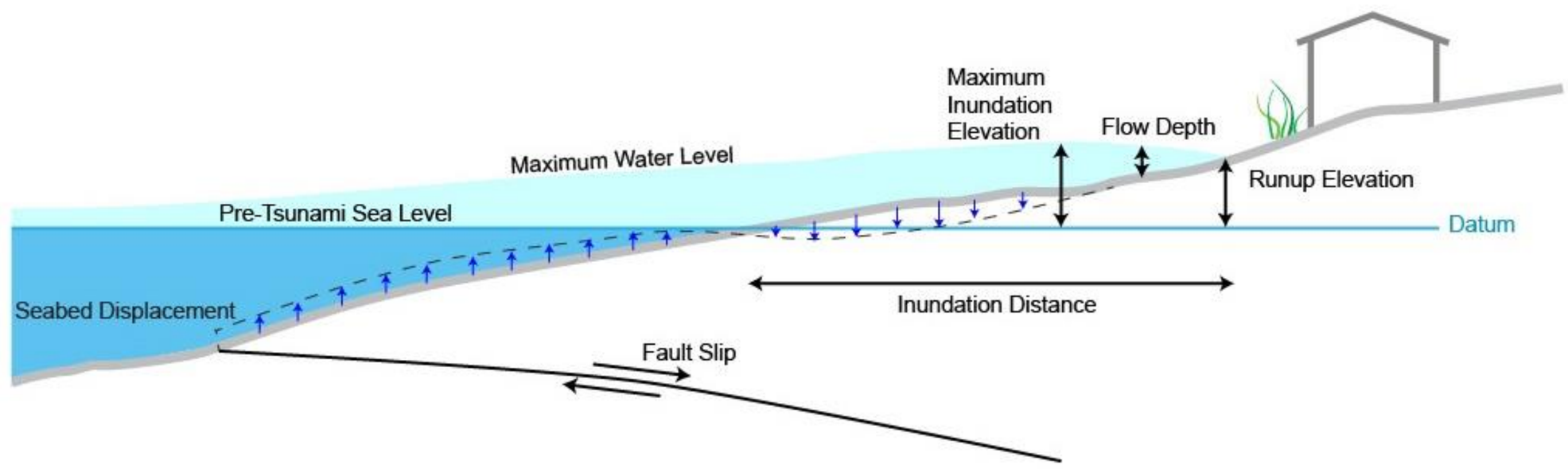
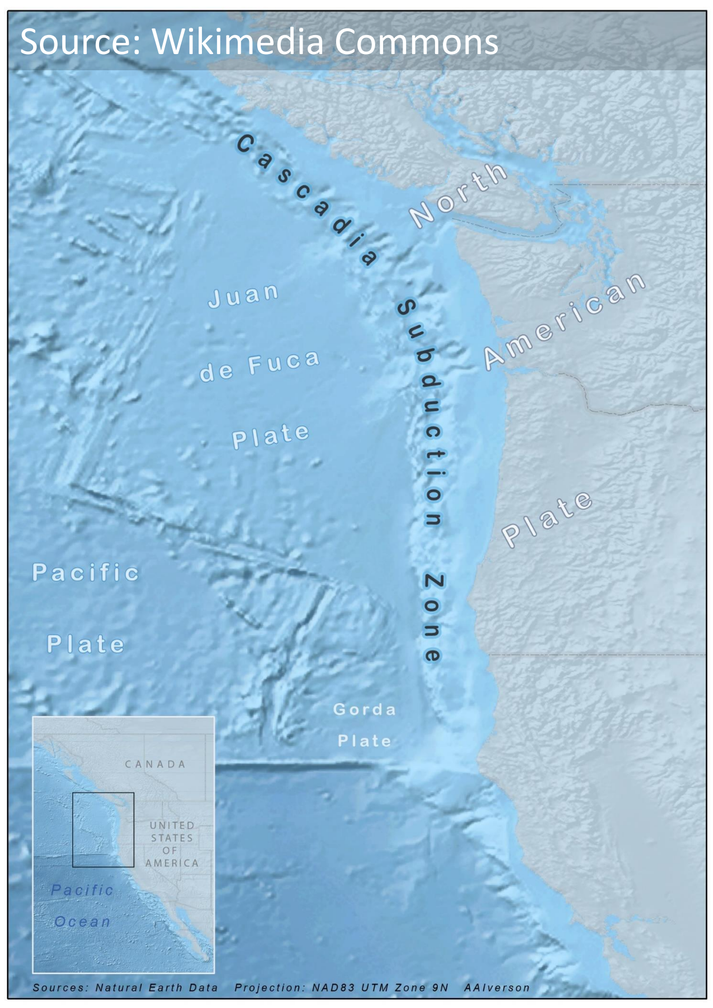
More on Tsunami Flood Hazard...

Components of a Tsunami Flood

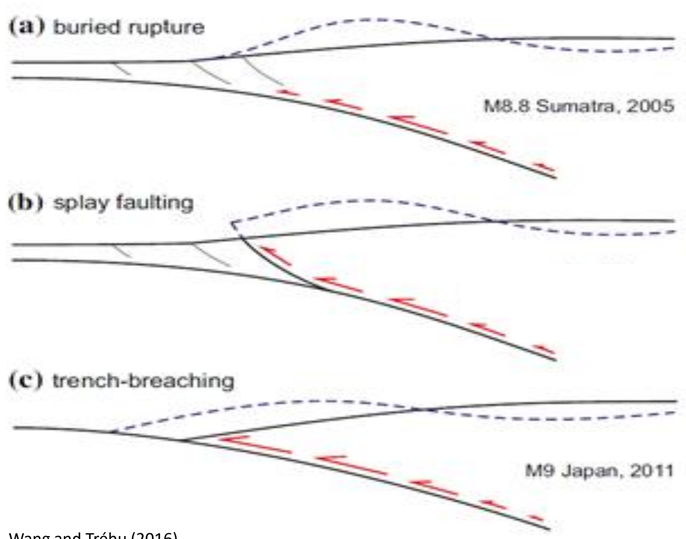
Total tsunami flood depth includes the tsunami wave amplitude (i.e., tsunami wave height in comparison to pre-tsunami water levels), a high tide (Higher High-Water Large Tide), relative sea-level rise if applicable, as well as land surface subsidence. During a **Cascadia Subduction Zone (CSZ)** earthquake, it is expected that the land surface in the DOU will subside by around 2 m as a direct result of the triggering earthquake, increasing the flood depth.



CSZ A tsunami caused by the Cascadia Subduction Zone (CSZ) earthquake is the most likely source to generate a worst-case tsunami. However, other more distant earthquake Sources, such as the Alaska earthquake of 1964, have also impacted the area. A CSZ tsunami would occur approximately 30 minutes after the earthquake is felt in Ucluelet. Three rupture types were investigated (see figure below) by modelling two variations of each (see table below). Considering relative sea-level rise, a total of 24 scenarios were modelled. Modelling results from the W2003 (buried rupture) and G2018-S-A (splay faulting A rupture) were mapped.



Rupture Model	Model Abbreviation
Buried	**W2003**
Buried	G2018-B
Splay faulting A	**G2018-S-A**
Splay faulting B	G2018-S-B
Trench-breaching 50% peak slip	G2018-T-50
Trench-breaching 100% peak slip	G2018-T-100



Wang and Tréhu (2016)

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