

# Current and Future Flooding in Willapa Bay and Grays Harbor, WA

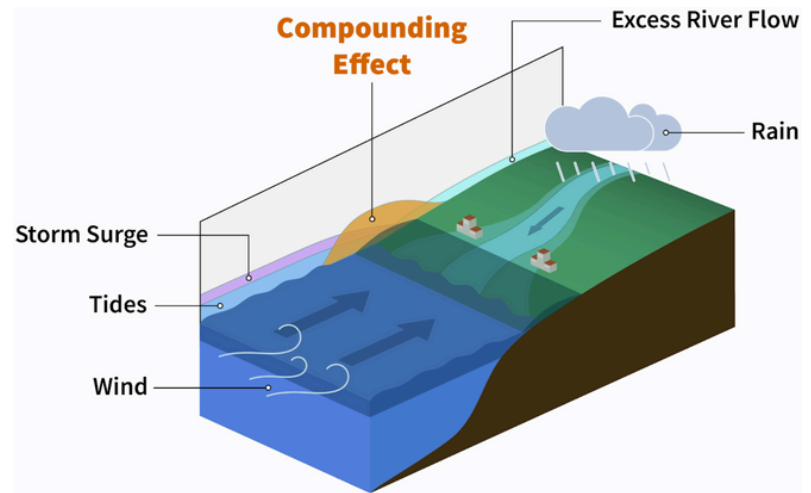


Hydrodynamic flood model for Central Washington

**Frequent Coastal Flooding** - Coastal and estuary regions in the Pacific Northwest regularly experience flooding due to factors such as high tides, storm surges, intense rainfall, wind-driven coastal setup, and high river flows.

**Amplified Impact of Combined Forces** - When two or more of these factors occur at the same time, they cause compound flooding, which can lead to more severe impacts than an individual flood event alone.

**Rising Sea Levels** - Climate change is projected to cause a relative sea level rise of half a foot in many areas of Grays Harbor and Willapa Bay in the next 30 years.



Schematic of compound flooding

**Advanced Modeling Techniques** - Our high-resolution numerical model takes into account tides, winds, waves, and river discharge to provide a comprehensive analysis of flooding scenarios. This allows us to study the dynamics of compound flooding under present conditions and to forecast future flooding patterns.

**Actionable Insights for Agencies** - The results from our model can help agencies enhance or modify existing plans to better protect communities vulnerable to compound flooding.

