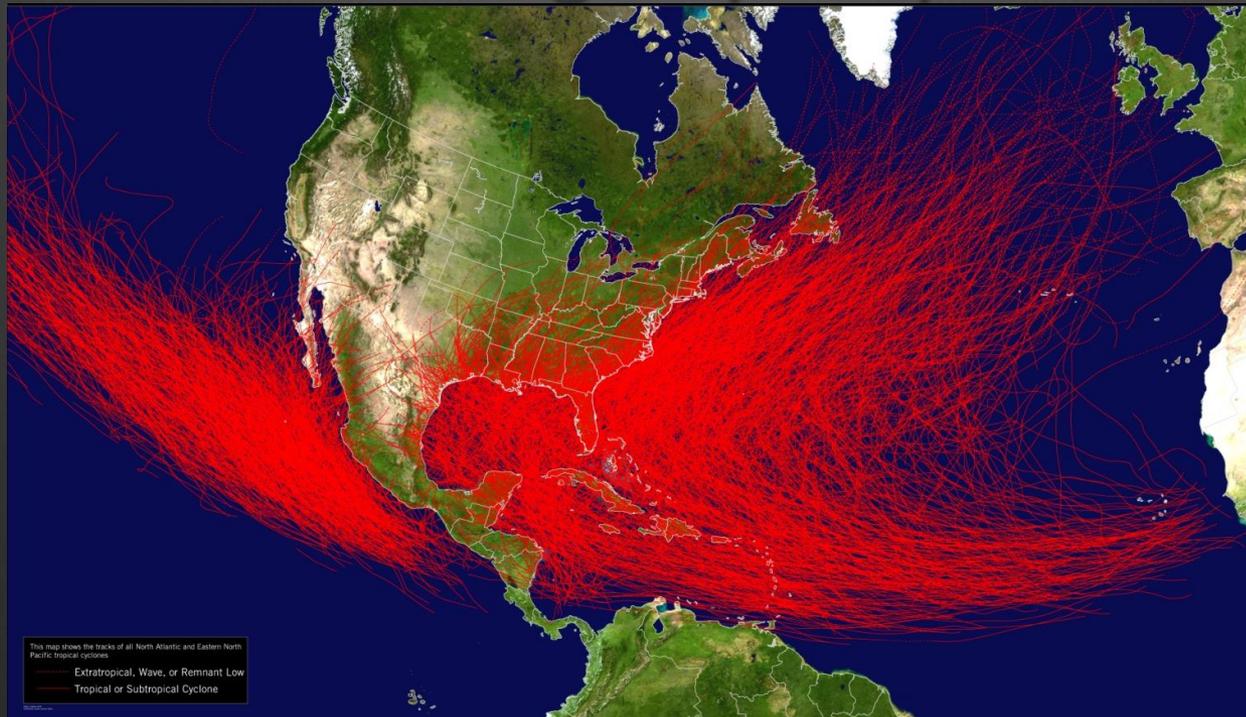


After Sandy – Who's next?

Meteorologist perspective

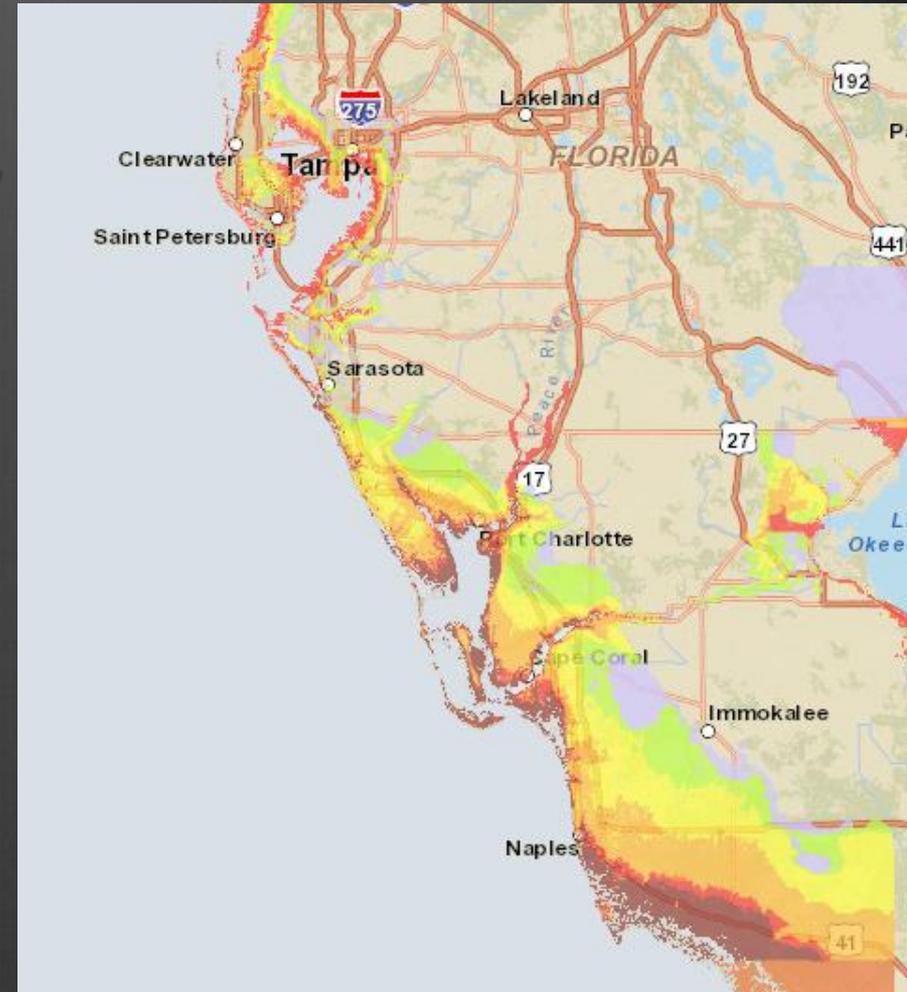


Bill Read

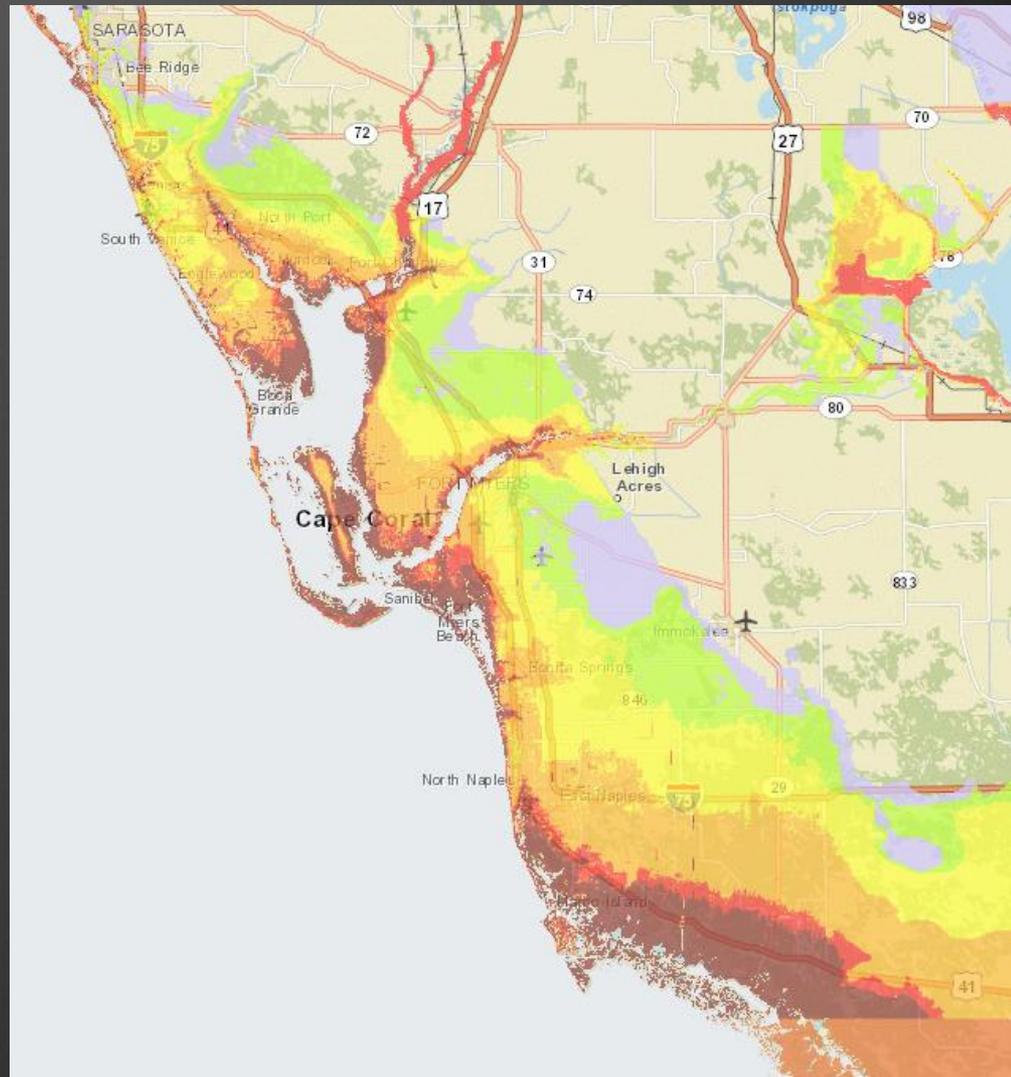
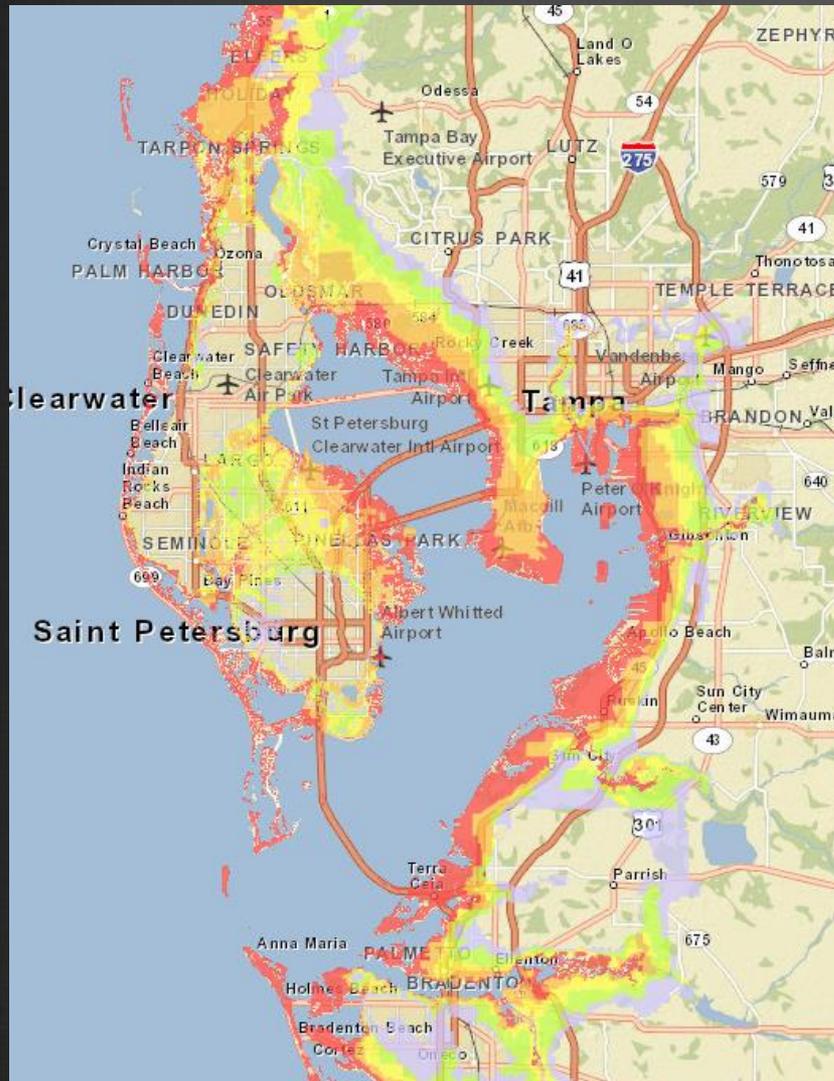
KPRC Houston Hurricane Expert
Former Director National Hurricane Center

West Coast FL

- 2010 4.4 million forecast to grow to 6.3 million 2040
- Highest percentage of retirees of any coastal region
- Lack of evacuation routes
- Very vulnerable to storm surge
- Generations since big surge event

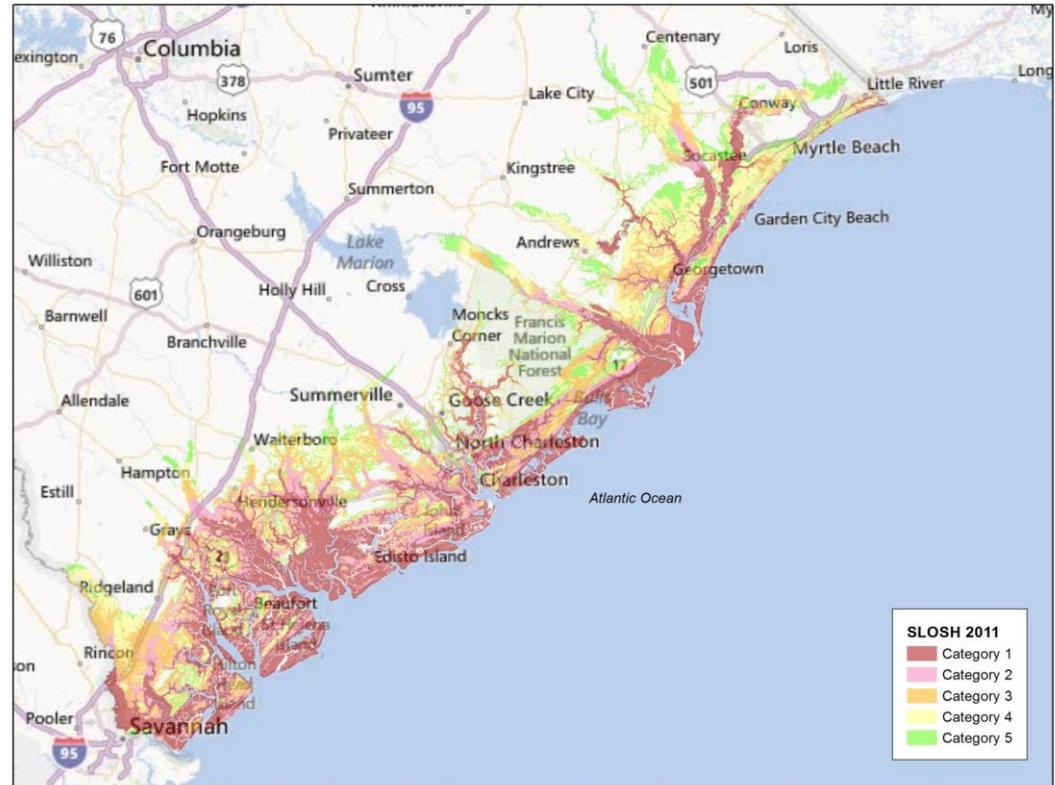


SW Florida Evacuation Zones



Savannah-Charleston

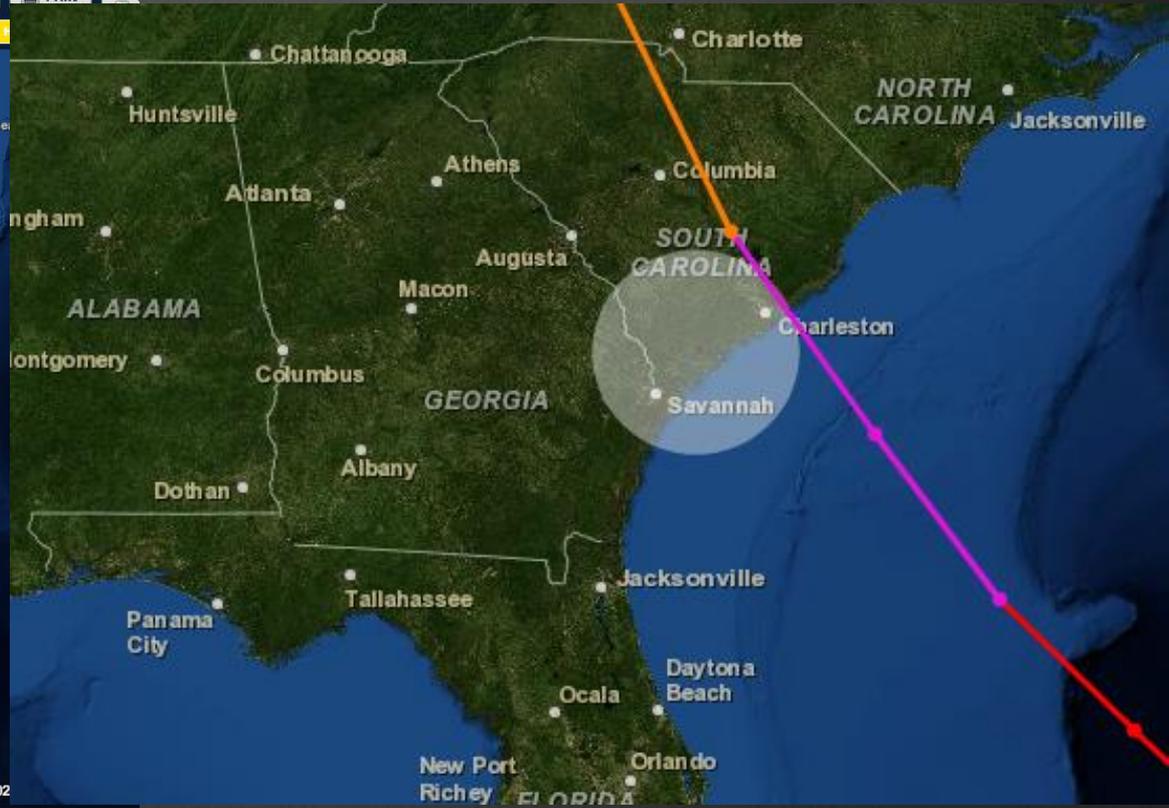
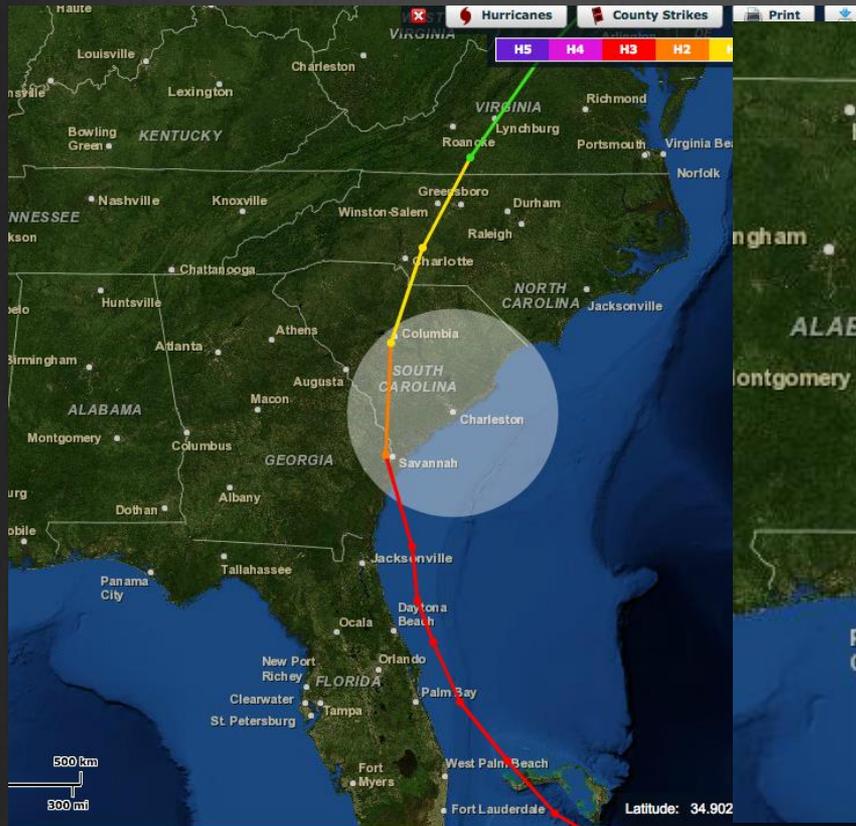
- ⦿ There's a good reason they call it the "Low Country" - vulnerable to high storm surge
- ⦿ 750,000 in 2010 projected to 1.1 million 2040
- ⦿ Fastest growing demographic is retirees



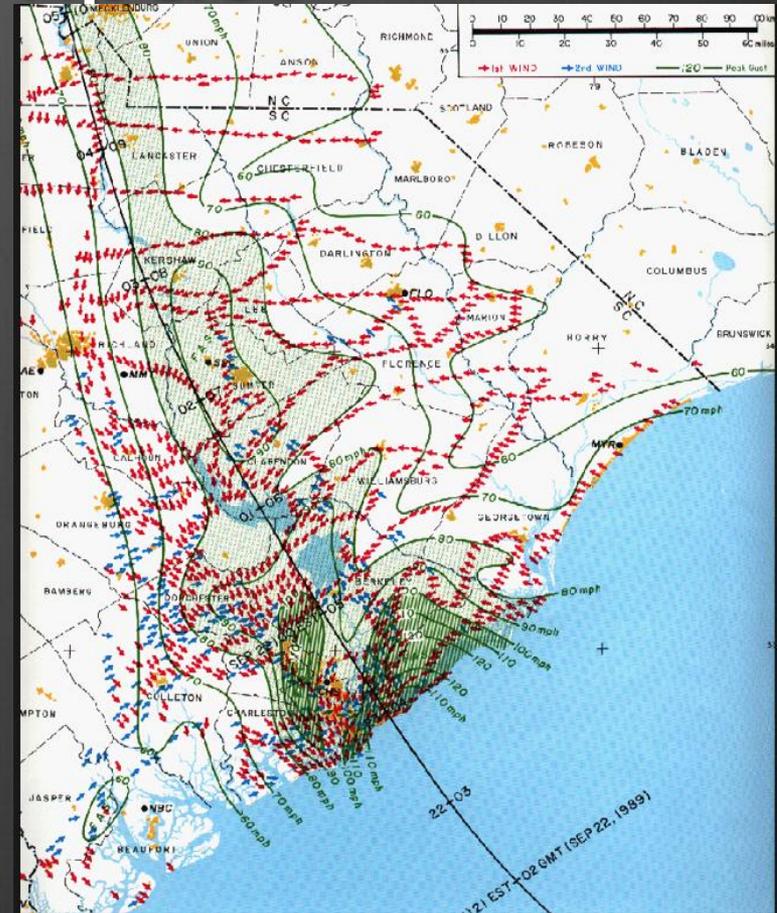
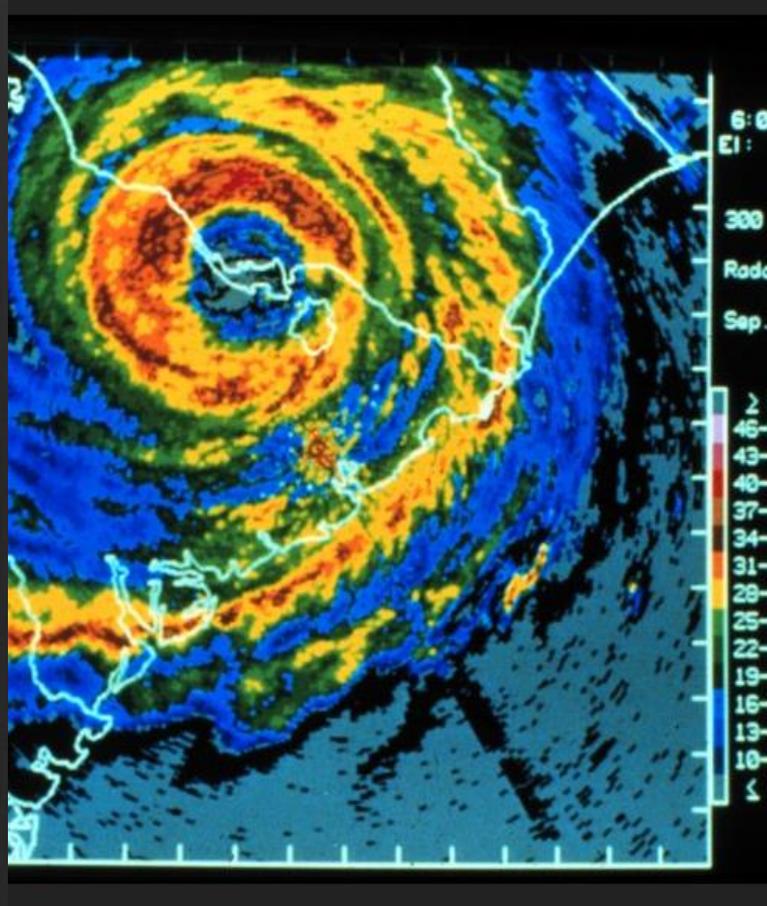
Big events

🎬 Sea Islands Hurricane 1893

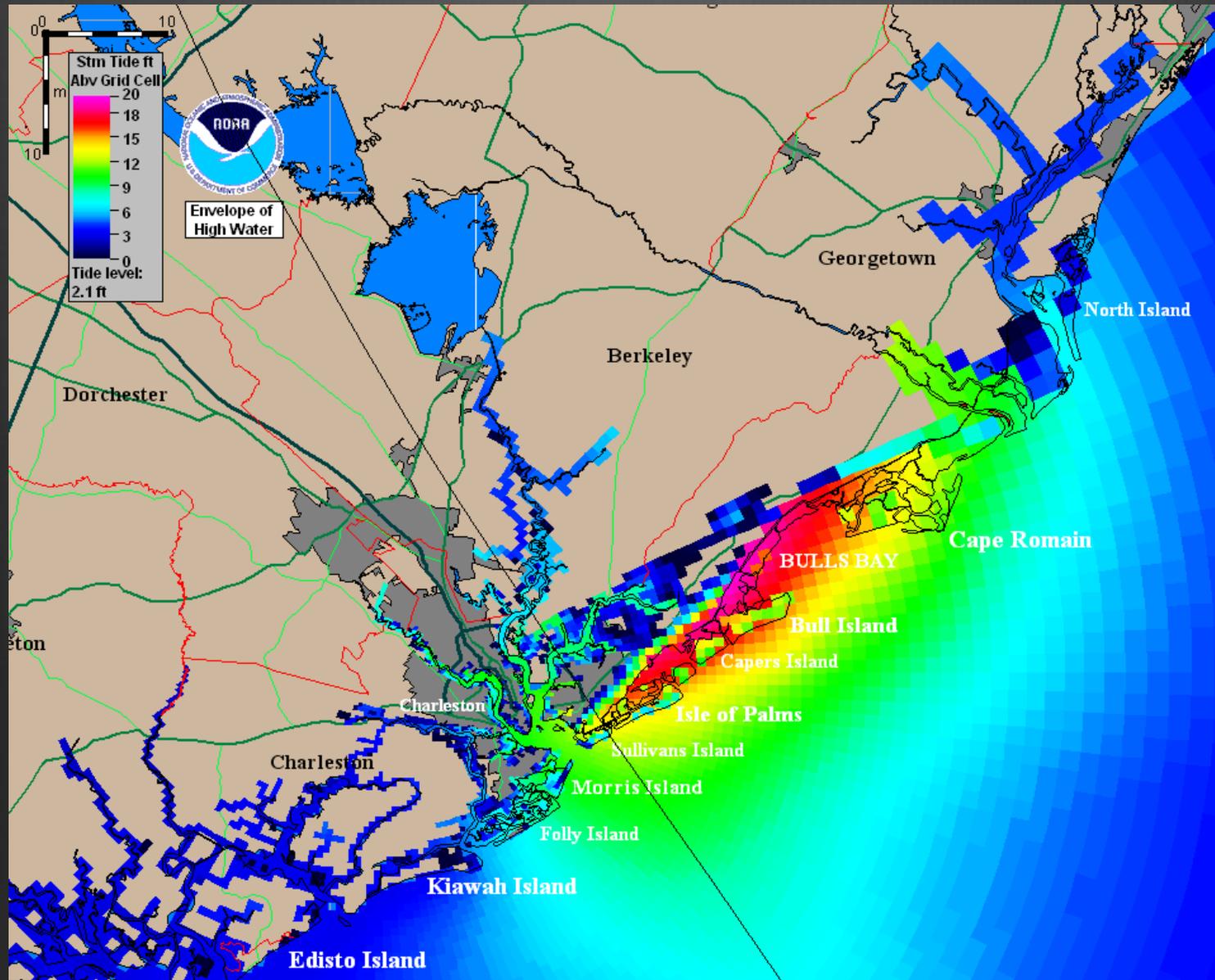
🎬 Hugo 1989



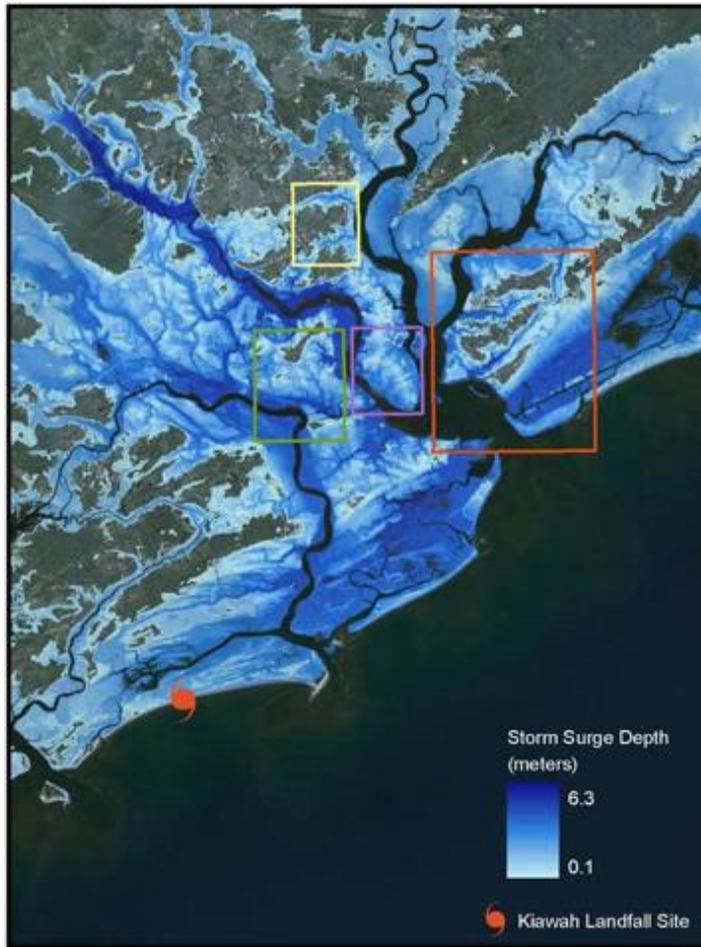
Large eye wall and fast movement lead to significant inland impact



Hugo storm surge



Storm Surge Depth If Hugo Made Landfall at Kiawah Island...



Charleston Peninsula



West Ashley



Park Circle

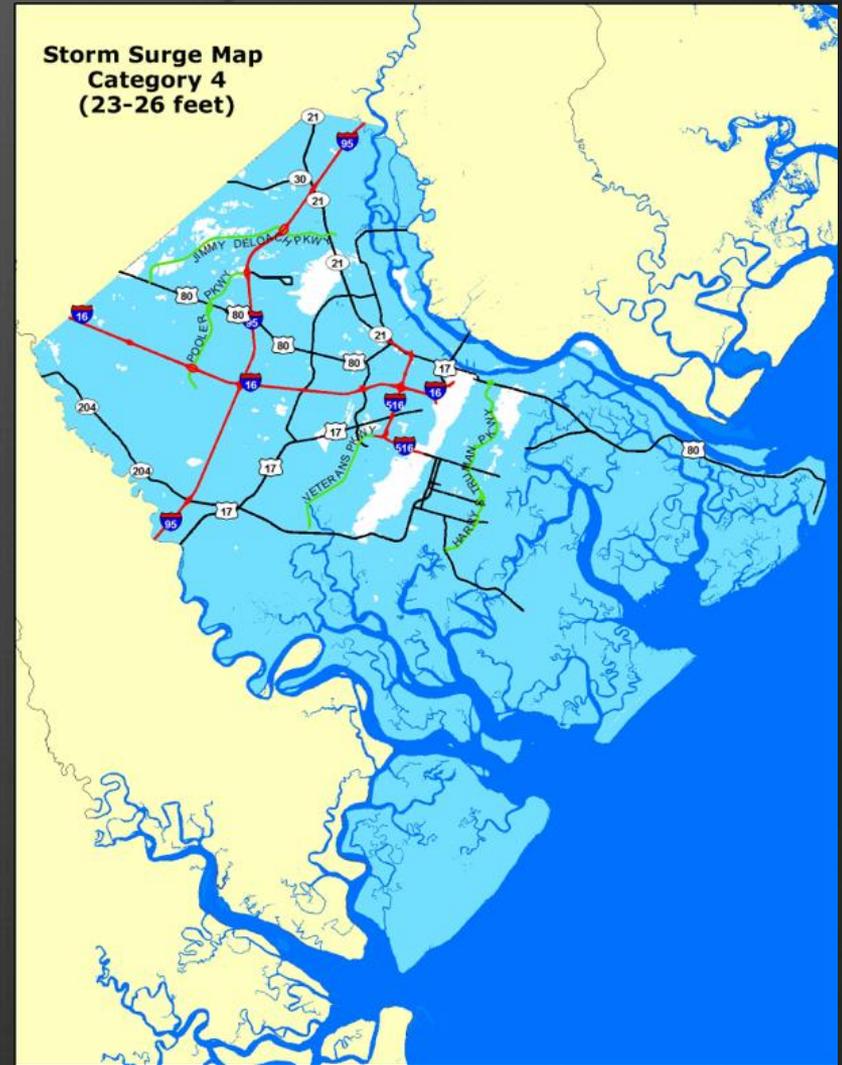


Mount Pleasant



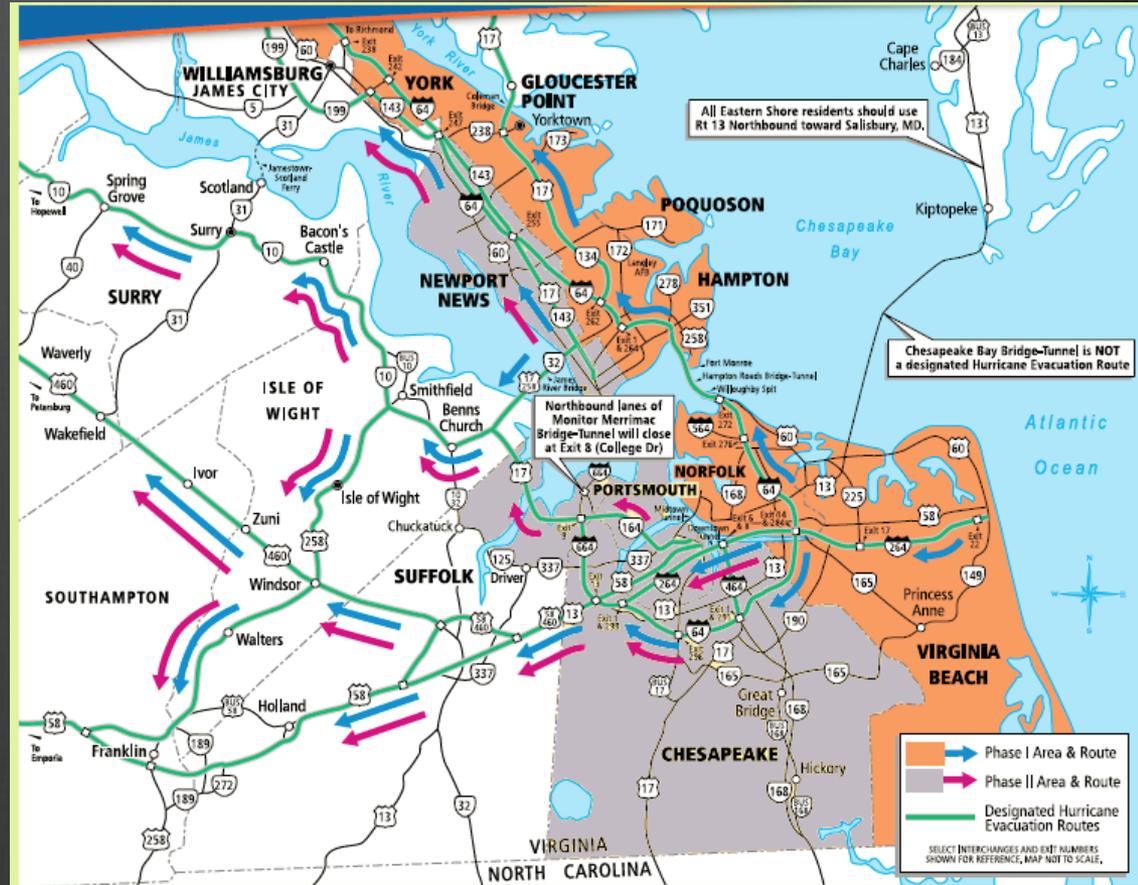
Source: RENCI at East Carolina University

Chatham County (Savannah)



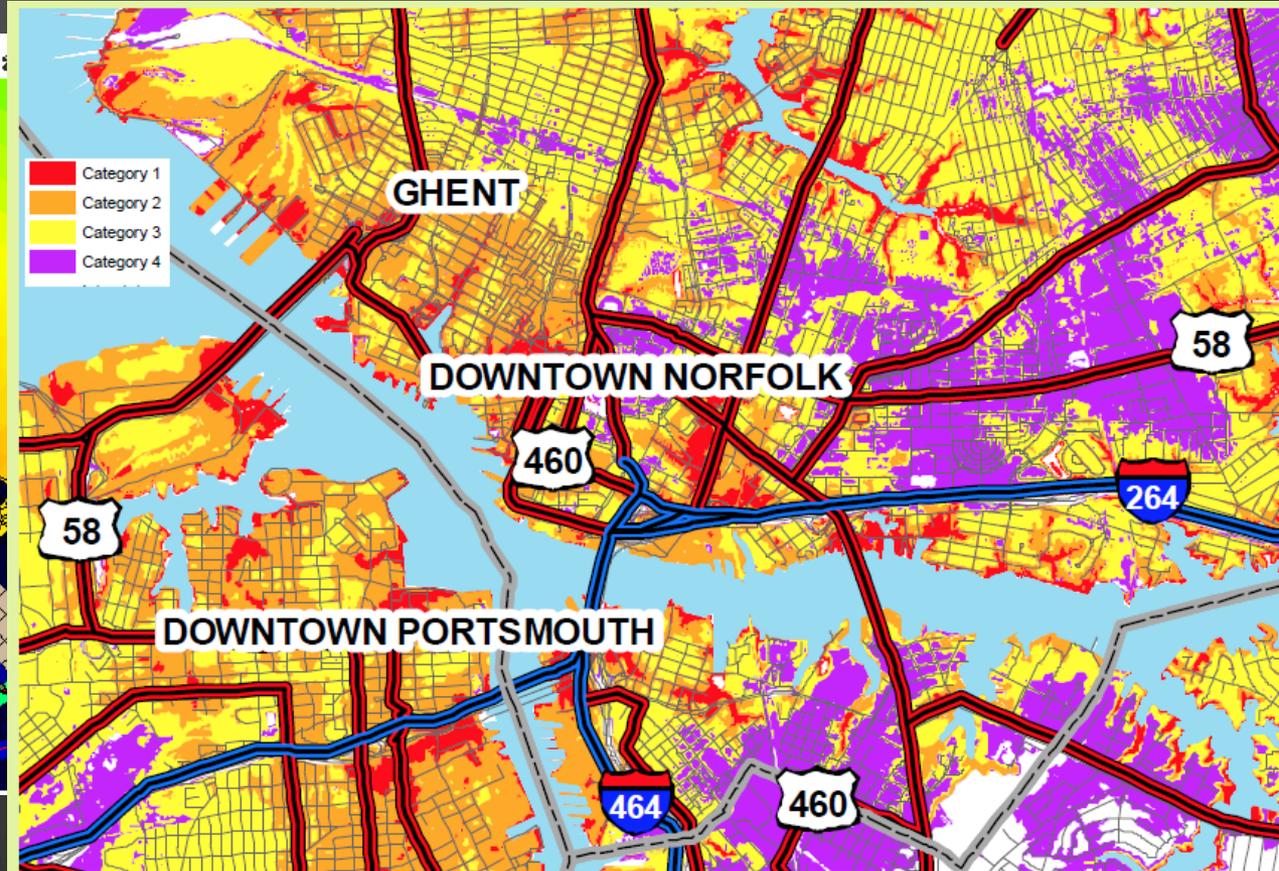
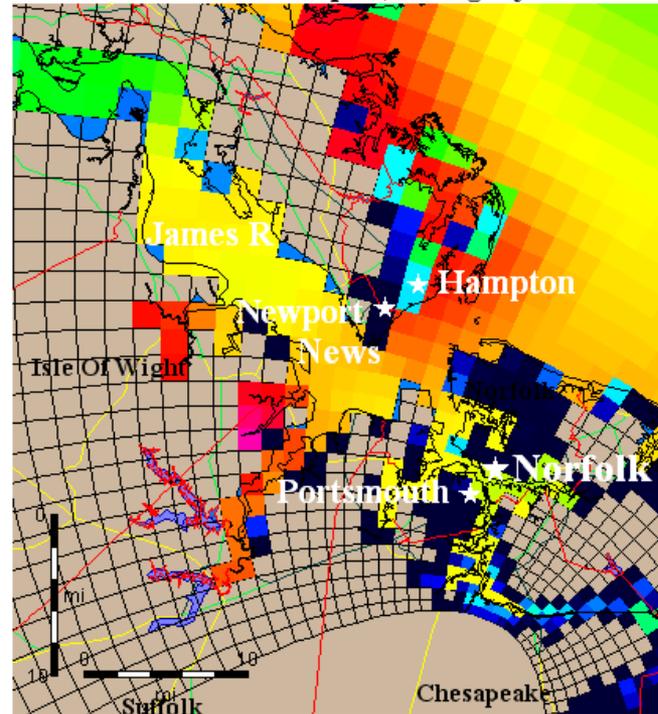
Virginia Tidewater

- More than ½ the 1.7 million people at risk of surge
- Difficult evacuation scenario
- “Big One” 1667 and 1749
- Close calls 1933 and Isabel, 2003



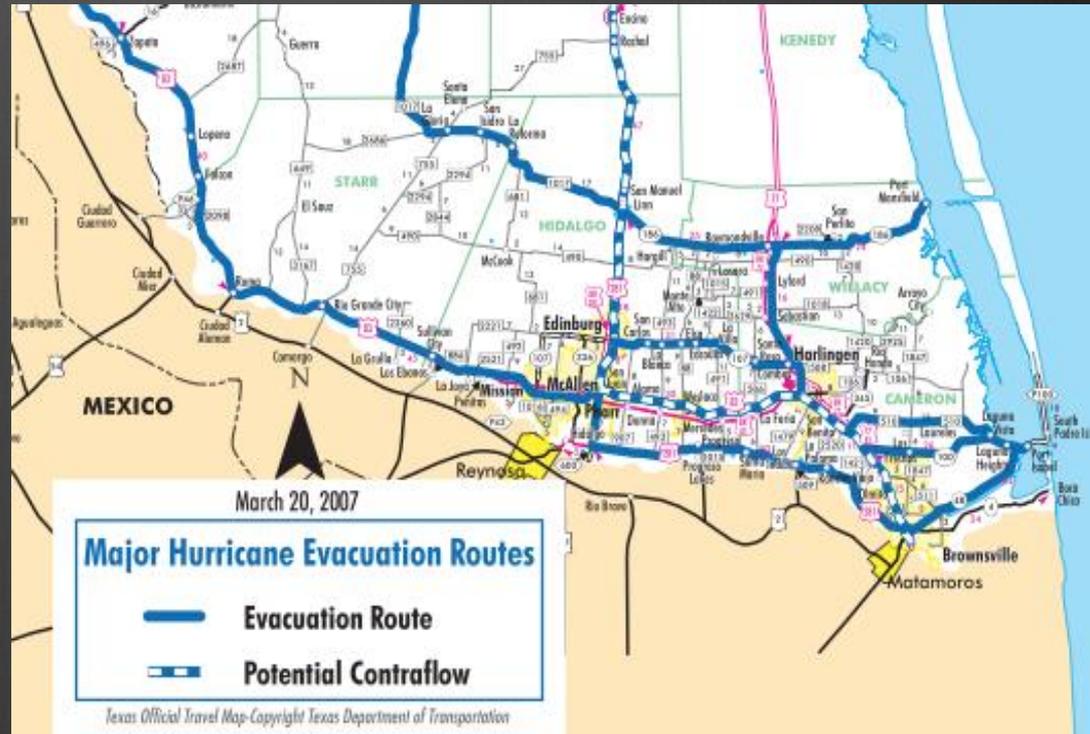
Storm Surge worse in highest developed areas

Maximum water depth, Category 3 Hurricane



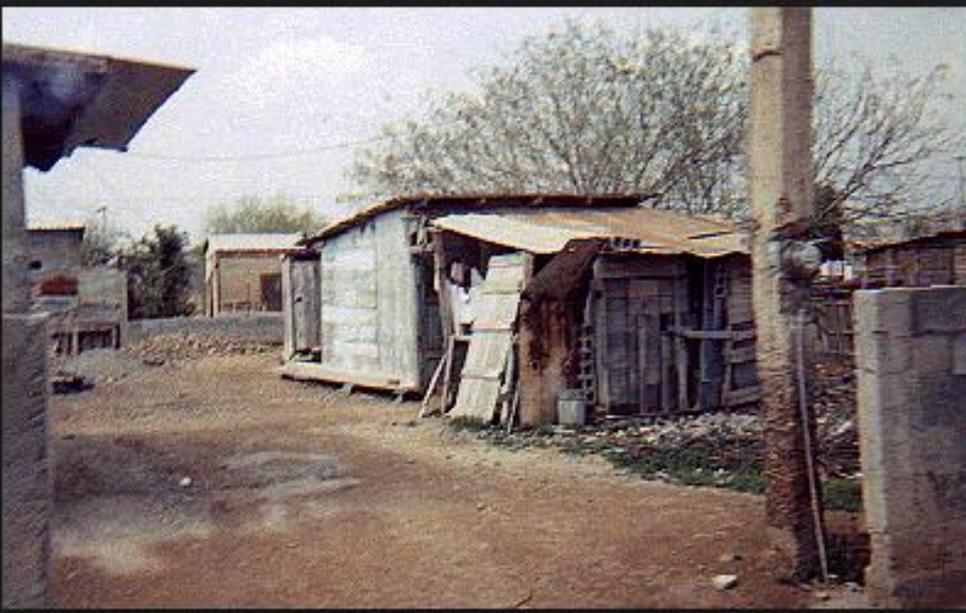
Lower Rio Grande Valley

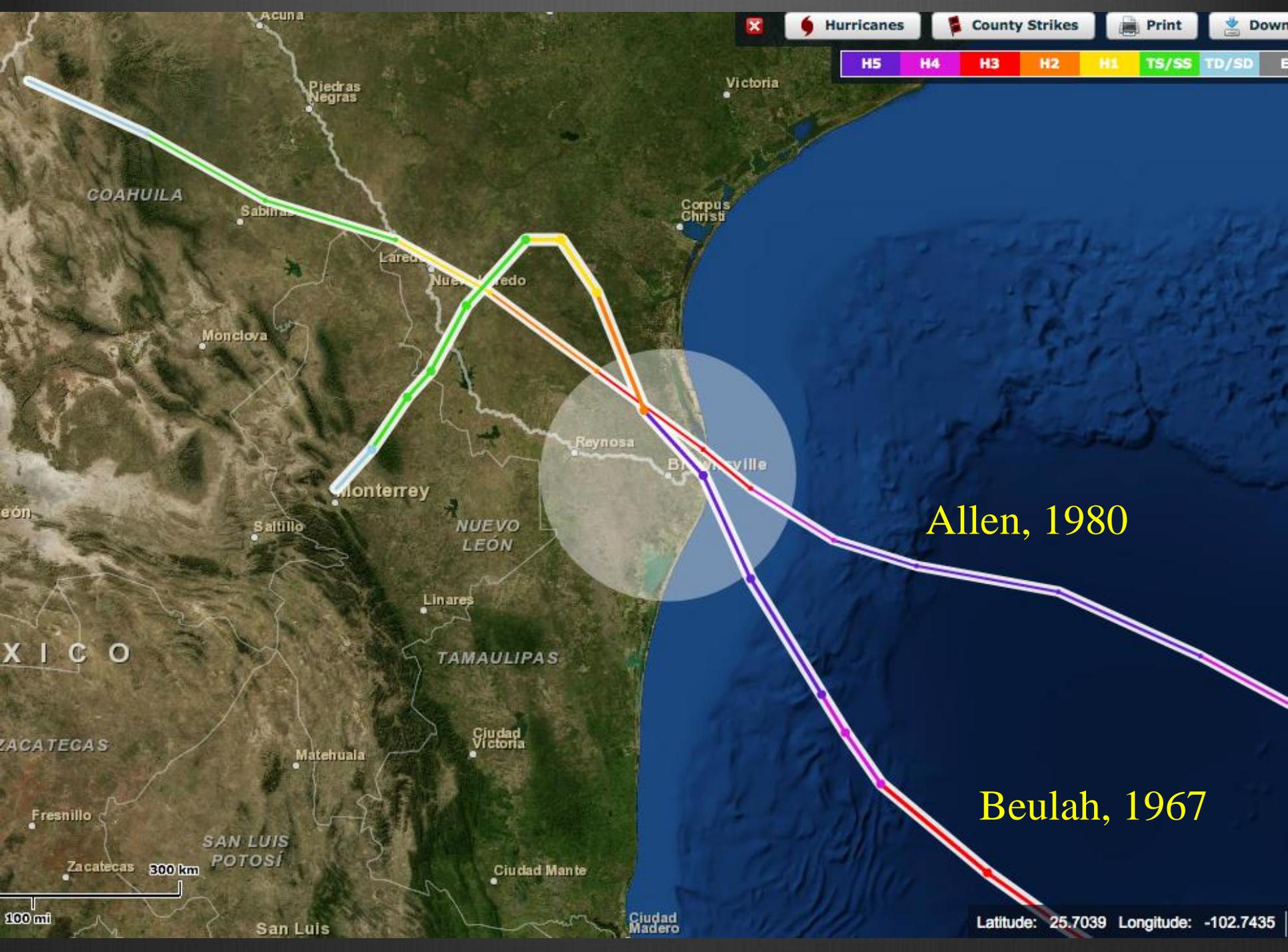
- U.S. 2010 – 1.2 million
2030 - 2.0 million
- Almost twice as many live in Mexico's LRGV
- High flood and wind risk (poor residential construction)
- Demographics - low income - lack of transportation – big vulnerable population across the border challenge to evacuation and response



used to be fields. At the time when they were starting to build they didn't have any roads or utilities. When they started building clusters of homes they would call it a colonia - for example, Las Palmas, and it would stick. You go in a colonia and you can see a beautiful home, not a rich home, but a nice home, in the middle of poor homes. You look across the street and there's a house that's almost falling down. Or you might see a trailer attached to a little frame building." -**Genoveva Martinez, Training Specialist and former Promotora**

**300,000 people
live in Colonias in
LRGV**





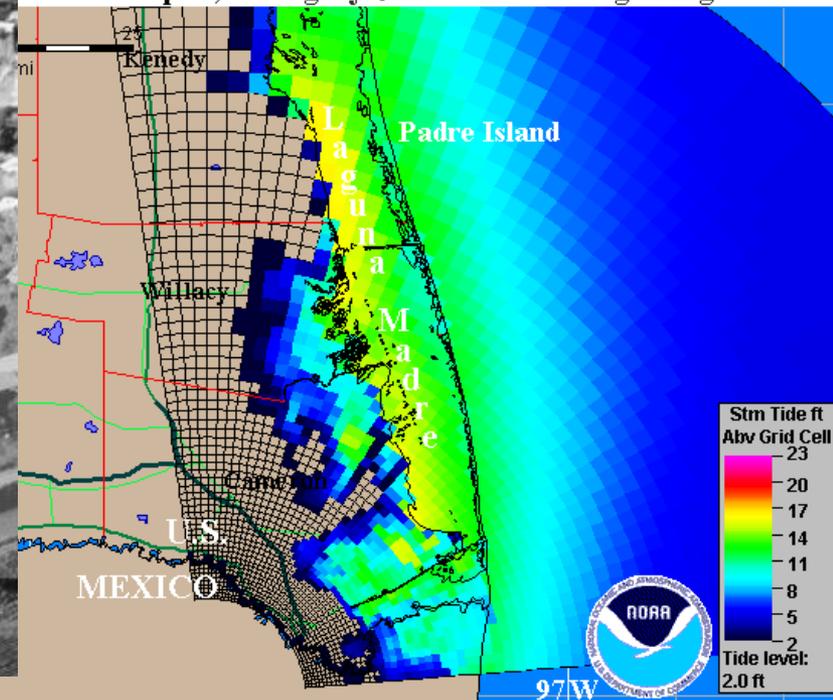
Allen, 1980

Beulah, 1967

Rainwater flooding higher risk than surge for most of Valley



Storm water depth, Category 4 Hurricane hitting at high tide



Beulah, 1967

Summary

- ⊗ Many vulnerable communities from Maine to Brownsville
- ⊗ Geography and demographics quite variable
- ⊗ People challenge greater than meteorological challenge
- ⊗ Growth in at-risk areas leading to increasingly complex evacuation and response
- ⊗ And...

...where it has happened
before, it can happen again...

