida, 2016

### Times and Heights of High and Low Waters

October					November					December					
Time		Height		Time		Height		Time		Height		Time		Height	
h	m	ft	cm	h	m	ft	cm	h	m	ft	cm	h	m	ft	cm
<b>1</b>	02:59 AM	0.4	12	<b>16</b>	02:33 AM	-0.1	-3	<b>1</b>	03:41 AM	0.4	12	<b>16</b>	02:50 AM	0.1	3
Sa	09:34 AM	3.1	94	Su	09:20 AM	3.5	107	Tu	10:22 AM	3.0	91	W	09:44 AM	3.4	104
•	03:20 PM	0.5	15	•	03:01 PM	0.2	6	•	04:05 PM	0.7	21	•	03:25 PM	0.1	3
•	09:47 PM	3.0	91	•	09:35 PM	3.4	104	•	10:28 PM	2.8	85	•	09:56 PM	3.1	94
<b>2</b>	03:36 AM	0.4	12	<b>17</b>	03:22 AM	-0.2	-6	<b>2</b>	04:15 AM	0.4	12	<b>17</b>	03:46 AM	-0.2	-6
Su	10:11 AM	3.0	91	M	10:10 AM	3.6	110	W	11:00 AM	2.9	88	Th	10:36 AM	3.3	101
•	03:57 PM	0.6	18	•	03:51 PM	0.2	6	•	04:40 PM	0.7	21	•	04:20 PM	0.2	6
•	10:22 PM	2.9	88	•	10:24 PM	3.4	104	•	11:05 PM	2.7	82	•	10:50 PM	3.0	91
<b>3</b>	04:11 AM	0.4	12	<b>18</b>	04:12 AM	-0.2	-6	<b>3</b>	04:50 AM	0.5	15	<b>18</b>	04:41 AM	-0.1	-3
M	10:46 AM	3.0	91	Tu	11:01 AM	3.5	107	Th	11:39 AM	2.8	85	F	11:29 AM	3.1	94
•	04:33 PM	0.7	21	•	04:43 PM	0.3	9	•	05:17 PM	0.8	24	•	05:17 PM	0.3	9
•	10:57 PM	2.8	85	•	11:15 PM	3.3	101	•	11:45 PM	2.6	79	•	11:46 PM	2.9	88
<b>4</b>	04:47 AM	0.5	15	<b>19</b>	05:04 AM	-0.1	-3	<b>4</b>	05:27 AM	0.6	18	<b>19</b>	05:40 AM	0.1	3
Tu	11:26 AM	2.9	88	W	11:54 AM	3.4	104	F	12:20 PM	2.7	82	Sa	12:23 PM	3.0	91
•	05:09 PM	0.8	24	•	05:37 PM	0.4	12	•	05:57 PM	0.9	27	•	06:17 PM	0.4	12
•	11:34 PM	2.7	82												
<b>5</b>	05:22 AM	0.6	18	<b>20</b>	12:08 AM	3.2	98	<b>5</b>	12:27 AM	2.5	76	<b>20</b>	12:45 AM	2.7	82
W	12:05 PM	2.8	85	Th	06:00 AM	0.1	3	Sa	06:10 AM	0.6	18	Su	06:42 AM	0.3	9
•	05:47 PM	0.9	27	•	12:49 PM	3.3	101	•	01:05 PM	2.7	82	•	01:20 PM	2.8	85
					06:35 PM	0.5	15		06:43 PM	0.9	27		07:21 PM	0.5	15
<b>6</b>	12:12 AM	2.6	79	<b>21</b>	01:05 AM	3.0	91	<b>6</b>	01:15 AM	2.5	76	<b>21</b>	01:47 AM	2.6	79
Th	06:01 AM	0.7	21	F	07:01 AM	0.3	9	Su	05:59 AM	0.7	21	M	07:46 AM	0.5	15
•	12:47 PM	2.7	82	•	01:47 PM	3.1	94	•	12:55 PM	2.6	79	•	02:19 PM	2.7	82
•	06:26 PM	1.0	30	•	07:39 PM	0.6	18	•	06:38 PM	0.9	27	•	08:23 PM	0.5	15
<b>7</b>	12:54 AM	2.6	79	<b>22</b>	02:07 AM	2.9	88	<b>7</b>	01:10 AM	2.4	73	<b>22</b>	02:50 AM	2.5	76
F	06:44 AM	0.8	24	Sa	08:06 AM	0.4	12	M	06:58 AM	0.7	21	Tu	08:49 AM	0.6	18
•	01:34 PM	2.6	79	•	02:49 PM	3.0	91	•	01:49 PM	2.6	79	•	03:17 PM	2.6	79
•	07:16 PM	1.1	34	•	08:46 PM	0.7	21	•	07:40 PM	0.9	27	•	09:22 PM	0.5	15
<b>8</b>	01:42 AM	2.5	76	<b>23</b>	03:12 AM	2.8	85	<b>8</b>	02:12 AM	2.5	76	<b>23</b>	03:52 AM	2.5	76
Sa	07:36 AM	0.8	24	Su	09:14 AM	0.6	18	Tu	08:04 AM	0.7	21	W	09:47 AM	0.6	18
•	02:27 PM	2.6	79	•	03:52 PM	2.9	88	•	02:47 PM	2.6	79	•	04:12 PM	2.5	76
•	08:13 PM	1.1	34	•	09:52 PM	0.7	21	•	08:43 PM	0.7	21	•	10:15 PM	0.4	12
<b>9</b>	02:38 AM	2.5	76	<b>24</b>	04:19 AM	2.8	85	<b>9</b>	03:17 AM	2.6	79	<b>24</b>	04:49 AM	2.5	76
Su	08:36 AM	0.9	27	M	10:18 AM	0.6	18	W	09:09 AM	0.6	18	Th	10:40 AM	0.6	18
•	03:25 PM	2.6	79	•	04:54 PM	2.8	85	•	03:46 PM	2.7	82	•	05:02 PM	2.5	76
•	09:17 PM	1.1	34	•	10:52 PM	0.7	21	•	09:42 PM	0.5	15	•	11:02 PM	0.4	12
<b>10</b>	03:41 AM	2.5	76	<b>25</b>	05:22 AM	2.8	85	<b>10</b>	04:21 AM	2.7	82	<b>25</b>	05:38 AM	2.6	79
M	09:41 AM	0.8	24	Tu	11:17 AM	0.6	18	Th	10:10 AM	0.5	15	F	11:27 AM	0.6	18
•	04:25 PM	2.6	79	•	05:50 PM	2.8	85	•	04:43 PM	2.8	85	•	05:47 PM	2.5	76
•	10:16 PM	0.9	27	•	11:45 PM	0.6	18	•	10:38 PM	0.3	9	•	11:45 PM	0.3	9
<b>11</b>	04:46 AM	2.6	79	<b>26</b>	06:19 AM	2.8	85	<b>11</b>	05:20 AM	2.9	88	<b>26</b>	06:23 AM	2.7	82
Tu	10:43 AM	0.7	21	W	12:09 PM	0.6	18	F	11:06 AM	0.4	12	Sa	12:10 PM	0.5	15
•	05:24 PM	2.8	85	•	06:40 PM	2.8	85	•	05:38 PM	2.9	88	•	06:29 PM	2.5	76
•	11:15 PM	0.8	24					•	11:30 PM	0.0	0				
<b>12</b>	05:46 AM	2.8	85	<b>27</b>	12:32 AM	0.5	15	<b>12</b>	06:16 AM	3.1	94	<b>27</b>	12:25 AM	0.2	6
W	11:40 AM	0.6	18	Th	07:08 AM	2.9	88	Sa	11:59 AM	0.3	9	Su	07:03 AM	2.7	82
•	06:16 PM	2.9	88	•	12:55 PM	0.6	18	•	06:30 PM	3.1	94	•	07:03 AM	2.7	82
					07:24 PM	2.9	88					•	07:09 PM	2.6	79
												•	12:33 PM	0.5	15
												•	07:02 PM	2.8	85
												•	12:01 AM	-0.5	-15
												•	06:52 AM	3.0	91
												•	12:33 PM	0.0	0
												•	07:02 PM	2.8	85
												•	12:35 AM	-0.1	-3
												•	07:16 AM	2.4	73
												•	01:02 PM	0.3	9
												•	07:20 PM	2.2	67



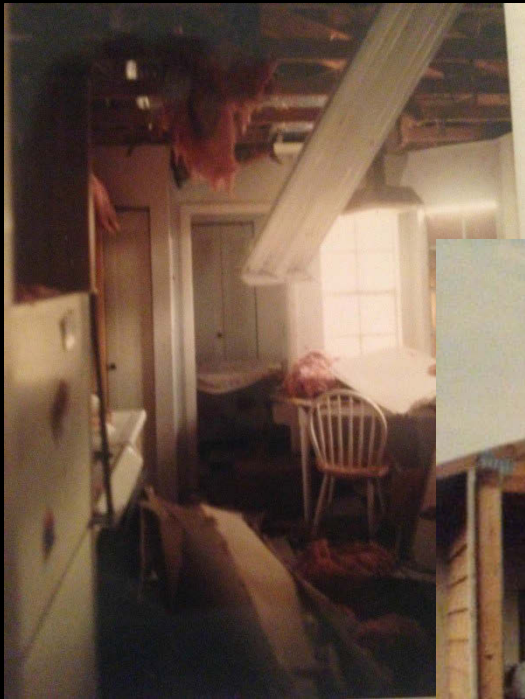


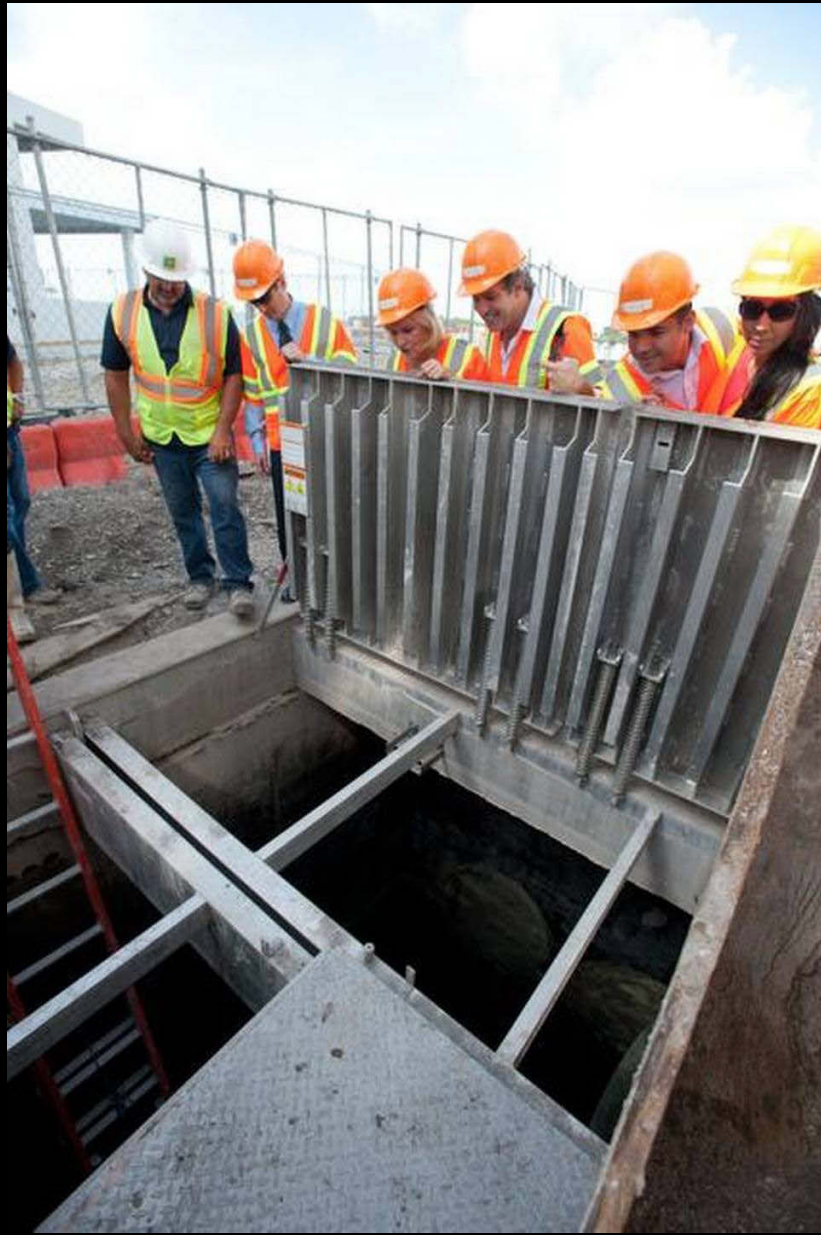
- Outreach Resiliency
  - Local partners
    - UniversiBes
    - Community Based OrganizaBons
    - NaBonal nonEprofits
    - Media
    - Local Government
    - Concerned residents
  - Outreach acBviBes
    - Amplify Stories
    - CiBzen Science/Research
    - Community EducaBon
    - Town Hall MeeBngs
    - Resiliency Projects
    - Ongoing Involvement

# What we can and can't do

- AdaptaBon
- Retreat









[ Union of  
Concerned Scientists