# FEMA Map Update for Pinellas County

**Public Works**

**Lisa Foster**

Floodplain Administrator

PINELLAS COUNTY, FLORIDA
BOARD OF COUNTY COMMISSIONERS

**Our Vision: To Be the Standard for Public Service in America**

Pinellas County

# Flood Insurance Rate Map (FIRM) Update for Pinellas County

## Pinellas County Flood Risks

- Multiple Flood Sources
- Multiple Flood Maps and Data

## FEMA Flood Insurance Rate Map (FIRM)

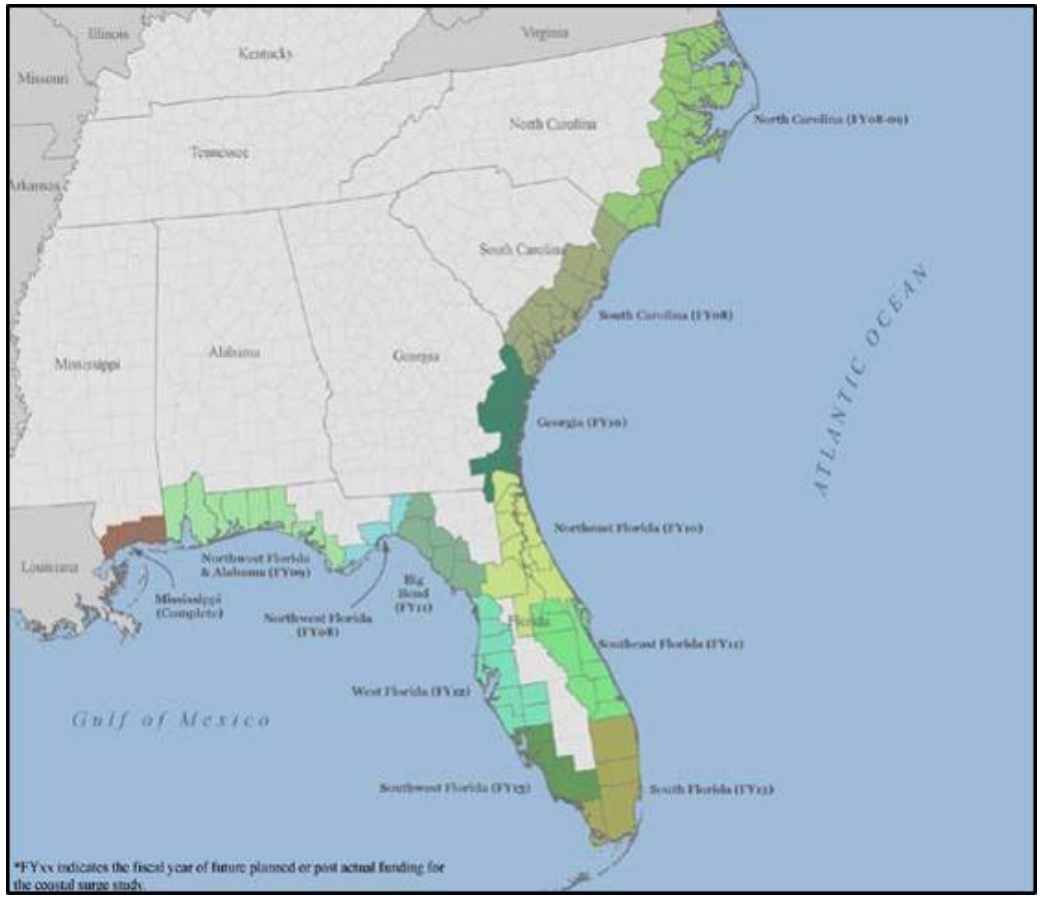
- FIRM Update
- Changes from Current FIRM
- Differences from Vulnerability Assessment

## Pinellas County Floodplain Ordinance

# Flood Insurance Rate Map (FIRM) Update for Pinellas County

## FEMA Flood Insurance Rate Map (FIRM) Update

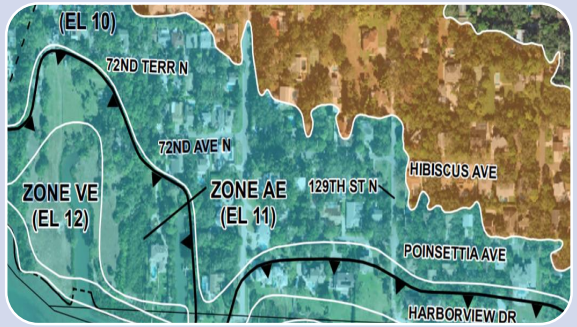
- **Region IV Coastal Analysis and Mapping Project – Southeast United States**
- **Multiyear effort**
- **Kicked off 2012**
- **Preliminary received 2018**
- **Effective August 24, 2021**



# Flood Insurance Rate Map (FIRM) Update for Pinellas County

## FEMA Flood Insurance Rate Maps (FIRM) Uses

1. **Flood Insurance Requirements**
2. **Flood Insurance Rates**
   - Current vs Risk Rating 2.0
3. **Floodplain Development requirements**
   - Determine whether proposed development will be reasonably safe from flooding (44 CFR § 60.3 )
   - Freeboard – Safety factor



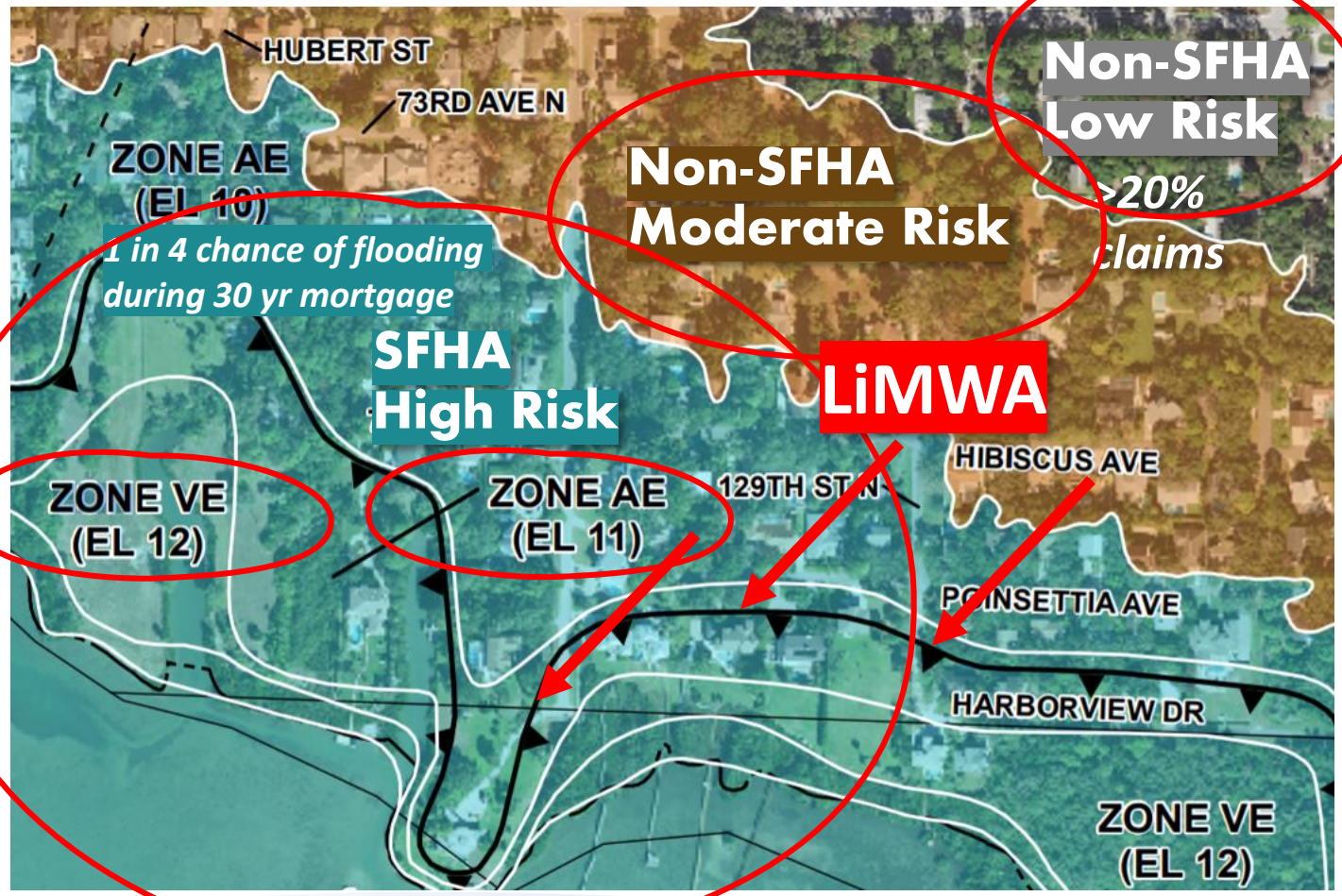

- Flood Zones (FIRM)
- Elevations (Elevation Certificate)
- Rating Tables

- Building specifics (Foundation, First Floor Height, etc..)
- **Distance to water**
- **Type/size nearest water bodies**
- **Elevation relative to flooding source**
- Drainage & urban flooding
- Structure Value

# Flood Insurance Rate Map (FIRM) Update for Pinellas County

## FEMA Flood Insurance Rate Maps (FIRM)

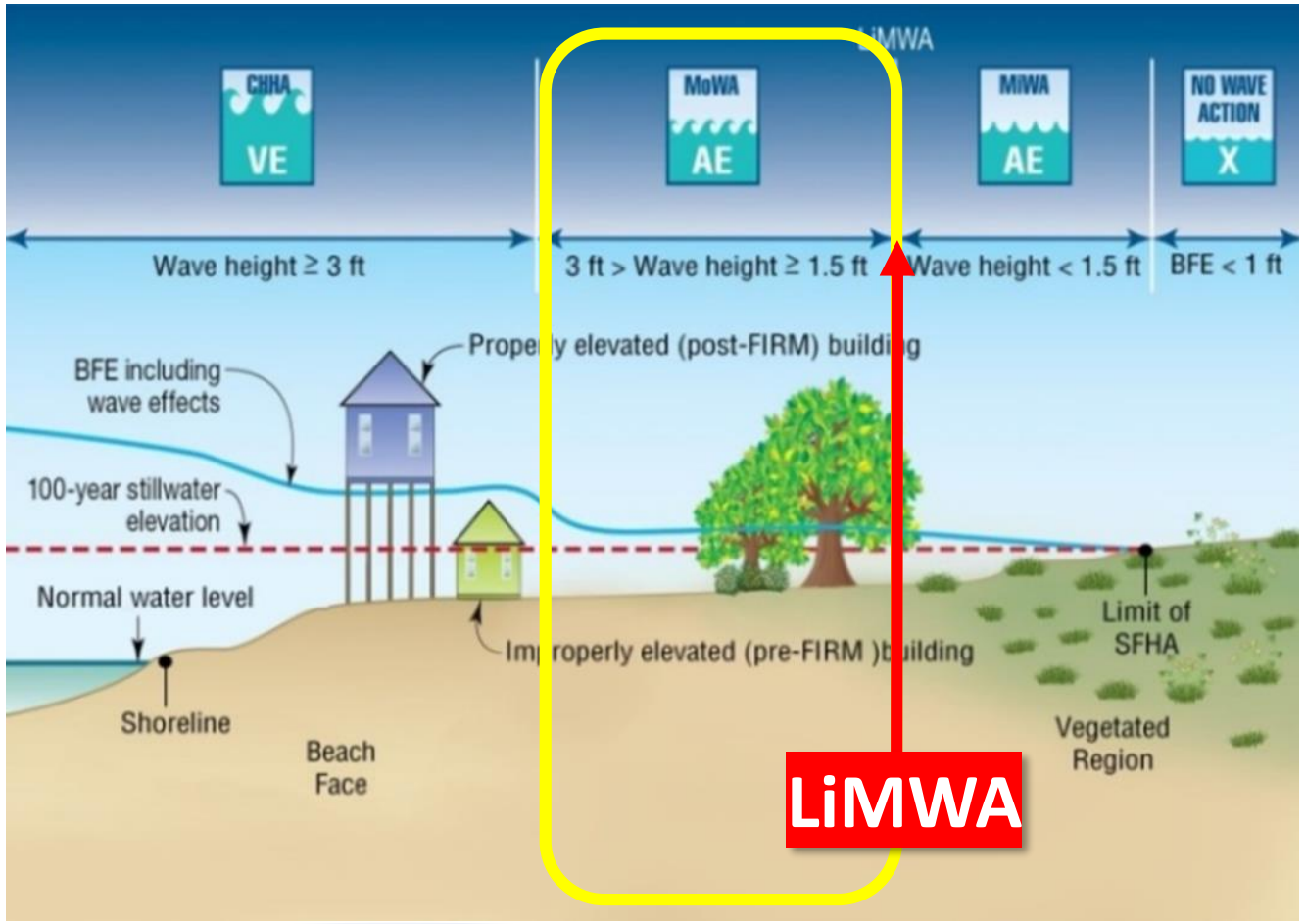
- **Flood Zones**
  - **High Risk**
    - 100-Year | 1% Annual Change Floodplain
    - Special Flood Hazard Areas (SFHA)
    - Zone V's and A's
  - **Moderate Risk**
    - 500-Year | 0.2% Annual Change Floodplain
    - Non-SFHA
    - Zone X-Shaded
  - **Low Risk**
    - < 500-Year | 0.2% Annual Change Floodplain
    - Non-SFHA
    - Zone X
- **Base Flood Elevations (BFEs)**
  - Only in High Risk Zones
  - Freeboard – Safety Factor



# Flood Insurance Rate Map (FIRM) Update for Pinellas County

## FEMA Flood Insurance Rate Maps (FIRM)

- **CAZ - Coastal A Zone**
  - *"Due to the higher risk of Damage from waves to homes and other structures in the Coastal A Zone, FEMA encourages the practice of building to V Zone Standards within this area."* (FEMA 2020)

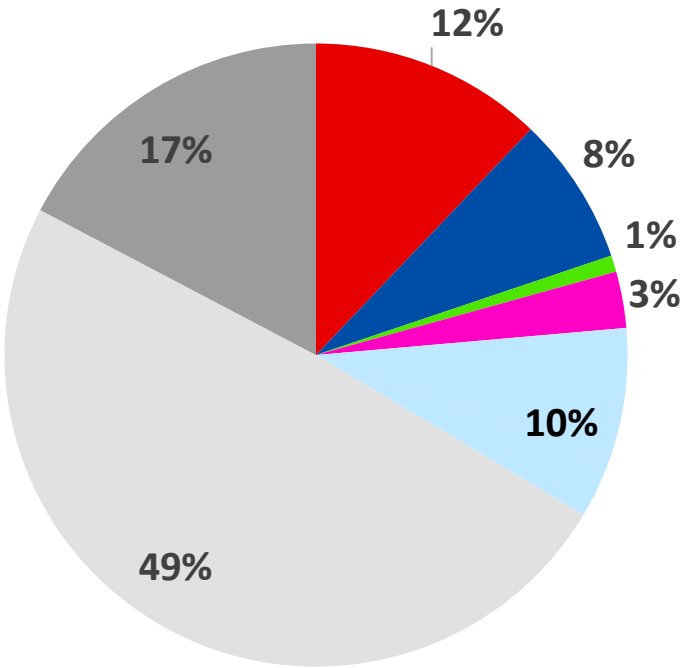


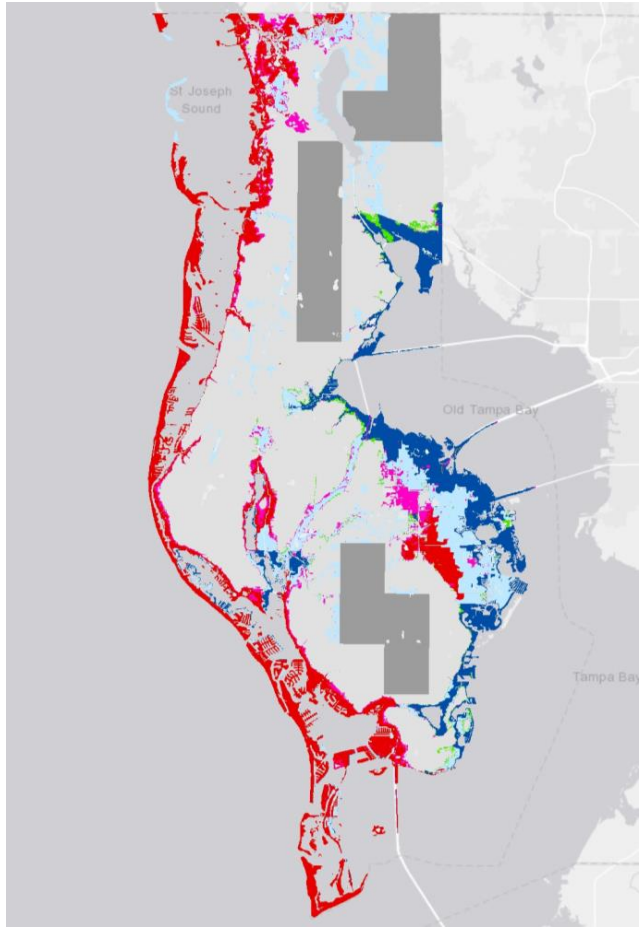
# Flood Insurance Rate Map (FIRM) Update for Pinellas County

## Overview of Changes from Current FIRM to New FIRM

### Area - Countywide

- Decrease in BFE
- High to Low or Moderate Risk Zone
- Increase in BFE
- Low or Moderate to High Risk Zone
- Panel Not Updated
- No Change in BFE (Low or Moderate Risk Zone)
- No Change in BFE (High Risk Zone)

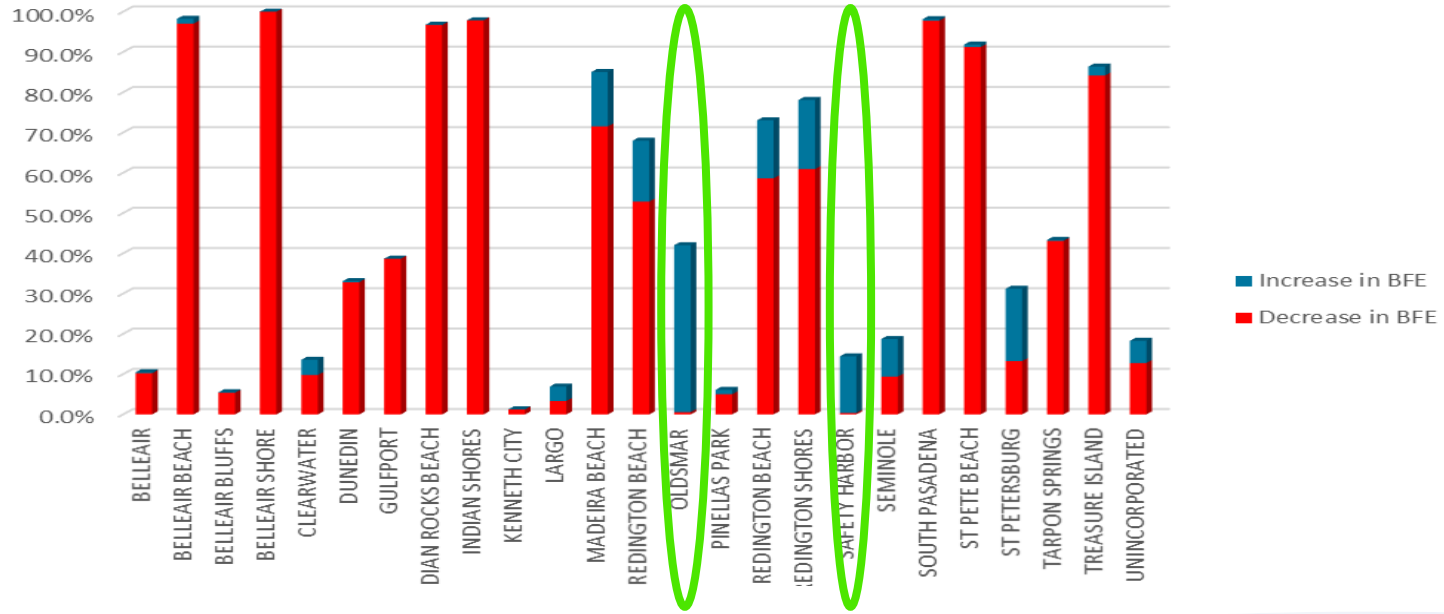


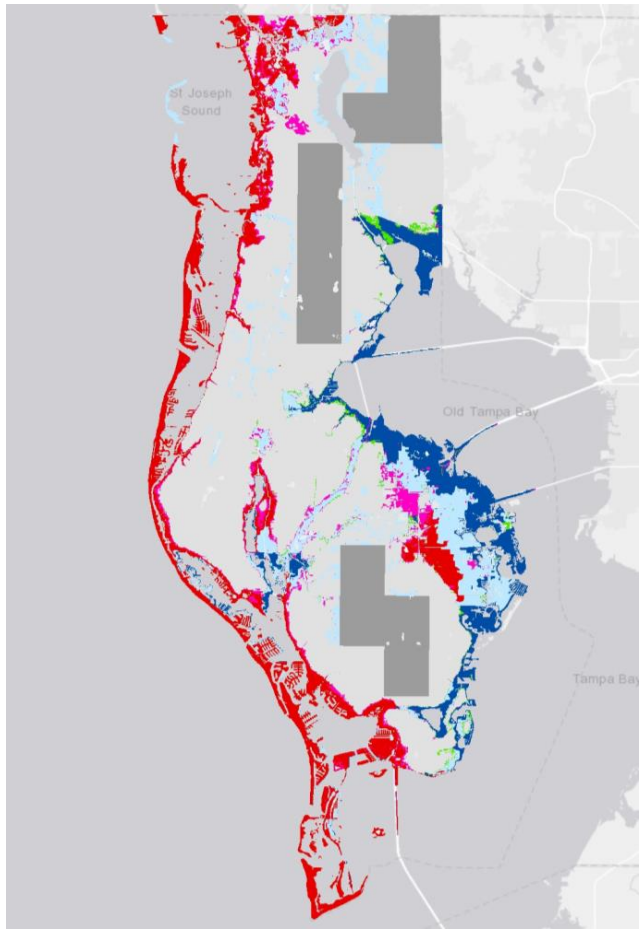



# Flood Insurance Rate Map (FIRM) Update for Pinellas County

## Overview of Changes from Current FIRM to New FIRM

### Area - Juris

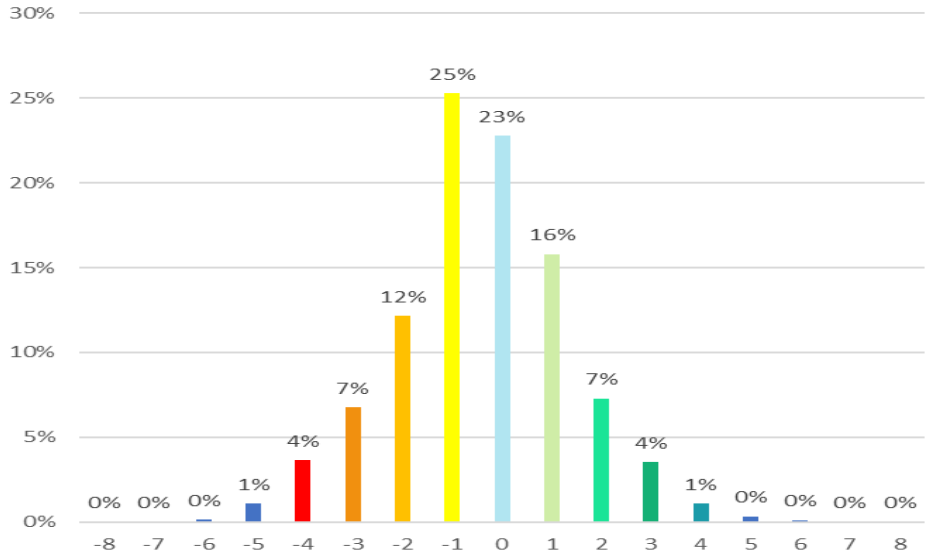


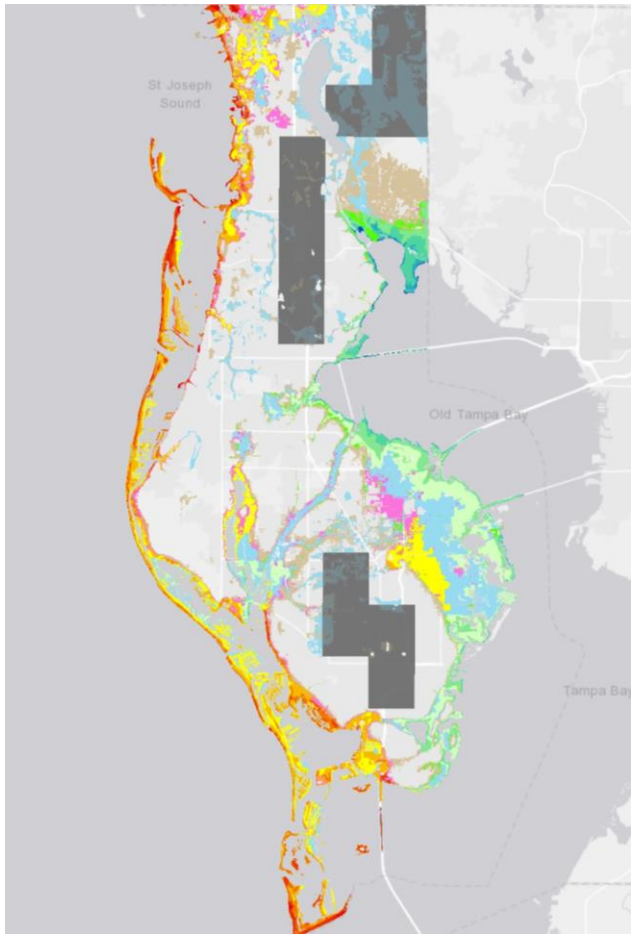



# Flood Insurance Rate Map (FIRM) Update for Pinellas County

## *BFE* Changes from Current FIRM to New FIRM

### Varies Across County



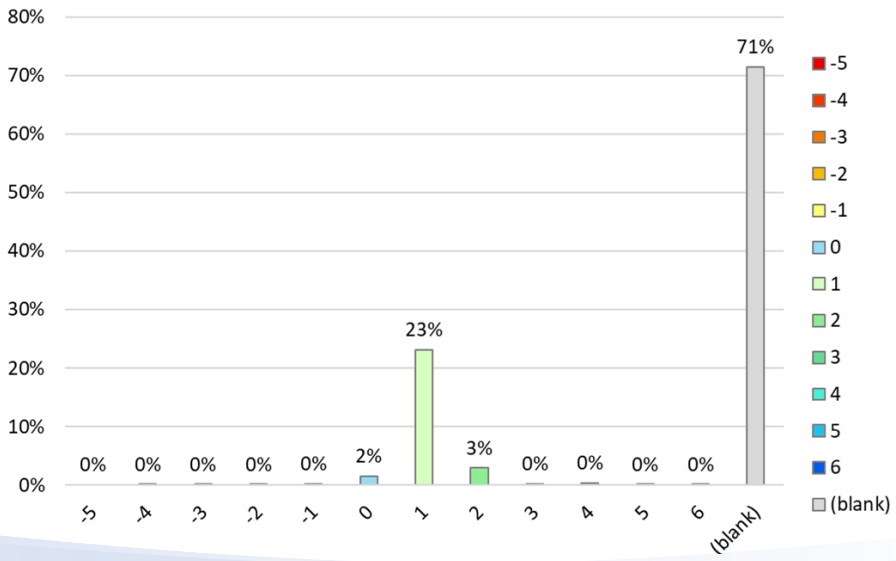

**Change in BFE**

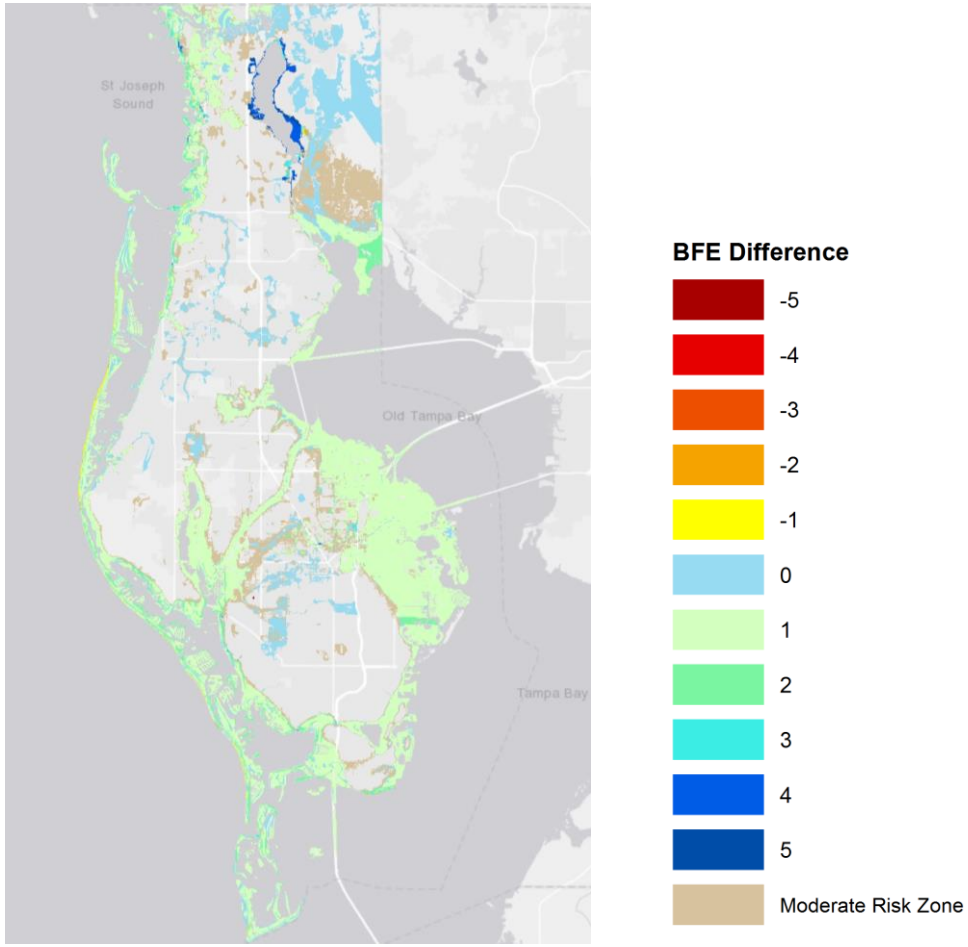
- -5
- -4
- -3
- -2
- -1
- 0
- 1
- 2
- 3
- 4
- 5
- High Risk to Low or Moderate Risk Zone
- Low or Moderate Risk to High Risk Zone
- Moderate Risk Zone
- Panel Not Updated

# Flood Insurance Rate Map (FIRM) Update for Pinellas County

## *BFE* Difference from Current FIRM to Vulnerability Assessment

### Generally +1 ft Countywide



# Flood Insurance Rate Map (FIRM) Update for Pinellas County

## New FIRM vs Vulnerability Assessment

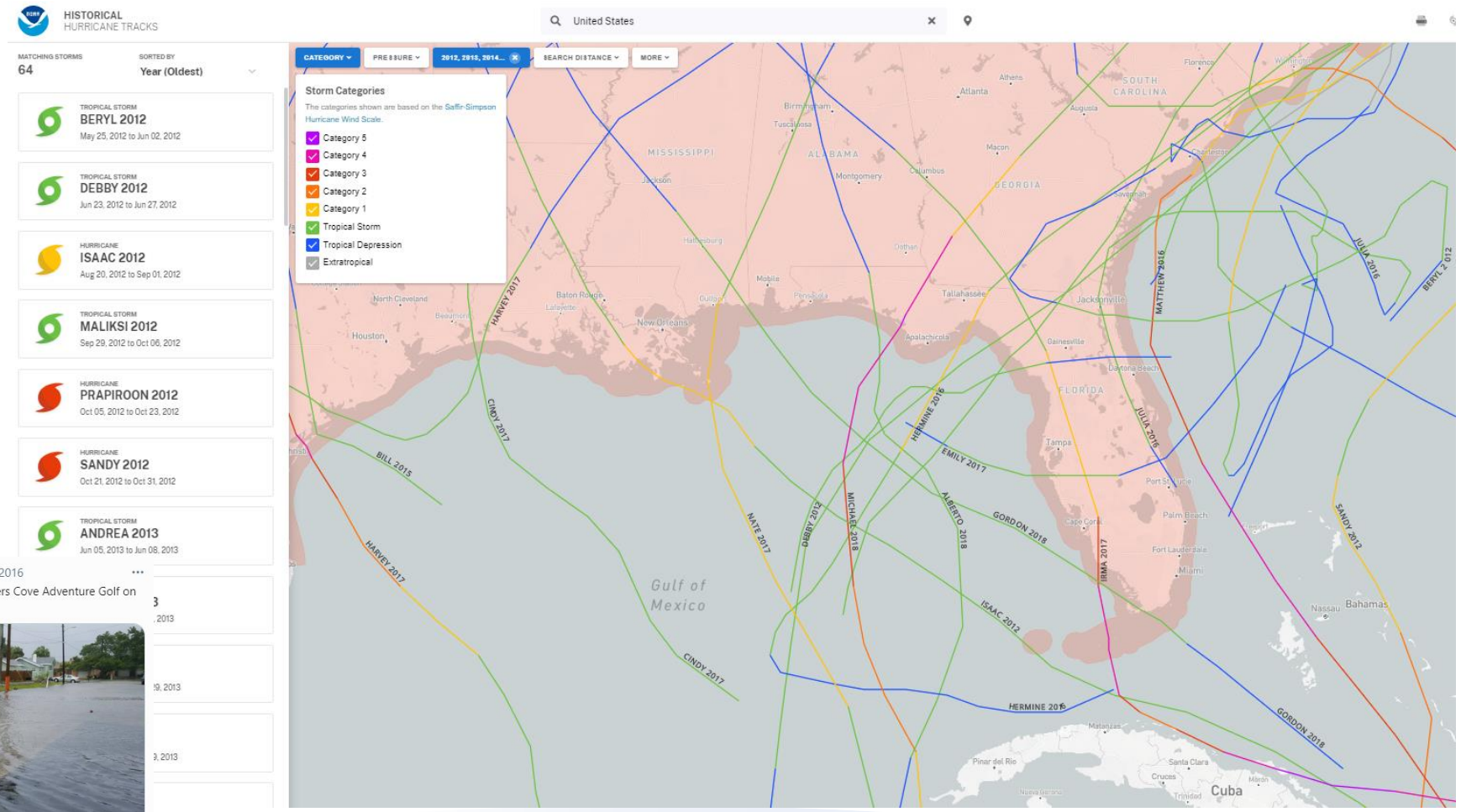
- **Data**
- **Methodology**
- **Models**

| Study | Storm Ensemble | Current Storms | Future Storms | Model | LiDAR |
|---|---|---|---|---|---|
| New FIRM | 357 | <2012 | No | ADCIRC+SWAN (2D) | 2007 |
| Vulnerability Assessment | 300+ | <2018 | Yes | CH3D+SWAN (3D) | 2017 |

# Flood Insurance Rate Map (FIRM) Update for Pinellas County

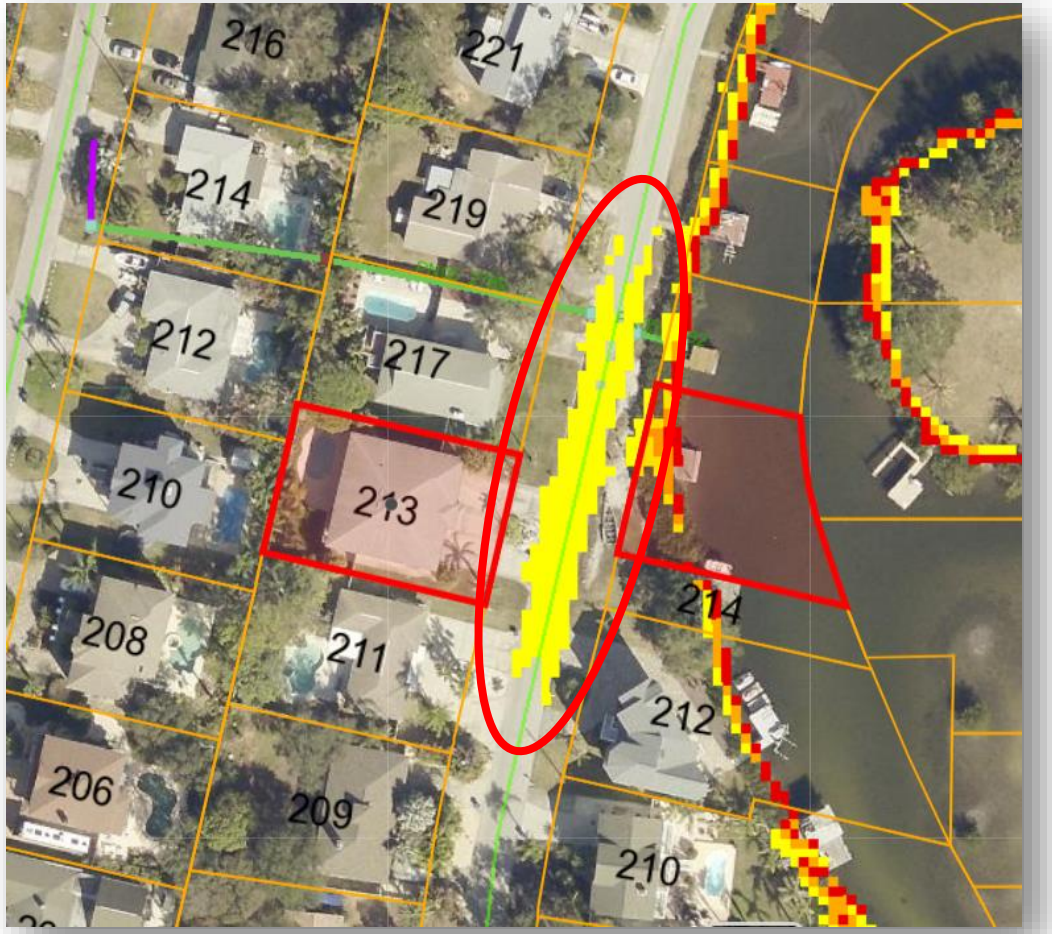
## Tropical Storms/Hurricanes 2012 – 2018

- **Not included in development of new FIRM**



# Flood Insurance Rate Map (FIRM) Update for Pinellas County

## Sea Level Rise Point of Reference

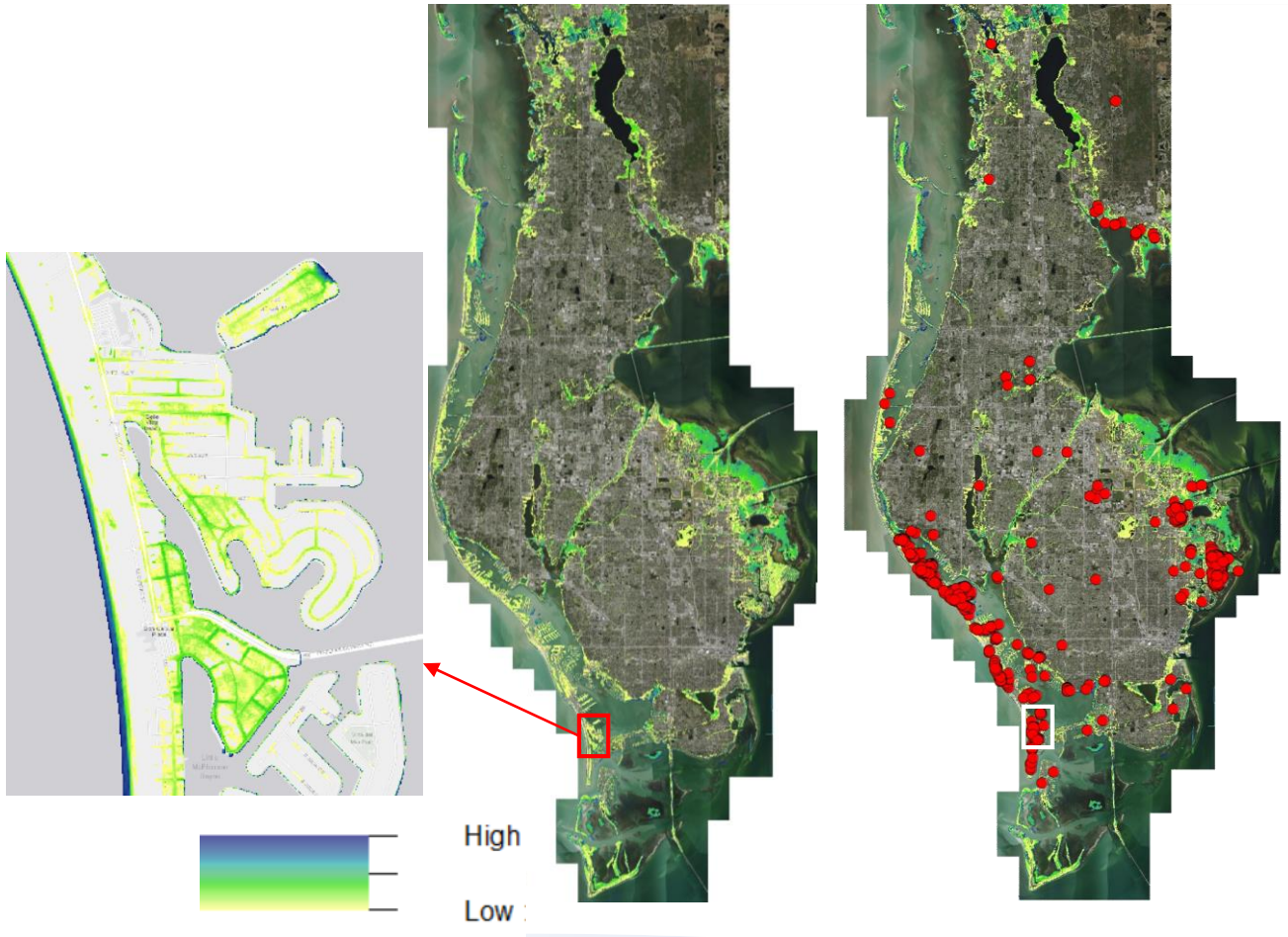


# Flood Insurance Rate Map (FIRM) Update for Pinellas County

# Flood Insurance Rate Map (FIRM) Update for Pinellas County

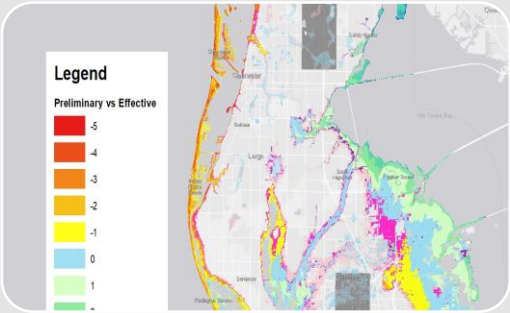
## Tropical Storm Eta Point of Reference

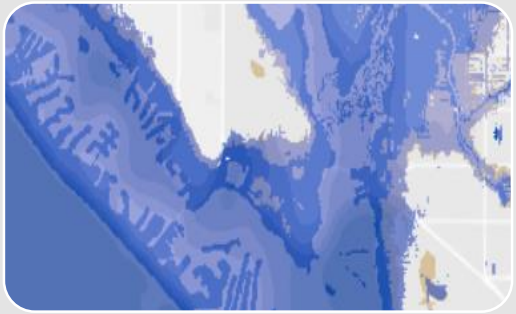
- **Vulnerability Assessment 2070 Intermediate SLR Depth 1HPY**
- **TS Eta NFIP claims about two weeks after storm**



# Flood Insurance Rate Map (FIRM) Update for Pinellas County

## Elevation Options





**1. Do Nothing**

New FIRM + Current Freeboard

**•2. Hold the Line**

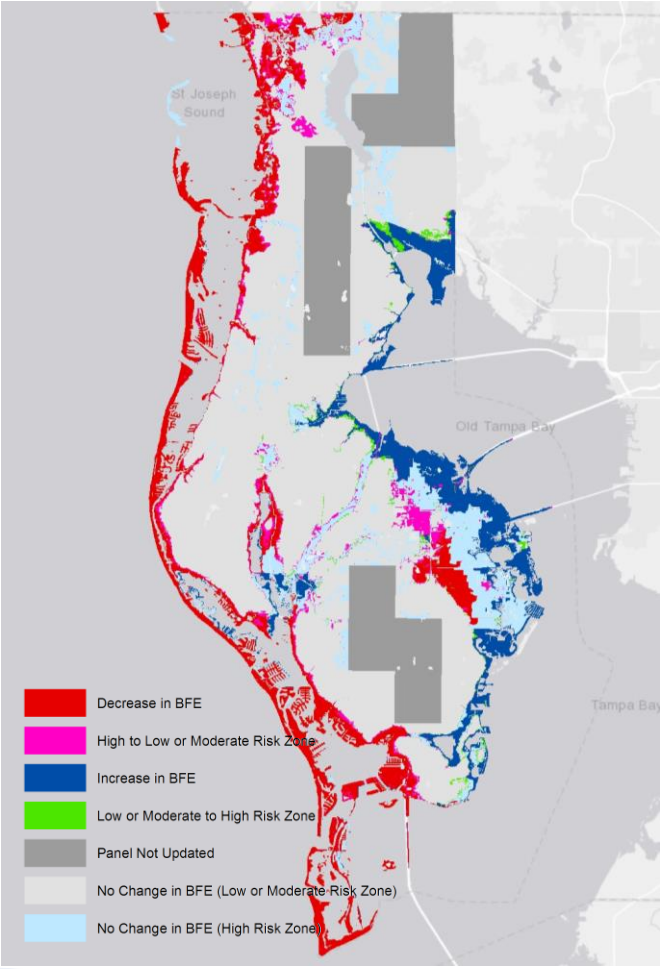
•• Adopt Vulnerability Assessment &

•• Higher of:

- **1.** New FIRM BFE + Current Freeboard
- **2.** Vulnerability Assessment BFE (Current Conditions)

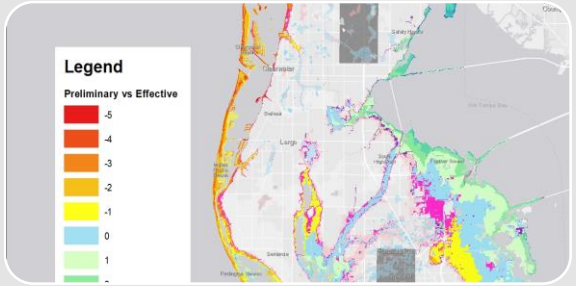
**3. Integrate New Data**

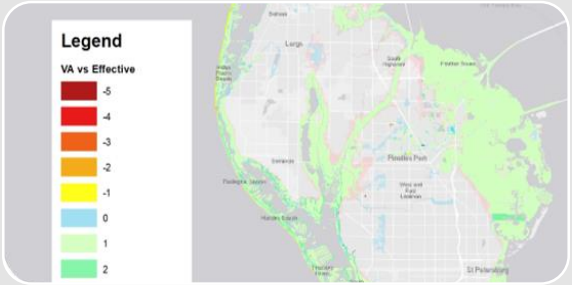
- BFE Higher of New FIRM or Vulnerability Assessment BFE + Current Freeboard or
- VA 2070 100YR **or**
- VA 2018 500YR

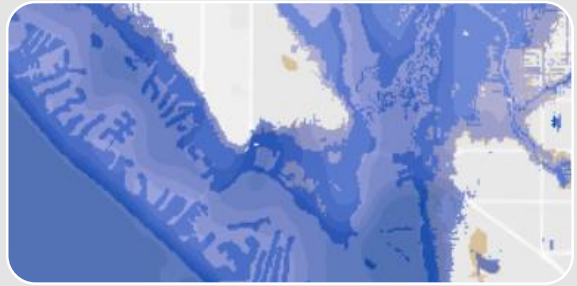


# Flood Insurance Rate Map (FIRM) Update for Pinellas County

## Coastal A Zone (CAZ) Options



**1. Do Nothing**

No Code Updates

**•2. FEMA Recommended**

VE Regs in CAZ

**3. Modified FEMA Recommendation**

VE Regs for Residential (not commercial):

1 - In CAZ

2- In all zones on barrier islands

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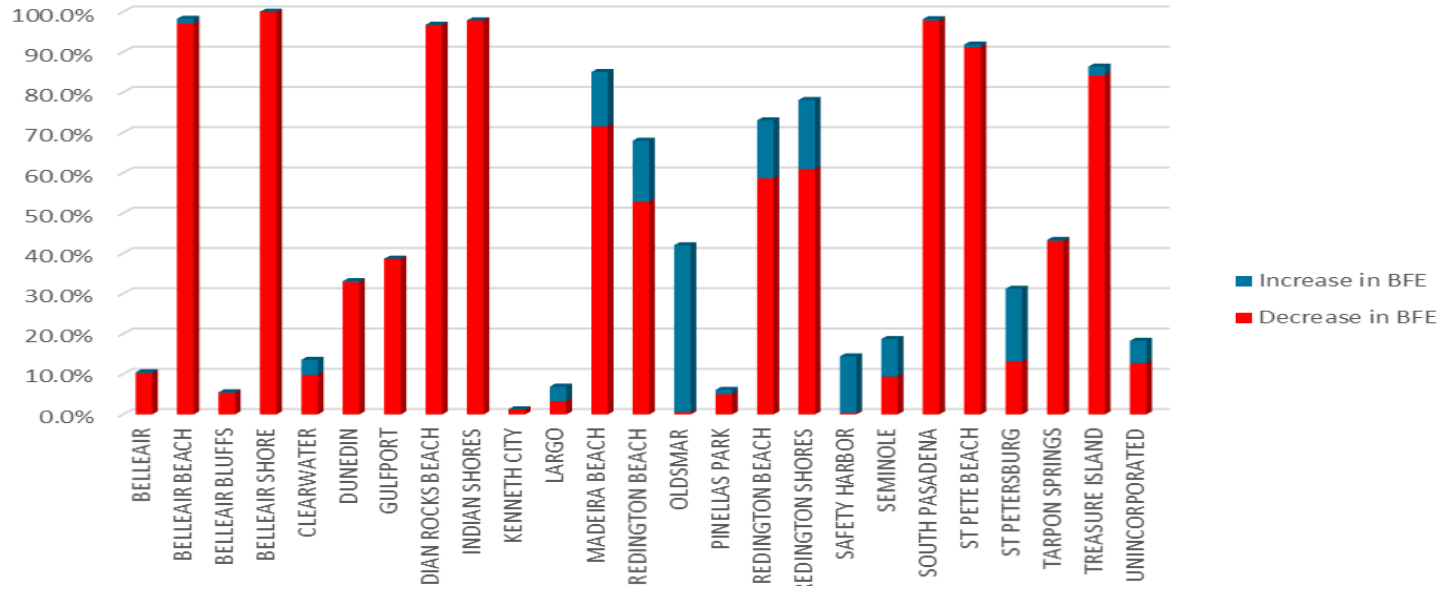
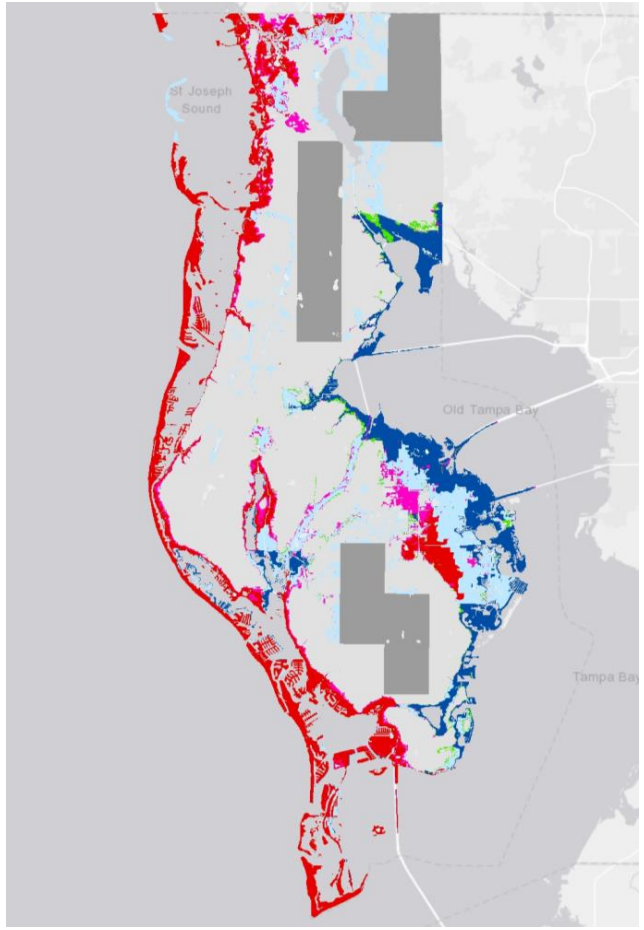
## Overview of Changes from Current FIRM to New FIRM

### Area - Juris



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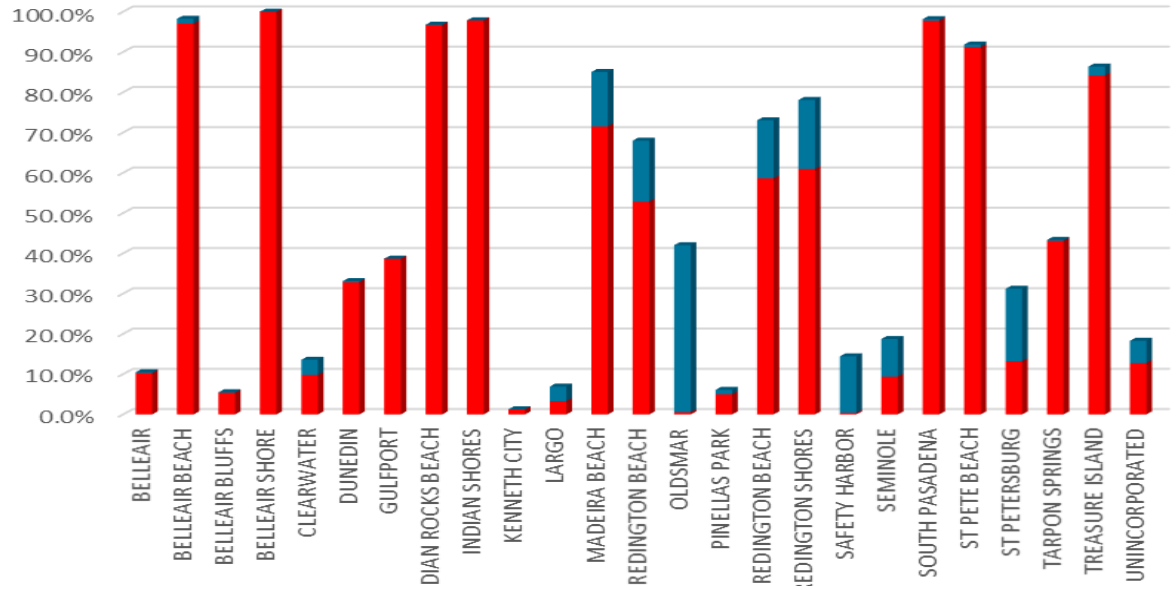
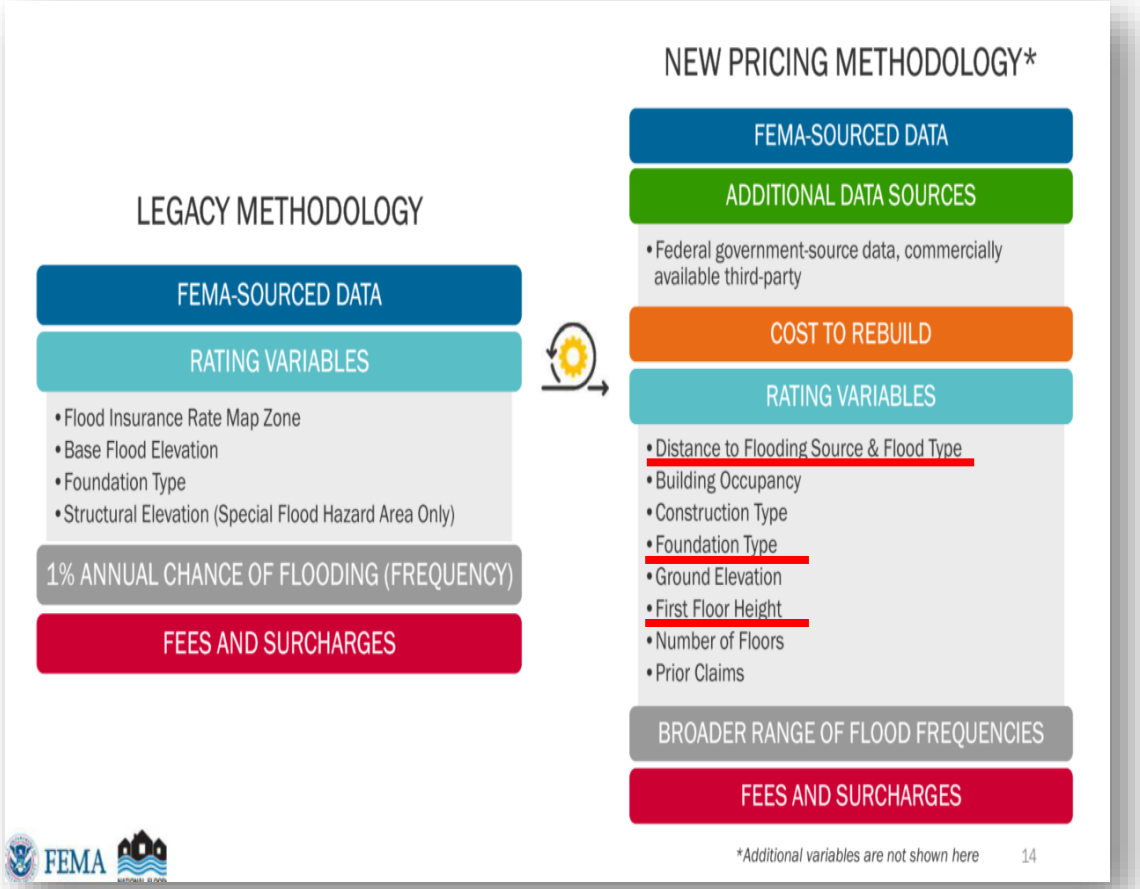
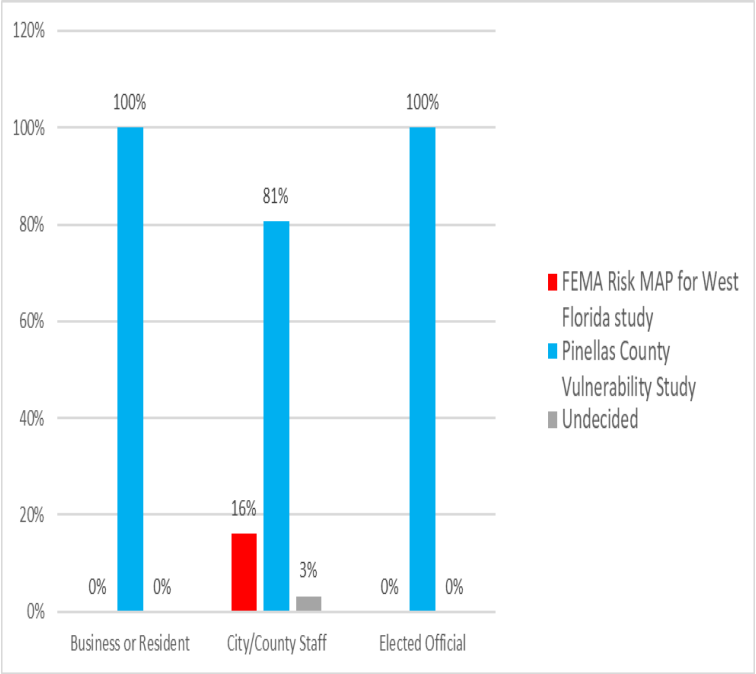
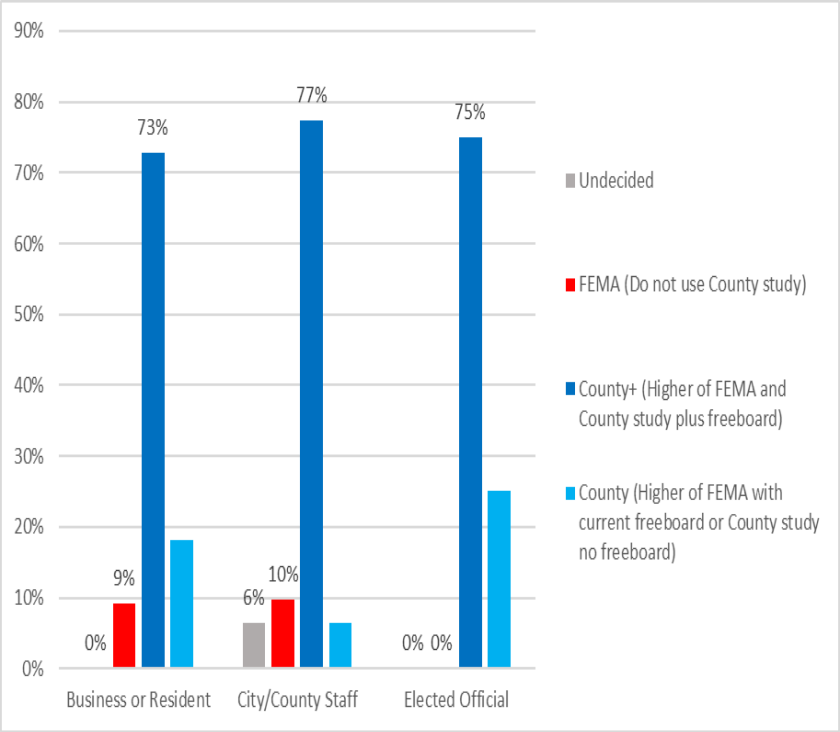


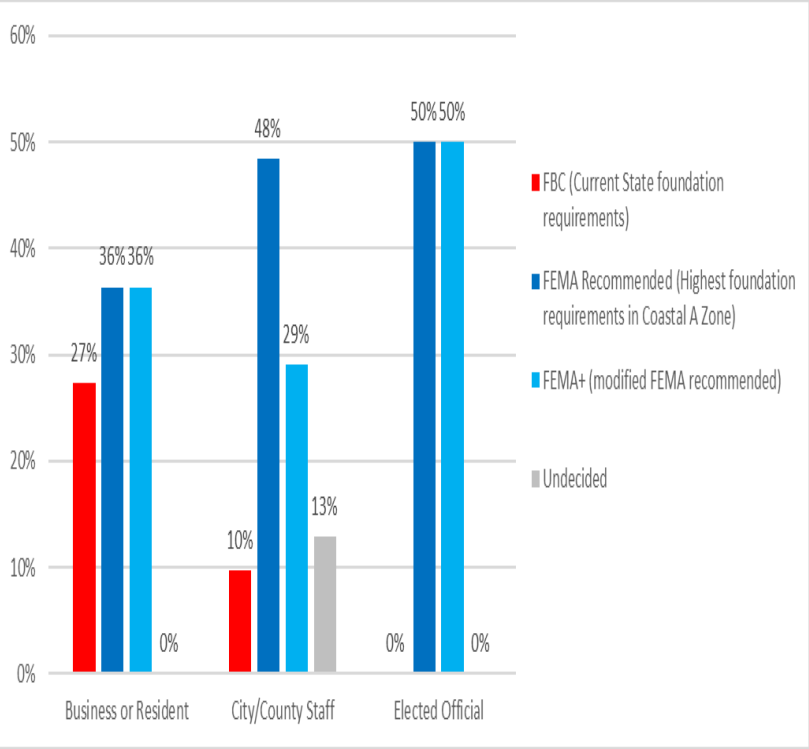



# Flood Insurance Rate Map (FIRM) Update for Pinellas County

## Stakeholder Feedback (As of 6/25)




*"…**increase freeboard above BFE based on whichever map, FEMA, or Vulnerability Assessment, is higher."*** **(PRO)**

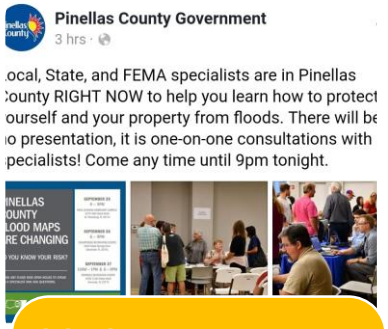
# Flood Insurance Rate Map (FIRM) Update for Pinellas County

## 2012

- FEMA Coastal Analysis and Mapping Project Kick-off for West Florida Study Area

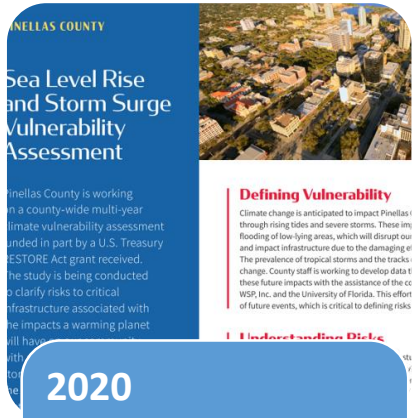
## 2018

- Preliminary Map Delivered to Communities
- Municipal FP Managers Coordination
- Public Outreach
- Consultant Review
- Vulnerability Assessment Study Kick off




## 2019

- Consultant Review
- Municipal FP Managers Coordination
- Public Outreach
- Comments & Appeal Submitted




## 2020

- FEMA Resolved Comments & Appeal
- Pinellas County Vulnerability Assessment Flood Maps Delivered
- Map comparison Analysis
- Municipal FP Managers Meetings

## 2021

- FEMA Letter of Final Determination Issued
- PC Internal Staff Meetings
- Muni FP Managers Meeting
- Map Service for munis
- **NEXT STEPS:**
- 5/6: BOCC
- 5/7: City Public Works Directors
- 5/7: City Managers
- 5/24: Pinellas County Development Customer Advisory Group (DCAG)
- 5/26: BIG-C
- BOCC (7/13)
- Ordinance Updates (TBD)
- FEMA Map Effective 8/24

# Flood Insurance Rate Map (FIRM) Update for Pinellas County

## Questions