



EXTREME TIDAL IMPACTS TO LONGBOAT KEY

- **TIDAL IMPACTS HAVE INCREASED
IN HISTORICAL ELEVATIONS**
- **LUNAR HIGH AND SEASONAL
TIDES ARE AT INCREASED
ELEVATIONS**
- **MORE FREQUENT FLOODING
EXPERIENCED IN STREETS**



EXTREME TIDAL IMPACTS TO LONGBOAT KEY

Street flooding and
storm sewer
inundation

+ Wave
Impacts

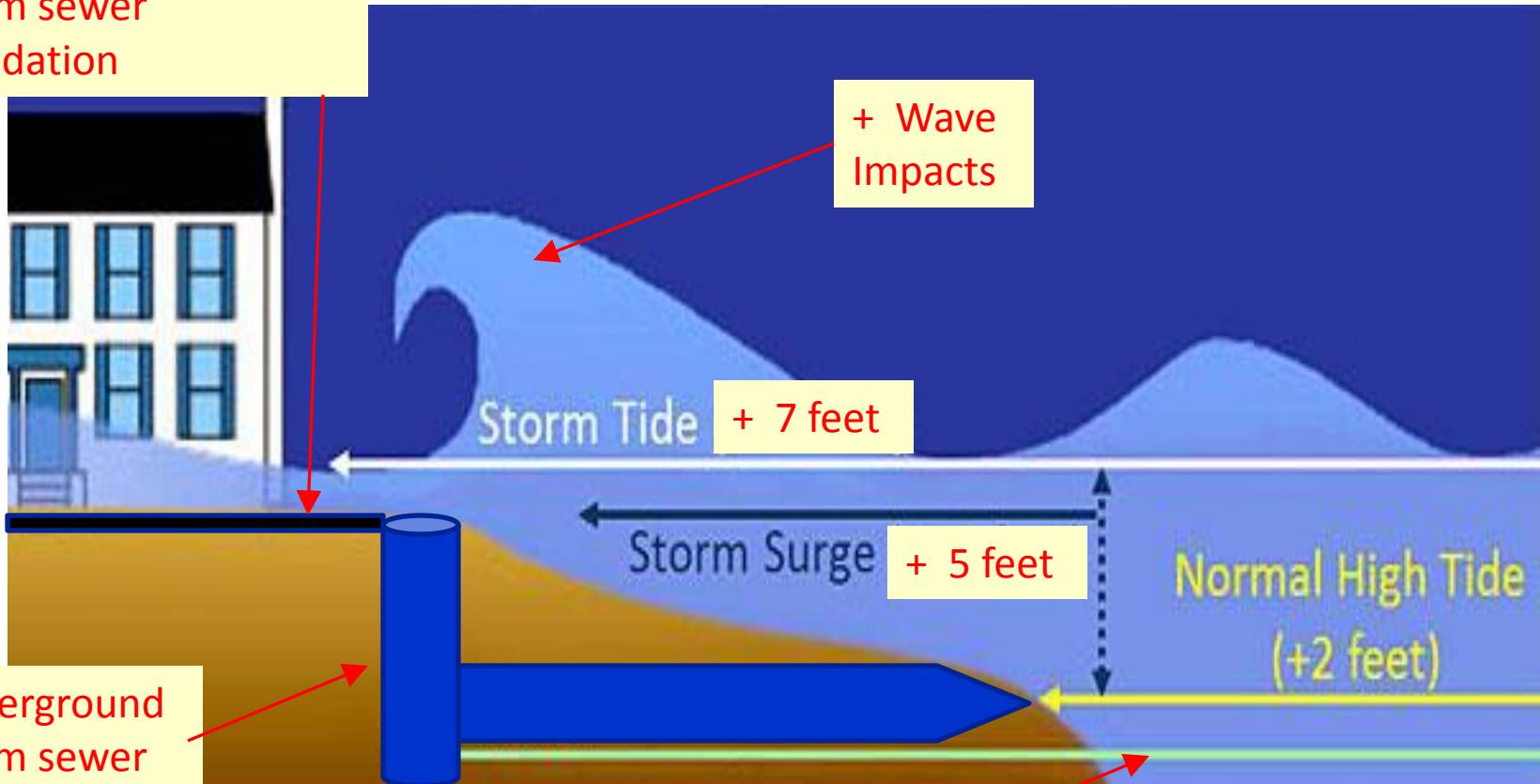
Storm Tide + 7 feet

Storm Surge + 5 feet

Normal High Tide
(+2 feet)

Underground
storm sewer
system.

Normal Sea Level (+0)



The diagram shows a cross-section of a coastal area during a storm. A blue wave is crashing against a shoreline with palm trees. A blue pipe representing a storm sewer is shown underground, with a vertical section above ground. A red arrow points from the text 'Street flooding and storm sewer inundation' to the pipe. Another red arrow points from the text '+ Wave Impacts' to the wave. A third red arrow points from the text 'Underground storm sewer system.' to the pipe. A white line indicates the 'Mean sea level'. A blue arrow labeled 'Surge' points from the ocean towards the shore. A yellow box with the text '+ 5 feet' is positioned above the surge. A yellow box with the text '+ 7 feet' is positioned above the surge. A yellow box with the text '+ 2 ft normal high tide' is positioned above the surge. The text 'NOAA/The COMET Program' is in the bottom right corner.



EXTREME TIDAL IMPACTS TO LONGBOAT KEY





EXTREME TIDAL IMPACTS TO LONGBOAT KEY

Photos are from
an extreme high
tide event of
September 2009





EXTREME TIDAL IMPACTS TO LONGBOAT KEY

The following
photos are from
an extreme high
tide event of
September 2009



Street flooding
and storm sewer
inundation



EXTREME TIDAL IMPACTS TO LONGBOAT KEY

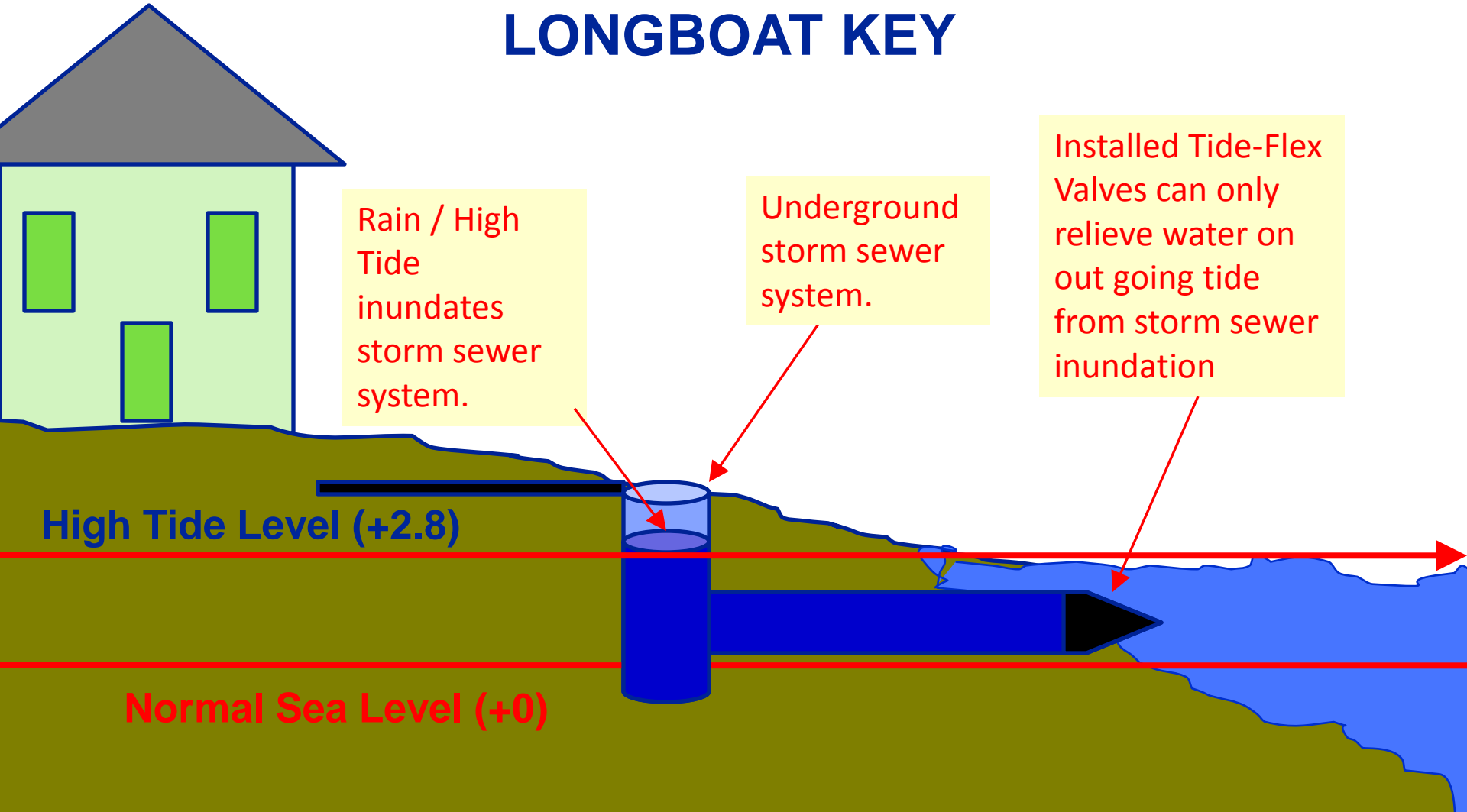
Photos are from
an extreme high
tide event of
September 2009



Street flooding
and storm sewer
inundation



RAIN AND TIDAL IMPACTS TO LONGBOAT KEY





EXTREME TIDAL IMPACTS TO LONGBOAT KEY

Installed Tide-Flex
Valves can only
relieve water on
out going tide
from storm sewer
inundation





EXTREME TIDAL IMPACTS TO LONGBOAT KEY

Some recent and
historical tide
elevations match
or are higher than
street elevations





EXTREME TIDAL IMPACTS TO LONGBOAT KEY



Some recent and historical tide elevations match or are higher than street elevations



NOAA WEBSITES

<http://www.csc.noaa.gov/slr/viewer/#>

<http://www.nhc.noaa.gov/surge/>

**WEBSITE PROVIDES FORECASTED
SEA LEVEL RISE IMPACTS, NATION
WIDE, IN ONE FOOT INCREMENTS**

**THE FOLLOWING SLIDES INDICATE
POTENTIAL IMPACTS TO THE NORTH
END OF LONGBOAT KEY,
SPECIFICALLY THE VILLAGE**

Sea Level Rise and Coastal Flooding Impacts

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Sea Level Rise Confidence Marsh

Vulnerability Flood Frequency

Flood Frequency ?

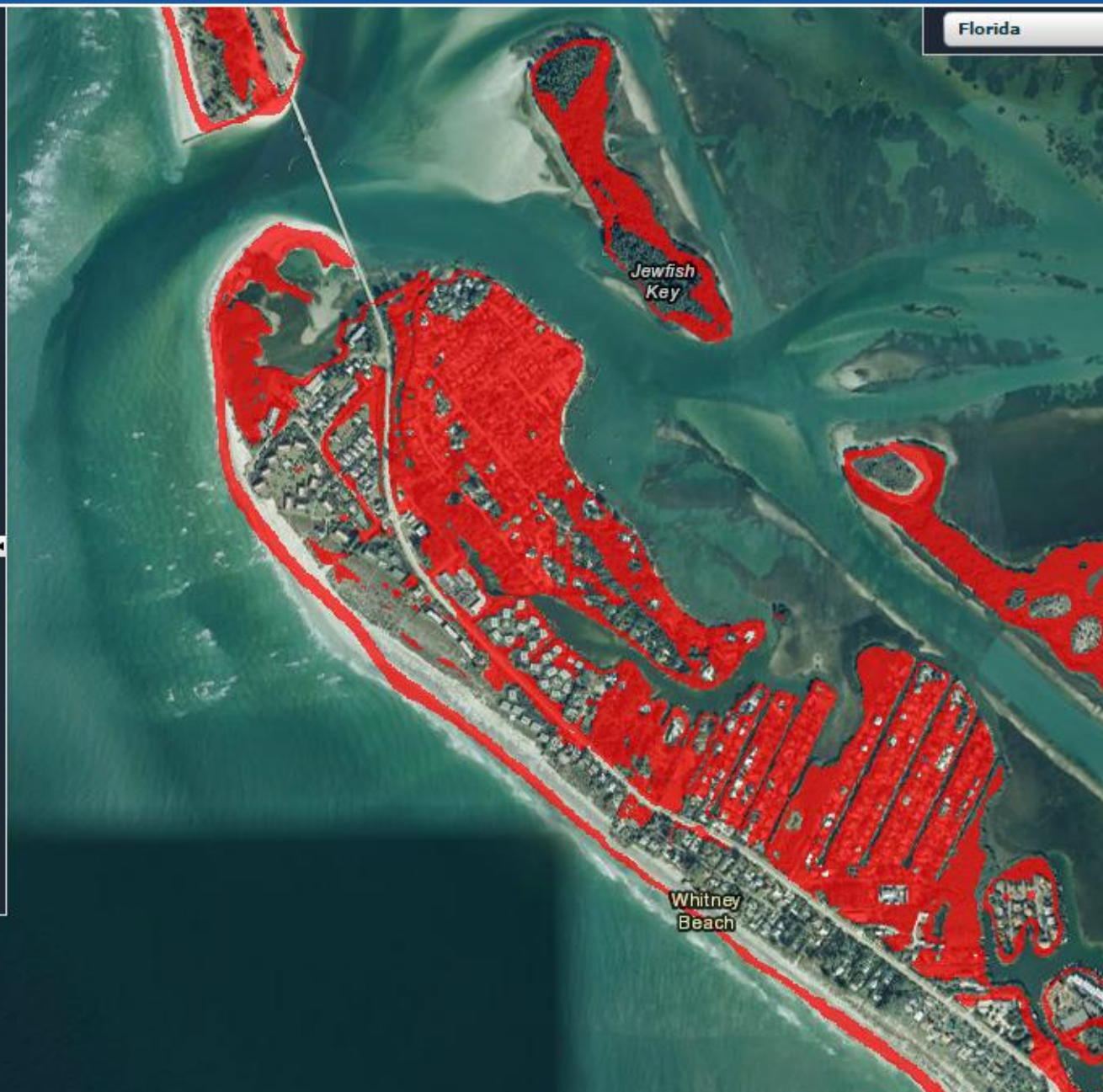
Legend

- Shallow Coastal Flooding Areas
- Area Not Mapped
- Tide Gauges

Overview

Town Of Longboat
Key North End and
Village

Areas Vulnerable to
Coastal Flooding



Sea Level Rise and Coastal Flooding Impacts

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Sea Level Rise Confidence Marsh

Vulnerability Flood Frequency

Mapping Confidence ?

▼ — — — — — Current MHHW

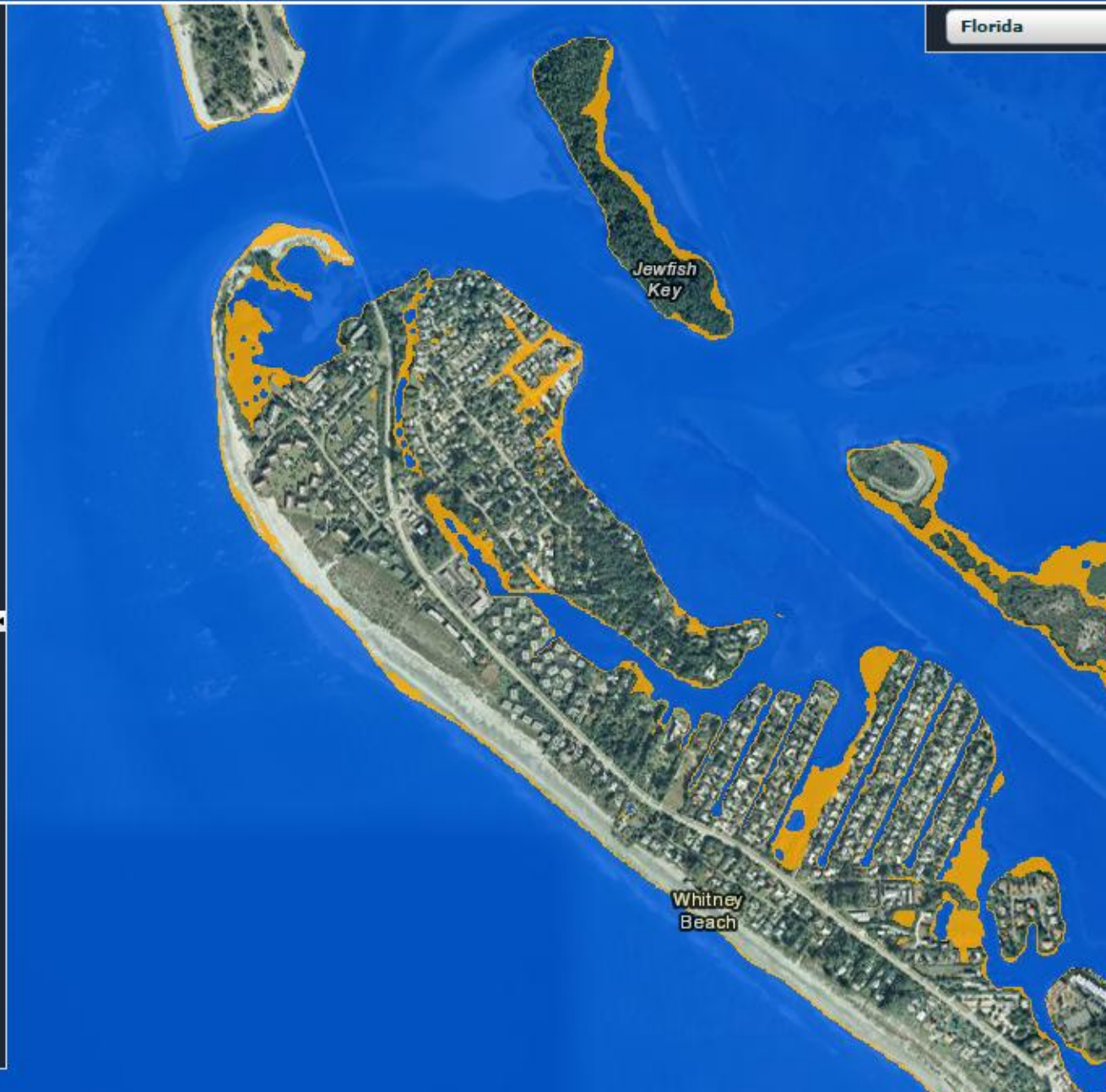
Legend

- High Confidence
- Low Confidence
- Area Not Mapped

Overview

**Town Of Longboat
Key North End and
Village**

**Areas Vulnerable to
a 20% chance of
flooding above
current Mean High
Water elevations**



NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Confidence

Marsh

Vulnerability

Flood Frequency

?



Water Depth

Low-lying Areas

Area Not Mapped

Visualization Location

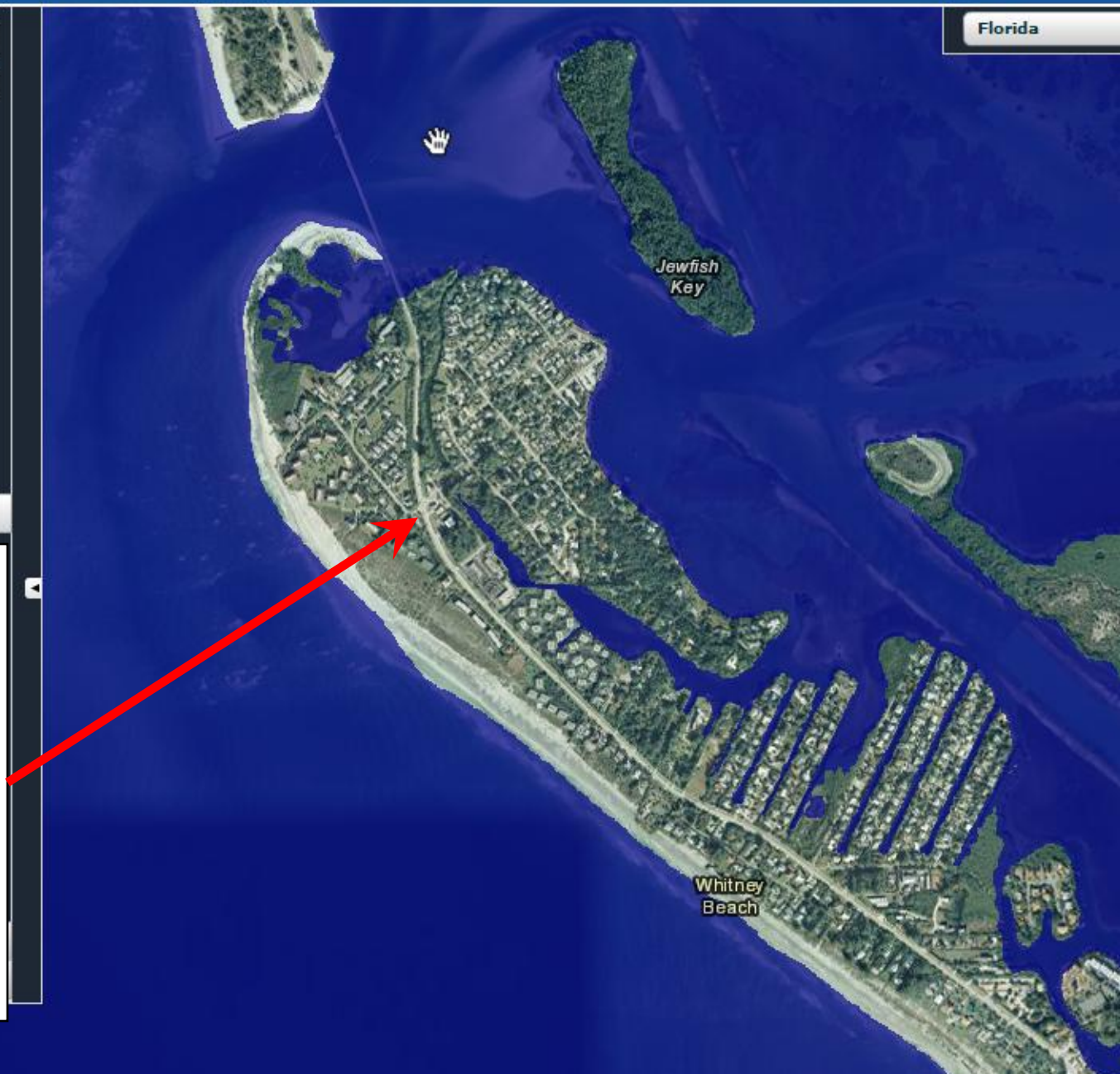
View Levees

Overview

Town Of Longboat Key North End and Village

Normal High tide and sea level

Florida



Sea Level Rise and Coastal Flooding Impacts

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Sea Level Rise

Confidence

Marsh

Vulnerability

Flood Frequency

Sea Level Rise ?

 1 ft SLR

Legend

 Water Depth

 Low-lying Areas

 Area Not Mapped

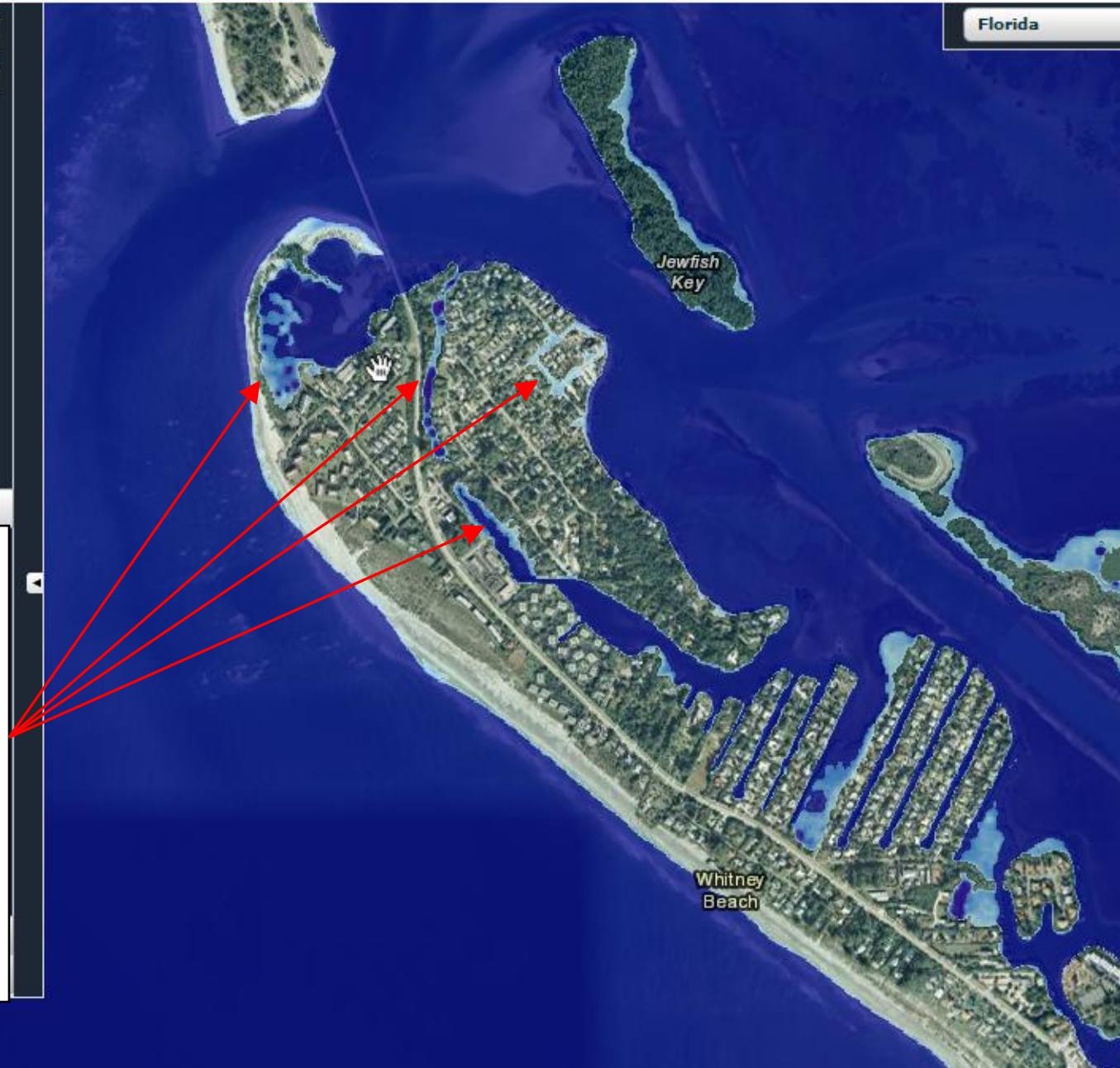
 Visualization Location

View Levees

Overview

Town Of Longboat
Key North End and
Village

Normal High tide
and + 1 foot sea
level rise



Sea Level Rise and Coastal Flooding Impacts

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Sea Level Rise

Confidence

Marsh

Vulnerability

Flood Frequency

Sea Level Rise

?

2 ft SLR

Legend

Water Depth

Low-lying Areas

Area Not Mapped

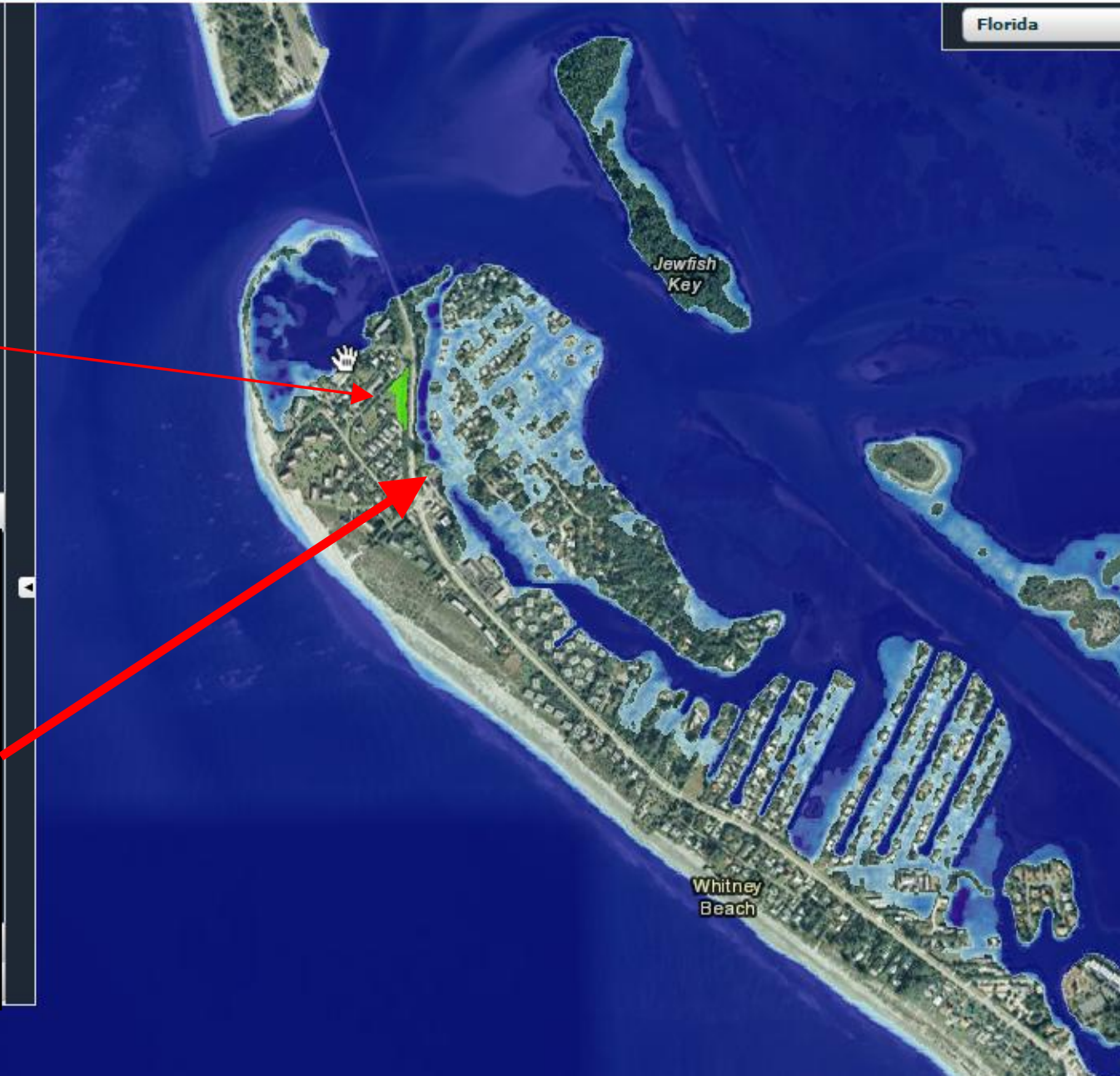
Visualization Location

View Levees

Overview

**Town Of Longboat
Key North End and
Village**

**Normal High tide
and + 2 foot sea
level rise**



NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Confidence

Marsh

Flood Frequency



Water Depth

Low-lying Areas

Area Not Mapped

Visualization Location

View Levees

Overview

**Normal High tide
and + 3 foot sea
level rise**

**Normal High tide
and + 3 foot sea
level rise**

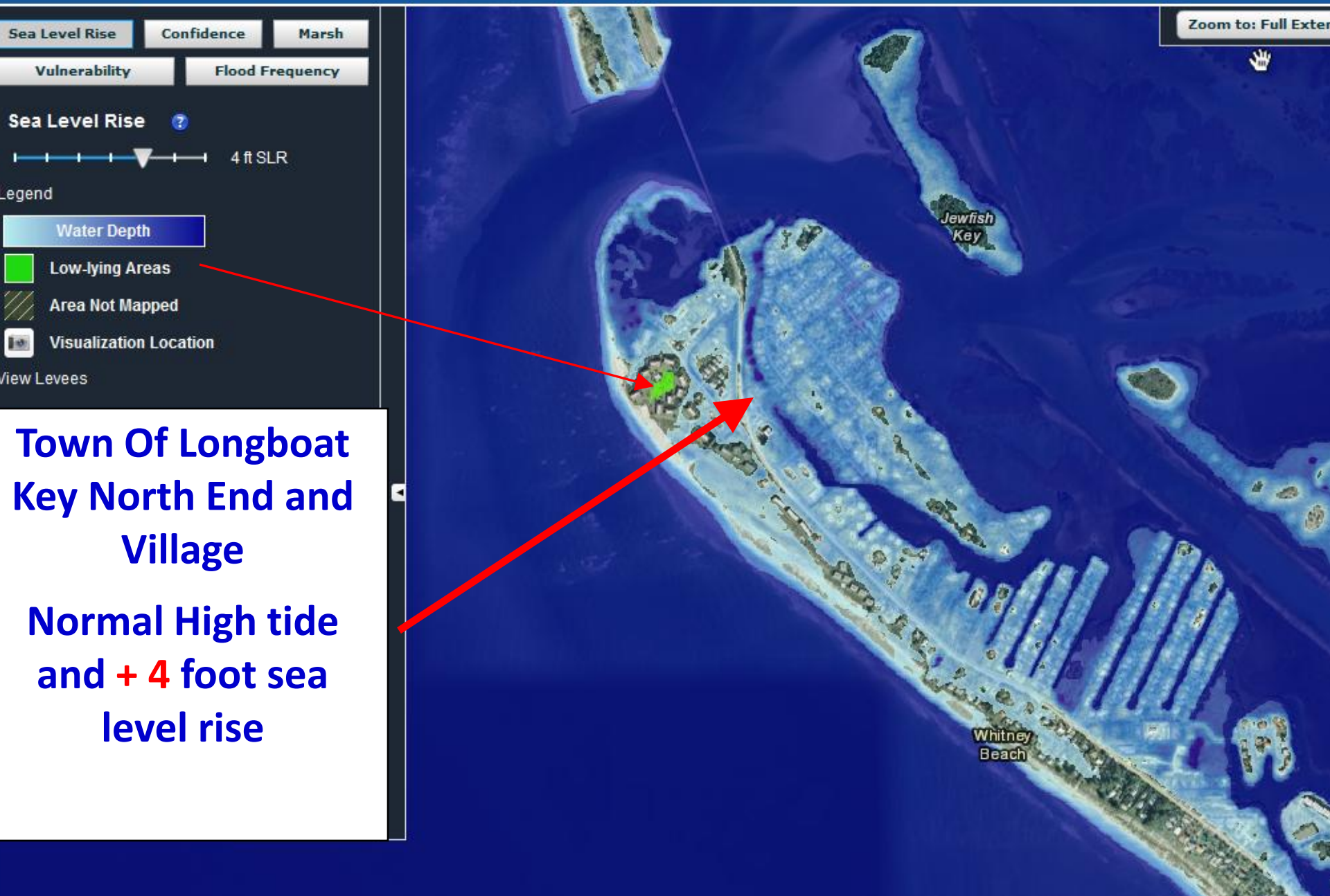
Florida

**Jewfish
Key**

Whitney
Beach

Sea Level Rise and Coastal Flooding Impacts

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION



Sea Level Rise and Coastal Flooding Impacts

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Sea Level Rise Confidence Marsh

Vulnerability Flood Frequency

Sea Level Rise ?

5 ft SLR

Legend

Water Depth

Low-lying Areas

Area Not Mapped

Visualization Location

View Levees

Overview

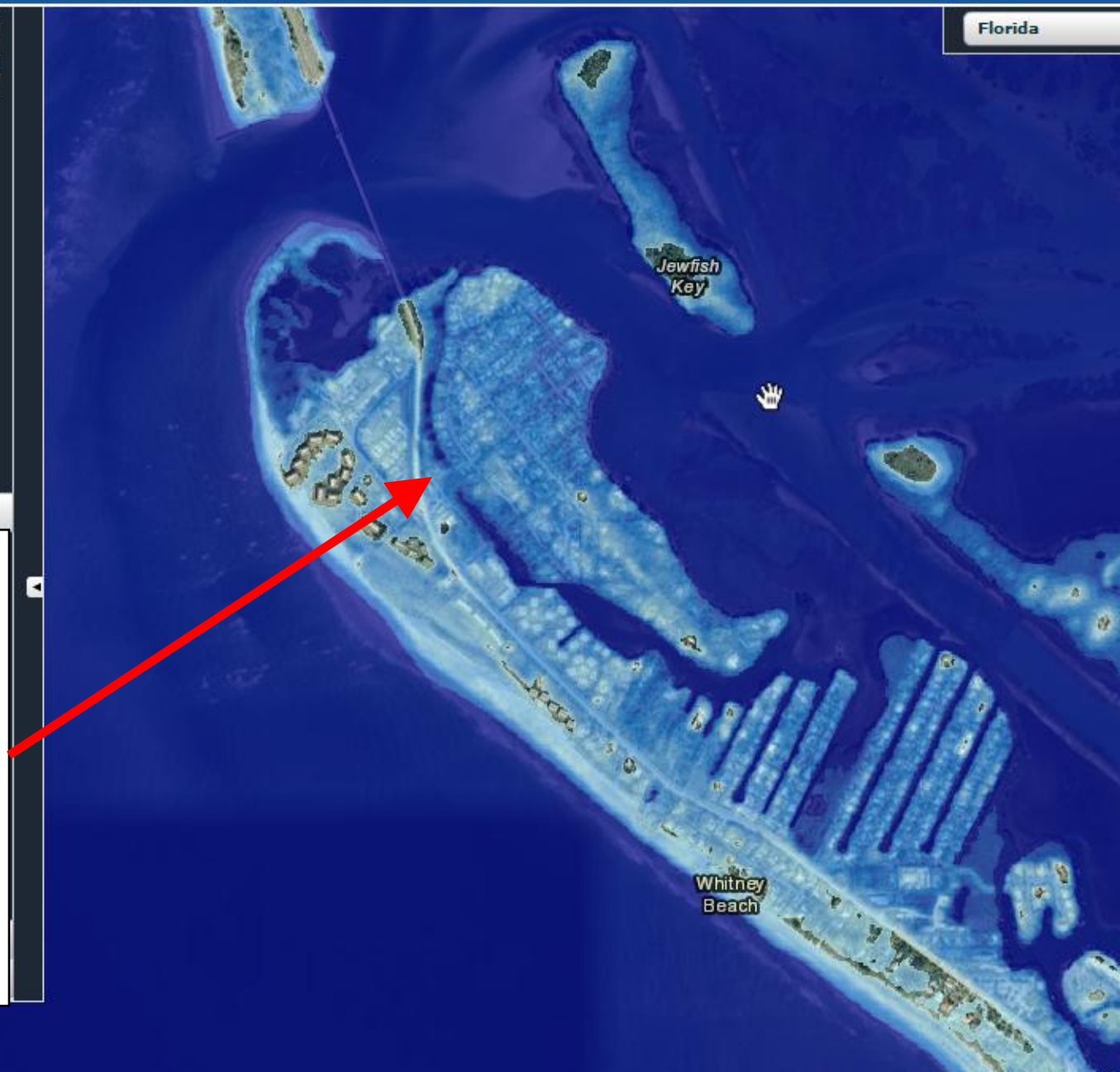
**Town Of Longboat
Key North End and
Village**

**Normal High tide
and + 5 foot sea
level rise**

Florida

Jewfish
Key

Whitney
Beach



Sea Level Rise and Coastal Flooding Impacts

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Sea Level Rise Confidence Marsh
Vulnerability Flood Frequency

Sea Level Rise ?

6 ft SLR

Legend

Water Depth

Low-lying Areas

Area Not Mapped

Visualization Location

View Levees

Overview

**Town Of Longboat
Key North End and
Village**

**Normal High tide
and + 6 foot sea
level rise**

Florida





QUESTIONS ?



RUSSEL STREET LOOKING WEST
POST RAIN EVENT W/ HIGH TIDE
6/28/2003