

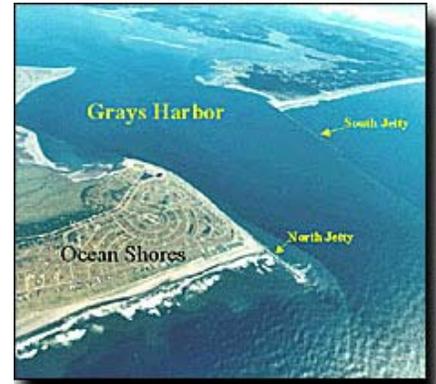


**US Army Corps
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Engineer Research and
Development Center

Grays Harbor North Jetty Study

Description Grays Harbor, located in southwest Washington, is one of the largest estuaries in the continental United States with a correspondingly large tidal prism. Facing towards the Pacific Northwest Ocean, the entrance to Grays Harbor experiences the most extreme wave climate in the continental United States.

Issue The Corps of Engineers has developed, built, and maintained two rubble-mound jetties, a deep-draft navigation channel, and other navigational features in Grays Harbor. The North Jetty has decreased in effectiveness as a result of subsidence and deterioration. Sediment is being transported into the channel and on to neighboring shoals, potentially increasing the need for maintenance dredging. The North Beach has exhibited a tendency to erode, reversing a historic trend of advance. The U.S. Army Engineer Research and Development Center (ERDC), Coastal and Hydraulics Laboratory (CHL) conducted a study to identify and evaluate engineering alternatives for reducing annual maintenance for the Federal navigation channel by reducing the amount of sand bypassing the north jetty.



Grays Harbor, Washington

Supporting Technology Proposed solutions to the erosion of North Beach were evaluated in a physical model study using a computer-controlled directional wave generator to reproduce design storm events. Numerical models with variable grid-spacing examined sediment transport tendencies both seasonally and long-term.

Benefits The study revealed many wide-area processes controlling sedimentation in and around Grays Harbor. Estimated benefits and costs for a range of solutions were developed and submitted to the District.

Sponsors U.S. Army Engineer District, Seattle (NWS).

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