



5-2021

Vignette 16: Vulnerability and Climate Change Adaptation

Northwest Indian Fisheries Commission

Jamestown S'Klallam Tribe

Follow this and additional works at: https://cedar.wwu.edu/salish_pubs



Part of the [Biodiversity Commons](#), [Biology Commons](#), [Environmental Health Commons](#), [Environmental Health and Protection Commons](#), [Marine Biology Commons](#), and the [Natural Resources Management and Policy Commons](#)

Recommended Citation

Northwest Indian Fisheries Commission, Jamestown S'Klallam Tribe. (2021). Vulnerability and Climate Change Adaptation. In K.L. Sobocinski, State of the Salish Sea. Salish Sea Institute, Western Washington University. <http://doi.org/10.25710/vfhb-3a69>

This Vignette is brought to you for free and open access by the Salish Sea Institute at Western CEDAR. It has been accepted for inclusion in Institute Publications by an authorized administrator of Western CEDAR. For more information, please contact westerncedar@wwu.edu.

VULNERABILITY ASSESSMENT AND CLIMATE CHANGE ADAPTATION PREPARATION

Excerpted from State of Our Watersheds 2020, authored by the Northwest Indian Fisheries Commission and the Jamestown S’Klallam Tribe

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 (Adaptation International 2013), Climate vulnerability depends largely on climate exposure, sensitivity and adaptive capacity (Adaptation International 2013).

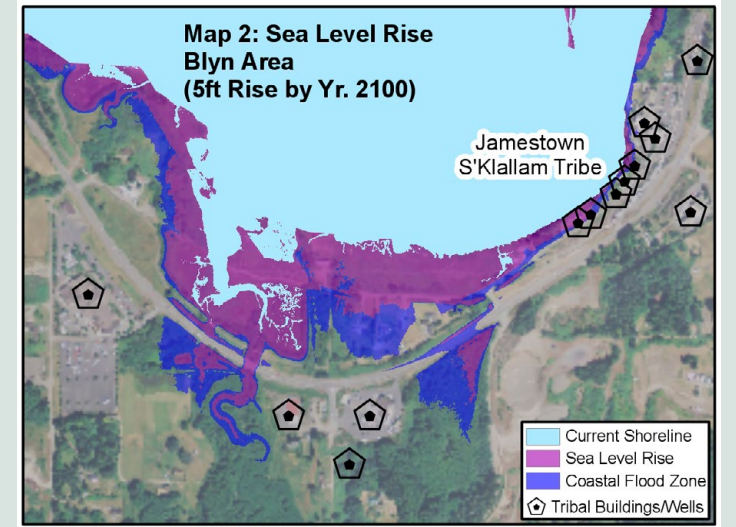
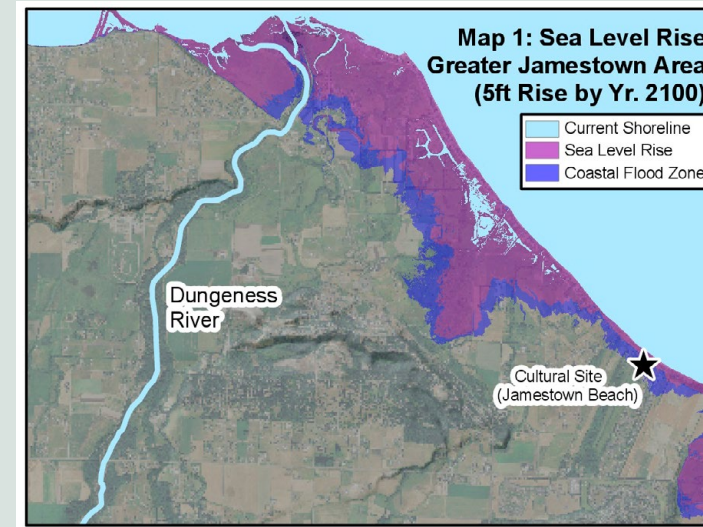
The tribe identified many vulnerabilities: **Impact to Salmon** which is the foundation for almost all aspects of tribal cultural life and also serve as economic and nutritional resources for the tribe. Salmon will be impacted by the change in timing and amount of winter rains and flooding, scouring 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 warmer conditions may favor), diminished health and wellness, economic loss, and increased flooding of tribal buildings, sacred historical places and infrastructure (Adaptation International 2013).

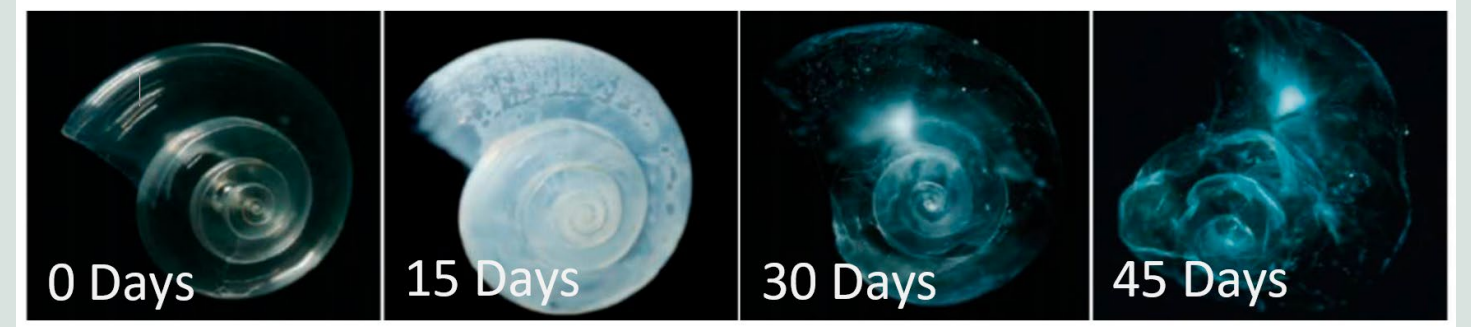
Traditional ways of life and health are extremely vulnerable. The loss or displacement of traditional plants necessary for food and fibers needed for traditional practices is likely. There are potential impacts to Indian health from forest fire smoke and loss of important traditional agricultural food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

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.

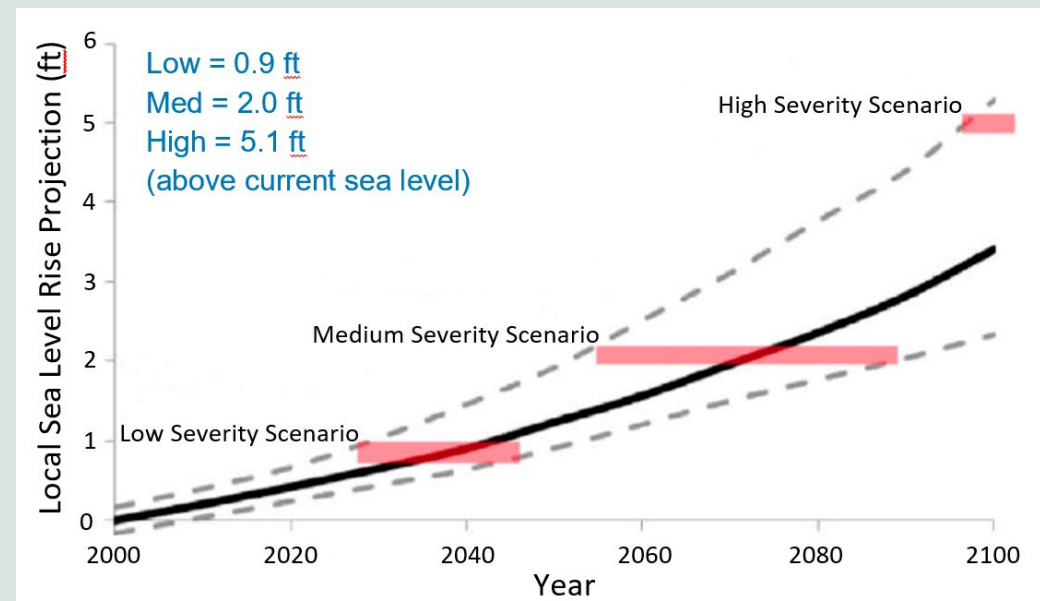
W. Ron Allen
Jamestown S’Klallam Tribe Chairman



Maps 1 and 2. The maps show flood conditions with a sea level rise model under the high severity scenario (Map 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. Map data sources: Adaptation International (2013), National Agriculture Imagery Program (2013). Source: Washington State Department of Ecology Regions (2011) and United States Geological Survey (2019)



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 (Adaptation International 2013). Pictured are the pteropod shells dissolving because of the decreasing ocean pH. Source: Washington State Department of Ecology (2012)



Sea level rise in three scenarios (low, medium, high). This graph is from page 16 of the Jamestown Climate Vulnerability Assessment and Adaptation Plan (Adaptation International 2013). 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.