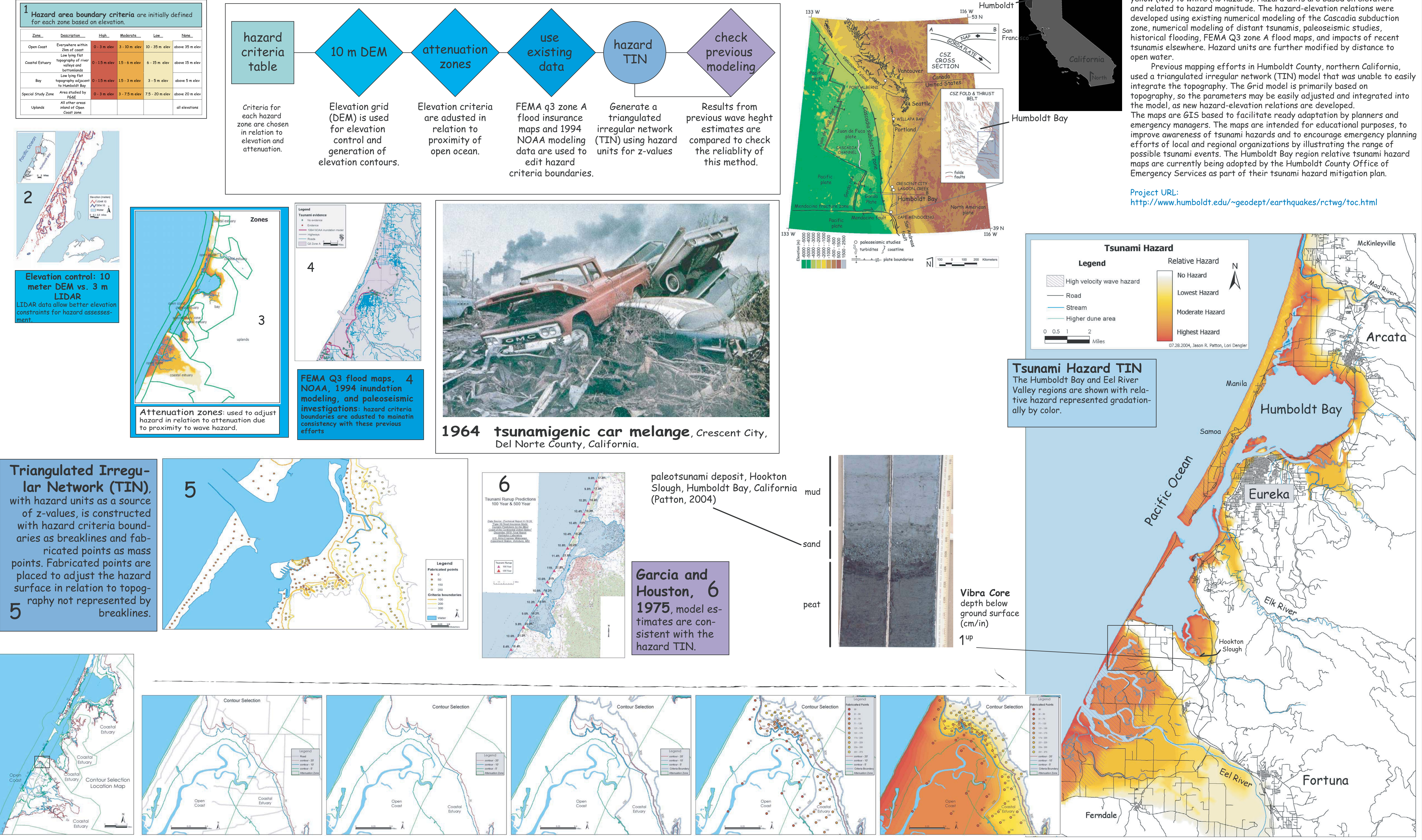


GIS based relative tsunami hazard maps: Crescent City, Humboldt Bay, and Eel River

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Tsunami hazard maps are constructed using a raster based geographical information systems (GIS) approach to depict the relative tsunami hazard of coastal Del Norte County in northern California. In contrast to previous mapping efforts that utilize a single line to represent inundation, hazard is displayed gradationally. Elevation, normally used for 2.5D surfaces, is substituted with hazard units. Hazard is displayed as a safety index, a continuous gradational color scale ranging from red (high hazard) through orange (medium), yellow (low) to white (no hazard). Hazard units are based on elevation and related to hazard magnitude. The hazard-elevation relations were developed using existing numerical modeling of the Cascadia subduction zone, numerical modeling of distant tsunamis, paleoseismic studies, historical flooding, FEMA Q3 zone A flood maps, and impacts of recent tsunamis elsewhere. Hazard units are further modified by distance to open water.

Previous mapping efforts in Humboldt County, northern California, used a triangulated irregular network (TIN) model that was unable to easily integrate the topography. The Grid model is primarily based on topography, so the parameters may be easily adjusted and integrated into the model, as new hazard-elevation relations are developed. The maps are GIS based to facilitate ready adaptation by planners and emergency managers. The maps are intended for educational purposes, to improve awareness of tsunami hazards and to encourage emergency planning efforts of local and regional organizations by illustrating the range of possible tsunami events. The Humboldt Bay region relative tsunami hazard maps are currently being adopted by the Humboldt County Office of Emergency Services as part of their tsunami hazard mitigation plan.

Project URL: <http://www.humboldt.edu/~geodept/earthquakes/rctwg/toc.html>

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