



# Kitsap County

## Sea Level Rise Vulnerability and Risk Assessment

TAC Meeting #2 Materials

July 15, 2024, 10:00-11:00 am

In preparation for the upcoming TAC meeting, we would like to provide some background information to help inform your decisions. One of the goals of the meeting is to establish which sea level rise planning scenario should be used for this planning tool including level of confidence and projection timeframe. To do this, the TAC will need to decide on the following:

1. Greenhouse Gas Emissions Scenario
  - a. Options: 4.5 RCP (low emissions) or 8.5 RCP (high emissions)
2. Timeframe for the planning scenario
  - a. Options: Variable (2050, 2060, 2100, etc.)
    - i. May include more than one scenario for mapping (e.g., 2050 and 2100)
3. Level of confidence (Certainty)
  - a. Options: Variable between 0.1% (very low probability of occurrence) and 99% (very high probability of occurrence)
    - i. >83% is considered high probability of occurrence
    - ii. 83%-17% is considered mid-range of occurrence
    - iii. <17% is considered low probability of occurrence

To review additional information on how a sea level rise planning scenario may be selected, please review the following publication: *How to Choose: A Primer for Selecting Sea Level Rise Projections for Washington State* (Raymond et al. 2020) at <https://cig.uw.edu/wp-content/uploads/sites/2/2020/07/SLR-Report-FINAL-July-2020.pdf>.

To review the projections by reach, please see this tool: [Interactive Sea Level Rise Data Visualizations \(uw.edu\)](#). We will be reviewing this during the meeting as well.

Table 1: Examples of SLR scenarios discussed in related projects. These are offered as a reference. These projects had different objectives that resulted in choosing different projections.

Source	RCP	Dates	Certainties
KC CC Risk Assessment (2020)	4.5, 8.5	2030, 2050, 2100	50,90,95,99%
KC SW (Task 700) CC Assessment (2019)	4.5, 8.5	2030, 2100	90%

BI SLR Risk Assessment (2019)	8.5	2060, 2100, 2150	1% (Rapid Ice Melt), 50%
BI Adaptation Cert Tool (2023)	8.5	2100	50% (also 1%, 99%)
PGST Climate Proj, SLR, Ex Precip (2018)	4.5, 8.5	2050, 2100, 2150	50% (Central), 17-83% range (Likely), 10%, 1%, 0.1%
Seattle’s mapping site (current)	8.5	2050, 2100	50%, also uses a range to estimate then map 1 foot intervals
Pacific County (2023)	8.5	2050, 2100	87%
Island County (2017)	8.4	2030, 2050, 2100	50%, 25%, 5%, 1%

Table 2: Assets and mapping data to be considered. The list may be revised throughout the project.

Data Parameter	Source
<i>Elevation and Environmental</i>	
Bare-earth, LiDAR based topography	NOAA, WA DNR LiDAR Portal
Projections of relative sea level rise and extreme coastal water levels (flood return frequencies)	UW CIG, Miller et al., 2018 Projections
Sea Level Rise Tidal Surfaces	NOAA Sea Level Rise Data Viewer/Download, DoD ( <a href="https://drsl.serdp-estcp.org/Site">https://drsl.serdp-estcp.org/Site</a> )
Tidal datums and predictions	NOAA-National Ocean Service (NOS)
Navigational charts (bathymetry)	NOAA Office of Coast Survey
Zoning, Shoreline Designations	Kitsap County
Surface hourly wind records	National Climate Data Center (NCDC)
Streams	Kitsap County, Suquamish Tribe
<i>Assets</i>	
Existing Flow Control Infrastructure (culverts, tide gates, outflow pipes and retention pond locations, component sizing and condition)	Kitsap County, WSDOT, Suquamish Tribe
Critical Infrastructure: <ul style="list-style-type: none"> <li>Airports</li> <li>Fire Stations</li> <li>Law Enforcement</li> </ul>	Kitsap County

Data Parameter	Source
<ul style="list-style-type: none"> <li>• Hospitals</li> <li>• Libraries</li> <li>• Schools</li> <li>• Bridges</li> <li>• Roads</li> <li>• Brownfield/landfill sites(active and past)</li> <li>• Superfund Sites</li> </ul>	
Subsurface communication infrastructure (type, locations, salinity and moisture tolerances)	Public Utility Districts, Vendors, Kitsap County
Building Footprints	Microsoft 2021
On site septic (locations, types)	Kitsap County Department of Community Development – Environmental Health records
Flood coverage maps (areas)	Kitsap County, FEMA
Areas of flooding concern (dates, areas)	Public feedback during meetings, Interviews with Public Works and Emergency Management
Marine infrastructure (ferries, ports, marinas, ramps)	Kitsap County, WA State Parks, WADNR, WSDOT
Historical and Cultural Sites	Tribes, DAHP, Kitsap County
Wetlands and Critical Areas	NWI, Kitsap County, Ecology, USFWS
Parks and Nearshore Access	Kitsap County, WA State Parks, WADNR