

review comments on draft Sea Level Rise Guidance

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[CoastalSLRGuidanceDocument](#)

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To whom it may concern:

Thank you for the opportunity to review the Draft California Sea Level Rise Guidance document authored by the Coastal Commission. I have reviewed portions of the document for the California Geological Survey as it pertains to tsunami hazards. Overall, I found that the document very informative and think it will be a useful tool for coastal communities. The following specific comments are provided based on my review of the document:

Pg 52 – second to last paragraph – In addition to including sea-level rise in tsunami runup calculations, it should also be considered when evaluating tsunami loads/currents on maritime facilities and coastal structures.

Pg 96 – definition of “tsunami” – Suggest a couple changes/additions: 1) make “earthquakes” the first cause of tsunamis and replace “volcanic eruption” (which is not relevant source for tsunamis in California) with “submarine and subaerial landslides” (which is relevant to California); and 2) include mention that tsunamis can cause significant flooding in low-lying coastal areas and strong currents in harbors.

Pg 146 – first paragraph under the title “Tsunamis” – Subaerial landslides (slope failures from land into a water body) should be added as a potential source for tsunamis. In addition, it should be mentioned that the number and size of coastal subaerial landslides may increase because of increased coastal erosion due to sea-level rise, which in turn may increase the potential for tsunamigenic landslides along the California coast.

Pg 146 – second paragraph under the title “Tsunamis” – It should be mentioned that California Geological Survey and California Governor’s Office of Emergency Services are creating new tsunami inundation maps based on probabilistic tsunami hazard analysis (reference: California Probabilistic Tsunami Hazard Analysis Work Group, in press, Analysis of probabilistic tsunami hazard analysis in California: California Geological Survey Special Report). CGS is also working with URS to evaluate the impact of sea-level rise on numerical tsunami modeling to verify that an additive approach (tsunami height + SLR) is the appropriate method for integrating SLR and tsunamis inundation together. These new maps will provide a better resource for land-use planning and building design than the deterministically based inundation maps in the future. CGS is also working with URS to evaluate the impact of sea-level rise on numerical tsunami modeling to verify that an additive approach described in this paragraph (tsunami height + SLR) is the appropriate method for integrating SLR and tsunamis inundation together.

Pg 147 – Table 15 – The “Typical range on the CA Coast” for tsunamis is very arbitrary. By saying it is 20-26 feet, it implies that this is average or “typical”...which it is not. The actual range is more likely inches to 50 feet. Also, the period influence could be “days.”

If you have any questions about these comments or other geological hazards, please let me know.

Thank you again,

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