METHOD OF PREPARATION
Tsunami modeling was performed by the Tsunami Research Group at Texas A&M University at Galveston, funded by the National Tsunami Hazard Mitigation Program. The tsunami modeling process included the following steps:

1. Preparation of input data, including bathymetry/topography, shoreline, and tsunamisource locations.
2. tsunami generation and detailed runup for inundation mapping.
3. tsunami generation and detailed runup for inundation mapping.

The tsunami generation (TUNAMIS) used a 15 arc-second (≈450m) resolution grid with bathymetry obtained from the National Oceanic and Atmospheric Administration (NOAA) National Geophysical Data Center (NGDC) Coastal Relief Model (CRM) with 3 arc-second (≈90m) resolution. The propagation/inundation modeling phase (NEOWAVE) consisted of a series of nested grids with decreasing resolution and increasing size (2 arc-second (≈600m) resolution). Bathymetric/topographic data used in the 15 arc-second (≈450m) resolution grids were obtained from NOAA NGDC CRM. Resolution grids with 3 arc-second (≈90m) or higher resolution were obtained from the NOAA NGDC Tsunami Inundation Digital Elevation Models (DEM) with 1/3 arc-second (≈10m) resolution and were adjusted to “Mean High Water” sea level conditions, representing a conservative sea level for the intended use of tsunami modeling and mapping.

Local landslide boundaries were considered to be the primary potential source of tsunami generation in the Gulf of Mexico (see Brink et al., 2008). A suite of nine tsunami source events was used for tsunami modeling, including five identified ancient events (see Brink et al., 2009 and Chapter et al., 2016) and four synthetic probabilistic landslide boundaries (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, seafloor slope, and sediment information (Pampell-Manis et al., 2016). The location of these sources is indicated in the adjacent table.

The accuracy of the flood depth and inundation lines shown on this map is subject 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 source events considered here and does not represent inundation from a single tsunami event.

REFERENCES


DISCLAIMER
The National Tsunami Hazard Mitigation Program (NTHMP) and Texas A&M University at Galveston (TAMUG) make no representation or warranty, 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 circumstances for any direct, indirect, special, incidental or consequential damages with respect to any claim by any person or any third party on account of or arising from the use of this map.

INTENDED USE
This tsunami inundation map was prepared to assist local emergency management in identifying their tsunami hazard. It is intended for local jurisdictional, coastal evacuation 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 source events, 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 identify 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 return 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.