

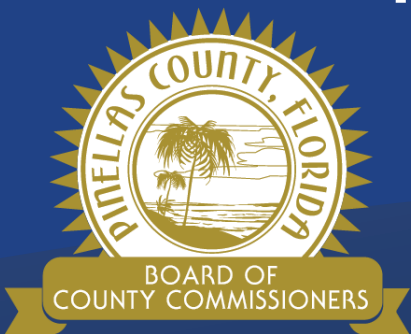
# FEMA Map Update for Pinellas County



**Public Works**

**Lisa Foster**

Floodplain Administrator



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



# 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

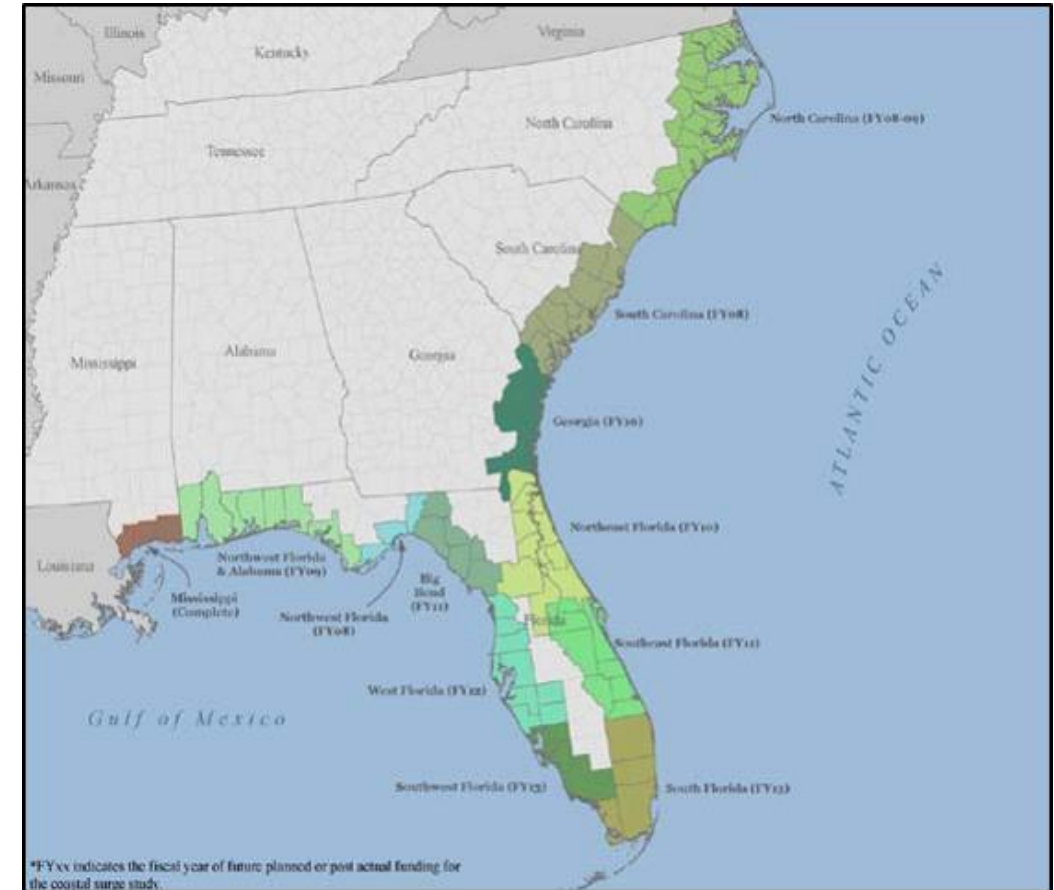


# Flood Insurance Rate Map (FIRM) Update for Pinellas County



## 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

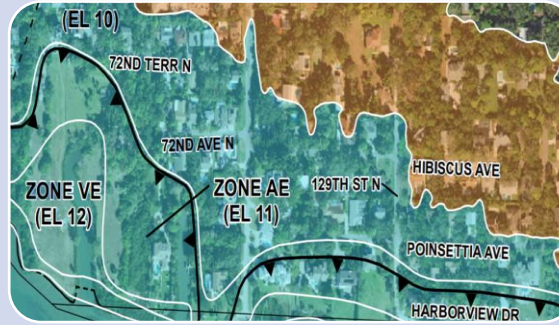
### 1. Flood Insurance Requirements

### 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
- 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**

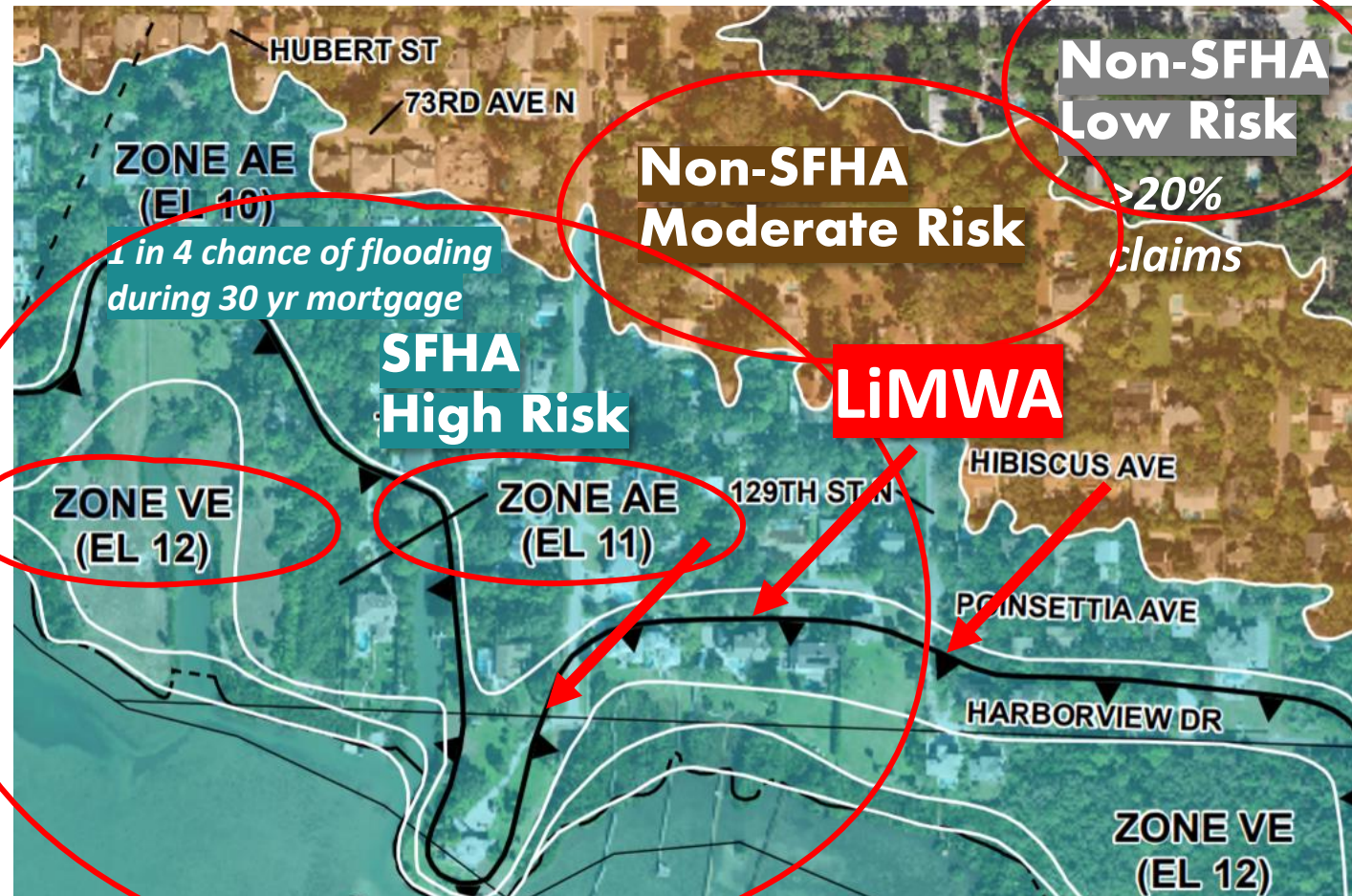
- 500-Year | 0.2% Annual Change Floodplain
- Non-SFHA
- Zone X-Shaded

- **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

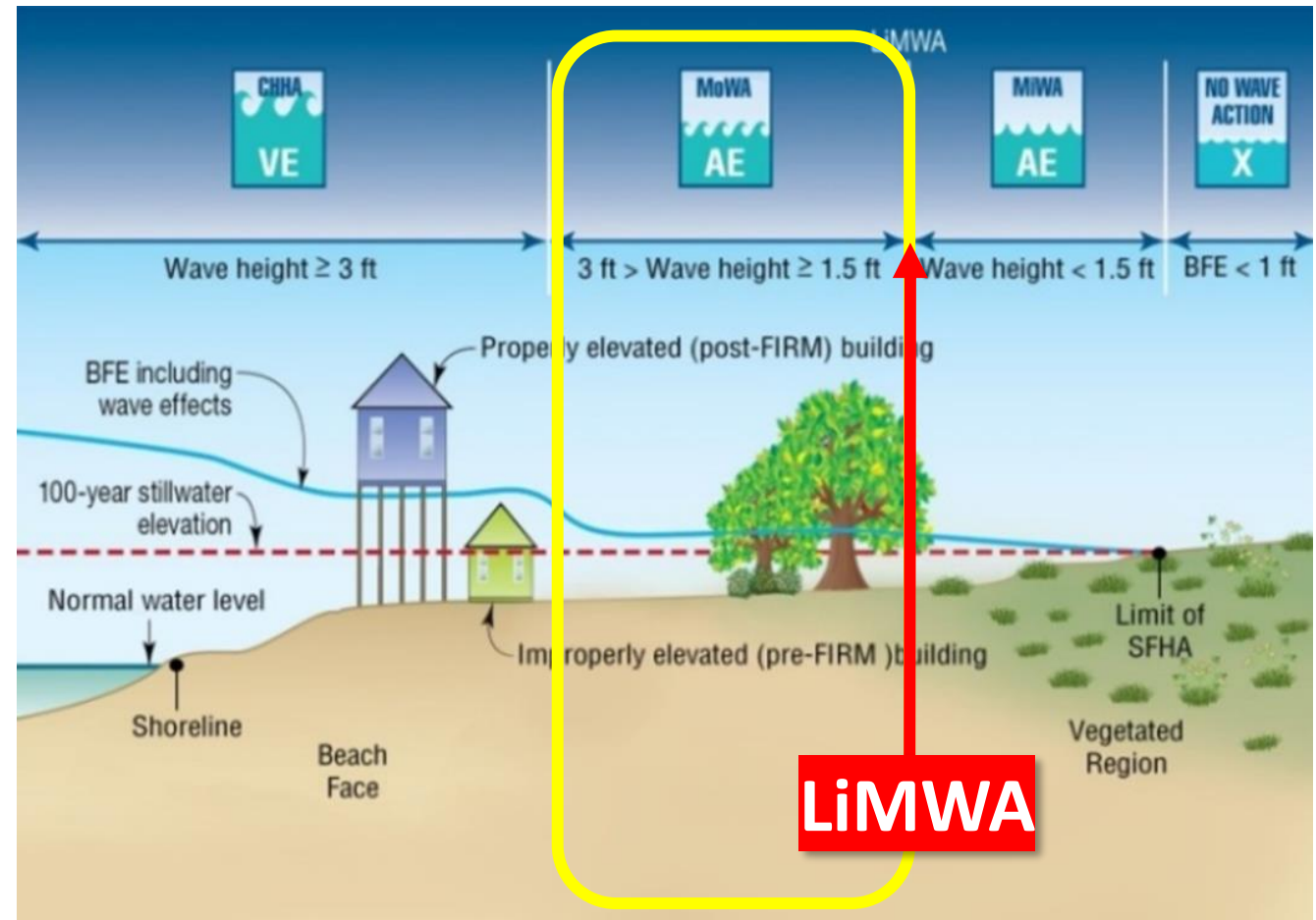




# Flood Insurance Rate Map (FIRM) Update for Pinellas County

## FEMA Flood Insurance Rate Maps (FIRM)

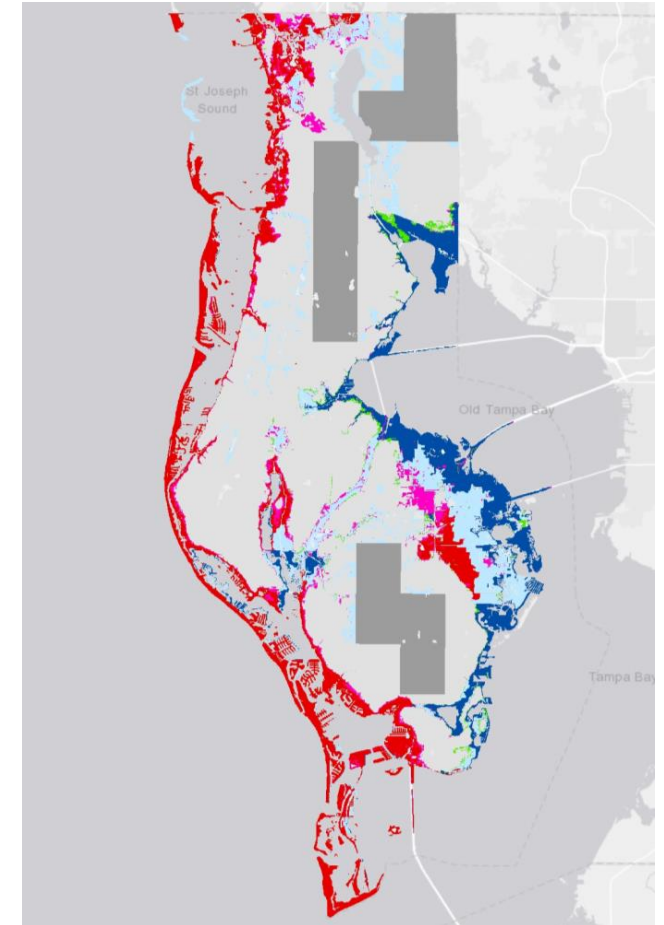
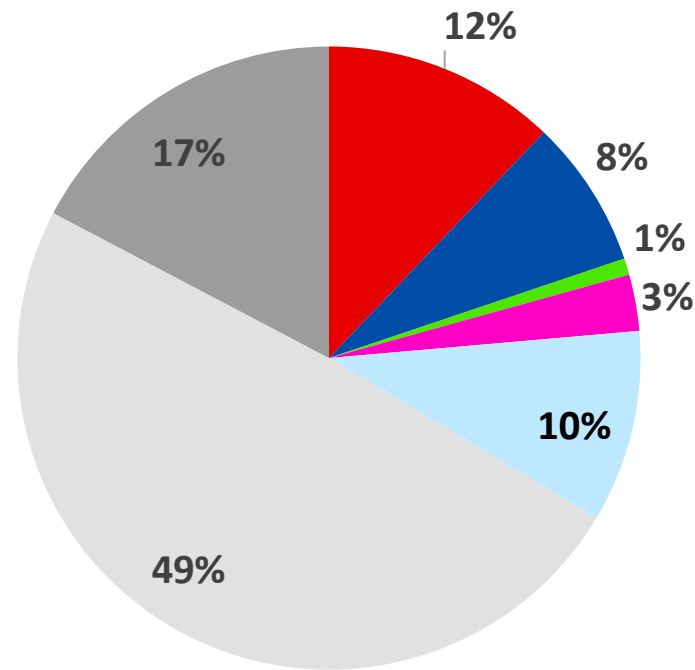
- **CAZ - Coastal A Zone**
  - *"Due to the higher risk of Damage from waves to homes and other structures in the Coastal A Zone, FEMA encourages the practice of building to V Zone Standards within this area." (FEMA 2020)*



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

## Overview of Changes from Current FIRM to New FIRM

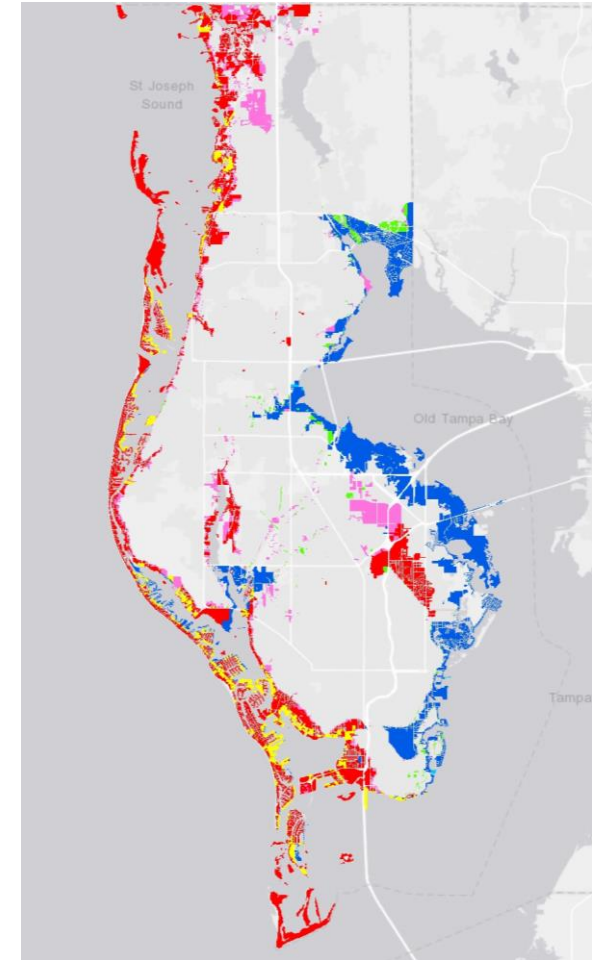
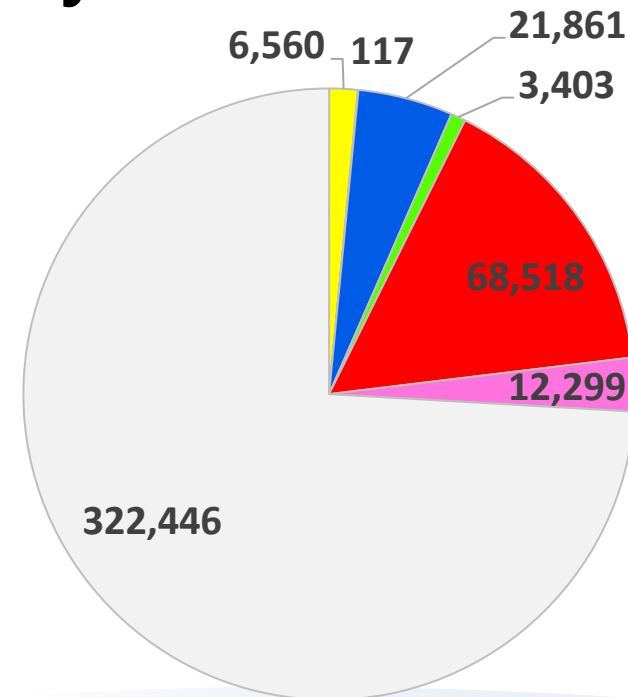
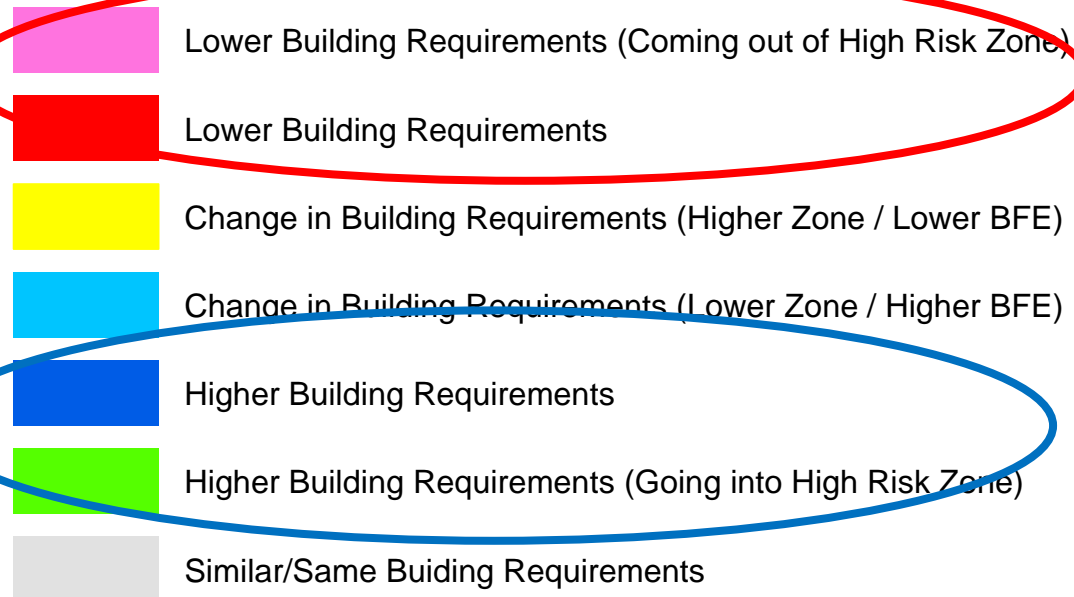
### Area - Countywide



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

## Changes from Current FIRM to New FIRM

### Parcel Building Requirements – Countywide

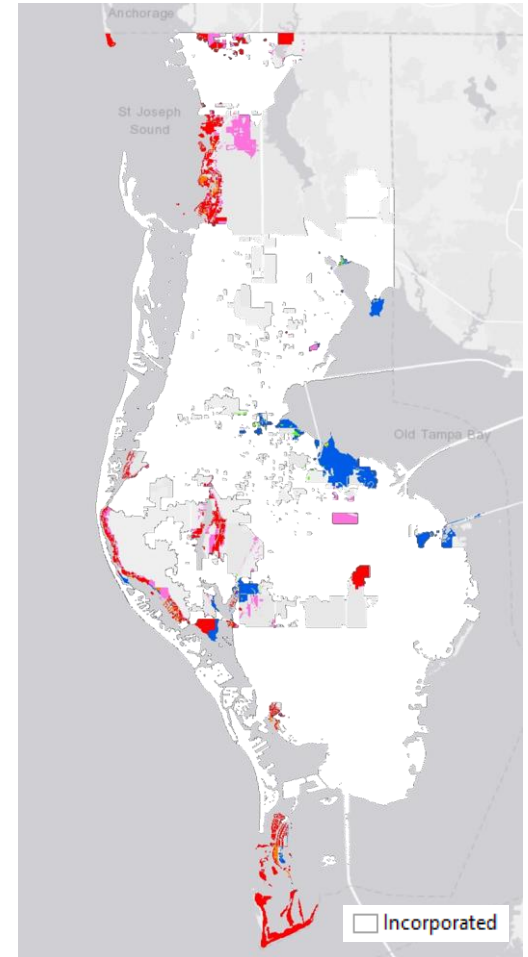
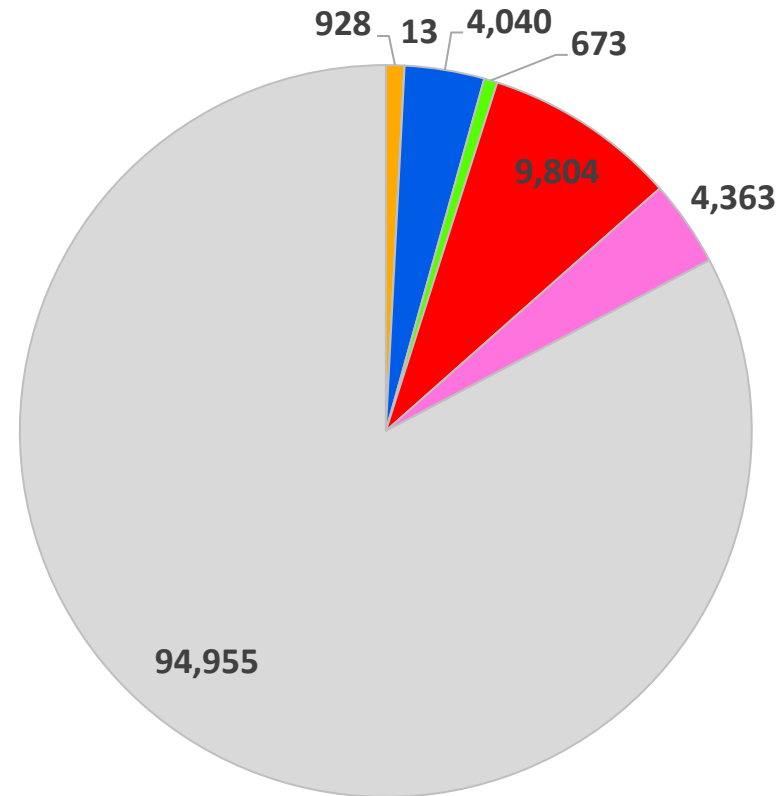
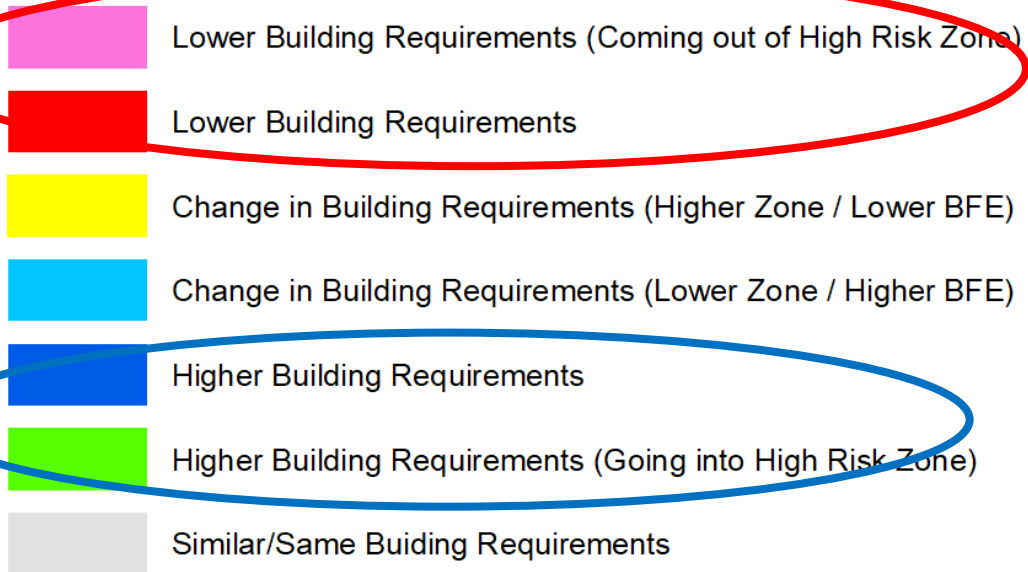




# Flood Insurance Rate Map (FIRM) Update for Pinellas County

## Zone Changes from Current FIRM to New FIRM

- Parcels - Unincorporated



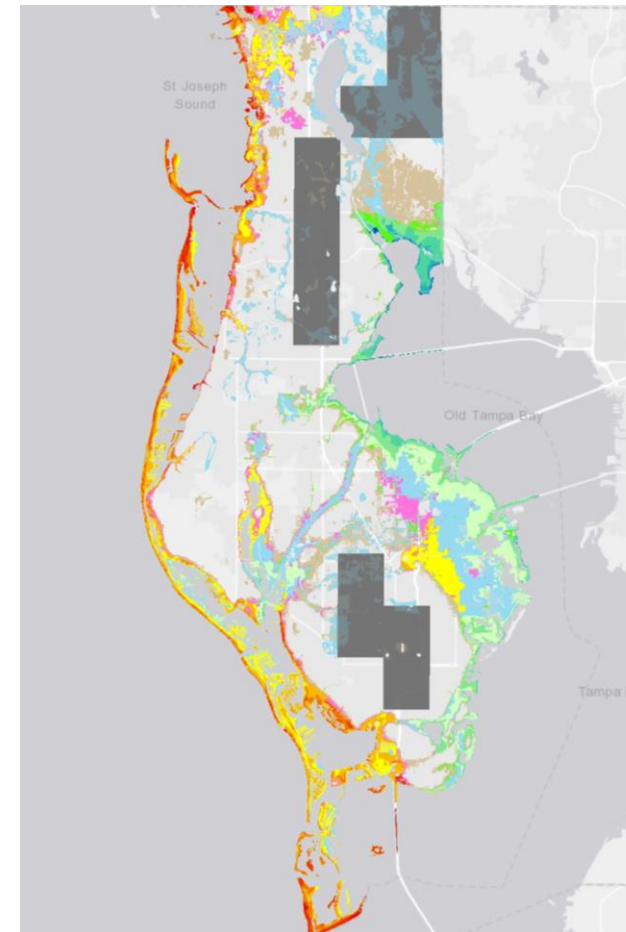
# Flood Insurance Rate Map (FIRM) Update for Pinellas County



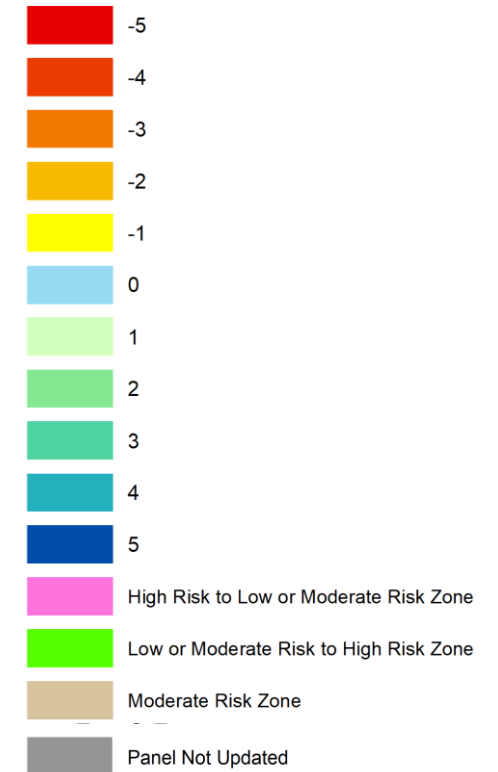
## BFE Changes from Current FIRM to New FIRM

### Varies Across County

*Negative values are a reduction in  
BFE from current to new FIRM.*



#### Change in BFE

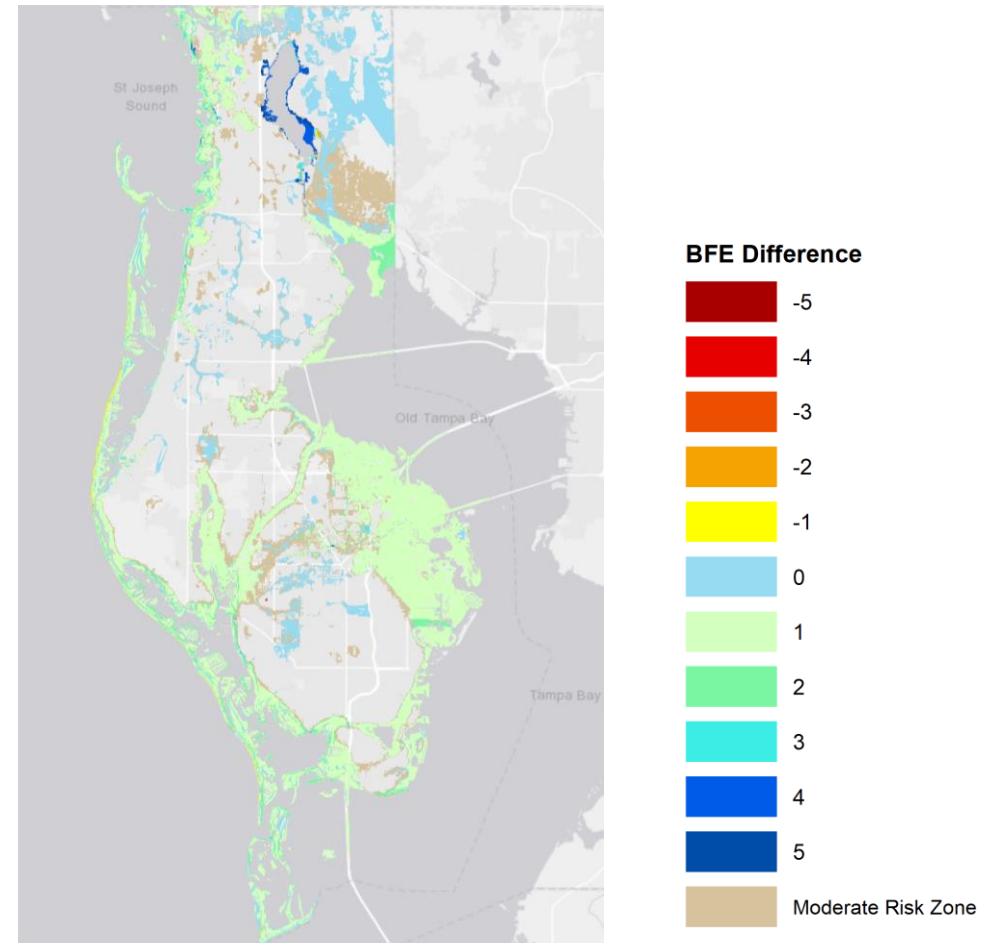


# Flood Insurance Rate Map (FIRM) Update for Pinellas County



## 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

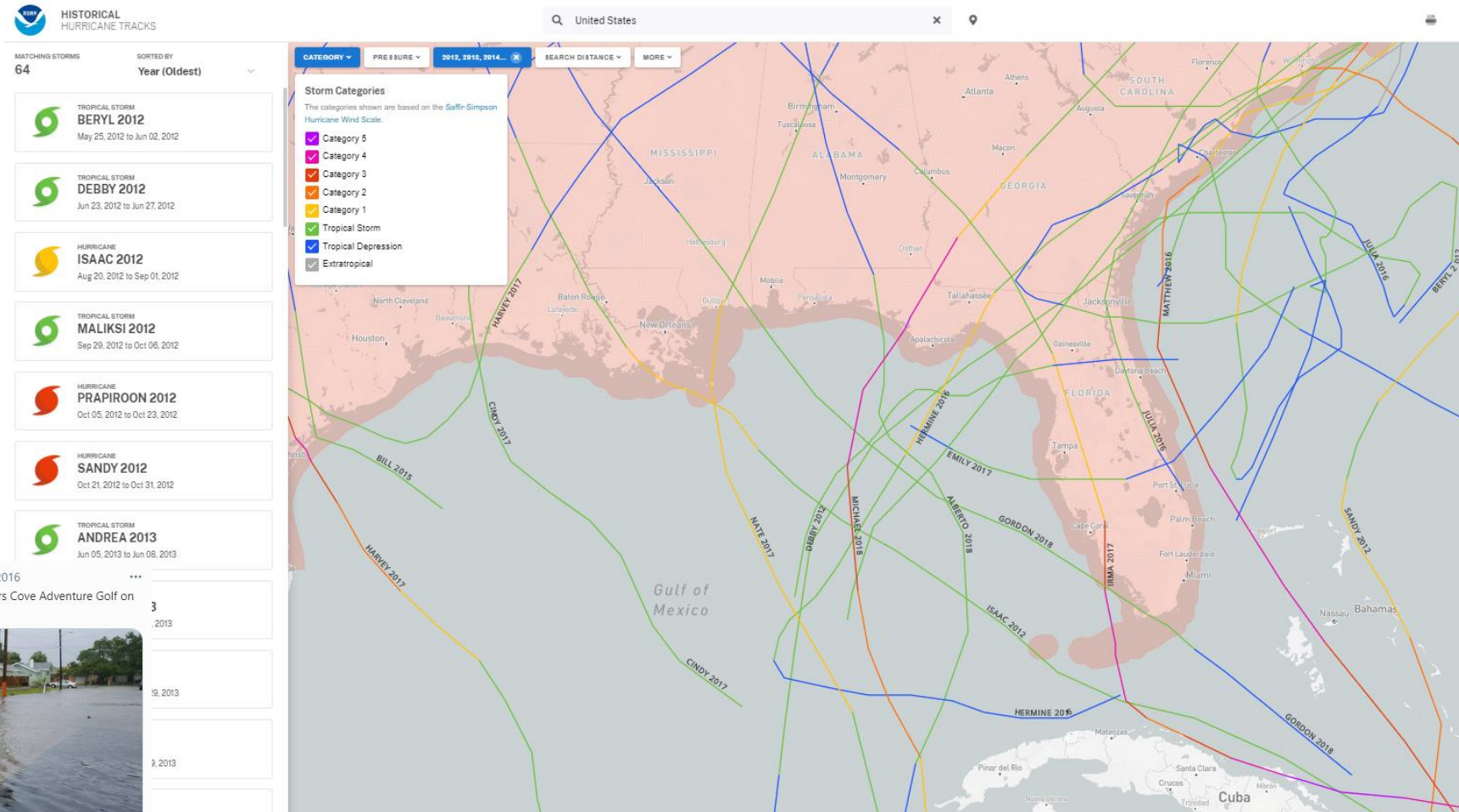


## Tropical Storms/Hurricanes 2012 – 2018

- Not included in development of new FIRM



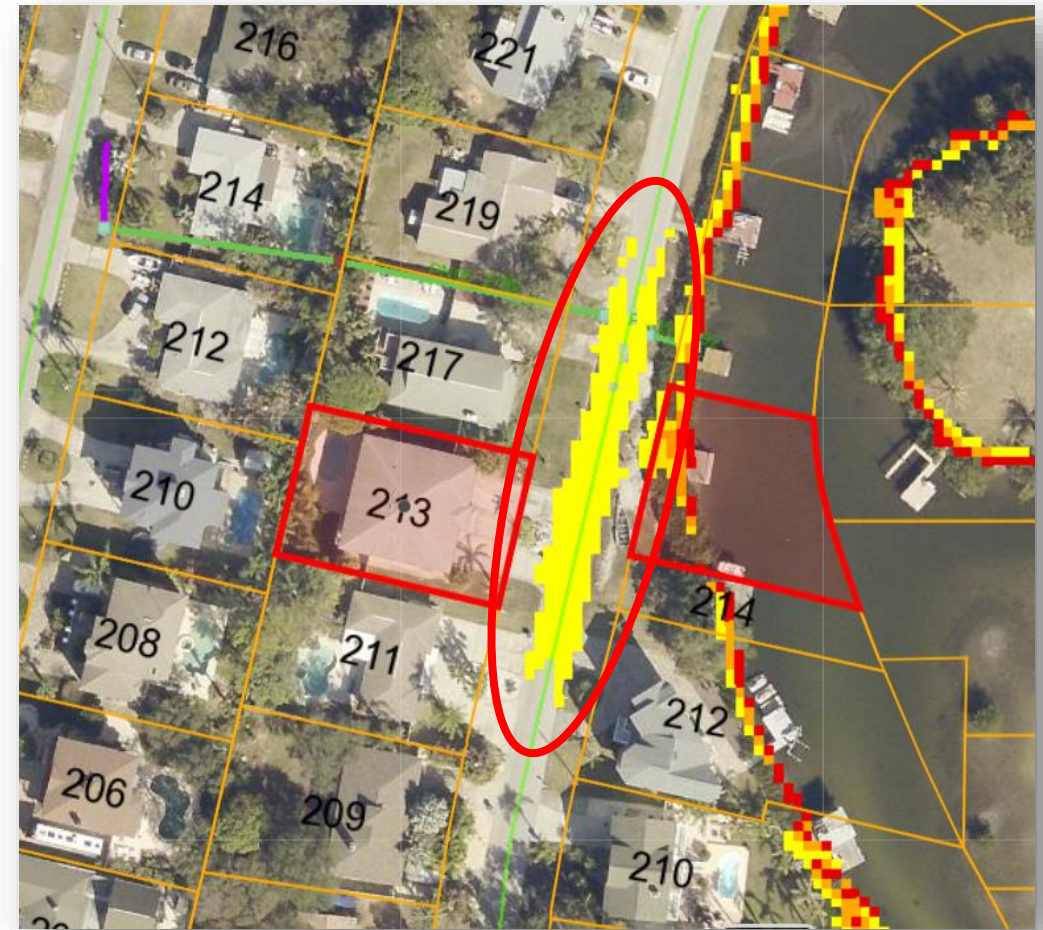
FOX @PaulFox13 · Jun 6, 2016  
of an adventure at Smugglers Cove Adventure Golf on  
flood #Colin





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

## Sea Level Rise Point of Reference





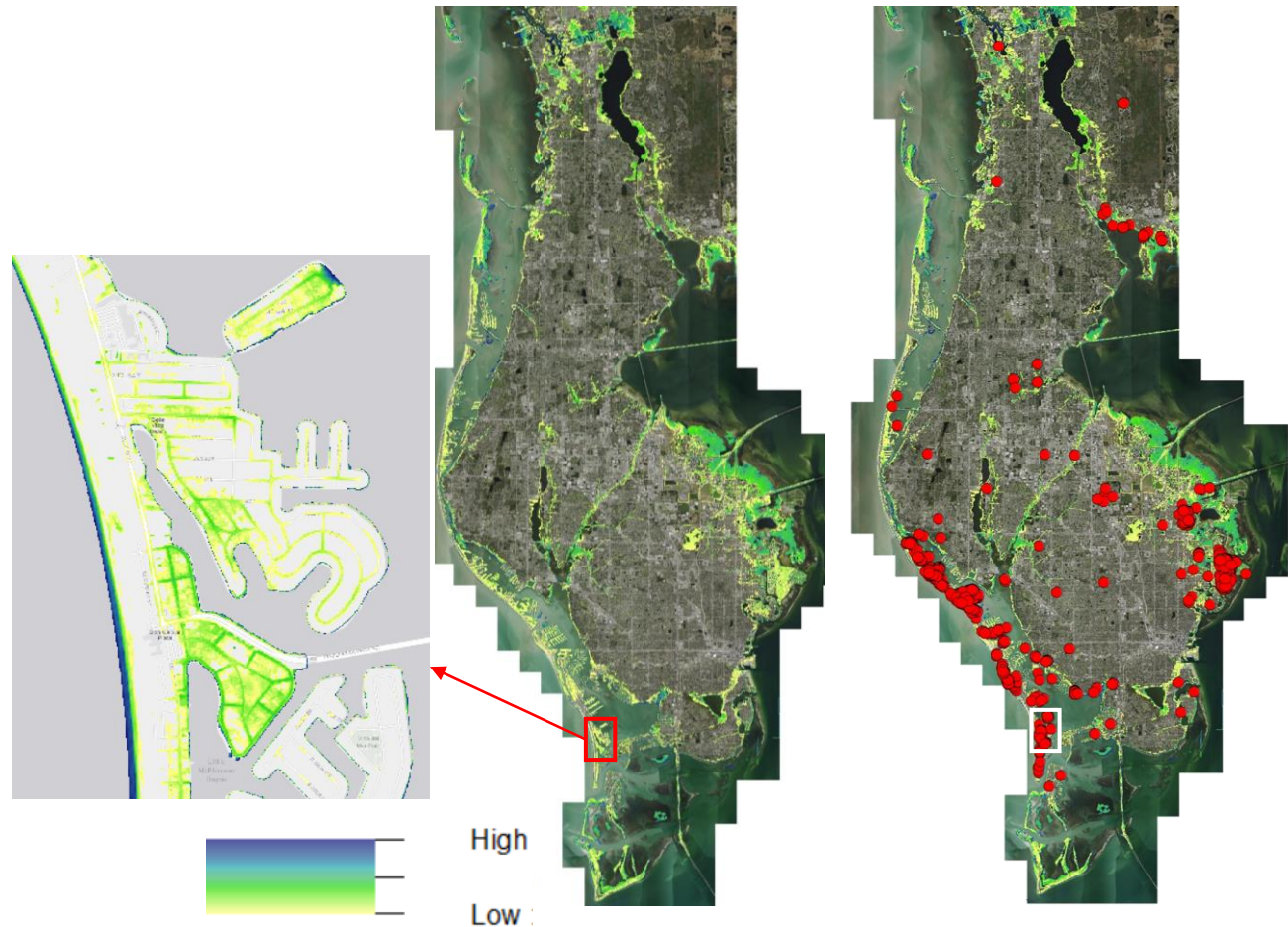
# Flood Insurance Rate Map (FIRM) Update for Pinellas County



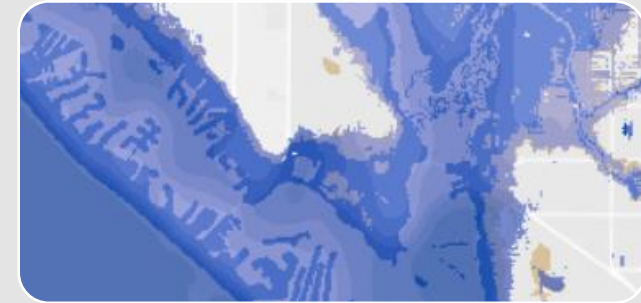
# Flood Insurance Rate Map (FIRM) Update for Pinellas County

## 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



1. Do  
Nothing

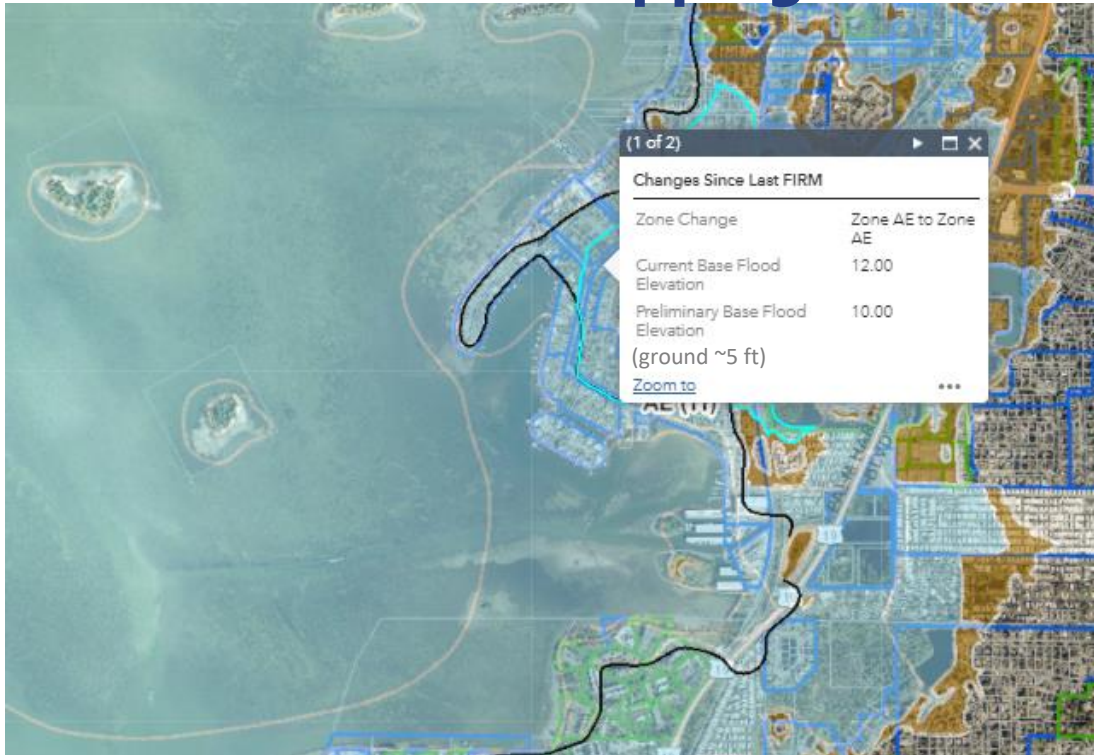
2. Hold  
the Line

3. Integrate  
New Data

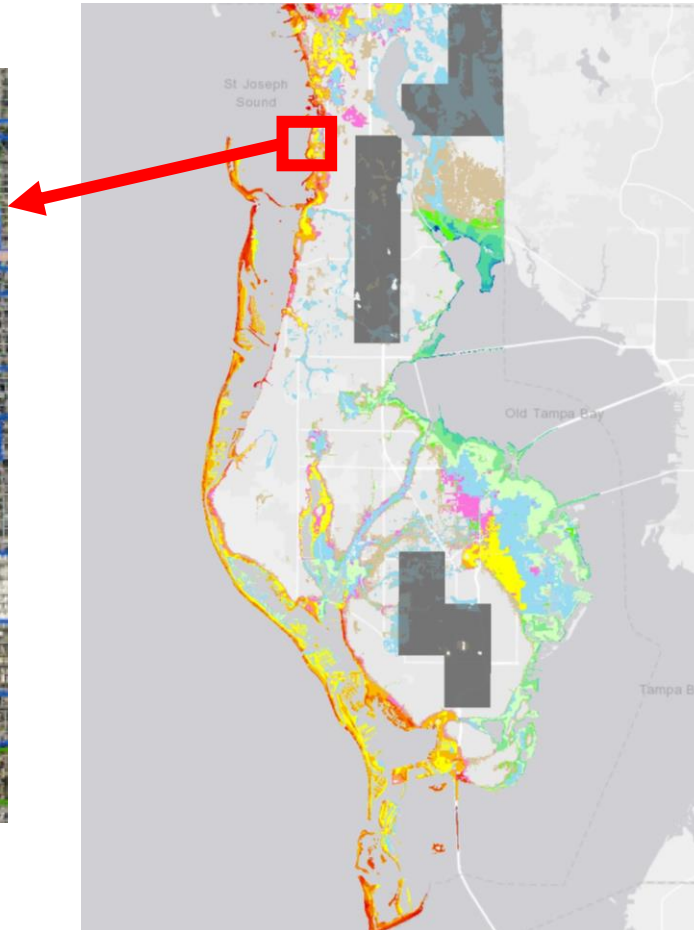


# Flood Insurance Rate Map (FIRM) Update for Pinellas County

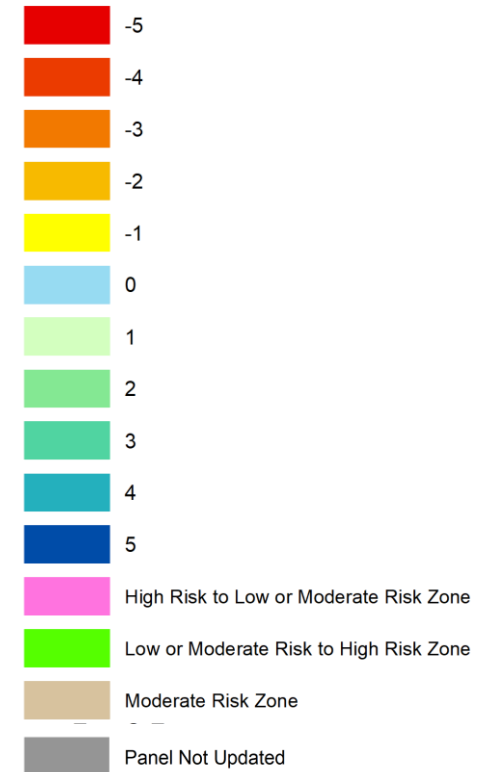
## Ozona: FIRM BFE Dropping 2 ft



**BFE 12 to 10 ft; VA 14 ft**  
(Depth ~7 ft going down to ~5 ft)

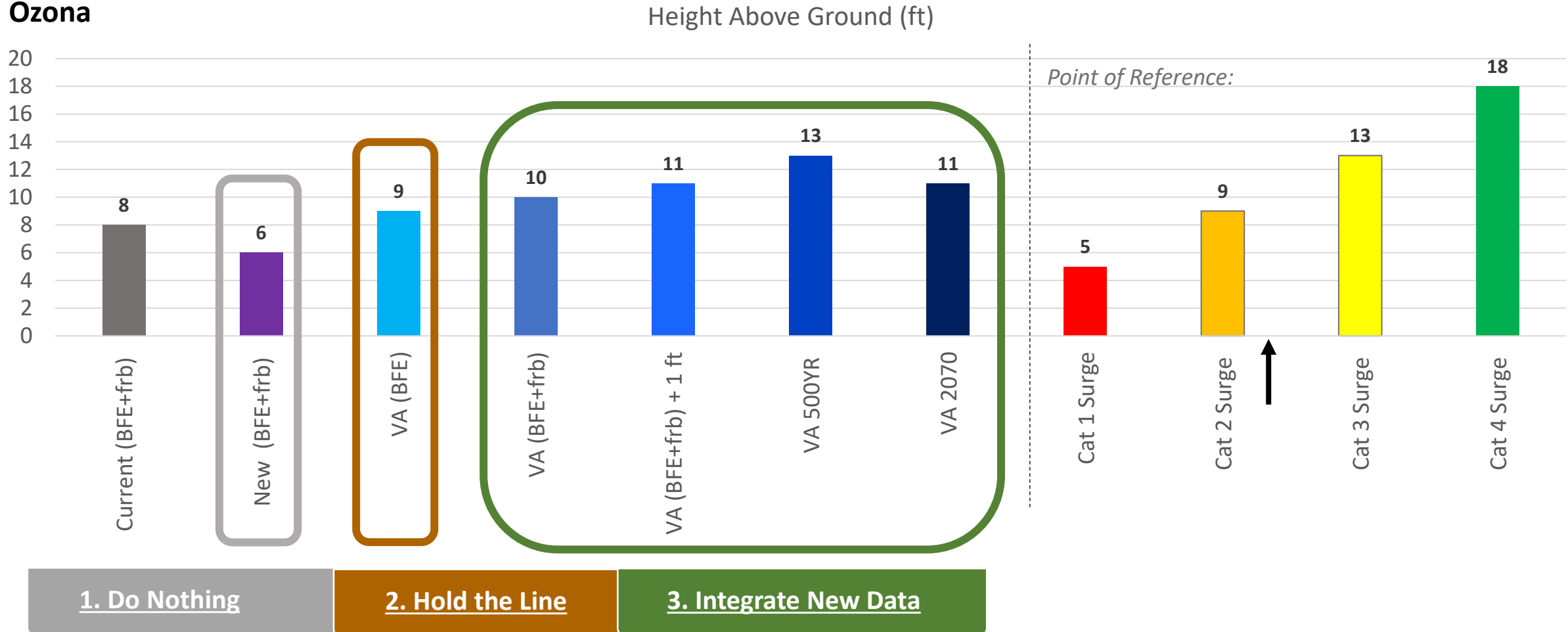


### Change in BFE



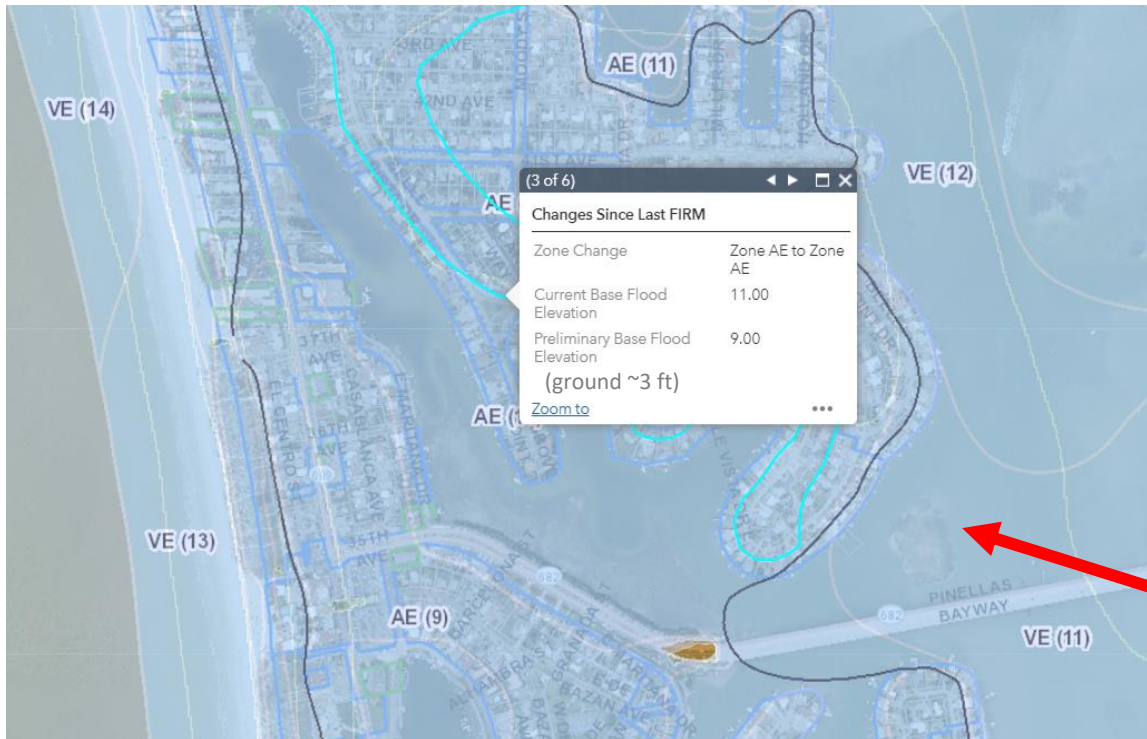
# Flood Insurance Rate Map (FIRM) Update for Pinellas County

## Ozona

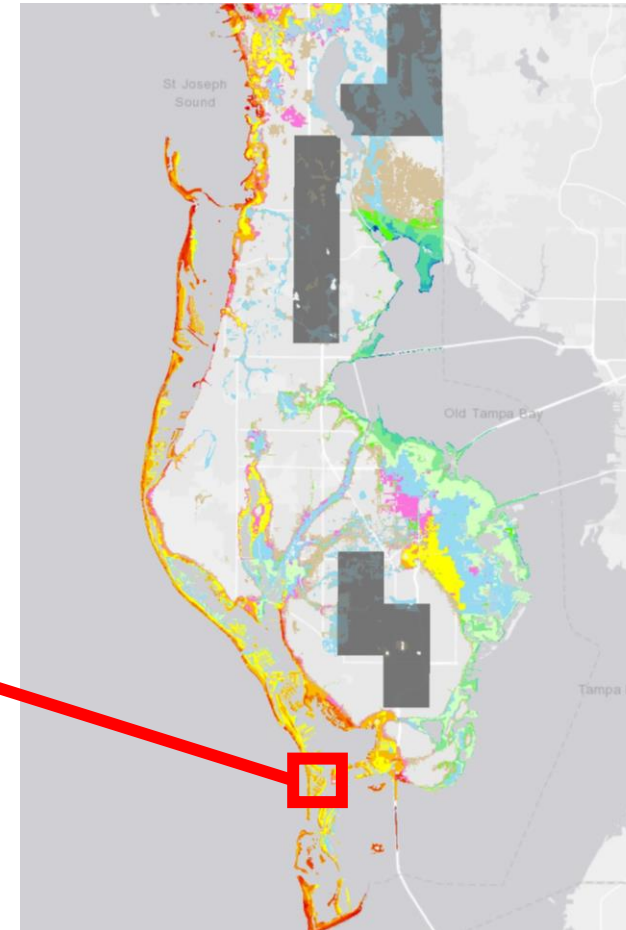


# Flood Insurance Rate Map (FIRM) Update for Pinellas County

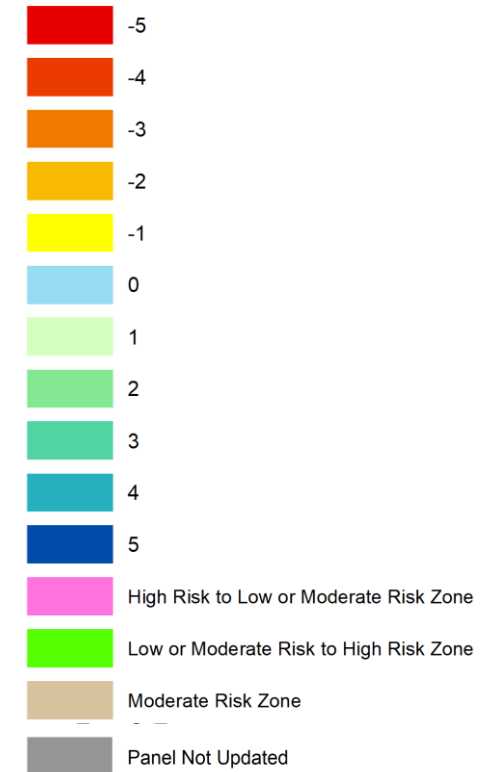
## St Pete Beach: BFE Dropping 2 ft



**BFE 11 to BFE 9 ft; VA 12 ft**  
(Depth ~8 ft going down to ~6 ft)



### Change in BFE



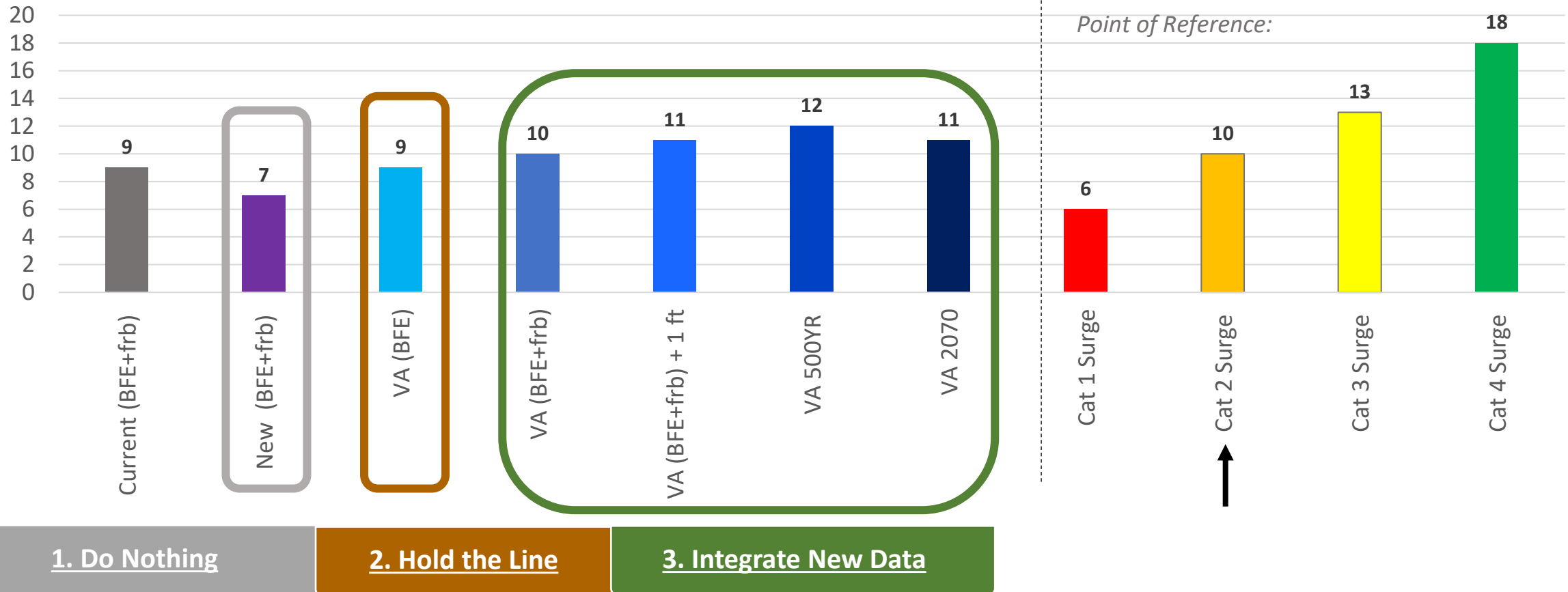


# Flood Insurance Rate Map (FIRM) Update for Pinellas County



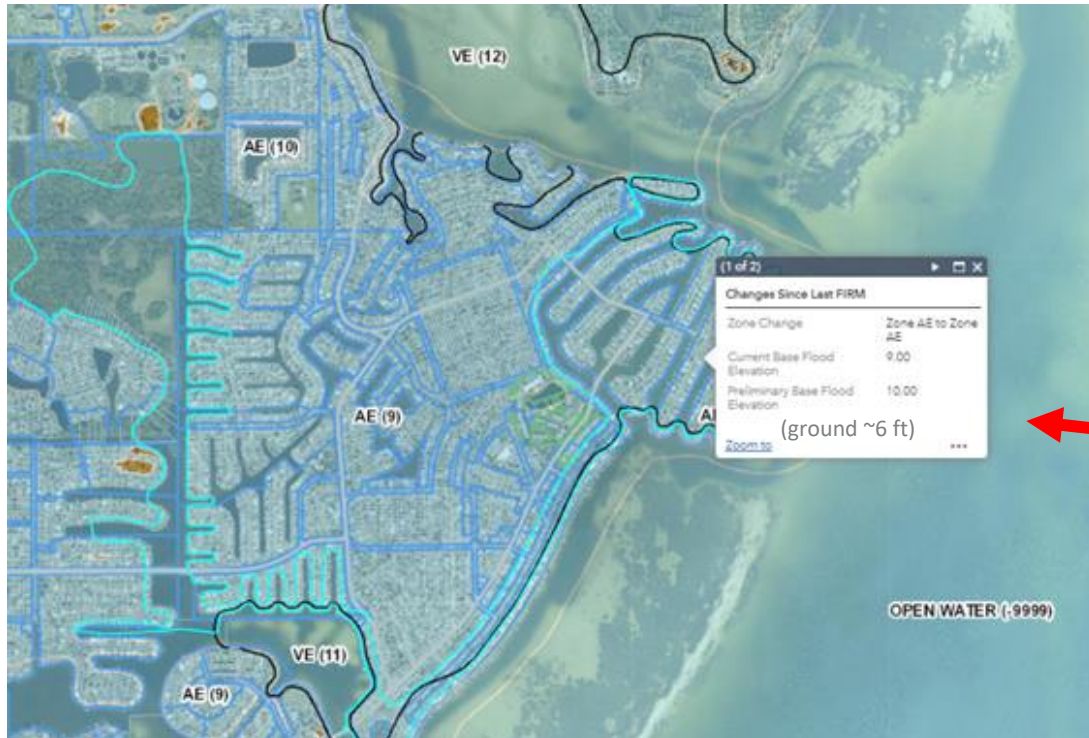
## St Pete Beach

Height Above Ground (ft)

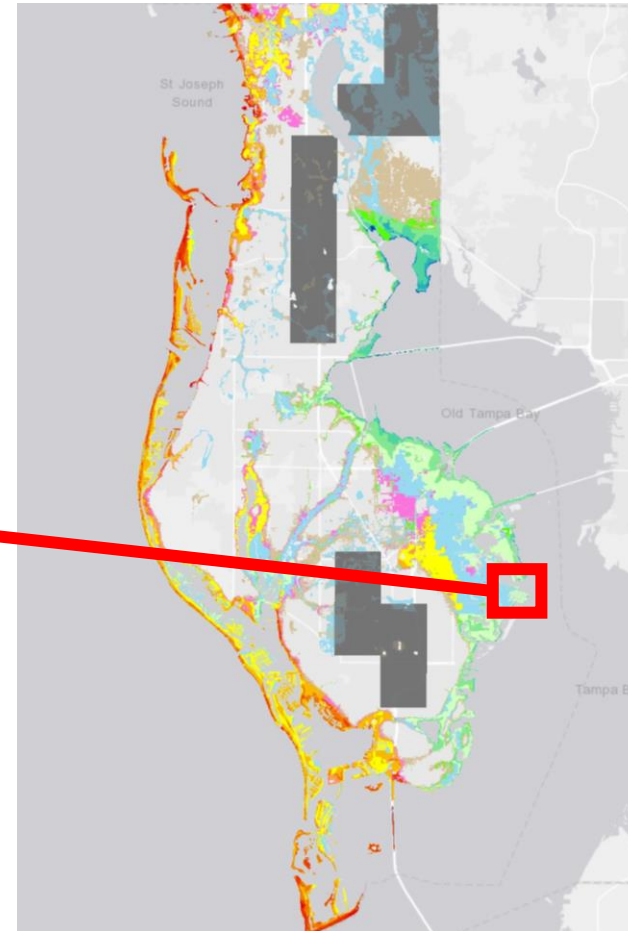


# Flood Insurance Rate Map (FIRM) Update for Pinellas County

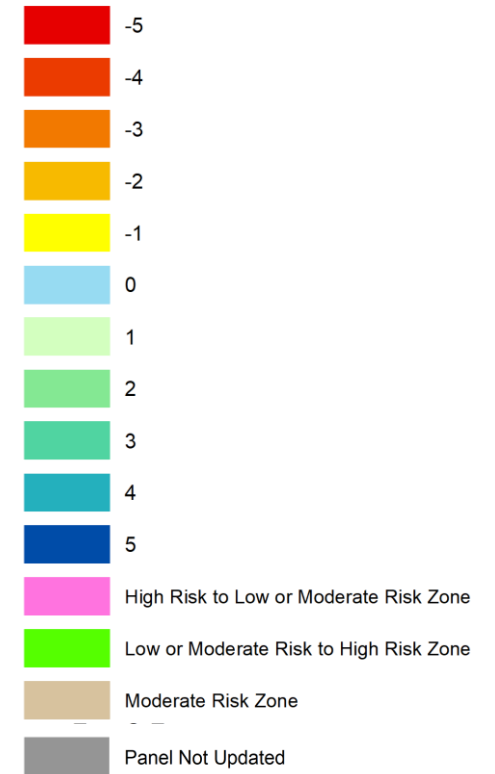
## St Pete: BFE Going Up 1 ft



**BFE 9 to 10 ft; VA 10 ft**  
(Depth ~3 ft going up to ~4 ft)



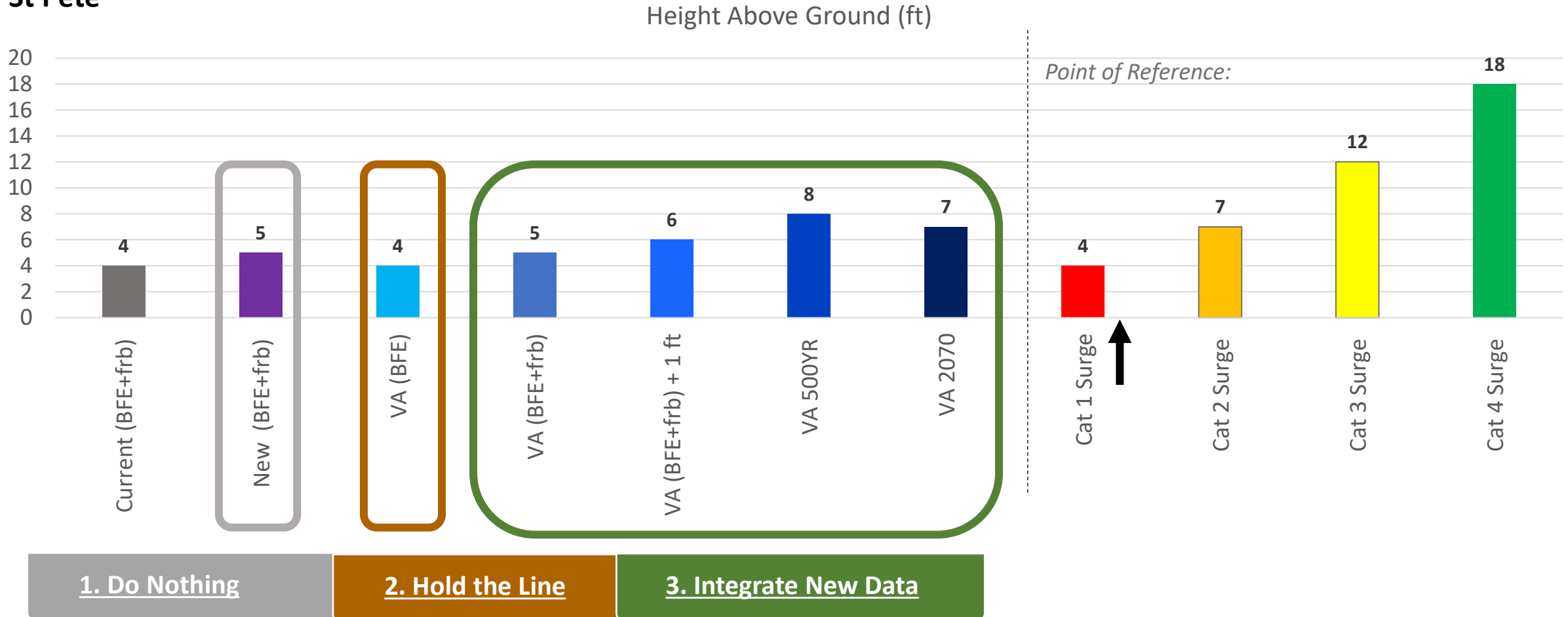
### Change in BFE



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



## St Pete

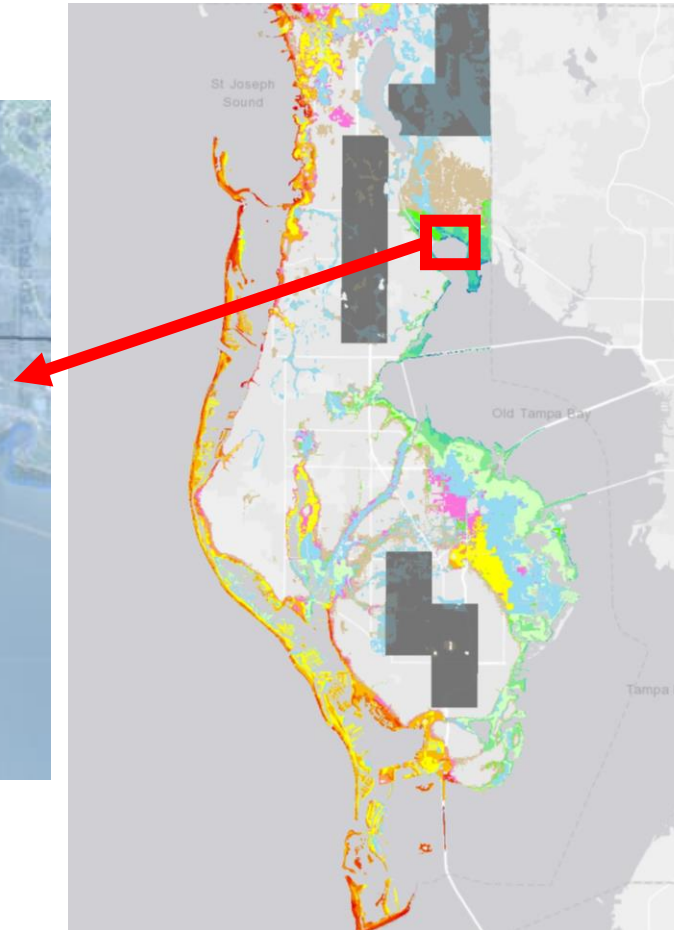


# Flood Insurance Rate Map (FIRM) Update for Pinellas County

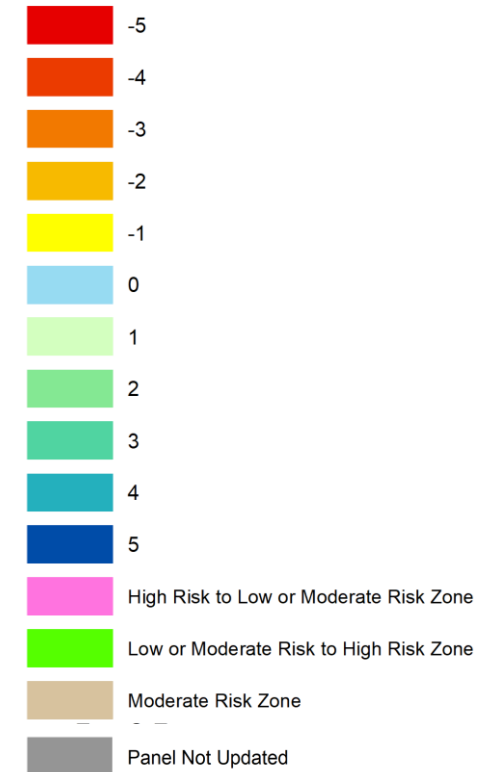
## Oldsmar: BFE Going Up 4 ft



**BFE 9 to 13 ft; VA 11 ft**  
(Depth ~3 ft going up to ~7 ft)



### Change in BFE

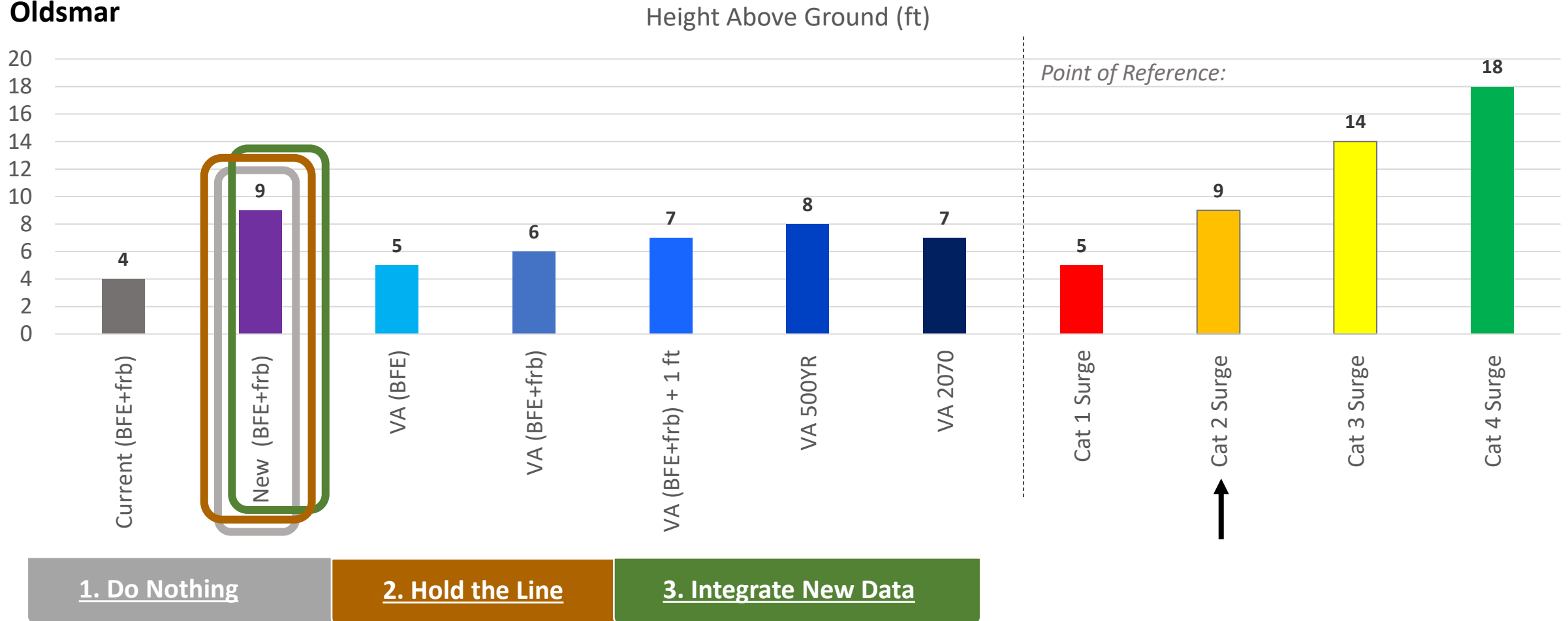




# Flood Insurance Rate Map (FIRM) Update for Pinellas County

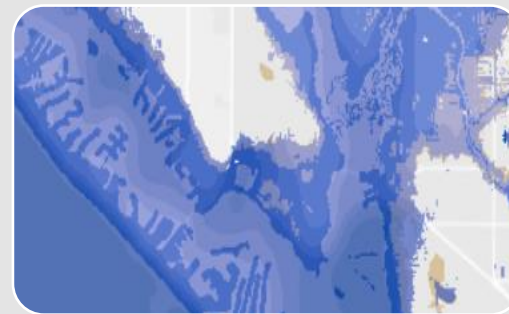
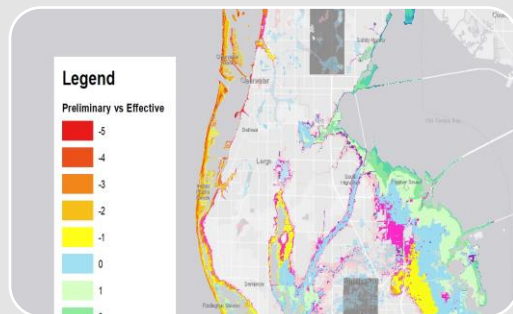


## Oldsmar



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

## Elevation Options



### 1. Do Nothing

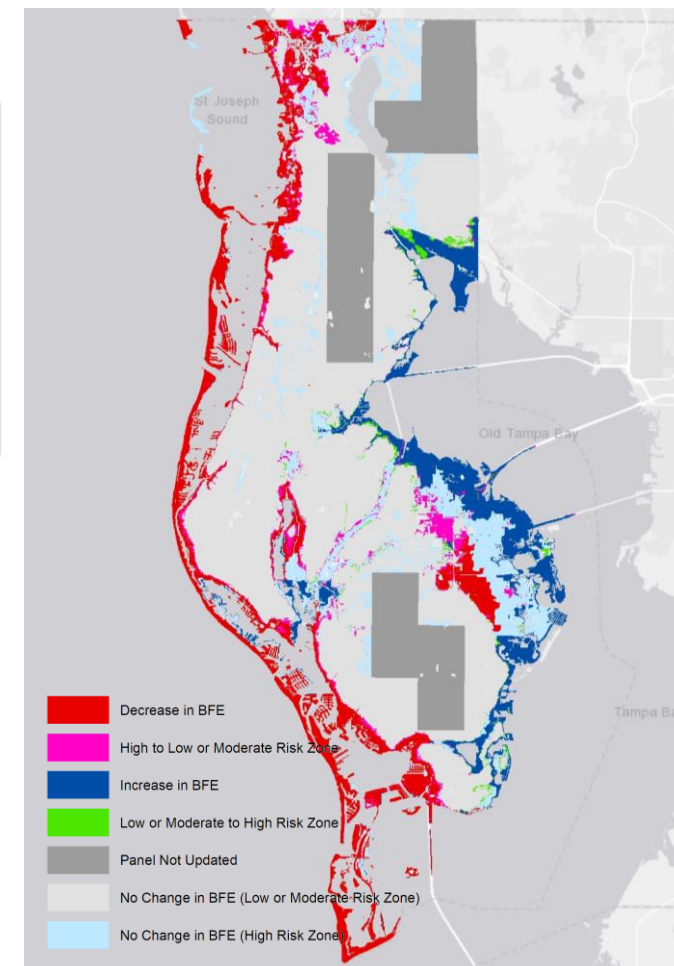
New FIRM +  
Current Freeboard

### 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

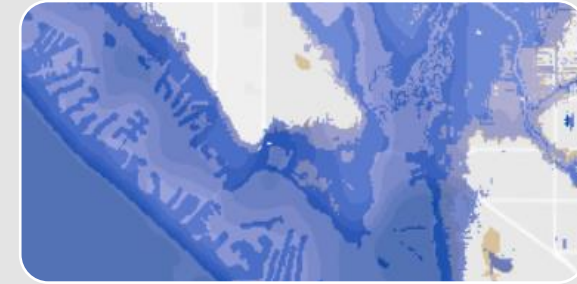
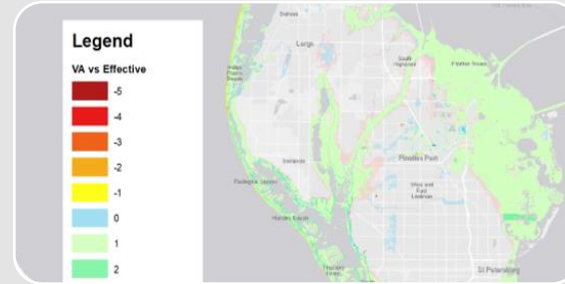
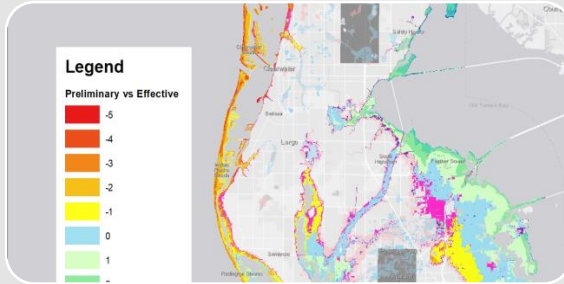
- BFE Higher of New FIRM or Vulnerability Assessment BFE + Current Freeboard or
- VA 2070 100YR or
- VA 2018 500YR



# 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



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

## Next Steps

### Stakeholder Input

- City Managers (5/7)
- DCAG (5/24)

### BOCC Input (TBD)

### Ordinance Updates (TBD)

### FEMA Map Effective 8/24



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



## Questions

