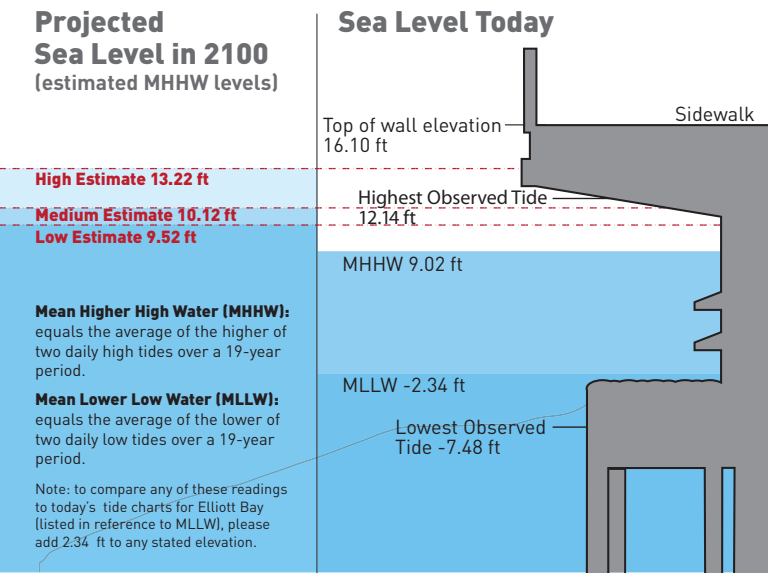
SEA LEVEL RISE AND THE SEAWALL

Addressing a changing climate

Given the proximity of Seattle to the Puget Sound and the known impacts of climate change on the rise of sea levels, the Seattle Department of Transportation (SDOT) has taken into account findings of localized scientific studies that predict sea levels in varying scenarios to inform the Elliott Bay Seawall Project design.

Based on projections the City does not anticipate needing to build a higher structure to accommodate sea level rise over the next 100 years. With sea level in mind, the new seawall and Alaskan Way are being designed to reduce the risk of tidal inundation during extreme high water events, such as a storm surge at high tide. If the highest predicted sea level rise were to occur, the current seawall elevation would be three feet above the new still water level (see graphic).



The graphic above compares current mean higher high water (MHHW) levels with the MHHW levels predicted for 2100. The grey structure on the right is the new seawall, which will be at the same height of the existing seawall.

University of Washington Climate Impacts Group

Although there is no universally agreed upon projection for sea level rise, the City is fortunate to have an internationally recognized, interdisciplinary research resource in our backyard: the University of Washington (UW). The UW's Climate Impacts Group focuses on climate science for local communities and the entire western United States. Guidance on sea level rise from the Climate Impacts Group has been adopted as the City's standard, and the Elliott Bay Seawall Project has been a pilot using this guidance tool.

Sea level projections for Elliott Bay

The factors to consider with sea level rise include melting glaciers and icecaps, and elevation changes from tectonic plate movement. Given the complexity of the issues, the Climate Impacts Group provided a range of sea level rise estimates, each with different likelihoods of occurrence. By the year 2100, the rise in sea levels predicted for Elliott Bay could be as little as six or as much as 50 inches. Given the importance of the seawall, SDOT is using the highest predictions from the study.

For more information

Visit our website or contact us to hear about our latest activities.

Web: waterfrontseattle.org/seawall
Email: seawall@waterfrontseattle.org
Project hotline: 206.618.8584

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