

Frequently Asked Questions

What is sea level rise?

Warming sea temperatures cause the water to expand (take up more space). Warming atmospheric temperatures are causing ice to melt faster (more water stored in the oceans rather than on land as polar ice sheets and glaciers). Combined, these two factors cause the water to rise along the coastline.

What is the purpose of a sea level rise vulnerability and risk assessment?

Regional variations in sea levels can vary depending on changes in land height, ocean currents, and other factors. For this reason, it is important to conduct locally based sea level rise vulnerability assessments, with future scenarios, to better understand the near- and long-term risks to community assets. With that knowledge, we are better equipped to plan for and develop resilience measures specific to our community.

What sea level rise projections are being used for this analysis?

The SLR inundation mapping will be based on an 8.5 Relative Concentration Pathway (RCP) emissions scenario. Two projections will be made for different levels of planning (e.g., short-term and long-term) for 2050 and 2100. Additionally, three levels of risk/certainty will be mapped including 1% (less likely to occur), 50%, and 90% (likely to occur) probability of occurrence.

Can you explain RCP (Representative Concentration Pathways) and its significance to this assessment?

RCP values represent greenhouse gas concentrations scenarios. The level of concentration impacts the rate at which ice melts and sea water expands, which in turn impacts the amount of sea level rise that is projected. The two RCP values used to create the projected sea level rise amounts for the Puget Sound are RCP 4.5 (“low”) and RCP 8.5 (“high”). RCP 4.5 represents conditions if global temperatures rise no more than 2 to 3 degrees Celsius by 2100. RCP 8.5 represents conditions if global temperatures continue to rise. The resulting difference in SLR heights between the two RCP scenarios is one tenth of a foot in the next 30 years to approximately 2 feet difference in the predicted heights by 2100 (“Projected Sea Level Rise for Washington State” by Miller et al, 2018) ([Projected Sea Level Rise for Washington State – A 2018 Assessment \(uw.edu\)](#)).

Why was RCP 8.5 chosen instead of 4.5?

RCP 8.5 value was chosen by the Technical Advisory Committee (TAC) because there is no evidence showing that global temperature increases are slowing down and that only a two

(2) degree Celsius rise from 2018 levels will be achieved. The TAC decided to use the higher emissions scenario because it seems to be the more likely scenario based on best available science.

What assets will be mapped in this Vulnerability and Risk Assessment?

- *Roads, Transportation*
- *Hospitals, Police Stations, Fire Depts*
- *Schools, Libraries*
- *Residences*
- *Agricultural, Farmland*
- *On-site septic systems*
- *Electrical Substations*
- *Historic and Cultural Resources*
- *Group A Wells, Wastewater Treatment Plants*
- *Beach Access, Parks*
- *Wetlands, Estuaries*
- *Marinas, Bays*
- *Brownfield Sites, Landfills*

Will this study cover tsunamis or effects of a Cascadia earthquake?”

No, this study does not look at any potential land elevation changes due to a subduction event. We will pass along any projections or research on this to the County staff on the team. Additionally, this analysis does not include:

- *Site-specific or property-level scale analyses*
- *Future bluff erosion rates due to sea level rise*
- *Analysis of tsunami or Cascadia Subduction Zone earthquake risks*
- *Economic analysis of sea level rise impacts*
- *Groundwater modeling or saltwater intrusion studies*
- *Analysis of impacts on riverine systems*

How will results be presented?

A Vulnerability and Risk Assessment Report will be prepared that identifies vulnerabilities for the specific assets and identify practical region-specific actions or projects, to address increased sea water interactions where appropriate. The StoryMap will be updated to include interactive maps and will summarize the recommendations from the report.

How will the survey information be incorporated into the assessment?

The survey is part of a larger community engagement effort to inform stakeholders and community members about the progress and results of the assessment. Documented first-hand experiences of flooding timing and locations will be used to validate the analysis model outputs. The input and feedback about concerns, values and priorities related to sea level rise, along with the technical results of the assessment, will help formulate recommended next steps and future actions.

How will this assessment be used by service providers and the County?

The assessment will provide detailed information to the County about the risks and consequences of SLR to Kitsap County's assets, including critical infrastructure based on the most up to date technical information. The sensitivity of each asset, or the degree to which an asset is susceptible to impacts due to coastal flooding, will be qualitatively assessed based on known conditions of each asset and input from providers, stakeholders, and others. The most vulnerable assets will then be identified. This information will provide service providers with necessary data for future resiliency planning purposes. The County may use this information to inform the Capital Improvement Plan, the Hazard Mitigation Plan or other planning documents.

Will this assessment result in regulatory changes?

The SLR Vulnerability Assessment is intended to provide the community with data and information on the vulnerability of public buildings and infrastructure to SLR and coastal flooding and consequences on people, communities, the economy and the environment. The information in the assessment will be used to advise decision makers, public agencies, stakeholders and others as they develop, prioritize, design and build appropriate adaptation strategies to enhance Kitsap County's resilience to SLR and coastal flooding. Such decisions may result in regulatory changes with input from the public. This project will include an audit of existing County policies and regulations and suggested amendments to help mitigate the risk of loss from sea level rise. These recommendations will be included in a memorandum for consideration by the County during future code updates, such as the next Shoreline Master Program periodic update.

Is this a wise use of county staff time and resources?

The County is already experiencing flooding and erosion in low-lying coastal areas during times of high tides and severe weather. The more we understand the vulnerability and consequence of SLR, the better County leadership and staff can work on strategies and approaches to increase resiliency and reduce potential harm to the community. This project is intended to provide information for residents to understand their potential risk

from coastal flooding to take informed action to protect their belongings and investments, based on their risk tolerance. This project is funded by the Department of Ecology under a Competitive Shoreline Planning Grant.

Are king tides accounted for in this assessment?

This assessment includes mapping an extreme flood event for each planning scenario. The extreme flood values are based on the return frequencies of the highest tides between 1980 and 2016. This historical data includes king tides since they are not considered to be a new phenomenon. Extreme flooding events are added on top of the projected sea level rise heights to represent what these extreme floods may look like in the future. (“Extreme Coastal Water Level in Washinton State: Guidelines to Support Sea Level Rise Planning” by Miller et al 2019) ([Extreme Coastal Water Level in Washington State: Guidelines to Support Sea Level Rise Planning \(uw.edu\)](#)).