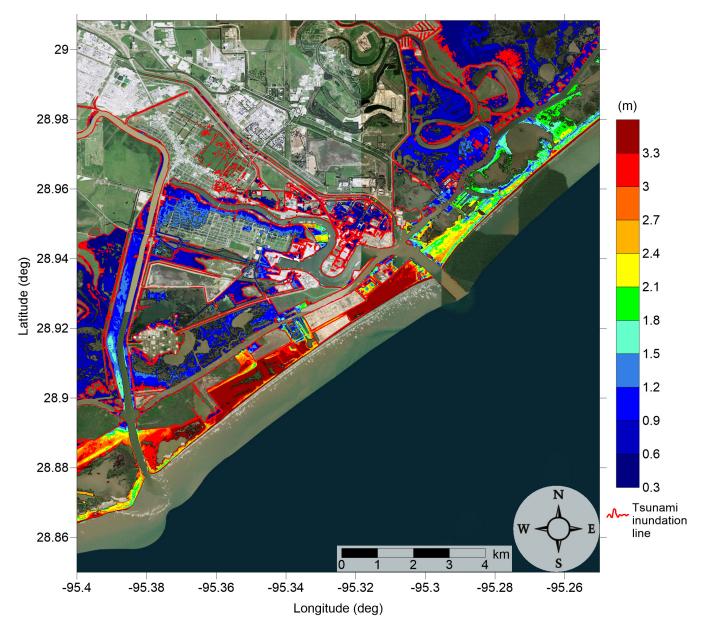
## **Tsunami Inundation Map** Freeport



# MAXIMUM ESTIMATED **TSUNAMI INUNDATION**

State of Texas - Freeport



Tsunami Sources Modeled for the Freeport coastline

LOCAL LANDSLIDE SOURCES GULF OF MEXICO		LOCATION (Deg)
Geological	East Breaks	Long: -95.68 Lat: 27.70
	Mississippi Canyon	Long: -90.00 Lat: 28.60
	West Florida	Long: -84.75 Lat: 25.95
	Yucatan #3	Long: -91.50 Lat: 22.50
	Yucatan #5	Long: -91.50 Lat: 22.50
Probabilistic	PSL-A	Long: -94.30 Lat: 27.98
	PSL-B1	Long: -91.56 Lat: 28.05
	PSL-B2	Long: -91.01 Lat: 26.17
	PSL-C	Long: -87.20 Lat: 28.62





#### INTENDED USE

This tsunami inundation map was prepared to assist loa summinumer of the second sec

This inundation map has been compiled with the best currently available scientific information. The inundation line represents the maximum considered tsunami runup from a number of maximum credible tsunami sources, thus all of the inundation seen in a particular area will not likely be inundated during a single tsunami event. However, actual conditions during a tsunami may vary, so the accuracy of the inundation shown here cannot be guaranteed. Although an attempt has been made to iden-tify a credible upper bound to inundation at any location along the coastline, it remains possible that actual inundation could be greater in a major tsunami event. This map is intended to portray the worst case scenario and does not provide any further information about the re-turn periods of the events studied here. Interpretation of this tsunami inundation map by qualified individuals is strongly recommended.

#### MAP BASE

Topographic base map obtained from the ArcGIS World Imagery database, exported with a resolution of approximately 1/3 arc-seconds (~10m). Tsunami inundation line boundaries may reflect updated digital topographic data that can differ significantly from contours shown on the base map.

### DISCLAIMER

The National Tsunami Hazard Mitigation Program (NTHMP) and Texas A&M University at Galveston (TAMUG) make no representation or warranties, express (TANUG) make no representation or warranties, express or implied, regarding the accuracy of this inundation map nor the data from which the map was derived. Neither the NTHMP nor TAMUG shall be liable under any cir-cumstances for any direct, indirect, special, incidental or consequential damages with respect to any claim by any user or any third party on account of or arising from the use of this map.

**DETACLO OF PREPARATION** Tsynami modeling was performed by the Tsunami modeling process taken University at Galveston, funded by NOAA. The tsunami modeling process taken University at Galveston, funded by NOAA. The tsunami modeling process taken the sumamis, coupled with the 2D model NEOVAWE (Yamazaki et al., 0,000 which calculates wave propagation and detailed runup for inundation mapping. The tsunami generation phase (TSUNAMISO) used a 15 arc-second (~450m) resolution grid with bathymetry obtained from the National Oceanic (NGDC, Ocasatla Relief Model (CRM) with 3 arc-second (~200m) resolution. The propagation/inundation modeling phase (NEOVAVE) (sonsisted of a se-ries of nested grids from 15 arc-second (~450m) to 1/3 arc-second (~10m) resolution Bathymetric/topographic data used in the 15 arc-second (~10m) Sarc-second (~40m) or higher resolution were obtained from the NOAA NGDC Tamin Inundation Digital Elevation Models (DEMs) with 1/3 arc-second (~10m) resolution and were adjusted to 'Mean High Water' 'sea level onditions, the spresenting a conservative sea level for the intended use of tsunami modeling and mapure.

Local submarine landslides are considered to be the primary potential source of tsunami generation in the Gulf of Mexico (ten Brink et al., 2009). A suite of nine tsunami source events was used for tsunami modeling, including five identified ancient events (ten Brink et al., 2009 and Chaytor et al., 2016) and four synthetic probabilistic submarine landslides (PSL-A, PSL-B1, PSL-B2, PSL-C) which represent the maximum credible events that could occur in specific regions in the Gulf of Mexico according to the local bathymetry, seaffors of sope, and sediment information (Pampell-Manis et al., 2016). The location of these sources is indicated in the adjacent table.

The accuracy of the flow depth and inundation line shown on this map is sub-ject to limitations including accuracy of available bathymetry/topography data, tsunami source information, and the current scientific understanding of tsunami generation and propagation as expressed in the models. This map represents the composite maximum inundation from all nine tsunami sources considered here and does not represent inundation from a single tsunami event.

#### REFERENCES

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