Tsunami Inundation Map Northern Greater Tampa Area



MAXIMUM ESTIMATED TSUNAMI INUNDATION

METHOD OF PREPARATION

DETAILOR OF PREPARATION Sumari modeling was performed by the Tsunami Research Group at Texas Add University at Galveston, funded by NOAA. The tsunami modeling process stillized the 2D model TSUNAMI3D (Horrillo et al., 2013) to model landslide generated tsunamis, coupled with the 2D model NEOWAVE (Yamazaki et al., 2006) which calculates wave propagation and detailed runup for innulation mapping. The tsunami generation phase (TSUNAMI3D) used a 15 arc-second (~450m) resolution grid with bathymetry obtained from the National Oceanic and Atmospheric Administration (NOAA) National Geophysical data Center (NGCC) Coastal Relief Model (CRM) with 3 arc-second (~400m) resolution, The propagation/inundation medeling phase (NEOWAVE) consisted of a series of nested grids from 15 arc-second (~450m) to 1/3 arc-second (~10m) res-polytion. Bathymetric/topographic data used in the 15 arc-second (~450m) sarc-second (~900m) or higher resolution were obtained from the NOAA NGDC Tsumami Inundation Digital Elevation Models (DEW) with 1/3 arc-second (~ 10m) resolution and were adjusted to "Mean High Water" sea level conditions, resong a conservative sea level for the intended use of tsunami modeling and mapping. Local submarine landslides are considered to here.

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 seven tsunami source events was used for tsunami modeling, including three identified ancient events (ten Brink et al., 2009) and four synthetic probabilis-tic 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 Mex-ico according to the local bathymetry, seafloor slope, and sediment information (Pampell-Manis et al., *J. Geophys. Res. Oceans*, under review). 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 seven tsunami sources considered here and does not represent inundation from a single tsunami event.

REFERENCES

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State	of	Florida	-	Northern	Greater
		Tam	pa	a Area	

November 30, 2015

SCALE 1:86000

Tsunami Sources Modeled for the Northern Greater Tampa Area coastline

LOCAL LAN GULF	DSLIDE SOURCES OF MEXICO	LOCATION (Deg)
	East Breaks	Long: -95.68 Lat: 27.70
Geological	Mississippi Canyon	Long: -90.00 Lat: 28.60
	West Florida	Long: -84.75 Lat: 25.95
	PSL-A	Long: -94.30 Lat: 27.98
Probabilistic	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 lo-cal emergency management in identifying their tsunami hazard. It is intended for local jurisdictional, coastal evac-uation planning uses only. This map is not intended for site-specific or land-use purposes or regulations.

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 runarated. Although an attempt has hear made to iden 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 inunalong the coastine, it remains possible that actual inun-dation 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 (${\sim}10{\rm m}$). 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 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.