

Tsunami Risks Assessment for Port Alberni

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The special location of Port Alberni makes it vulnerable in the event of a Tsunami. Following risks assessment are conducted to make an estimate of the effect of Tsunami on Port Alberni. Suggestions are provided to prepare for such events.

Analysis Process

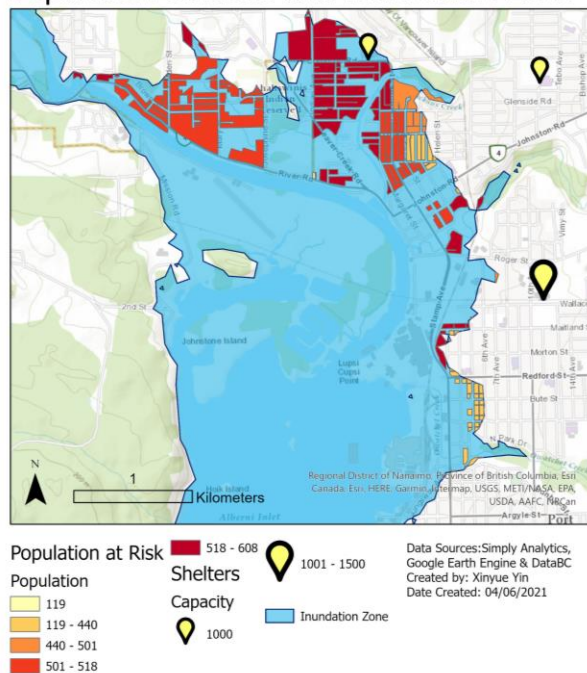
A buffer zone of 1.25km is created around the waterbodies near Port Alberni and combining the areas less than 15m above sea level to estimate the area under the effect of a Tsunami. The properties within this area are selected as properties at risks. The population located within the residential properties at risks are selected as population at risk. The roads within the area are selected as roads at risk.

Properties at Risks

The major properties at risks are of types: Residential, General Commercial, and Industrial. Combining Multi-family residences and Single-family residences, the total number of residential properties at risk is **971**. Most properties are covered by Tsunami warning sirens with a buffer size of 1km. The only location at risks that is not covered by a siren is Katharine Point. A **Tsunami Warning Siren at Katherine Point** is recommended to better protect the properties around that area.

Population at Risks

Population at Risks and Inundation Zone

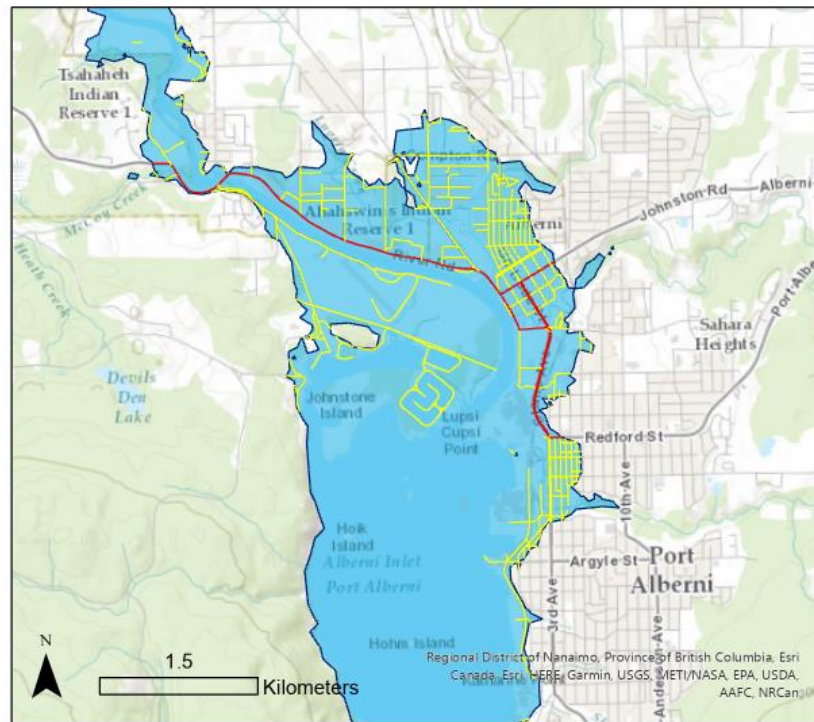


The total population living in the residential properties at risks is estimated to be **6157**. The locations of three Tsunami shelters are listed below. The total capacity of the shelters is **3500**, which is significantly lower than total population at risks. Also considering the location of the shelters, they are inconveniently located so at the event of a Tsunami, the population affected might not be able to receive shelters and care as needed. More shelters need to be constructed in response to the potential threat of a Tsunami since historical evidence suggests that the area is at risk of Tsunami. And due to the location of Port Alberni, coming waves will be amplified as they travel up the fjord.

Roads at Risks

Most roads at risks of a Tsunami are local roads. The total length of roads affected is 64,368km. Among these roads, 8,432km are arterial roadways. These roads once damaged might significantly affect transportation of areas around. A map below shows the location of these roads.

Roads at Risks and Inundation Zone



Roads at Risk

ROAD_CLASS

- arterial
- all other types of roads
- Inundation Zone

Data Sources: Simply Analytics,
Google Earth Engine & DataBC
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Overall, more Tsunami shelters need to be built and Tsunami Warning Sirens need to be added to help Port Alberni be better prepared in the event of a Tsunami.