

Permanent Flooding





HUNTERS POINT NAVAL SHIPYARD **CLIMATE RESILIENCE ASSESSMENT** Sea Level Rise (No Mitigation)











Navy Five Year Review

Process

- A requirement of CERCLA to evaluate remedies that leave contamination in place, or those that are not yet complete, to ensure continued protectiveness of human health and the environment Basewide review of all remedies that are post-Record of Decision
- Conducted in accordance with USEPA guidance, Navy policy and guidance, and close consultation with state regulatory partners
- Provides an opportunity for community review

Components of the Five-Year

Review

- Document review
- Data review and analysis 2.
- **Community notification** 3.
- Site inspection 4.
- Assessment of protectiveness; identify 5. necessary changes
- Climate Resilience Assessment 6.

HUNTERS POINT NAVAL SHIPYARD **CLIMATE RESILIENCE ASSESSMENT** Fifth Five Year Review (FYR)

Five Year Reviews at HPNS

- The primary goal in cleanup at HPNS is to protect public health and the environment over the long term
- The Navy is required by CERCLA to review the performance of the remedial actions every five years
 - Ensures that remedies continue to 0 be protective of public health and the environment
 - Climate change is a cutting-edge issue for Five-Year Reviews; Navy is considering all available guidance
 - Navy is developing guidance and 0 policy for conducting a climate change assessment
 - USEPA has limited guidance; more 0 guidance and policy is under development
 - DTSC has draft guidance available 0 The upcoming and future Five-Year Reviews will include evaluation of the potential effects of sea level rise (including groundwater elevation changes) at HPNS





Final FYR Report





	DoD Regional Sea Level (DRSL) Navy - 2016		California Ocean Protection Council (OPC) - 2018		California OPC - 2024	
	Lowest	Highest	Low	Med-High	Low	Int-High
Year	(teet)	(feet)	(feet)	(feet)	(feet)	(feet)
2030			0.5	0.8	0.3	0.4
2035	0.3	1				
2040			0.8	1.3	0.4	0.7
2060			1.5	2.6	0.6	1.5
2065	0.6	3.2				
2070			1.9	3.5	0.7	2.2

Sea Level Rise Comparisons



Five Global Sea Level Rise Scenarios

HUNTERS POINT NAVAL SHIPYARD **CLIMATE RESILIENCE ASSESSMENT**

Sea Level Rise Projections: Source Comparisons



For each of 1,774 installations, the DRSL database uses data from the nearest tidal gauges. It adjusts its sea level rise projections for local factors like vertical land movement, ocean dynamics, and ice melt for more accurate regionalized projections for 2035, 2065, and 2100.









HUNTERS POINT NAVAL SHIPYARD CLIMATE RESILIENCE ASSESSMENT Groundwater Rise to the Surface

Groundwater at Surface









HUNTERS POINT NAVAL SHIPYARD **CLIMATE RESILIENCE ASSESSMENT HPNS Remedies to Address Sea Level Rise**









Map of Shallow Monitoring Wells on HPNS

HUNTERS POINT NAVAL SHIPYARD **CLIMATE RESILIENCE ASSESSMENT Monitoring Climate Change Impacts**

Actual sea level rise has trended near the lower part of the projected range. **DRSL range of sea** level rise projections* *baseline year 1992 Richmond: zero mean normalization ——Redwood: zero mean normalization

San Fran: zero mean normalization

Lowest Scenario (0.3 feet)

San Francisco Gauge: 19-Year Moving Average ¹²The 19-year average was used to evaluate long-term changes in climate, smoothing out yearly ups and downs in sea level. **DRSL range of sea** level rise projections* *baseline year 1992 ----- Lowest Scenario ------ Highest Scenario ------ Observed ------ Moving Average There is no overall basewide trend in seasonal groundwater levels. F (Water)







Seasonal groundwater level measurements in HPNS wells

