



## September 10, 2024: Kevin Buffington, USGS Modeling sea-level rise vulnerability for tidal wetlands of south San Francisco Bay

### *Information Shared in Meeting Chat*

- [In response to a verbal question from Scott Dusterhoff, SFEI, asking if only two sediment scenarios were run because of limited resources.]
  - Karen Thorne, USGS: Scott - we want to settle on final sediment scenarios. Feedback would be good. We can run more scenarios for the final products.
- [In response to a question from Jenn Hyman, BCDC, on whether land subsidence was considered in the analysis.]
  - Karen Thorne, USGS: The difficult part about deep subsidence is how much will occur into the future? Do we know?
- Ellen Johnck: I have been interested in the role of subsidence and SLR projections and effects for many years. Kevin could you please provide a citation for the "Ansar???" subsidence report that you mentioned. I have been relying on that the south Bay is at least -11 feet below sea level. Perhaps you or any others have another data point, from Ellen Johnck
  - Karen Thorne, USGS: <https://www.science.org/doi/10.1126/sciadv.aba4551>
  - Jenn Hyman, BCDC: <https://zenodo.org/records/11154177>
  - Christina Toms, SF RWQCB: Hi Ellen, I think Kevin is referring to this paper: <https://www.science.org/doi/10.1126/sciadv.aap9234> or this one: <https://www.science.org/doi/10.1126/sciadv.aba4551>  
InSAR = Interferometric Synthetic Aperture Radar, <https://www.usgs.gov/centers/land-subsidence-in-california/science/interferometric-synthetic-aperture-radar-insar>
  - Jenn Hyman, BCDC: The new 2024 OPC SLR Guidance doc has a nice description of vertical land motion in Appendix 3
  - Jim Ervin, UC Davis OG Fish Lab: Subsidence in Lower South Bay was reported by Poland and Ireland (1988) and Fowler (1981). Reportedly, roughly a century of subsidence in Santa Clara County was arrested around 1968.
- Loren Roman-Nunez: Can the model account for storms contributing to sediment budgets of tidal marshes, especially considering climate change increasing intensity of storms?
  - Kevin Buffington, USGS: Yes! Essentially randomly vary sediment availability each year based on some precip scenarios