

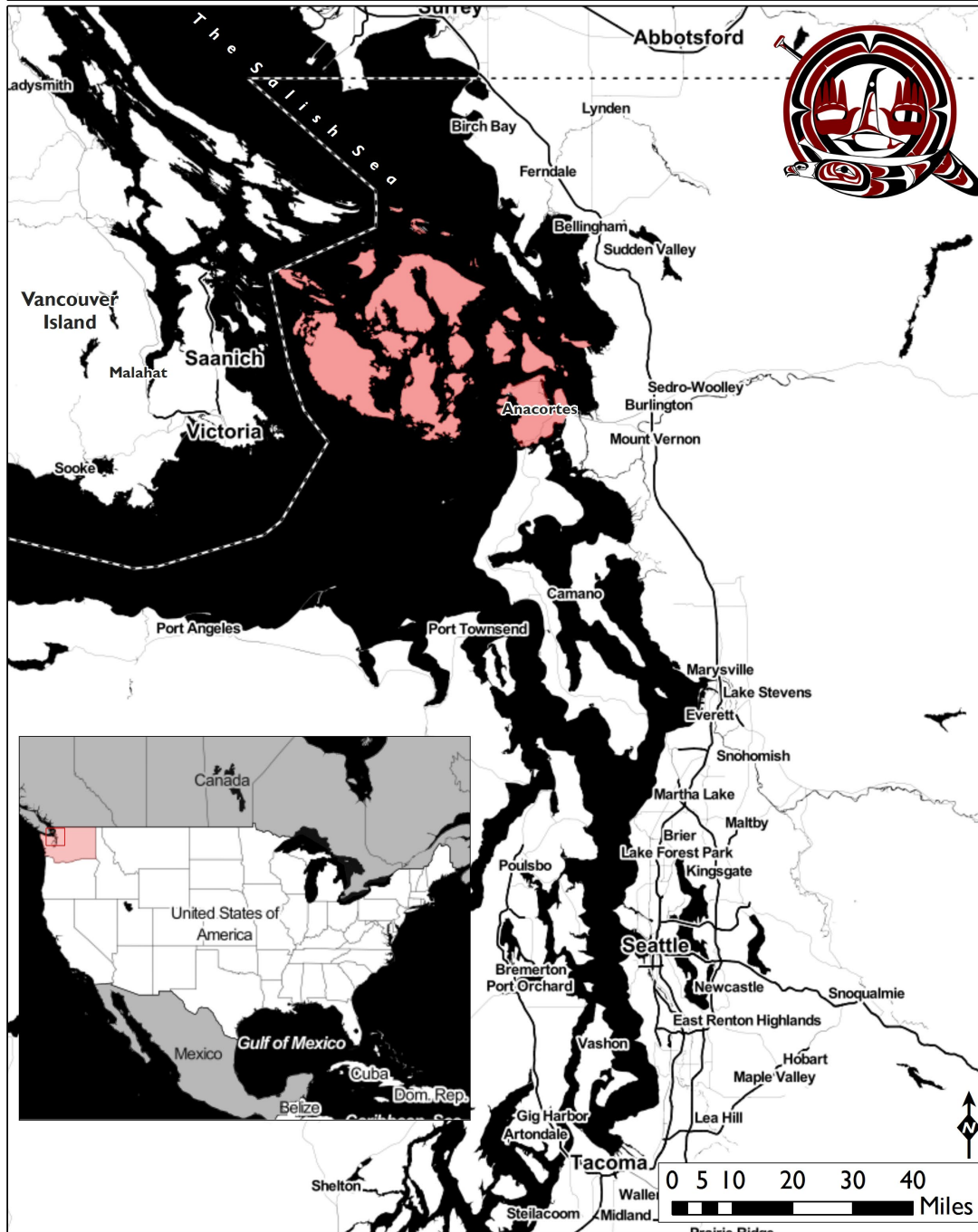
Samish Indian Nation: Climate Resilience Planning

*Fletcher Wilkinson, Climate Adaptation Specialist
December 13, 2018*

Samish Climate Resilience Planning



Samish Indian Nation Traditional Territory



Project Objectives

- Build a resilient future
- Protect and enhance resources for 7th generation
- Incorporate community values

Project Framework

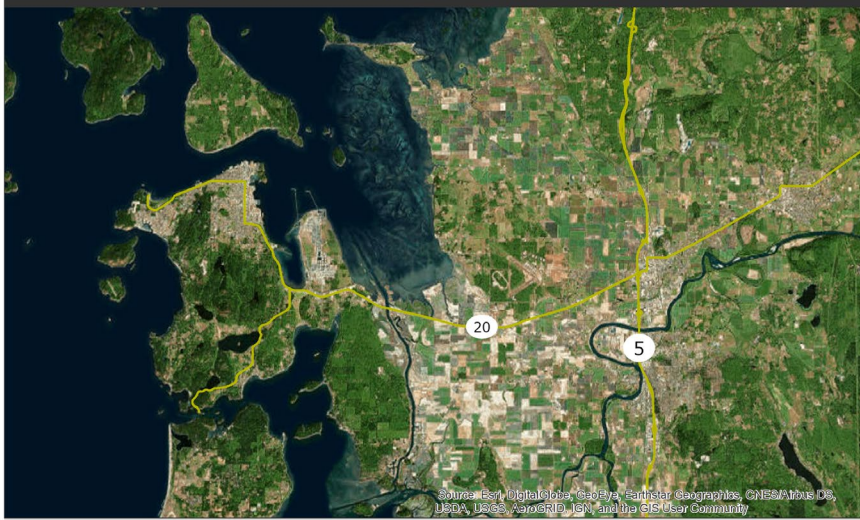
- Community based planning process
- RCP 8.5 (business as usual) – Low risk acceptance
- Qualitative assessment

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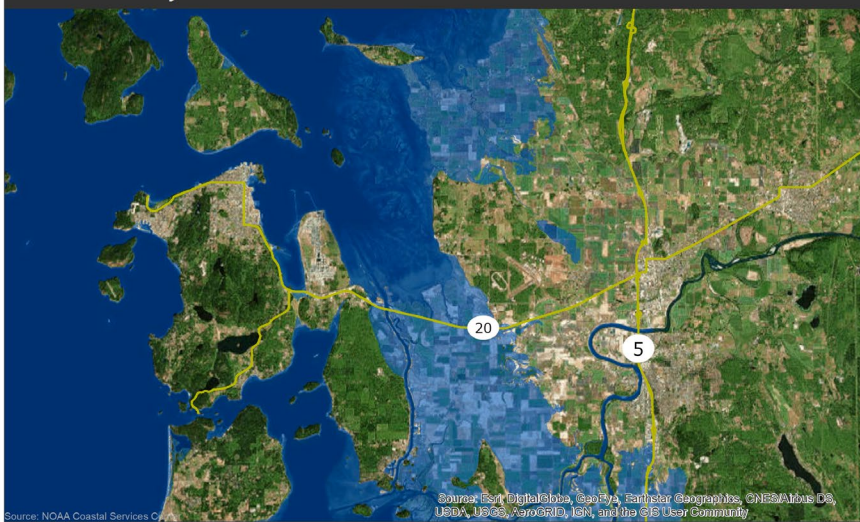


Changing Conditions

FIDALGO ISLAND AND HIGHWAY 20, ANACORTES, WA



PROJECTED 5 FOOT SEA LEVEL RISE BY 2100



- Local sea level rise
 - +5 ft by 2100
 - +10 ft by 2050
- Avg annual temp
 - +8.3°F by 2080
- Extreme heat days
 - +10.8 days/year by 2080
- Annual precipitation
 - +2in (7%) by 2080
- Summer precipitation
 - -.7in (8%) by 2080
- Extreme fire danger days
 - +13.2 days by 2050



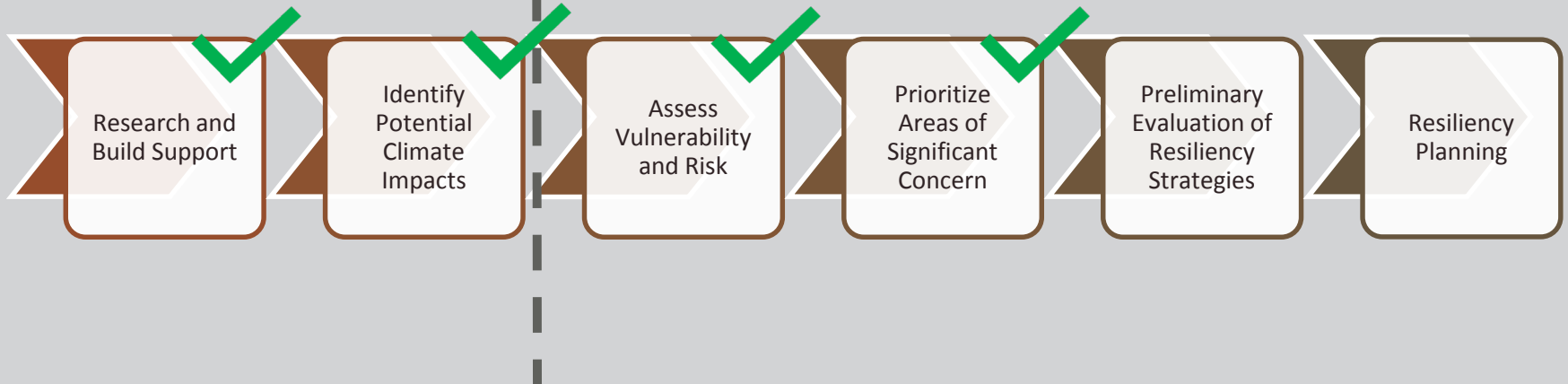
Project Overview

Phase One: Framework and Planning Priorities

BIA Grant (2017)

Phase Two: Vulnerability Assessment and Resiliency Planning

DOE Grant (2018-2019)



Samish Climate Resilience Planning



Project Overview

- Complete Phase 2 (2019)
 - Evaluate adaptation strategies
 - Complete Samish Climate Resilience Plan
 - Integrate climate resilience into other Tribal policy

ACTIVITY	Notes	Planned End Date	2018												2019							
			JAN	FEB	MAR	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APRIL	MAY	JUNE	JULY	
Samish Climate Resiliency Planning Process																						
Perform Vulnerability and Risk Assessments	In Progress	Aug-18	█																			
<i>Sectors of importance to the Tribe identified</i>	COMPLETE	Nov-17																				
<i>Priority Climate Change Resiliency Planning Areas identified</i>	COMPLETE	May-18					█															
<i>S.M.A.R.T. resilience goals for high priority sectors set</i>	In Progress	Aug-18									█											
<i>Report summarizing the best available scientific data on climate change in our region, including Samish TEK</i>	COMPLETE	Feb-18		█																		
Finalized Samish Climate Resiliency Plan		Feb-19																				
<i>Identify Priority Climate Change Resiliency Planning Areas</i>	COMPLETE	Oct-18																				
<i>Research, Develop, Assess, and Select Resilience Actions</i>	In Progress	Nov-18																				
<i>Samish Climate Resiliency Plan adopted by Tribal Council</i>	Pending	Mar-19																				
<i>Draft of Samish Climate Resiliency Plan</i>	Pending	Jan-19																				
<i>Samish Climate Resiliency Plan mainstreamed across all Tribal program management plans</i>	Pending	Apr-19																				

Samish Climate Resilience Planning



Planning Framework

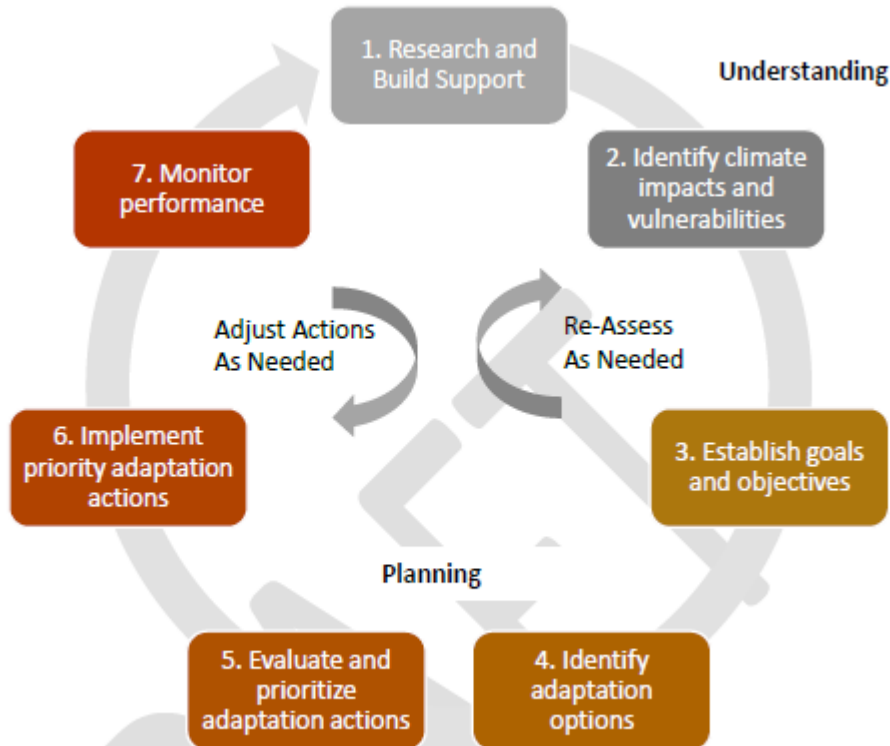


Figure 2: Climate Change Adaptation Planning Cycle. Adapted from "Quick Guide to Climate-Smart Conservation."

Completed

- Resiliency Working Group
- Public outreach
- Climate change lit review
- Vulnerability Assessment

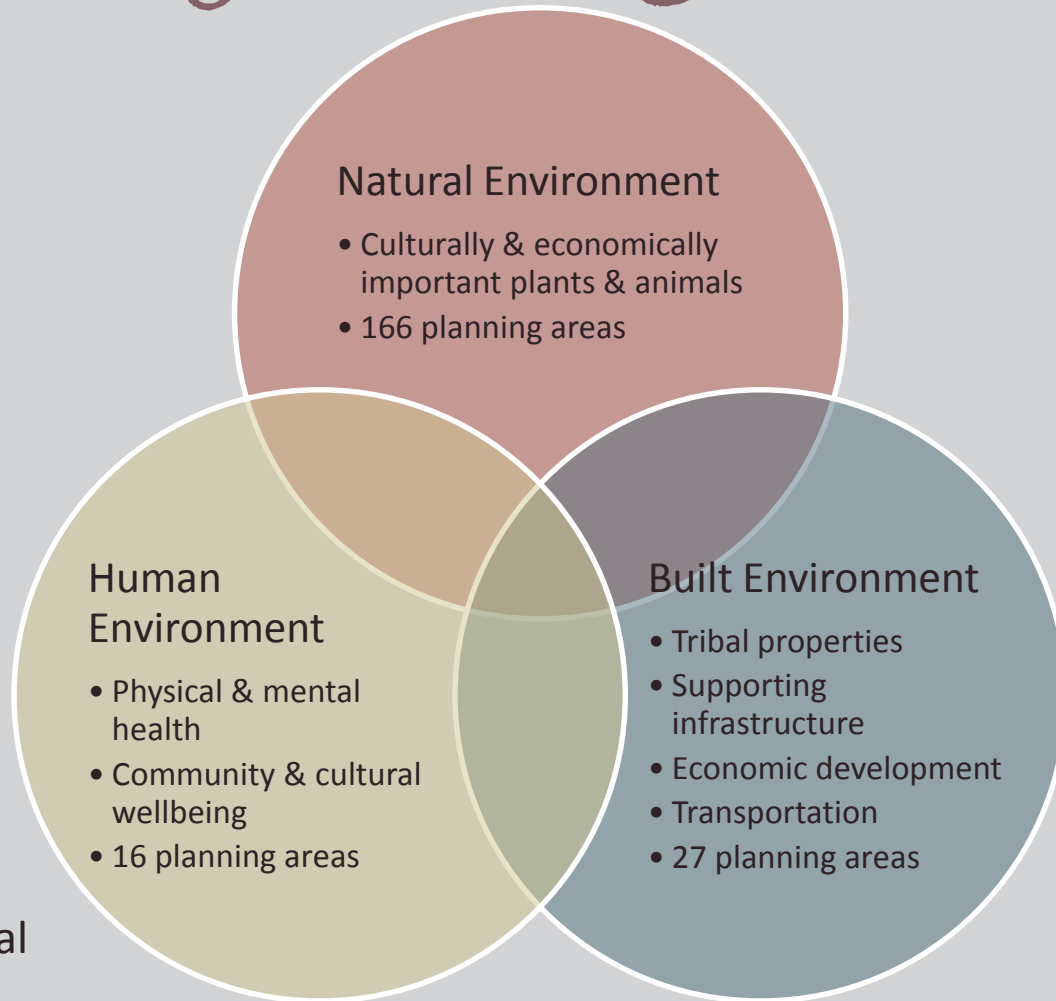
In Progress

- Evaluate adaptation strategies
- Integrate findings to tribal planning processes

Samish Climate Resilience Planning



Key Planning Areas



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Qualitative Assessment

VULNERABILITY = SENSATIVITY x ADAPTIVE CAPACITY

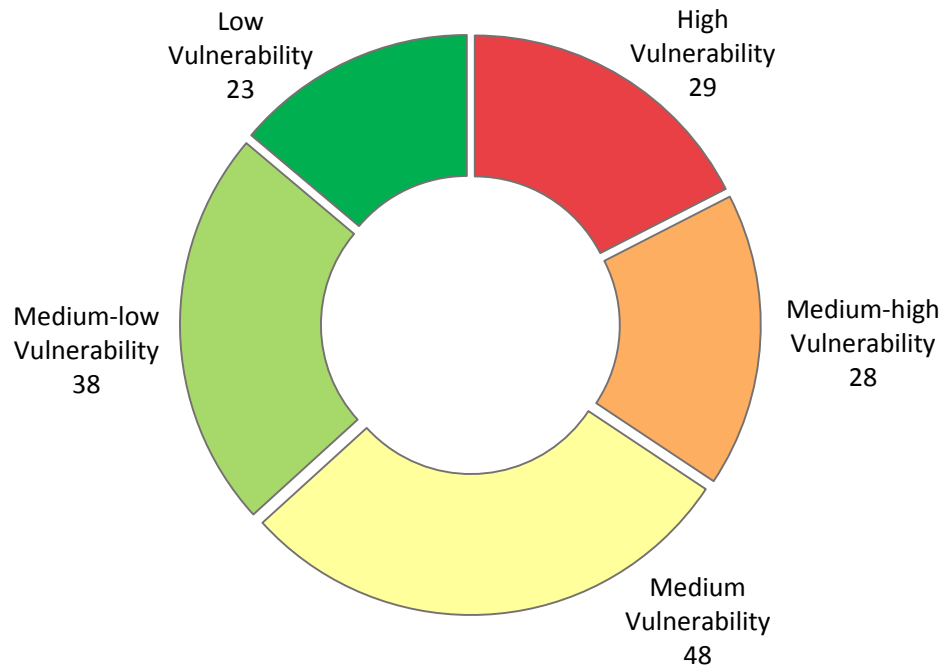
Sensitivity	Adaptive Capacity		
	High	Medium	Low
High	Medium Vulnerability	Medium-High Vulnerability	High Vulnerability
Medium	Medium-Low Vulnerability	Medium Vulnerability	Medium-High Vulnerability
Low	Low Vulnerability	Medium-Low Vulnerability	Medium Vulnerability

Samish Climate Resilience Planning



Phase Two Key Findings

Natural Environment: Vulnerability Assessment



- Qualitative assessment
- 209 total planning areas
 - 166 plant & animal species
 - 27 infrastructure & property areas
 - 16 health & culture planning areas



Sample Communication Materials

SAMISH PREPARES

OUR PROMISE TO FUTURE GENERATIONS

We want our children and their children to be healthy, prosperous, and enjoy our natural resources and cultural traditions. Working together to identify and prepare for the impacts of a changing climate, we can fulfill this promise for future generations.



The first step in preparing is to understand more about future climate conditions.

We are already seeing changes in our local climate.

These changes are expected to accelerate and become more pronounced in the coming decades. Even if we stop emissions of harmful gases, the excess gases in the atmosphere would still take many decades to escape - as a result, we have 'locked in' changes to our climate for our children and their children.

Our changing climate will affect our natural resources and quality of life in many ways:



WATER RESOURCES



COASTAL FLOODING



NATURE'S BENEFITS



CULTURE



HEALTH

We must act SOON to prepare for these changes.

- ✿ Impacts are already being felt and it takes time to put actions into place.
- ✿ The impacts are local - you and your family are on the "front line".
- ✿ Even if emissions stabilize, climate change impacts will last many years.
- ✿ Preparation can reduce costs and improve effectiveness.



Health for ourselves and our children. Climate change affects our health. We can plan now to avoid some of the impacts so our children and their children have a healthier future.



HEALTH

Conserving the Southern Resident Killer Whales

Q'elthoimechen

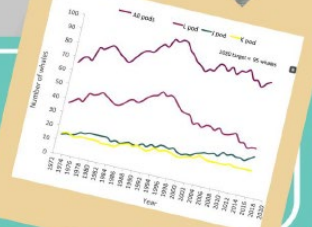


Our Orca Family

"... goes, so goes our world" - Ken Hansen 2001

Like other species in nature as part of an extended family, we are related and have responsibilities. We have long recognized the significance of the Southern Residents to this region.

The Southern Resident Killer Whales (SRKW), or Orcas, are actually a large extended family comprised of three pods: J, K, and L pods. The SRKWs are frequently seen, from spring through fall, in the protected inshore waters of the Salish Sea.



Over the second half of 2015, there has been a net loss of whales, along with the salmon and the orcas among members of the orca family.

The Southern Resident Killer Whales are considered as endangered in both the United States and Canada, and their population is closely tied to the overall health of the ecosystem. Key threats include:



Prey Availability

Pollution and Contaminants

Vessels and Noise

<https://www.epa.gov/samish-nsr/southern-resident-killer-whales>

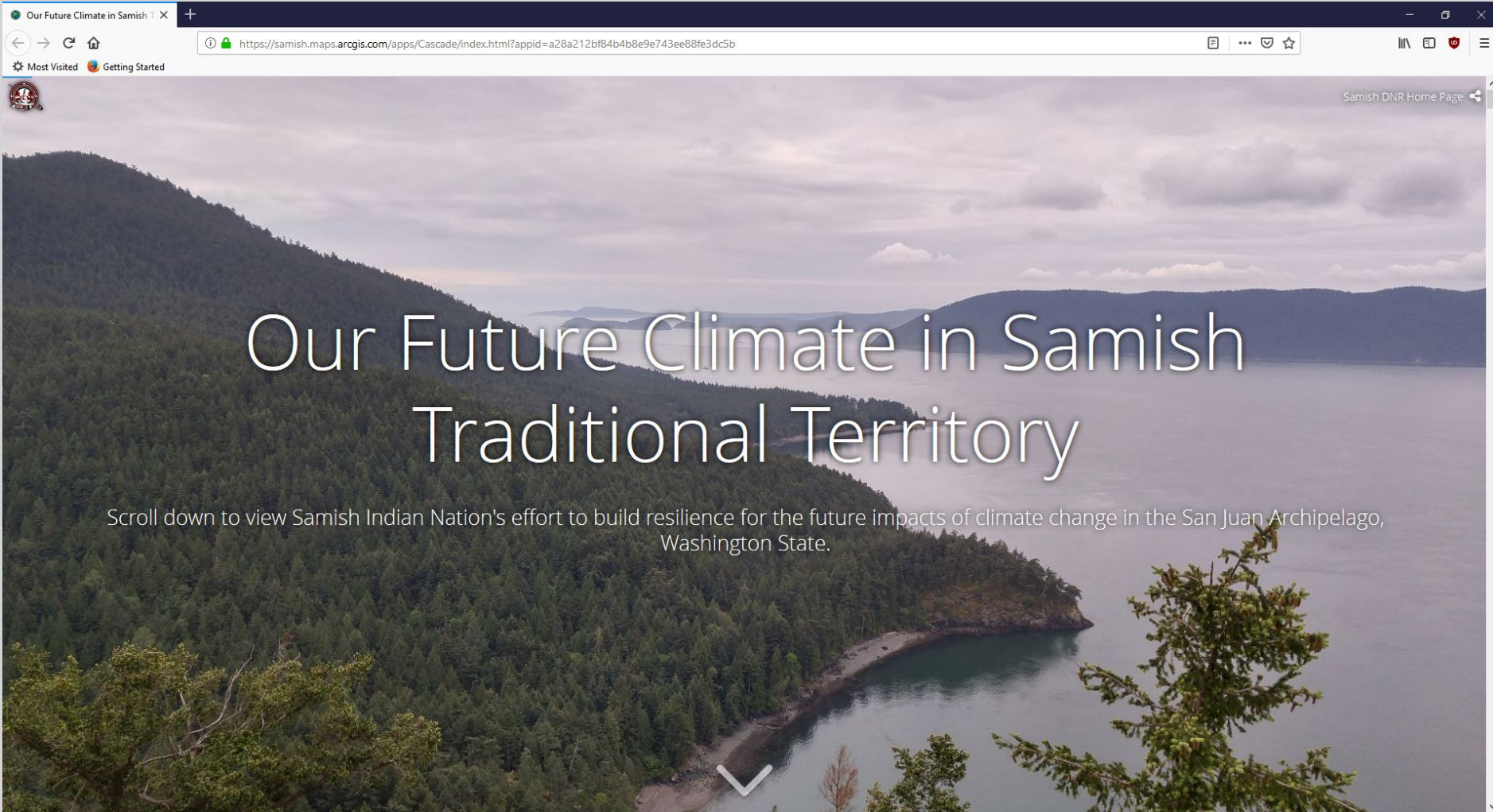


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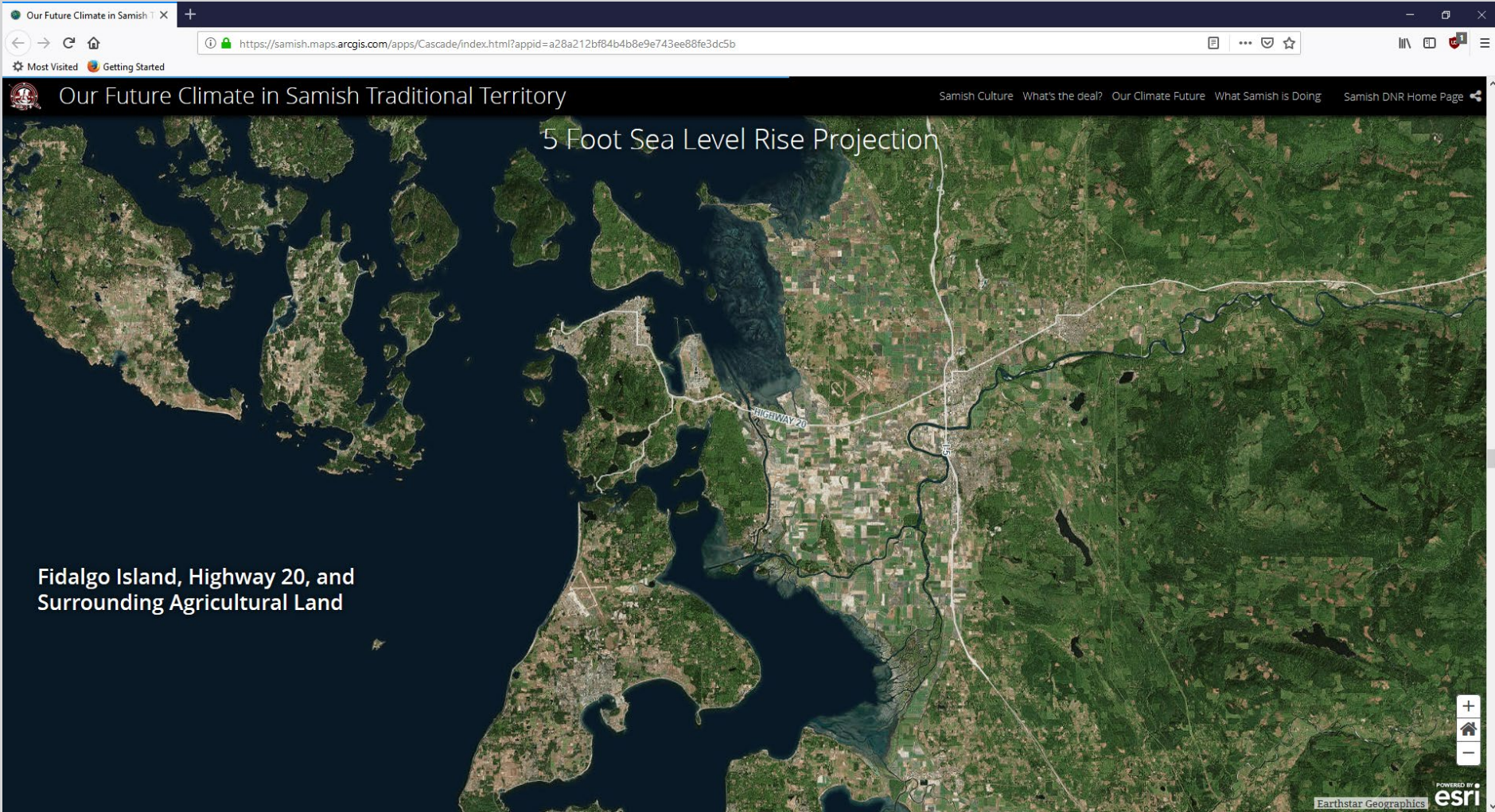
Story Map

<https://arcg.is/0SaLaz>



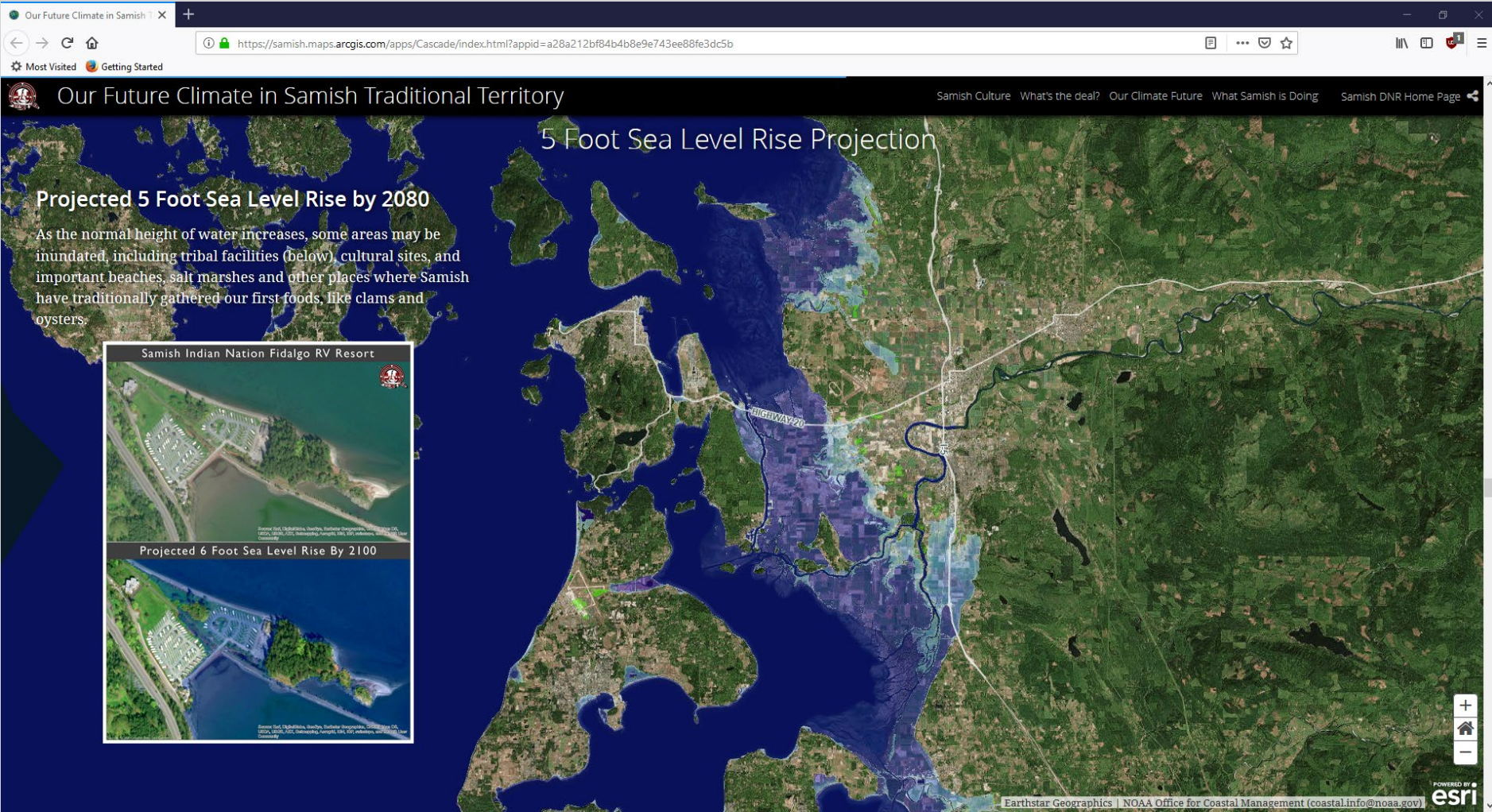
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Samish Climate Resilience Planning

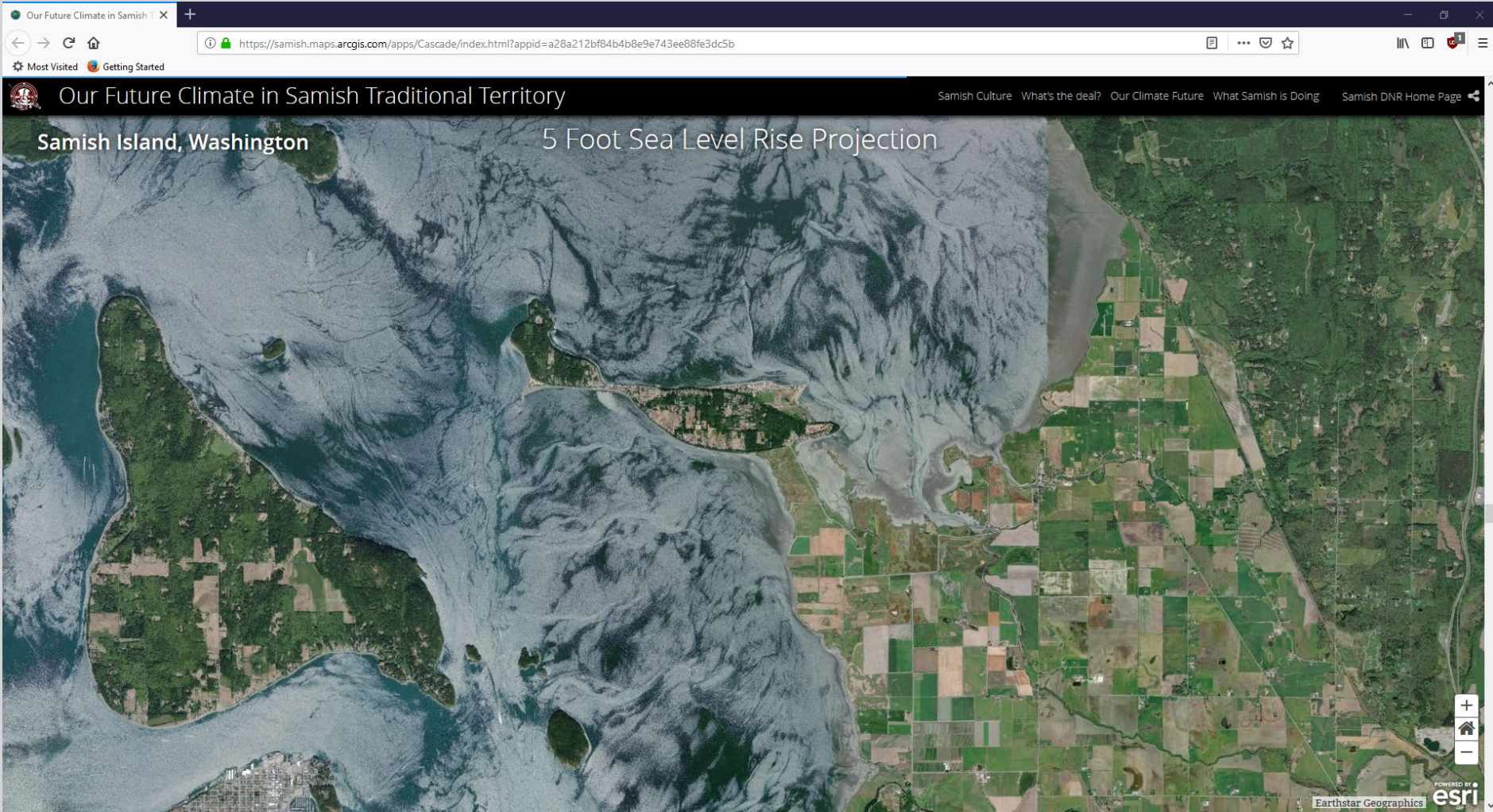




Samish Climate Resilience Planning



<https://arcg.is/0SaLaz>




Samish Climate Resilience Planning



Our Future Climate in Samish 1 X +

← → ↻ 🏠 <https://samish.maps.arcgis.com/apps/Cascade/index.html?appid=a28a212bf84b4b8e9e743ee88fe3dc5b> 📄 ⋮ 📧 ☆ 🗺️ 📏 📱

🔧 Most Visited 🏠 Getting Started

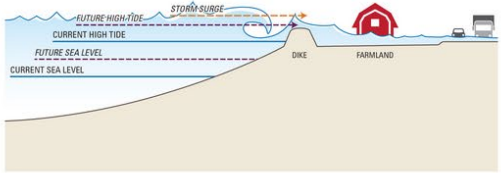
 Our Future Climate in Samish Traditional Territory Samish Culture What's the deal? Our Climate Future What Samish is Doing Samish DNR Home Page

5 Foot Sea Level Rise Projection

Projected 5 Foot Sea Level Rise by 2080


In addition, storm surges can temporarily raise sea levels by several feet. As the normal height of the sea increases, storm surges will reach further inland and may be more destructive, causing additional beach loss and coastal cliff erosion and damage to traditional sites and resource areas, as well as buildings and infrastructure.

Rising Sea Levels & Storm Surge



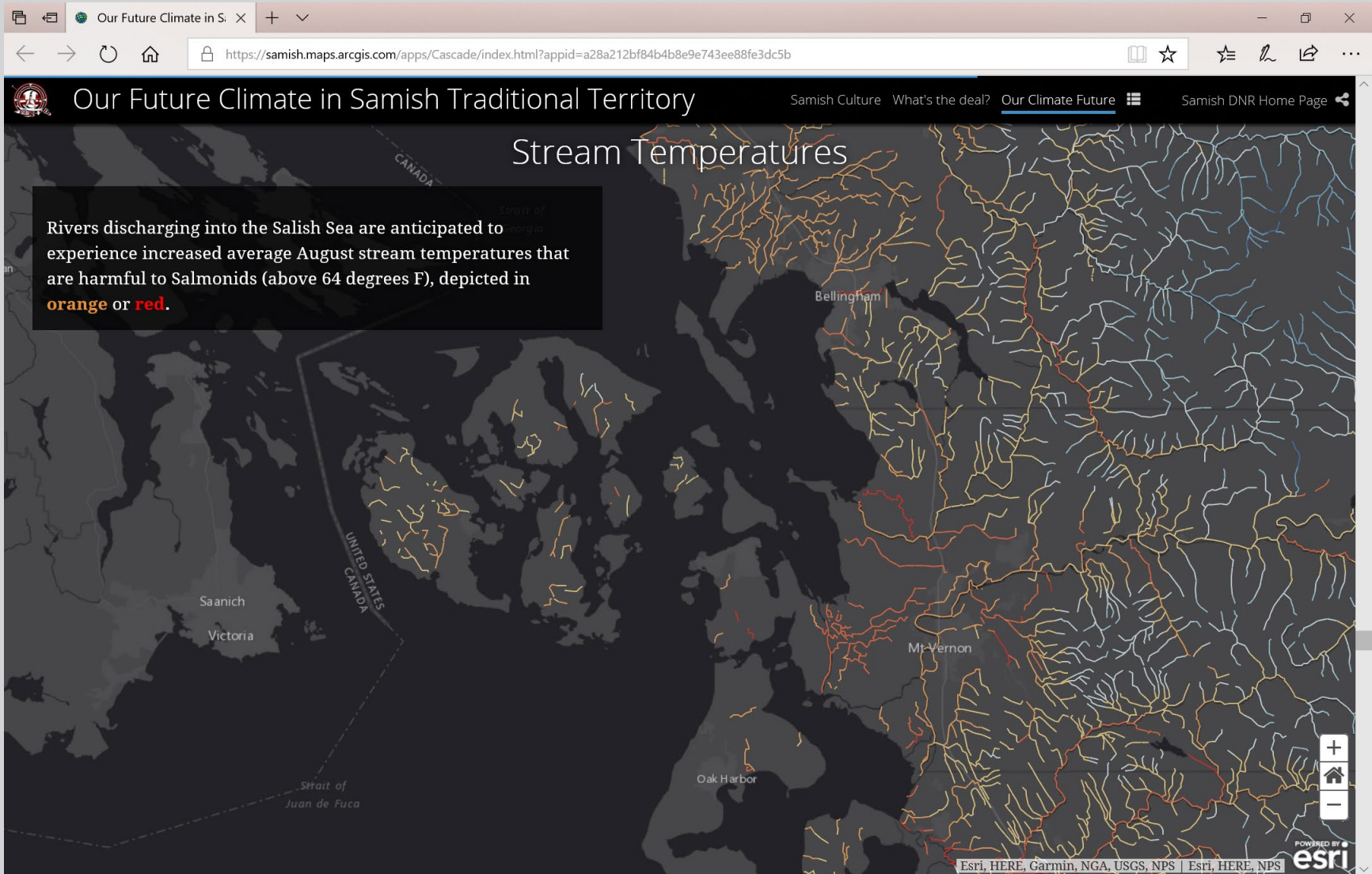
NOTE: Sea, tide, and storm surge levels are for illustrative purposes only and do not depict actual or projected levels.

Source: Skagit Climate Science Consortium

Earthstar Geographics | NOAA Office for Coastal Management (coastal.info@noaa.gov) 

Samish Climate Resilience Planning





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Future Plans

- **Climate Resiliency Phase 3 (2019-2020)**
 - *Update and expand vulnerability assessment*
 - *Prioritize potential resilience projects*
 - *Increase capacity to work with regional partners*
 - *BIA Tribal Resilience Grant*
- **SLR/Coastal Management Assessment (2019-2020)**
 - *Assess SLR impacts in Samish Traditional Territory*
 - *Evaluate coastal habitat restoration opportunities*
 - *Create GIS-based SLR tool to assess impacts to archeological and cultural sites*



Contact Information

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