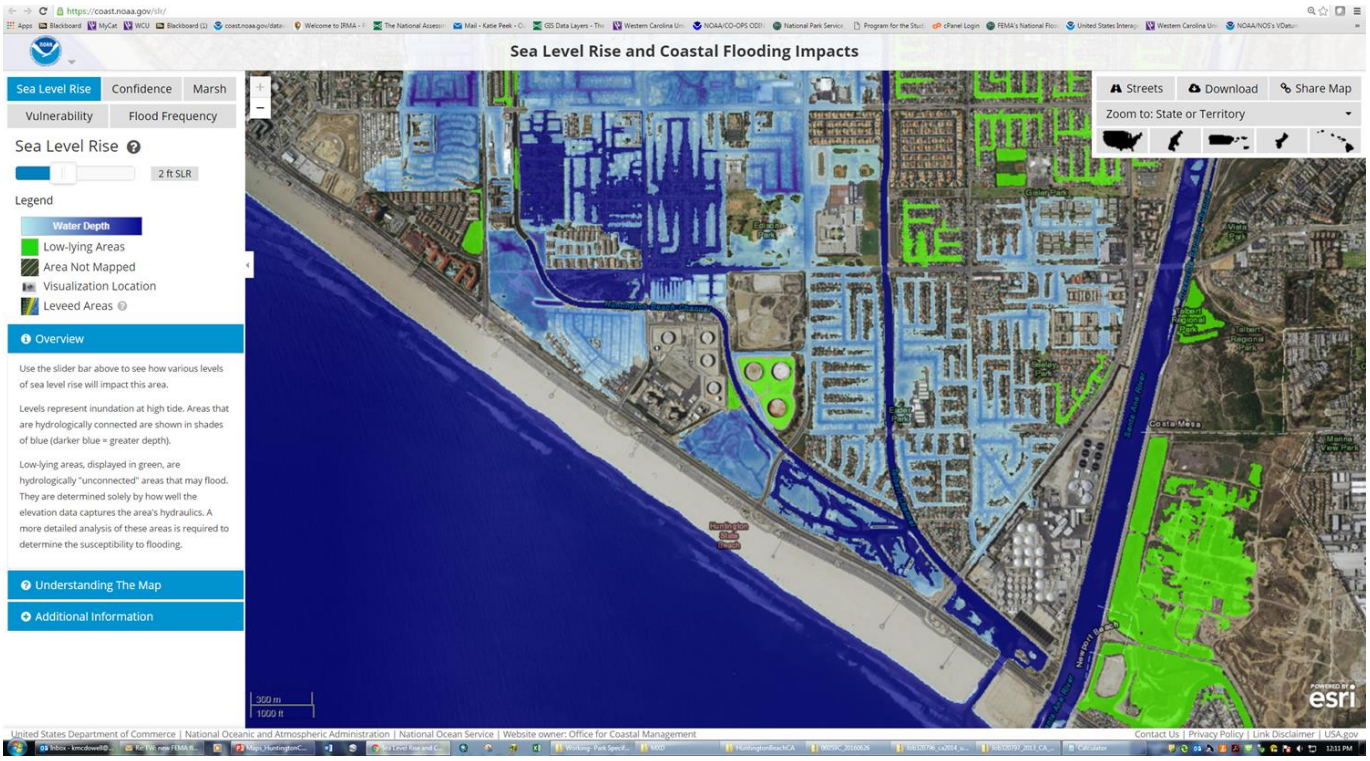
FACT SHEET

Poseidon's Proposed Desalination Plant is Highly Vulnerable to Sea Level Rise

The location for the Proposed Poseidon Desalination Plant will prove difficult, expensive, and environmentally damaging to maintain over a 50 or even 30-year life span.

This opinion is based on evaluating NOAA sea level rise flood maps, FEMA flood maps, USACE LiDAR, and a variety of Tsunami hazard products shows that the location chosen for the Poseidon Desalination Plant will prove difficult, expensive, and environmentally damaging to maintain over a 50 or even 30-year life span. When examining sea level rise inundation maps for a particular area, one has to remember to add extreme tidal fluctuations, like king tides, to the passive, water-level increases expected from rising sea level. While the proposed site for the Poseidon plant is elevated, and could even be elevated more as it is developed, the problem lies in the broader context of hazard exposure and vulnerability for the surrounding area.

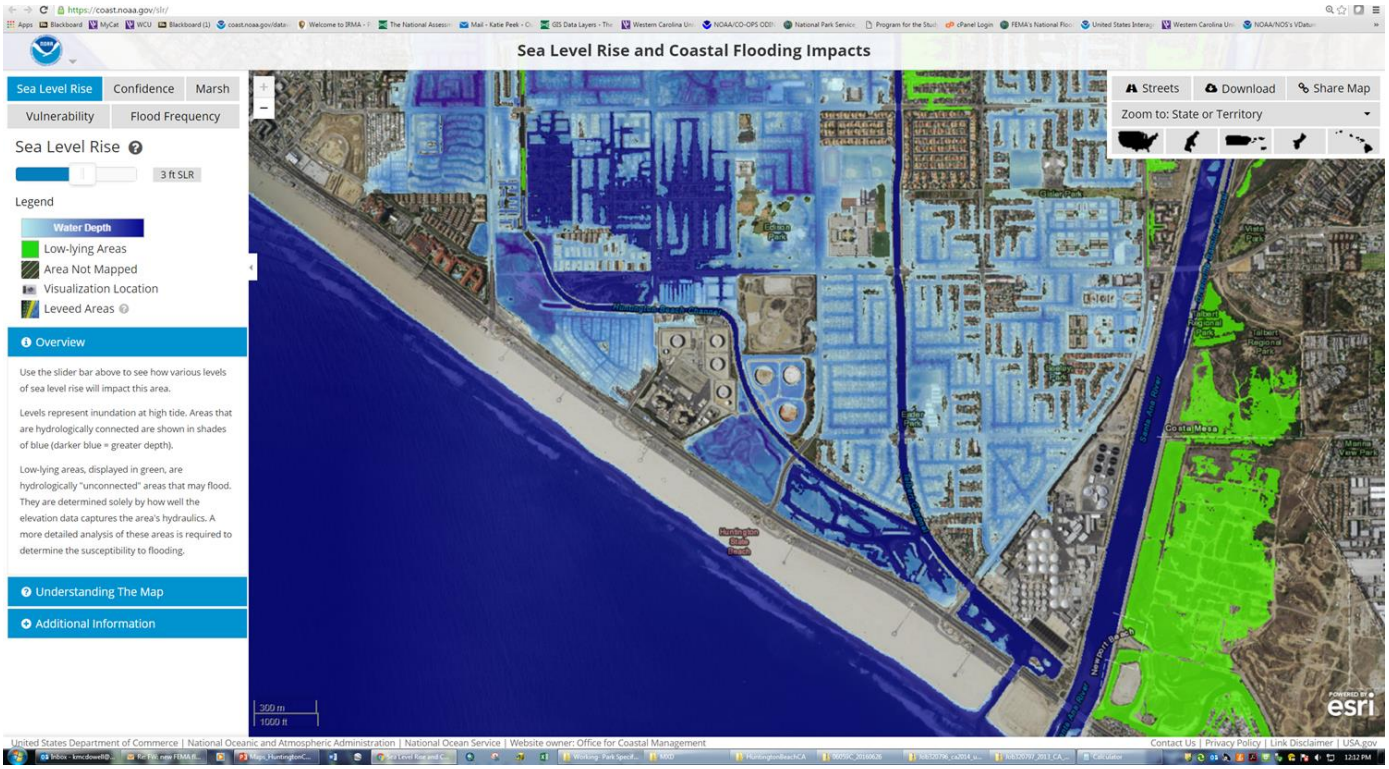


Flooding map of Poseidon Project site with 2 foot of sea lever rise at Mean High High water (Est. 2050)

Poseidon Desalination Plant is highly vulnerable to coastal hazards associated with sea level rise.

One cannot take comfort in the fact that the site and its buildings do not currently appear in any FEMA flood zones. Nor does the site get "directly" flooded by sea level rise until at least 6ft of projected rise. However, the area around the site is extremely low in elevation and will be significantly exposed to flooding with only 1ft of sea level rise, clearly possible during the lifetime of the project. By 2ft of sea level

rise, the project site will become an island. With storms and king tides possible on top of this sea level rise, it is a certainty that the site will increasingly be cut off from access and the infrastructure that supports it, until it becomes separated completely from the surrounding area. The only way to prevent this scenario would be to invest heavily in modifying, armoring, protecting, and raising adjacent areas at great cost in dollars and environmental impacts. The site may remain above the flooding, but it will become impossible to maintain due to the extremely high vulnerability of the area around the project. Finally, some day in the not so distant future, the site and facility will go to sea as sea level rise continues. Someone will be responsible for the clean-up.



Flooding map of Poseidon Project site with 3 foot of sea lever rise at Mean High High water (Est. 2070)

It is critical to consider the future financial implications of sea level rise.
Too often we leave these problems to future generations to solve. I believe that it is more prudent to avoid placing significant new infrastructure, with lengthy operational lifespans, in areas of clear exposure to coastal hazards and rising sea level. Allowing this project to be sited so close to the coast, and in such a low elevation area, will surely saddle local officials and local taxpayers with unneeded headaches and unneeded expenses over the coming decades.

For more information about this fact sheet, contact Robert Young, Director, Program for the Study of Developed Shorelines Western Carolina University ryoung@email.wcu.edu