

Inundation mapping in Hawaii

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Abstract. The evacuation maps which appear in the telephone books for every county in Hawaii were drawn from historical inundation information, and refined from an understanding of overland flow as well as from the need to keep things simple and clearly linked to geographic features, such as roads. With National Tsunami Hazard Mitigation Program funding, those maps are now being reviewed by modeling inundation from both Pacific-wide and locally generated tsunamis. Preliminary inundation modeling shows that the evacuation maps for Honolulu are realistic, but the similar maps for Maui and the Big Island will have to be revised, at least for locally generated events. Among probable “worst-case” local events we consider are a magnitude 7.5 South Kona earthquake and a major Hilina block (Kilauea) slump event. Inundation mapping of teletsunamis is concentrating on the most severe threat, tsunamis from the Alaska-Aleutian subduction zone. If funding can be found this work will extend to the entire Pacific margin, including South and Southwest Pacific sources, for which the historical inundation information is sketchy. This entire work is frustrated by the limited availability of shallow-water bathymetry, but such data are slowly becoming available.

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