Gulf of Mexico 2015 Accomplishments

National Tsunami Hazard Mitigation Program

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&
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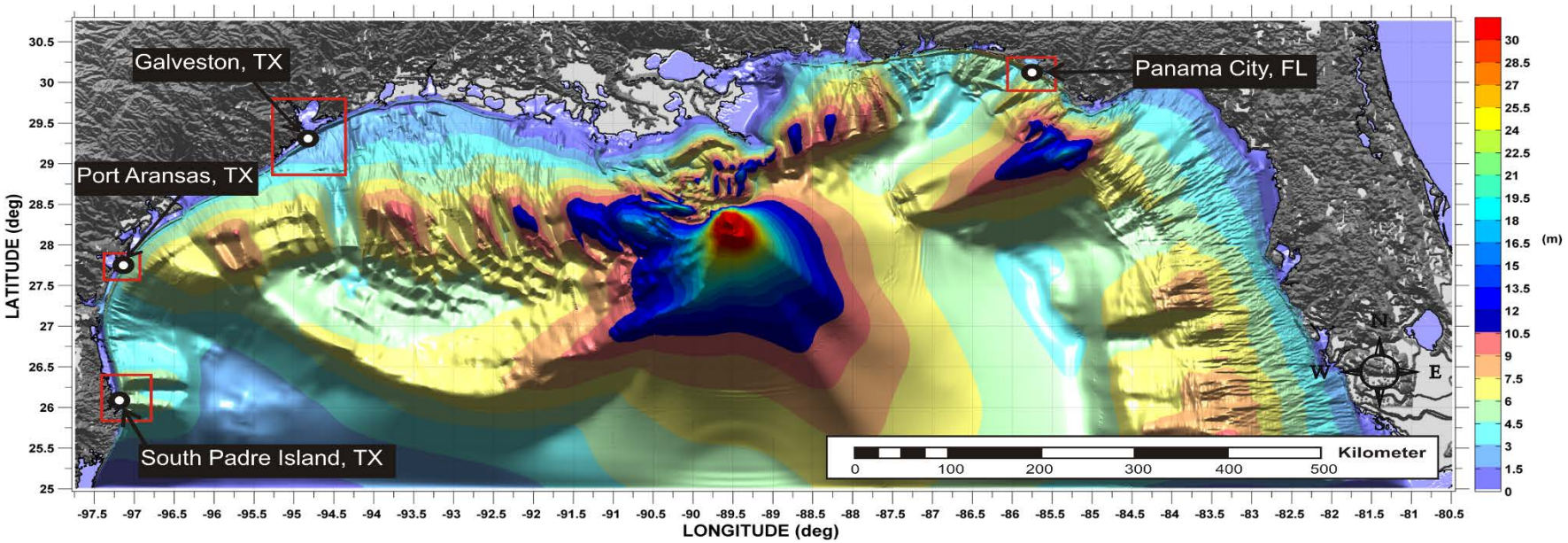
Gulf of Mexico 2015 Accomplishments



BACKGROUND

Since FY08, the National Tsunami Hazard Mitigation Program (NTHMP) has provided grants to the Gulf of Mexico (GOM) states (through Texas A&M University at Galveston (TAMUG)) to identify the tsunami hazard to the Gulf Coast and mitigate its impact. Based on evidence of massive ancient landslides and continued emptying of sediments into the GOM mainly from the Mississippi River, a massive underwater landslide in the GOM is considered a potential hazard, although the probability of such an event is quite low.

Gulf of Mexico 2015 Accomplishments

1- Developed 4 landslide tsunami sources using a novel probabilistic approach. These sources, along with 3 identified historical sources, increase the number of potential tsunami scenarios within the GOM to 7, covering most of the northern GOM basin:

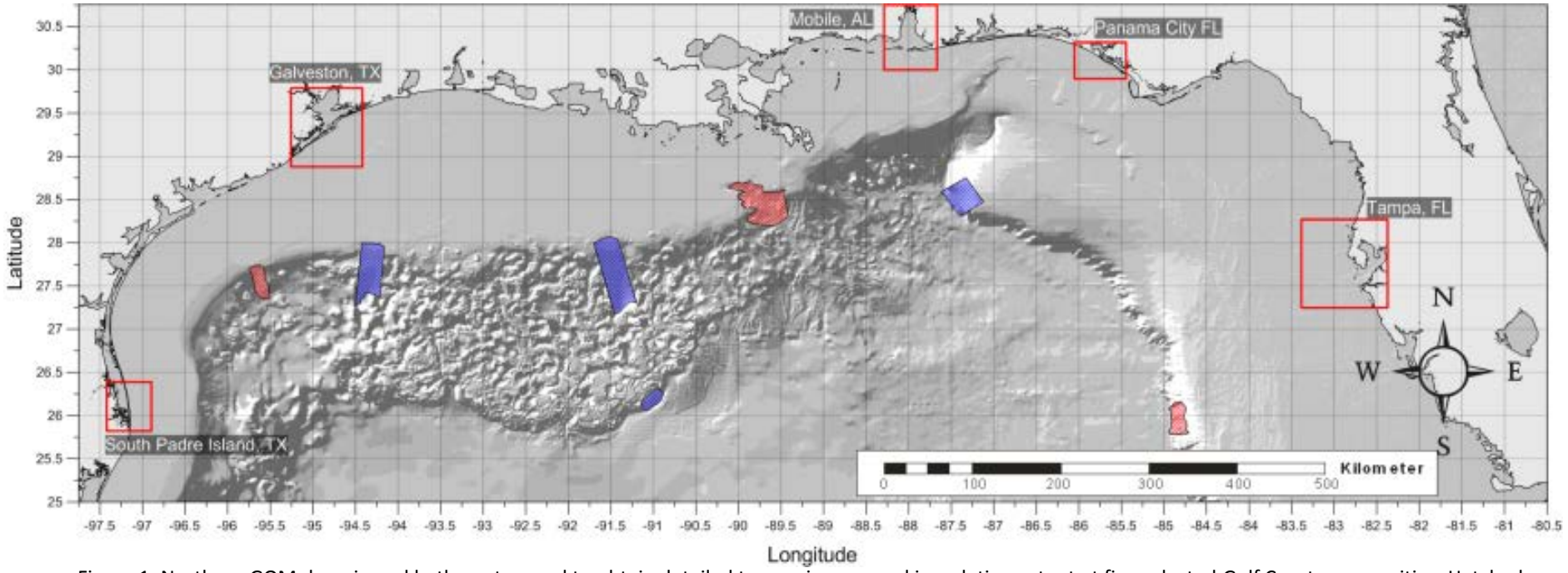


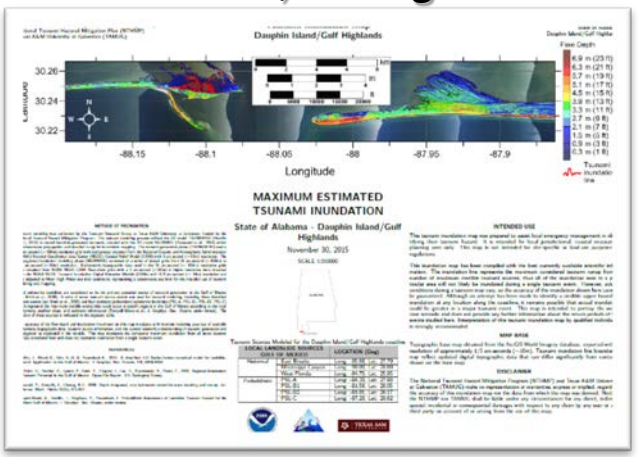
Figure 1. Northern GOM domain and bathymetry used to obtain detailed tsunami runup and inundation extent at five selected Gulf Coast communities. Hatched red regions: historical submarine landslides (3); hatched blue regions: probabilistic submarine landslides (4). Red rectangles along coastline indicate regions where tsunami inundation maps have been developed.

http://www.tamug.edu/tsunami/NTHMP.html

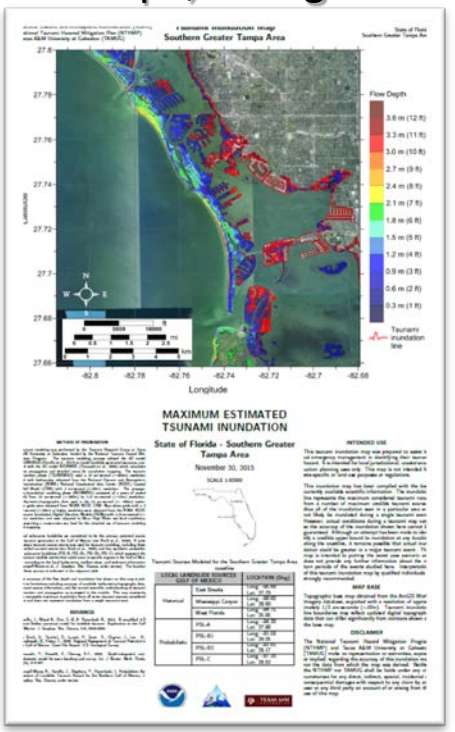
Gulf of Mexico 2015 Accomplishments

2- Developed maps of tsunami inundation (flow depth) for five communities along the GOM coast

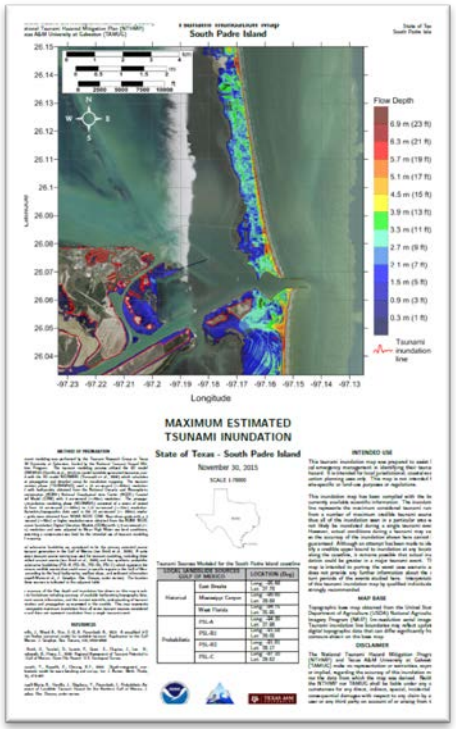
Mobile, AL Region



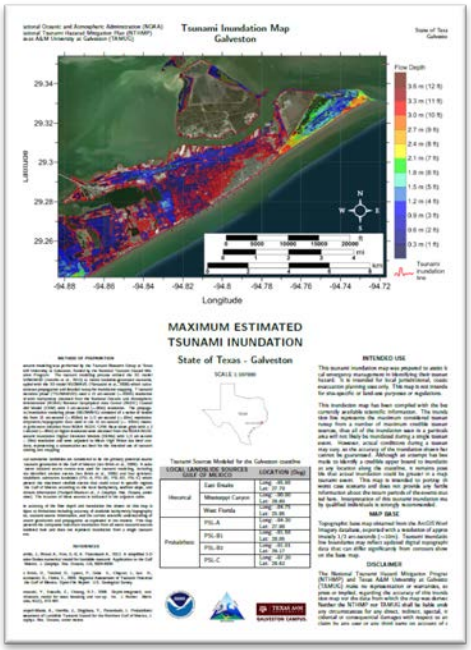
Tampa, FL region



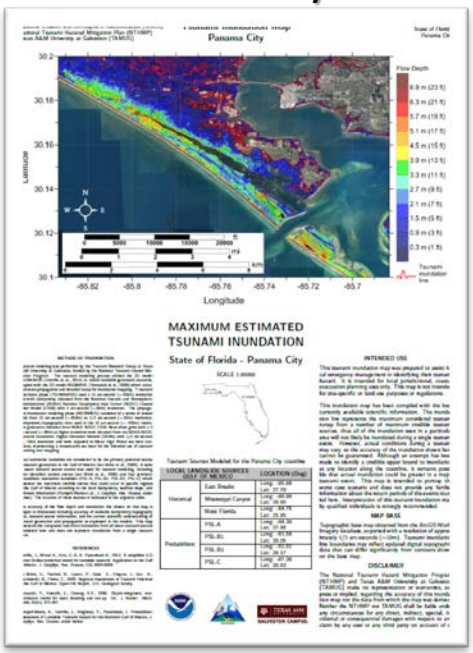
South Padre Island TX



Galveston TX



Panama City FL



Gulf of Mexico 2015 Accomplishments

3- Executed a pilot study to determine the annual exceedance rates above certain tsunami inundation threshold levels for South Padre Island, TX:

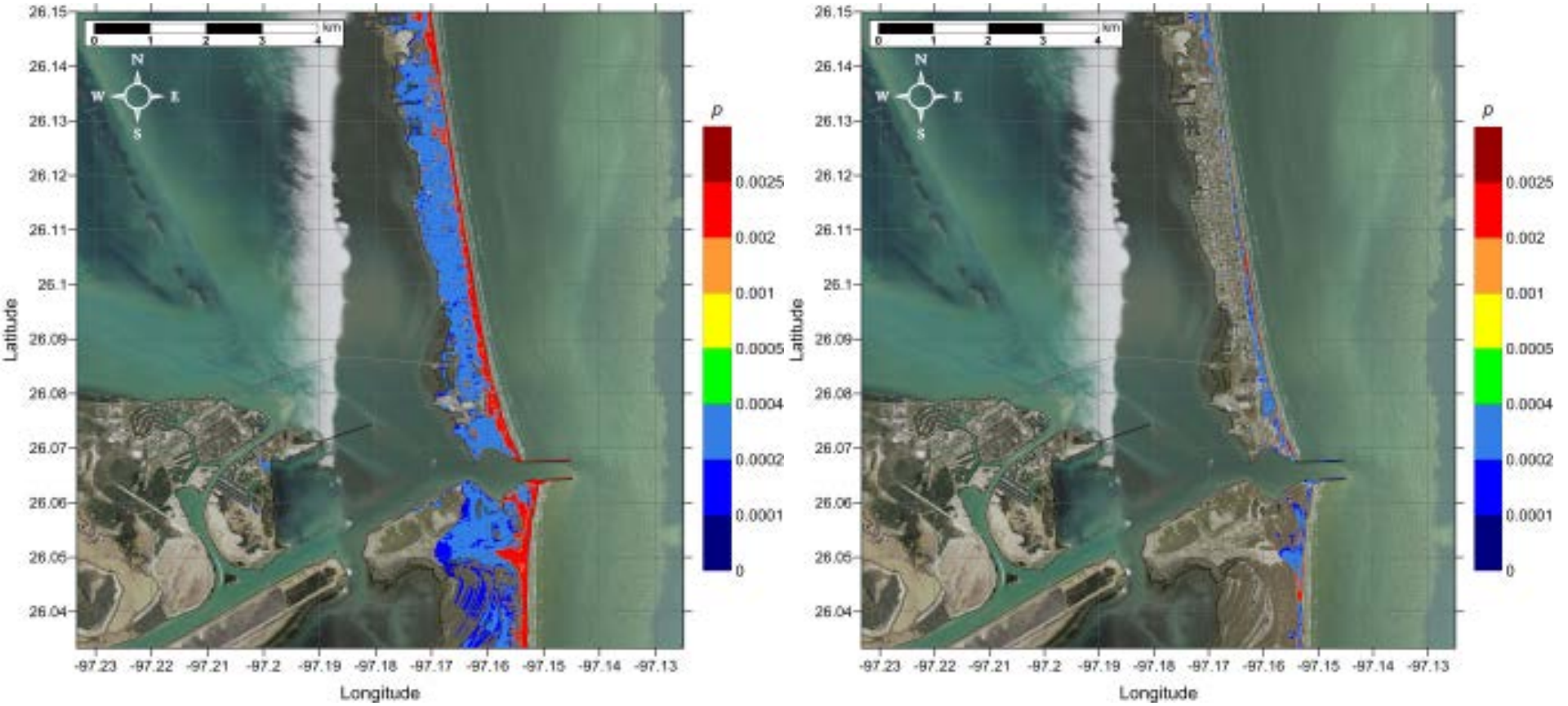


Figure 3. Probability of tsunami inundation exceeding 2m (~6.6ft) and 4m (~13.1ft), respectively, in South Padre Island, TX.

http://www.tamug.edu/Tsunami/Files/report_NTHMP_2015-final.pdf

END

Gulf of Mexico FY2016 Proposal

Project Name/Title:	**Development of two (2) tsunami inundation maps in the GOM and updating Port Aransas, TX inundation maps with the full set of tsunami sources.**
Project Dates:	**September 1, 2016 – August 31, 2017**
Recipient Institution:	**Texas A&M University, Department of Ocean Engineering**
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Project Website:	**www.tamug.edu/tsunami/NTHMP/NTHMP.html**

Gulf of Mexico FY2016 Proposal

Goals: The main objective of this project is to continue the development of inundation maps for the Gulf of Mexico (GOM) and updating these maps according to the NTHMP-MMS (Mapping and Modelling Subcommittee) Strategic Plan recommendations to keep our current GOM tsunami mitigation products up-to-date.

Deliverables:

TASK1- Two (2) additional tsunami inundation/maritime maps will be developed for Destin, FL as well as Santa Rosa County, FL in support of the county's determination to achieve TsunamiReady recognition.

TASK2- Updating existing inundation map for Port Aransas, TX (developed under award NA09NWS4670006 -Construction of inundation maps in the Gulf of Mexico-) to a second-generation version. Which will consider the new set of tsunami sources

TASK3- Continuing the effort from award NA14NWS4670049 to refine the methodology for temporal-low-order inundation maps for communities where inundation studies have not yet been assigned/executed or where little bathymetric and elevation data exists.

TASK4 and TASK5- Travel to the NTHMP annual meetings and Travel to the NTHMP Summer meetings