Getting Out of Harm’s Way

FY16 tsunami evacuation research at the USGS

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U.S. Department of the Interior
U.S. Geological Survey
Modeling Evacuation Travel Times

GIS-based Evacuation Modeling

Tsunami-Hazard Zone

Residents

Businesses

Road
Safe Zone
Tsunami-hazard zone
Water

Water
Unconsolidated
Light brush
Heavy brush
Developed
Buildings

Travel time to safety (minutes)

- 0
- 1 - 9
- 10 - 19
- 20 - 29
- 30 - 39
- 40 - 49
- 50 - 59
- 60 - 69
- 70 - 79
- 80 - 89
- 90 - 99
- 100 - 109
- 110 - 119
- 120 - 129
- 130 - 139
- 140 - 149
- 150 - 159
- 160 - 169
- 170 - 179
- 180 - 189
- 190 - 199
- 200 - 209
- 210 - 219
- 220 - 229
- 230 - 234

25-minute contour
Evacuation Analyst Training

- DOGAMI
- Univ. of Alaska, Fairbanks
- City/county/state in CA Bay Area
- New Zealand
Community clusters of tsunami vulnerability

- Number of people in hazard zones
- Type of residents in hazard zones
- Number of people with insufficient time to evacuate (slow walk)
- Number of people with insufficient time to evacuate (fast walk)
Modeling evacuation pathways and population demand at assembly areas
Evacuation modeling for CA Tsunami Playbooks
Road hotspot indices for improving vehicular evacuations
Multi-modal evacuation modeling on Balboa Island
Planned work

Multi-model evacuation modeling for the northern shore of Oahu

Evacuation mitigation alternatives in American Samoa