OUR COASTAL CITY

Building a Toolkit for Coastal Adaptation in the City of Nanaimo

The first stage of the project involved technical studies to increase our understanding of impacts to the areas with rising risks. These efforts laid the groundwork for our current work where we are investigating potential strategies to support the resilience of each area. Some highlights from the technical work include:

Floodplain Mapping

The team developed **floodplain maps to identify how far water will travel inland from the coastline.** They help us to understand what is at risk / level of risk, and involved four studies: a Joint Probability Analysis, Regional Modeling, Nearshore Detailed Modeling, and Floodplain Maps.



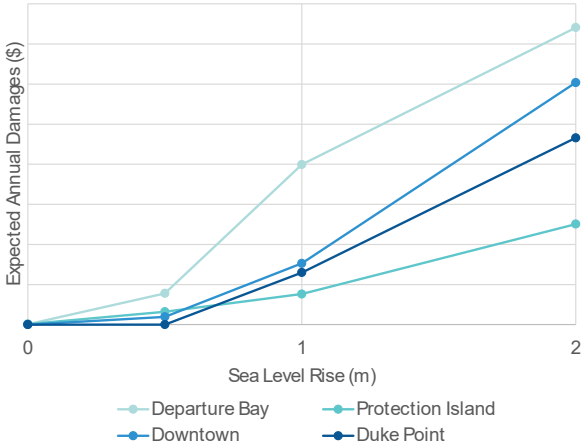
Floodplain Mapping: *An excerpt from the Departure Bay map showing future inundation extents in the long-term (SLR of 2m).*

Updated Flood Construction Levels

Updated Flood Construction Levels (FCLs) were generated. Flood construction levels dictate the minimum elevation of a livable space required to reduce potential for flooding. These were refined from the initial, conservative FCLs generated in 2018, and in many cases were lowered (good news!).

Economic Risk Analysis

By overlaying inundation extents with buildings, roads, and infrastructure, the team performed an Economic Risk Analysis for each area of focus. **This allowed us to estimate 'Expected Annual Damages' in dollars for a variety of future scenarios:** at 0.5m, 1.0m, and 2.0m of sea level rise.



Economic Risk Analysis: *Rising damages were calculated to occur for each area as sea level rise.*

The first round of the project also included engagement with interest holders and the public. Read the full engagement results here:

www.getinvolvednanaimo.ca/sea-level-rise

Based on the technical results and community feedback, **initial risks and objectives have been identified:**

- **Departure Bay:** Home to a variety of community destinations, mitigating impacts to open space, commercial, and residential land uses will be important.
- **Downtown:** Downtown Nanaimo contains key commercial, residential, and public assets. Addressing coastal risk here will protect well loved amenities.
- **Protection Island:** Predominately a residential island, Protection Island is at risk of impact on all sides from flooding and wave action.
- **Duke Point:** Mitigating the effects of flooding and wave action are the primary concerns, including anticipated inundation of Duke Point Highway (Highway 19).

RISKS & OBJECTIVES ARE UNIQUE FOR EACH AREA



Risks look at how the unique roads, buildings, and infrastructure of each area will interact with future flooding. Objectives propose what is important to do about it.

Head to the project webpage to find the detailed list of risks and objectives for each area of focus.

What happen next?

We are now in the second round of engagement for the *Our Coastal City* project. **Round Two's engagement focuses on discussing the risks and potential objectives for our areas of focus.** Head to the project page and review the list of risks and objectives, and take our survey. Your input will be used in the final stage of the project where we develop long-term approaches for areas at risk.

Get involved and take the survey!

Provide feedback on sea level rise adaptation through our survey, open May 19 - June 12. Access at:

www.getinvolvednanaimo.ca/sea-level-rise

CITY OF NANAIMO
THE HARBOUR CITY