

Evacuation Discussion

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	Evacuation Level A	Evacuation Level B	Evacuation Level C	Evacuation Level D	Evacuation Level E
	Scenario	Scenario	Scenario	Scenario	Scenario
Clearance Time to Shelter					
	13.5	18.5	25.5	50.0	62.0
	13.0	19.0	38.5	45.5	66.5
	11.5	11.5	11.5	11.5	12.0
	13.5	16.0	31.5	39.5	55.5
	13.0	19.0	42.0	48.0	63.0
	13.0	19.5	30.5	40.5	65.5
In-County Clearance Time					
	15.0	26.5	45.0	52.0	70.5
	14.0	19.0	39.0	46.0	68.5
	13.0	13.0	13.0	13.0	13.5
	14.0	16.5	43.5	52.0	66.0
	13.5	23.0	43.5	52.5	66.0
	15.5	27.0	45.0	52.5	69.5
Out of County Clearance Time					
	15.0	26.5	45.0	52.0	70.5
	14.5	19.5	44.5	46.0	69.0
	15.5	24.0	45.0	62.5	89.5
	14.5	24.0	44.5	53.5	71.0
	14.0	23.0	43.5	52.5	66.0
	15.5	27.0	45.0	52.5	69.5
Regional Clearance Time					
	15.5	27.0	45.0	62.5	89.5

Andrew Cat 5
Sandy Cat 1
Charley Cat 4

Ike Cat 2

Katrina Cat 3

NHC Advisory/ NWS Local Statements

Probabilistic Storm Surge

*MEOWs

*MEOWs

*MOMs

*MOMs

TIER 1

RESPONSE

< 48 h of landfall

TIER 2

READINESS

48 h – 120 h of landfall

TIER 3

PLANNING/MITIGATION

> 120 h of landfall



10,00ft
125 250 375 500
Distance Scale (Statute Miles)
500 850

Storm Surge Inundation (SLOSH Maximum of Maximums)

This web map displays a seamless national map of near worst case storm surge flooding (inundation) scenarios using the National Weather Service (NWS) SLOSH model maximum categories at a high tide

Category 1

Category 2

Category 3

Category 4

Category 5

Category 5 Storm Surge Inundation (SLOSH Maximum of Maximums)

With this education and awareness tool, anyone living in hurricane-prone coastal areas along the U.S. East and Gulf Coasts can now evaluate their own unique risk to storm surge. This map makes it clear that storm surge is not just a beachfront problem, with the risk of storm surge extending several miles from the immediate coastline in some areas. "You don't have to think very hard about it, just look at your location on the national map to find out if you are in an area at risk for storm surge from a future tropical storm or hurricane", said Brian Zachry, Ph.D., NHC storm surge specialist.

What should individuals do if they discover that they live in an area vulnerable to storm surge? "You should find out today if you live in a hurricane storm surge

LEGEND

Category 5 (SLOSH MOMs) Storm Surge Inundation

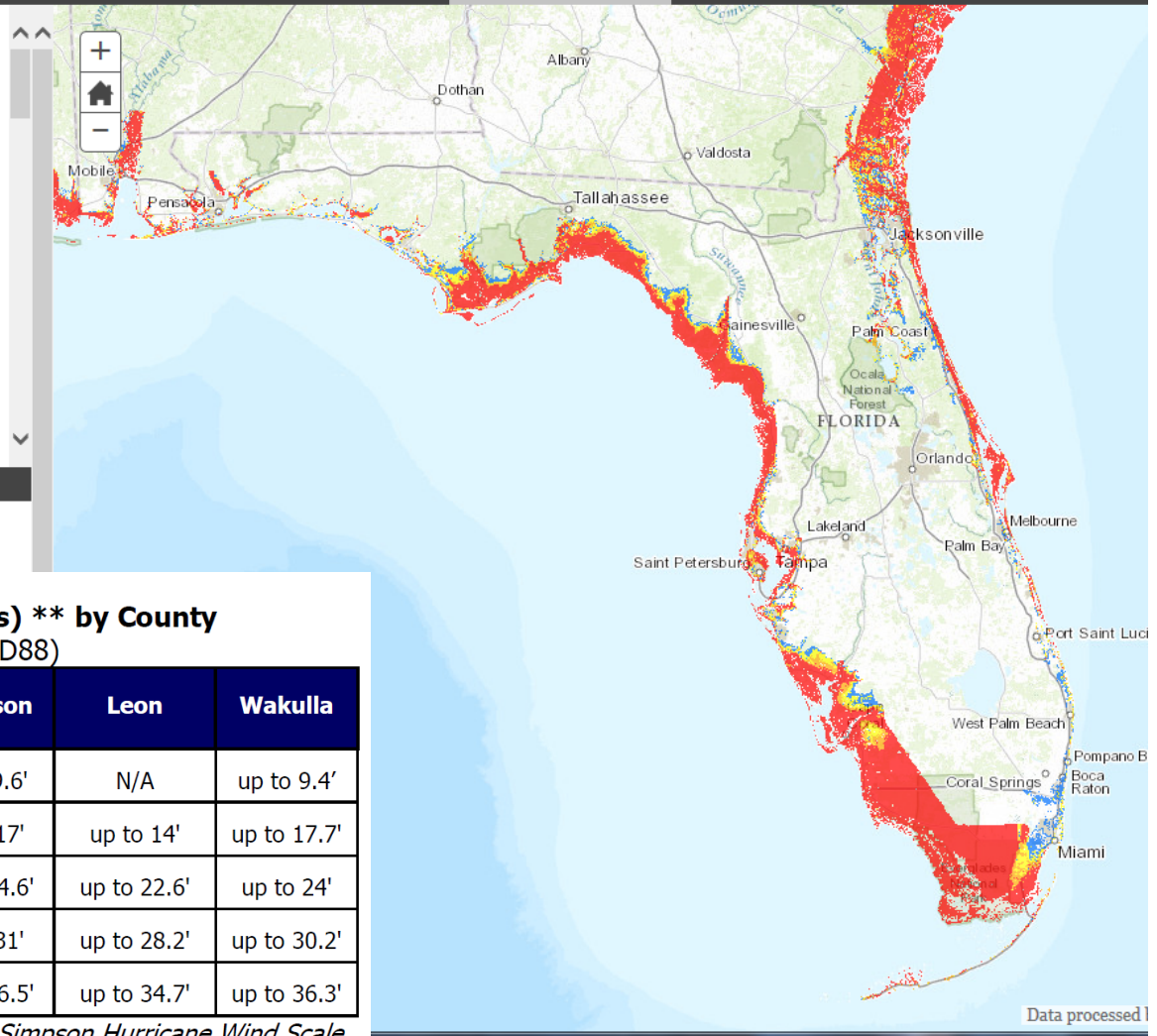


Table 3

Potential Storm Tide Height(s) ** by County (In Feet above NAVD88)

*Storm Strength	Franklin	Gulf	Jefferson	Leon	Wakulla
Category 1	up to 7.7'	up to 5'	up to 9.6'	N/A	up to 9.4'
Category 2	up to 13.6'	up to 10.6'	up to 17'	up to 14'	up to 17.7'
Category 3	up to 19'	up to 15.7'	up to 24.6'	up to 22.6'	up to 24'
Category 4	up to 23.7'	up to 23.5'	up to 31'	up to 28.2'	up to 30.2'
Category 5	up to 28.5'	up to 27'	up to 36.5'	up to 34.7'	up to 36.3'

*Based on the category of storm on the Saffir-Simpson Hurricane Wind Scale

** Surge heights represent the maximum values from SLOSH MOMs

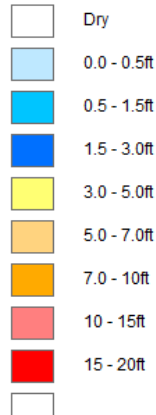
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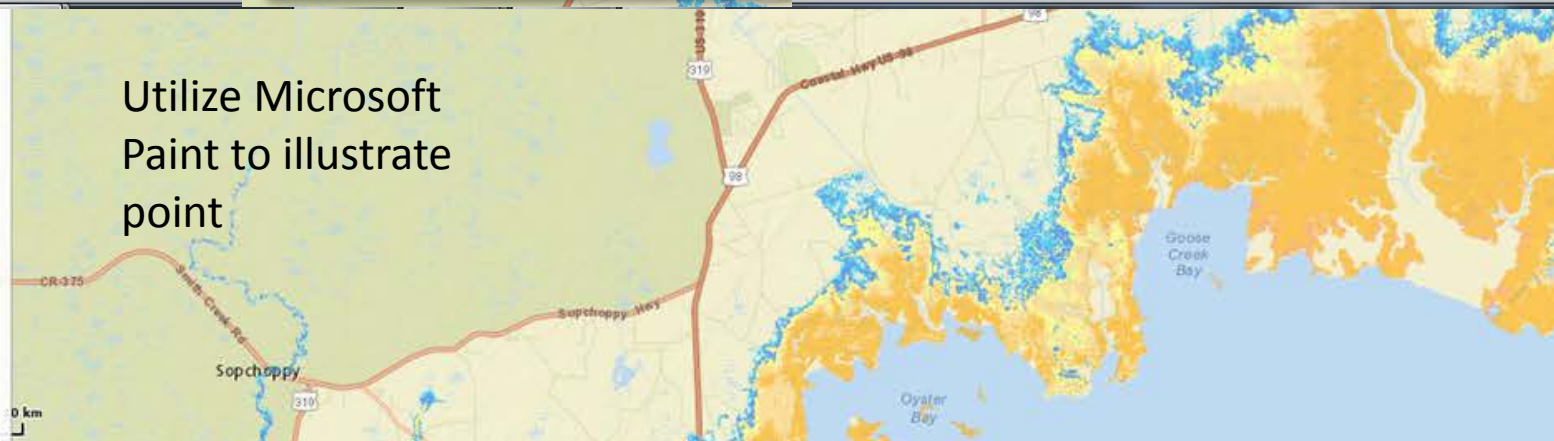
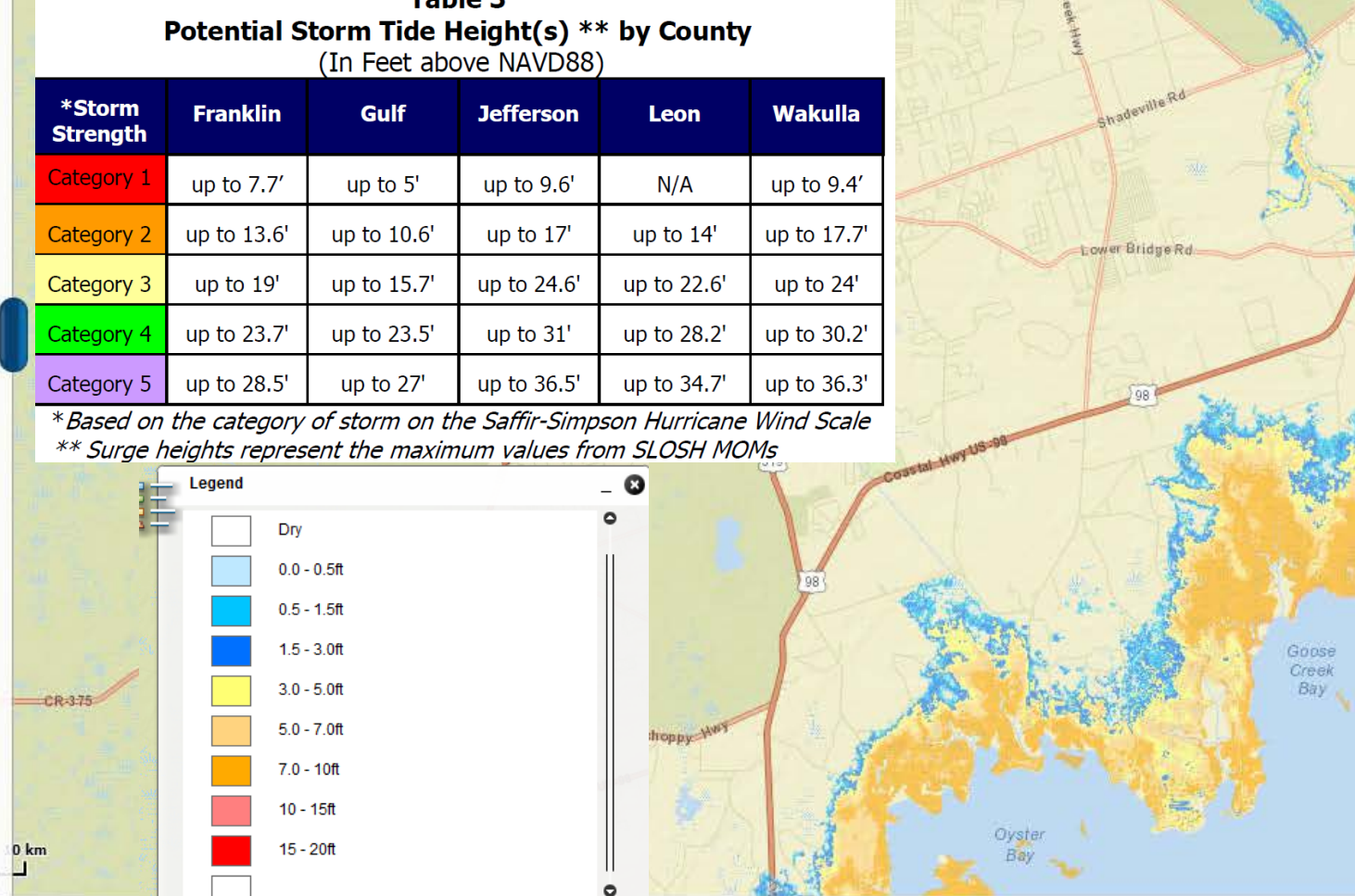
Legend



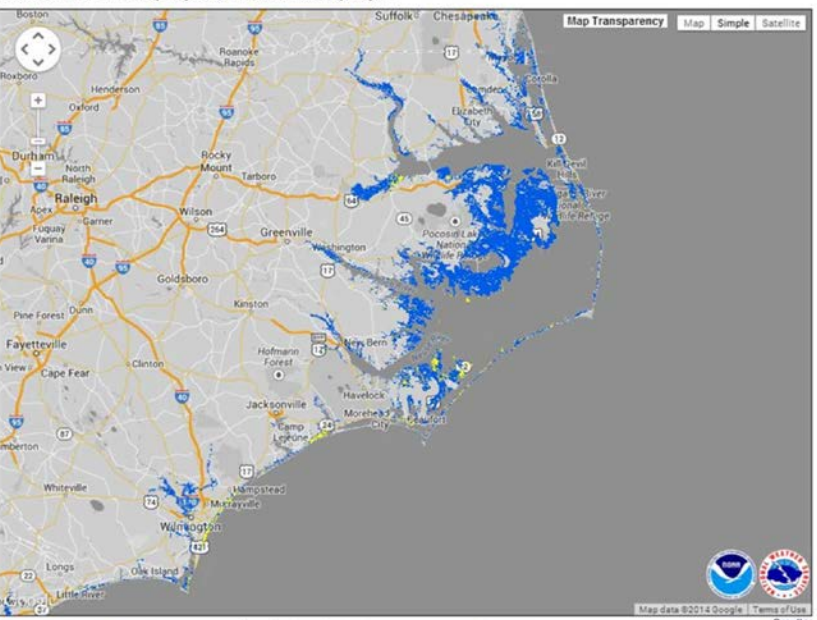
Utilize Microsoft Paint to illustrate point

- ☐ NOAA NowCoast 24hr Precipitation
- ☐ NOAA NowCoast 48hr Precipitation
- ☐ NOAA NowCoast 72hr Precipitation
- ☐ NOAA NowCoast GOES Visible Satellite C
- ▶ ☐ Designated Evacuation Routes
- ▶ ☐ US National Grid
- ▶ ☐ Parcels
- ▶ ☐ Cartographic Counties
- ☐ County Status Indicators
- ▶ ☐ County Emergency Manager Contacts
- ☐ Social Vulnerability Index
- ▶ ☐ Demographics
- ▶ ☐ Flood Zones
- ▶ ☐ Evacuation Zones
- ▶ ☐ Storm Surge Zones
- ▼ ☒ Storm Surge Depth
 - ☒ Category 1
 - ☐ Category 2
 - ☐ Category 3
 - ☐ Category 4
 - ☐ Category 5
- ▶ ☐ Nearshore and Offshore Bathymetry

- ☐ Demographics
- ☐ Flood Zones
- ☐ Evacuation Zones
- ☐ Storm Surge Zones
- ▼ ☒ Storm Surge Depth
 - ☒ Up to 9.4 Feet
 - ☐ Up to 17.7 Feet
 - ☐ Up to 24 Feet
 - ☐ Up to 30.2 Feet
 - ☐ Up to 36.3 Feet
- ▶ ☐ Nearshore and Offshore Bathymetry



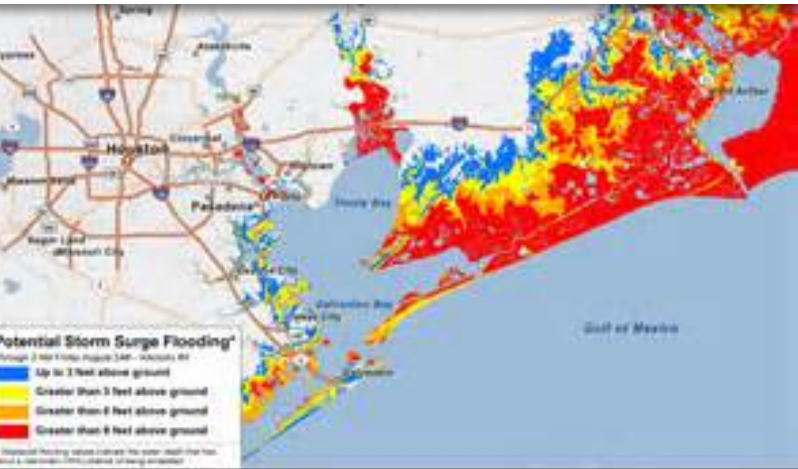
NHC Experimental Potential Storm Surge Flooding Map
Hurricane ARTHUR (2014) Advisory 10
From 05 AM EDT Thursday July 03 to 10 AM EDT Sunday July 06



Potential Storm Surge Flooding*

- Up to 3 feet above ground
- Greater than 3 feet above ground
- Greater than 6 feet above ground
- Greater than 9 feet above ground

*Displayed flooding values indicate the water depth that has about a 1-in-10 (10%) chance of being exceeded.
Experimental Potential Storm Surge Inundation GIS datasets will not be disseminated during the 2014 Atlantic Hurricane Season.



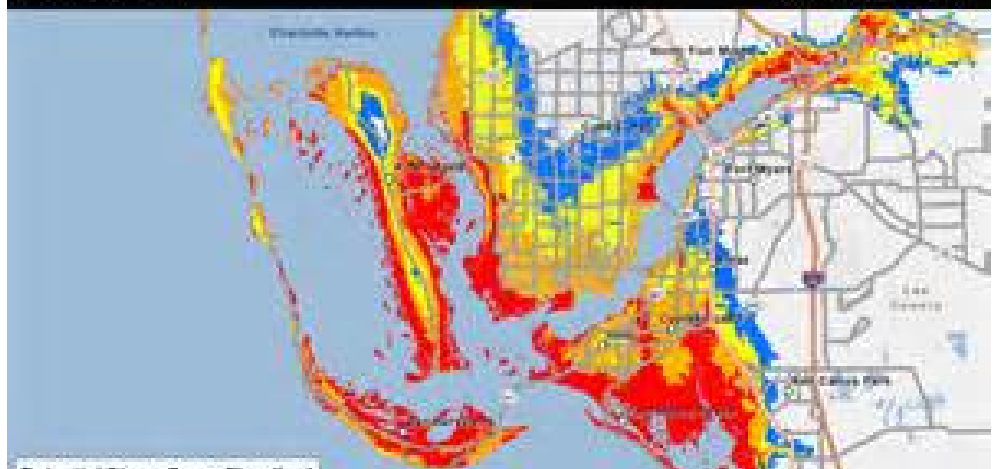
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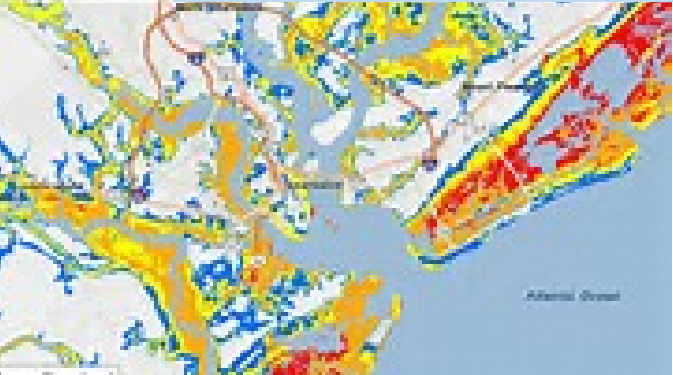
Hurricane X



Potential Storm Surge Flooding*

- Up to 3 feet above ground
- Greater than 3 feet above ground
- Greater than 6 feet above ground
- Greater than 9 feet above ground

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Potential Storm Surge Flooding*

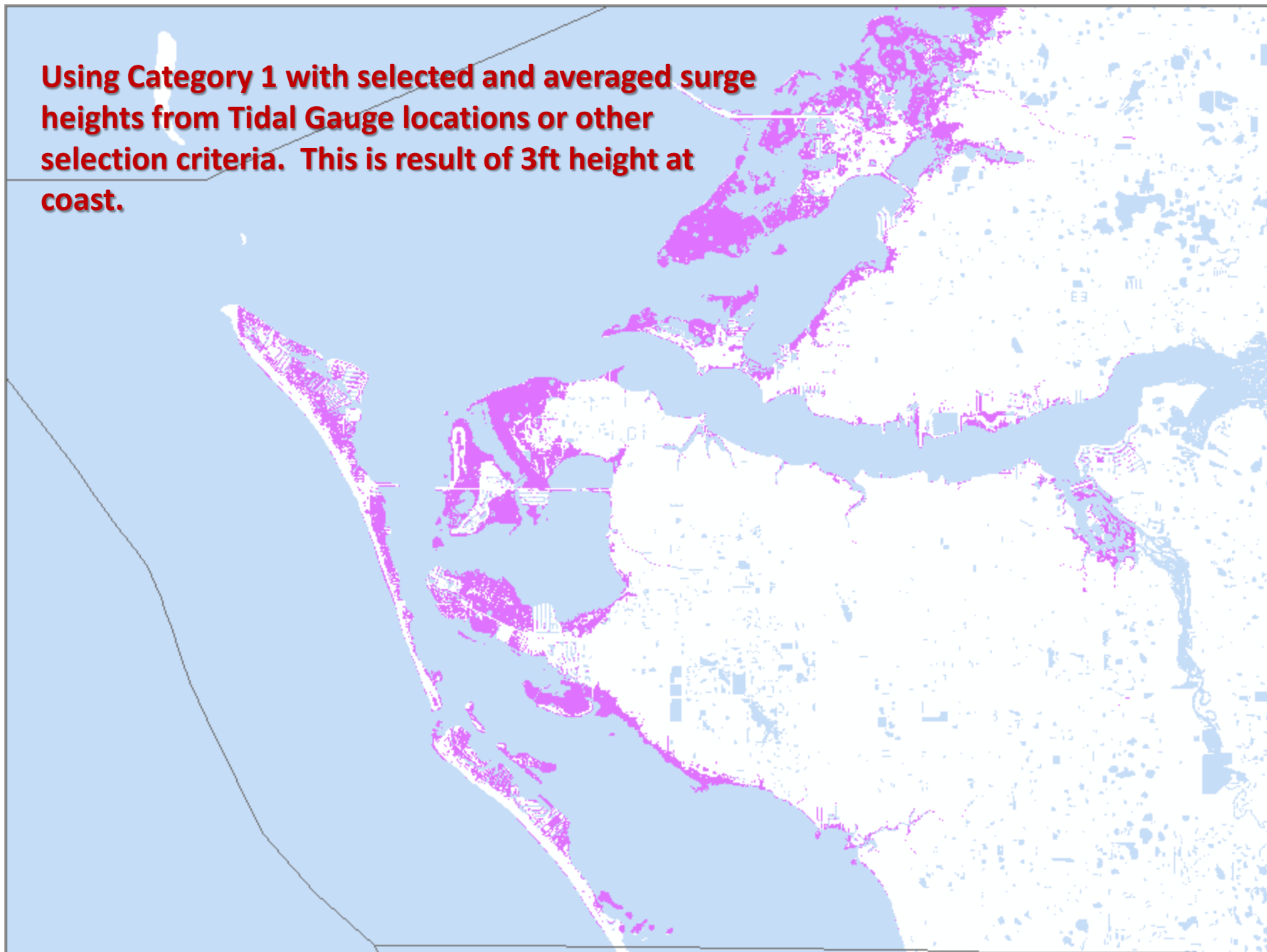
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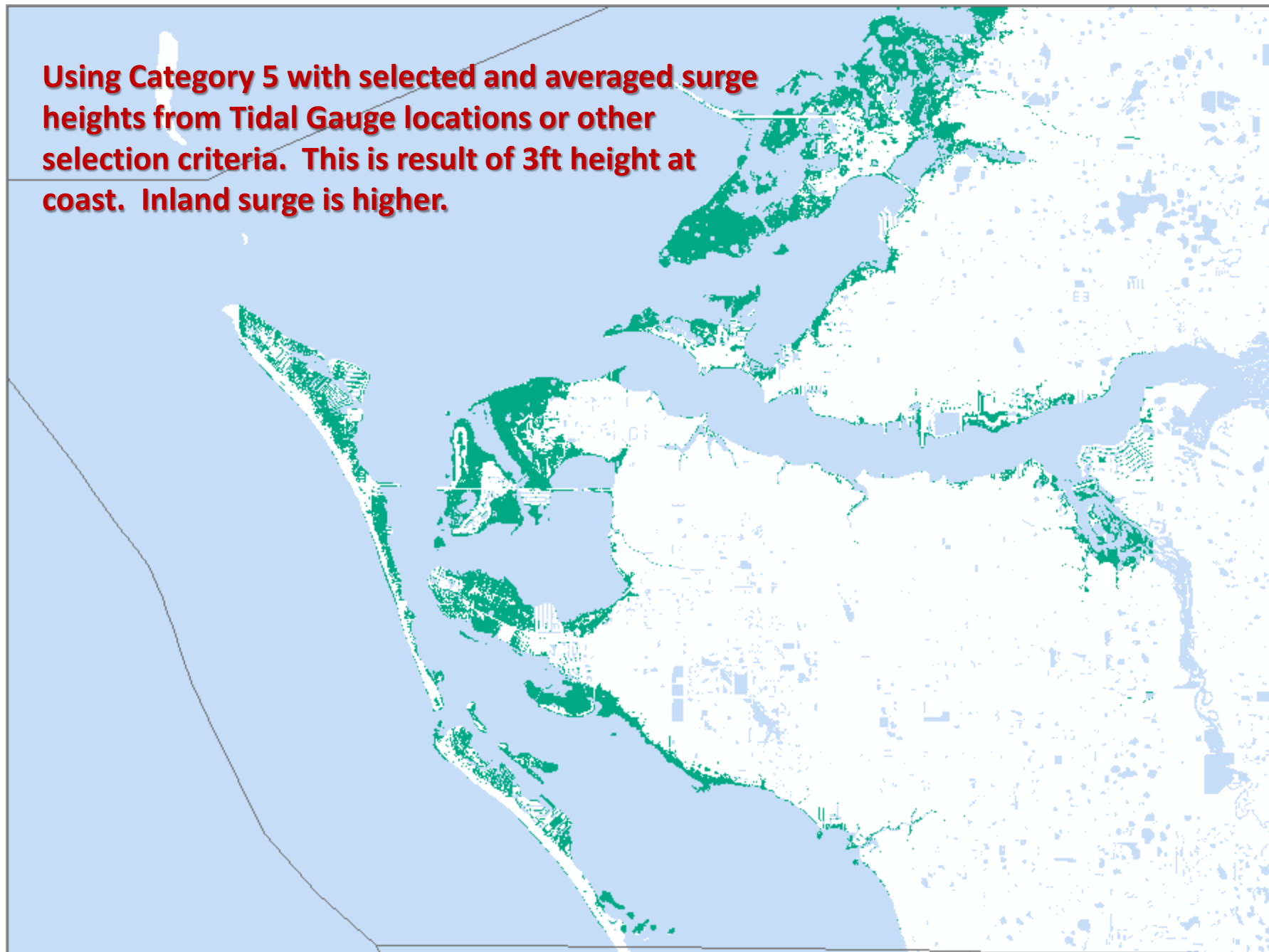
Proposal

- Storm Surge Depth Maps in similar to the NHC Storm Surge Flooding Graphic.
 - 3ft, 6ft, 9ft, 12ft, 15ft, 20ft, highest storm surge estimate up to 42ft where applicable.
 - Smaller increments below 3 feet.
 - Would line up with a depth levels of the NHC Storm Surge Flooding Graphic.
- Still have all storm scenarios from SLOSH, but not in MOM or Cluster MEOWS.
- 7 maps at most instead of 15-25.

Using Category 1 with selected and averaged surge heights from Tidal Gauge locations or other selection criteria. This is result of 3ft height at coast.



Using Category 5 with selected and averaged surge heights from Tidal Gauge locations or other selection criteria. This is result of 3ft height at coast. Inland surge is higher.



Cat 5 3ft Map would be 3ft Maximum Map for Manatee under this methodology

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Category 3	up to 19'	up to 15.7'	up to 24.6'	up to 22.6'	up to 24'
Category 4	up to 23.7'	up to 23.5'	up to 31'	up to 28.2'	up to 30.2'
Category 5	up to 28.5'	up to 27'	up to 36.5'	up to 34.7'	up to 36.3'

* Based on the category of storm on the Saffir-Simpson Hurricane Wind Scale

** Surge heights represent the maximum values from SLOSH MOMs

• Example: Gulf County

- 3ft Map
- 6 Ft Map
- 9 Ft Map
- 12 Ft Map
- 15 Ft Map
- 20 Ft Map
- 27 Ft Map

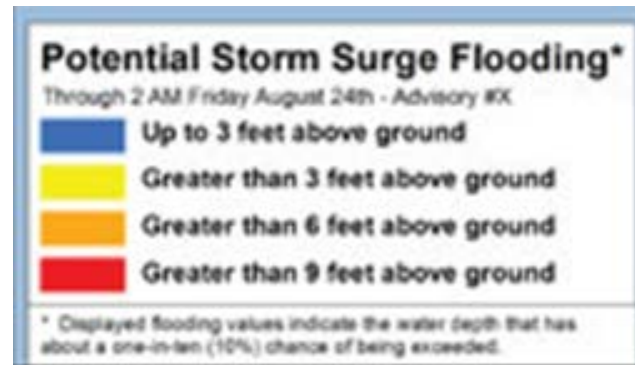


Table 3 Potential Storm Tide Height (s) by County

(In Feet above NAVD88)

*Storm Strength	Palm Beach (Coast)	Palm Beach (Lake)	Martin (Coast)	Martin (Lake)	St. Lucie	Indian River
Category 1	Up to 4'	Up to 24'	Up to 4'	Up to 26'	Up to 5'	Up to 4'
Category 2	Up to 6'	Up to 28'	Up to 6'	Up to 27'	Up to 7'	Up to 7'
Category 3	Up to 8'	Up to 32'	Up to 10'	Up to 30'	Up to 10'	Up to 11'
Category 4	Up to 12'	Up to 36'	Up to 13'	Up to 31'	Up to 14'	Up to 14'
Category 5	Up to 14'	Up to 38'	Up to 16'	Up to 32'	Up to 16'	Up to 18'



- Example: Palm Beach County
 - 3ft Map
 - 6 Ft Map
 - 9 Ft Map
 - 12 Ft Map
 - 14 Ft Map



Maximum Storm Surge Flooding

- We will make this only if at least 12-15 counties ask for it!!!!
- For those affected by new Superbasin, will receive a new Volume 7 Storm Tide Height and 9 Storm Tide Depth Atlas
- Will send out an email with this information.

TIME Software 2015

- A true user manual
 - (details installation, use and troubleshooting)
- Enhanced Interface
 - Shelter Rate Override
 - Improved Summary Reports
 - Evacuation Zone Check box- allows for phasing evacuations zones within a county .
 - Directional Evacuation Selection

Installation and Tutorial of TIME

Table II-1. Minimum Hardware Requirements

CPU Processor	Single-Core (i.e. Intel Pentium 4); or
	Hyperthreading/Multi-Core (i.e. Intel Core 2 Duo, Xeons, i3, i5, i7)
CPU Speed	Single-Core - Minimum 2.8 GHz; or
	Hyperthreading/Multi-Core - Minimum 2.2 GHz
RAM	4 GB or above
Disk Space	Hard Drive Minimum: 150 GB (7200 RPM) ¹
Video/Graphics Adapter	64 MB RAM minimum, 256 MB RAM or higher recommended for separate graphics cards. Onboard chipsets by makers such as NVIDIA, ATI and INTEL should work as well.

- No ARCGIS software on machine.
- Need Administrative Privileges to install software.
- Environmental Variables set to C:\Temp
 - May be different to prevent Kryptolocker virus.

Installation and Tutorial

- I will come to your EOC to personally install and walk you or staff through software.
 - Laptop user meet at EOCs where being installed on larger machine?
- Coordinate with Regional Coordinators and RPCs to determine best dates/times.
- Not a course. No PowerPoints....just using the TIME software.