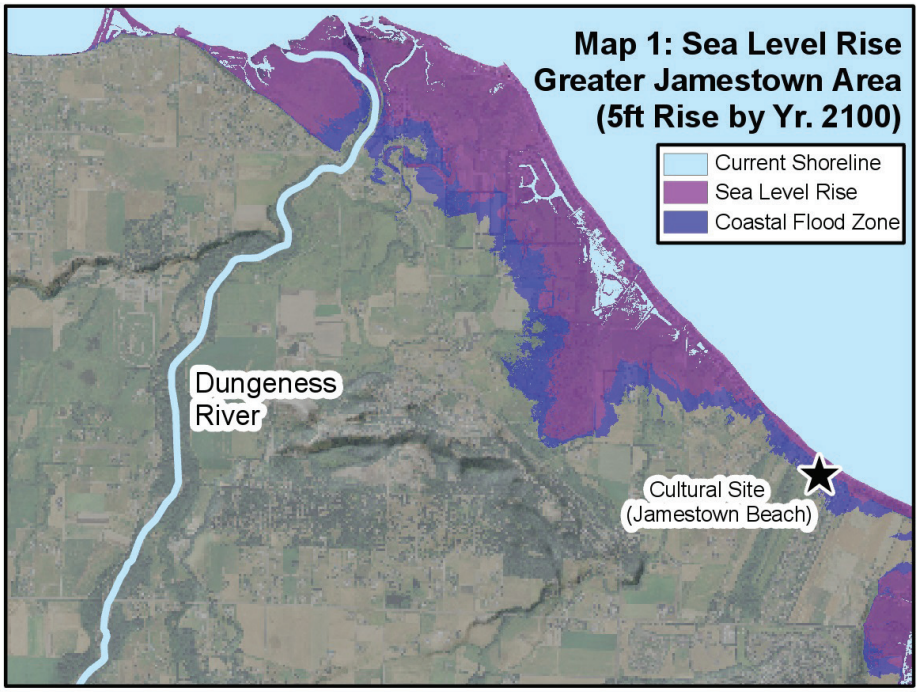
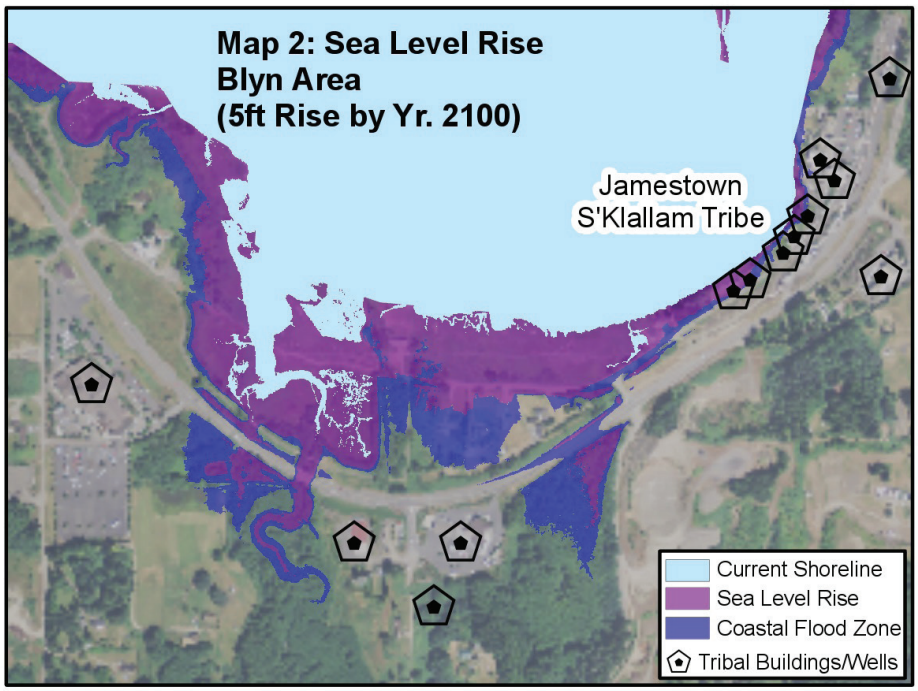
Vulnerability Assessment and Climate Change Adaptation Preparation

The Jamestown S'Klallam Tribe is on the forefront of addressing tribal vulnerabilities and preparing for climate change. The 2013 Jamestown Climate Vulnerability Assessment and Adaptation Plan provides an assessment of vulnerabilities of tribal resources to the negative impacts of climate change. The plan also identifies adaptation measures that the tribe is working to complete. Sea level rise, ocean acidification and climate models show potential for increased risks to critical habitats, tribal infrastructure and tribal health.





As one of the first tribes in western Washington to complete a climate adaptation plan and vulnerability assessment, the Jamestown S'Klallam Tribe has identified and prioritized areas where the changing climate conditions (i.e. changing precipitation patterns, sea level rise, ocean acidification) will leave tribal resources, infrastructure, economy and health most vulnerable.[1] Climate vulnerability depends largely on climate exposure, sensitivity and adaptive capacity.[2]

The tribe identified many vulnerabilities:

Impact to Salmon which is the foundation for almost all aspects of tribal cultural life and also serve as economic and nutritional resources for the tribe. Salmon will be impacted by the change in timing and amount of winter rains and flooding, scouring of egg redds (nests) during high flows, thermal stress from higher water temperature, and less water availability in the summer.

Oysters and clams also are highly vulnerable under expected conditions. Projected impacts include higher water temperatures and ocean acidification. There will also be an increased occurrence of shellfish poisoning associated with harmful algal blooms (which

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The maps (left) show flood conditions with a sea level rise model under the high severity scenario (Figure 1).[1] They show the potential inundation of a vital water source, closed roads, an important cultural site at Jamestown Beach (Map 1), and buildings on the tribal campus in Blyn (Map 2) where flood risk is projected to increase by the end of the century.[1]

Map Data Sources: Adaptation International Climate Models 2013,[8] NAIP 2013,[9] WAECY 2011,[10] USGS 2019[11]

To ensure continued economic growth, promote long-term community vitality, and protect sensitive resources and assets, it is essential that we incorporate climate change preparedness into our planning efforts and operations.

– W. Ron Allen, Jamestown S'Klallam Tribe Chairman

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warmer conditions may favor), diminished health and wellness, economic loss, and increased flooding of tribal buildings, sacred historical places and infrastructure.[3]

Traditional ways of life and health are extremely vulnerable. The loss or displacement of traditional plants necessary for food, and fibers needed for traditional practices is likely. There are potential impacts to Indian health from forest fire smoke and loss of important traditional agricultural food and natural resources.

NOAA[7]

Ocean acidification (decrease in ocean pH) will cause waters to become "corrosive to shell-forming organisms such as oyster larvae, clams, mussels and crabs," posing serious threats to the shellfish in the Strait of Juan de Fuca.[4] Pictured are the pteropod shells dissolving because of the decreasing ocean pH.[5]

Figure 1: Sea Level Rise Projections, Sequim Region

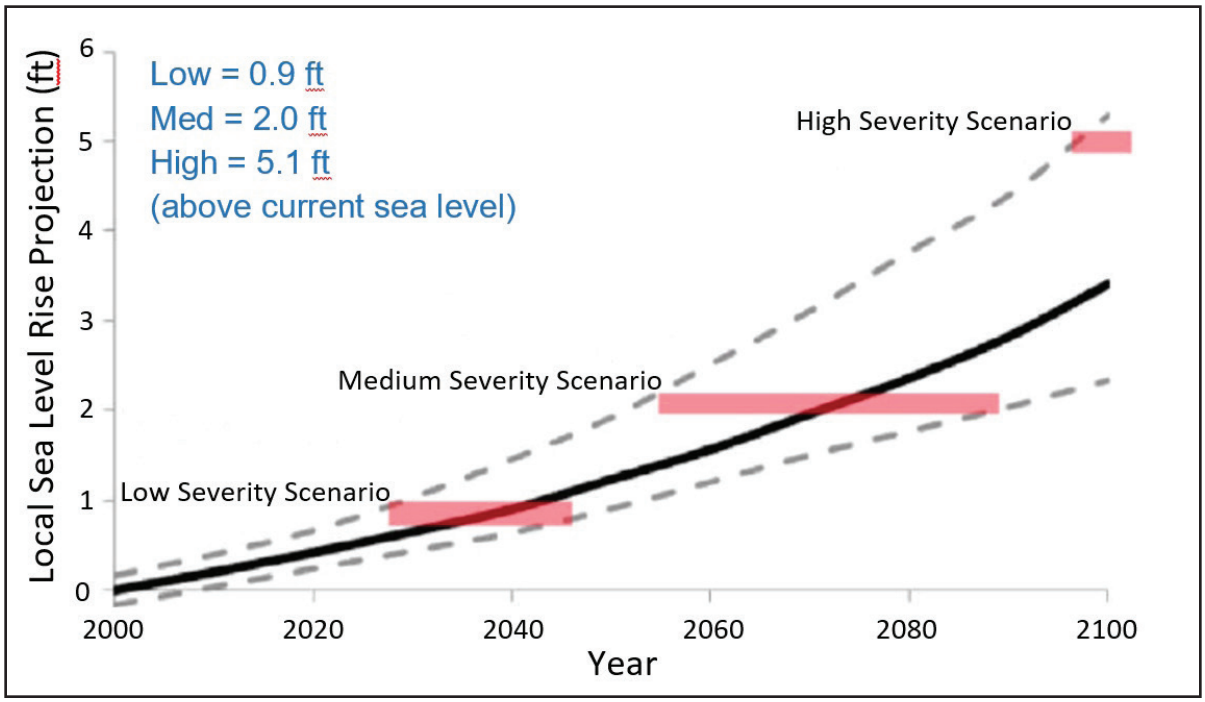

Figure 1 shows sea level rise in three scenarios (low, medium, high). This graph is from page 16 of the Jamestown Climate Vulnerability Assessment and Adaptation Plan.[6] The tribe has identified areas most susceptible to rising sea levels. The assessment has helped the tribe relocate several storage buildings that would have been otherwise affected.