

Tsunami and Extreme Tsunami Evacuation Zone Maps – Cautions and Additional Information

For most Tsunami Warnings, evacuate out of the tsunami evacuation zones; in the unlikely case of an “Extreme Tsunami” Warning, evacuation out of both the tsunami evacuation zones and the extreme tsunami evacuation zones.

Note 1:

Remain at least 100 feet away from inland waterways and marinas connected to the ocean due to wave surges and possible flooding.

Note 2:

Boaters should move vessels to at least 50 fathoms (300 feet) deep and 2 miles away from harbor entrances; follow all directions from the Captain of the Port.

Note 3:

Structural steel or reinforced concrete buildings of ten or more stories provide increased protection on or above the fourth floor; if you are caught near the shoreline, consider using vertical evacuation.

Note 4:

The evacuation zone is a guideline and should be considered the minimum safe evacuation distance.

Note 5:

These maps do not consider the destructive effects of a locally generated tsunami. If you feel shaking, move inland immediately, well away from the evacuation zone.

Layer Name: Tsunami Evacuation Zones
File Name: tsun_evac_zones
Layer Type: Polygon
Status: Complete
Geog. Extent: Islands of Niihau, Kauai, Oahu, Molokai, Lanai, Maui and Hawaii
Projection: Universal Trans Mercator, Zone 4 (Meters)
Datum: NAD 83 HARN
Description: Tsunami Evacuation Zones for the islands of Niihau, Kauai, Oahu, Molokai, Lanai, Maui and Hawaii
Source: Island of Hawaii: Pacific Disaster Center (PDC), 1998.
Island of Oahu: City and County of Honolulu, 2010.
Islands of Molokai, Lanai, Maui: County of Maui, 2013.
Island of Kauai: County of Kauai, 2014

History: **Islands of Niihau and Kauai:**

2013 Kauai Tsunami Evacuation Zones - Kauai Civil Defense Agency - Tsunami evacuation zones have been updated for Kauai. These zones were developed using updated scientific techniques and technology, and were produced in conjunction with County Public Safety officials. Please contact civildefense@kauai.gov for additional information.

Please also see Kauai Tsunami Evacuation Zone metadata – KauTsunEvac.shp.xml.

State GIS Program received the shapefile for the island of Niihau from NOAA in October, 2016.

State GIS Program projected the data from Web Mercator into UTM Zone 4 HARN.

Island of Oahu:

City and County of Honolulu, Honolulu Land Information System (HoLIS).
These maps were developed using updated scientific techniques and technology, and were produced in conjunction with County Public Safety Officials. In many instances the new data identifies locations with an increased tsunami hazard risk; review these new maps NOW and be prepared for the next tsunami. If you have any questions or comments about the new maps, please e-mail: tsunamiready@honolulu.gov.

State GIS Program projected the data from State Plane Zone 3 into UTM Zone 4 HARN.

County of Maui:

Received update for Maui County from Pacific Disaster Center, August 2013.

Island of Hawaii:

(Text written by PDC Staff, 1998):

Tsunami evacuation layers for the [islands of Hawaii and Kauai] were digitized from Tsunami Evacuation Zone proof maps provided by the State of Hawaii Civil Defense, and published in County Telephone Directories by GTE in 1991. These maps were produced by the Joint Institute for Marine and Atmospheric Research, at the University of Hawaii, in cooperation with the State of Hawaii Civil Defense System. Data from these maps were digitized in the GIS program Arc View Version 3.0a using features from island coastlines, roads, and the USGS 7.5 minute digital raster graphics (DRGs). Specific distances given on the maps (for example: "1900 feet from Farrington Highway") were incorporated into the digitization. Where no distances were given, evacuation zone boundaries were estimated by topographical characteristics, or approximated using surrounding features such as roads. In cases where evacuation zone boundaries bordered roadways, selected roads from state DLG road layer were extracted into the tsunami evacuation shape file for accuracy. No details of scale accompanied the paper proofs. Coastline and evacuation zone shape files for each island were then made into coverages using ArcInfo Version 7.1.2, which were subsequently appended into a single coverage for editing. Arcedit was used to eliminate all dangling nodes, intersections, etc. Tolerances were set to minimize the alteration of zone boundaries. Topology was built for each island, polygons labeled, and polygon attribute tables created. Each polygon is associated with a particular evacuation map, with the exception of two polygons on Oahu maps which are areas of high ground (map #7), and water (maps # 18-19) within evacuation zones.

A coverage for the State was created from appended individual island coverages in ArcInfo.

Other:

Merged all islands into one layer by OP Staff, August 2013, February 2014, October 2016.

No information for fields MAPNUM and MAPNAME on Niihau, Kauai or Oahu.

Attributes:

Polygons:

ISLAND	Island Name
MAPNUM	Map # of evacuation zone as it appears in the county telephone directory.
MAPNAME	Geographic area covered by each numbered evacuation zone map, as it appears in the county telephone directory.
ZONE	"1" = tsunami evacuation zone

Also refer to the statewide "Extreme Tsunami Evacuation Zones" and "Tsunami Evacuation Safe Zones" layers.

Contact:

Hawaii Statewide GIS Program
Office of Planning, State of Hawaii
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(808) 587-2846
email: gis@hawaii.gov

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Layer Name: Extreme Tsunami Evacuation Zones
File Name: tsun_evac_zones_extreme
Layer Type: Polygon
Status: Complete
Geog. Extent: Counties of Kauai, Maui and Oahu
Projection: Universal Trans Mercator, Zone 4 (Meters)
Datum: NAD 83 HARN
Description: Extreme Tsunami Evacuation Zones for the counties of Kauai, Maui and Oahu
Source: City and County of Honolulu, 2015 (received by State GIS Program, 2016)
Counties of Kauai and Maui, 2016

These are the areas in each of the three counties deemed to be at risk during an "Extreme Tsunami" which is a new class of seismic events which has been modeled but not observed historically. Data is intended to be used for evacuation planning and natural hazard mitigation.

Extreme Tsunami Boundaries for the Island of Hawaii have not been received as of Aug, 2018.

Boundaries are based on peer review of the inundation models provided by UH Researchers and the operational needs of each county's First Responders and the Emergency Management Community.

Source: Dr Kwok Fai Cheung and the SOEST program. Hawaii State Civil Defense (Hawaii Emergency Management Agency). County of Kauai, County of Maui, City and County of Honolulu, and NOAA.

The Statewide GIS Program dropped fields that were not consistent between counties (e.g., some county source data had multiple area or length fields, etc.) in order to create a statewide Extreme Tsunami layer. The Statewide GIS Program projected the data from various source projections (State Plane and Web Mercator) into UTM Zone 4, NAD 83 HARN and merged into a single statewide layer. Please contact the individual counties for the original source data.

Note that for the islands of Kauai, Lanai, Maui and Molokai, the Extreme Zone polygons include the non-extreme zones. For the islands of Niihau and Oahu, the Extreme Zones do not include the non-extreme (more seaward) zones, so in order to display the entire area to be evacuated in the case of an extreme tsunami, both the layers would need to be displayed. This is important to consider when considering map symbology.

Also refer to the statewide "Tsunami Evacuation Zone" and "Tsunami Evacuation Safe Zone" layers.

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Layer Name: Tsunami Evacuation Safe Zones
File Name: tsun_evac_zones_safe
Layer Type: Polygon
Status: Complete
Geog. Extent: Counties of Kauai, Maui and Oahu
Projection: Universal Trans Mercator, Zone 4 (Meters)
Datum: NAD 83 HARN
Description: Tsunami Evacuation Safe Zones for the counties of Kauai, Maui and Oahu
Source: City and County of Honolulu, 2015 (received by State GIS Program, 2016)
Counties of Kauai and Maui, 2016

These are the areas in each of the three counties deemed to be "Safe Zones" during a tsunami or an "Extreme Tsunami" which is a new class of seismic events which has been modeled but not observed historically. Data is intended to be used for evacuation planning and natural hazard mitigation.

Extreme Tsunami Boundaries for the Island of Hawaii are in development but have not yet been completed.

Boundaries are based on peer review of the inundation models provided by UH Researchers and the operational needs of each county's First Responders and the Emergency Management Community.

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