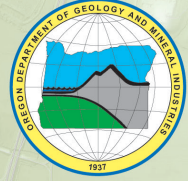


OREGON DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES

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Study looks at coastal erosion hazards in Waldport along Alsea Bay

New maps help predict future danger zones by showing storm wave erosion, tidal effects and future sea level rise

PORTLAND, Ore. – The Oregon Department of Geology and Mineral Industries (DOGAMI) has released **Open-File Report O-13-20, Evaluation of erosion hazard zones along the Alsea Bay shoreline between the Alsea Bay Bridge and the Port of Alsea, Lincoln County, Oregon**, by Laura L. Stimely and Jonathan C. Allan.

Local landowners have been concerned about ongoing erosion to beaches and dunes alongside Old Town Waldport during the past decade. The erosion has been caused by recent winter storms and possible changes in the locations of intertidal channels, which are especially abundant near the study area.

“We looked at historical shorelines and found that they’re changing for several reasons,” says co-author Laura Stimely. “It’s because of locally generated wind waves, changes in the amount of sand in the intertidal zone, variations in water levels, and more.”

DOGAMI’s mapping provides a better understanding of projected future erosion hazards for property owners, the City of Waldport, Port of Alsea, and state Department of Land Conservation and Development. This knowledge is especially important in light of potential future climate changes associated with the effects of sea level rise.



Alsea Bay in Waldport, Oregon, looking southeast toward the study area along the shore of Old Town Waldport. Erosion has become acute along approximately one-third of the shoreline nearest to the Alsea Bay bridge.

To preview this publication, visit:
www.oregongeology.org/pubs/ofr/p-O-13-20.htm

DOGAMI's mission is to provide earth science information and regulation to make Oregon safe and prosperous.

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“We wanted to understand how the shoreline is changing over time,” says co-author Jonathan Allan. “So we tracked these changes using GPS systems, lidar mapping technology, and historical aerial photos dating back as far as 1939.”

They found that Old Town Waldport had experienced erosion prior to the mid-1930s, then quickly added sand through natural processes after 1939 up to the mid-1990s. Since then, it has gone back to eroding.

The authors used a variety of techniques to model the erosion hazard including assessing the combined influence of wind waves and their associated runup on the beach combined with effects from fluctuating tides, shoreline erosion due to projected future sea level rise, and erosion that may be caused by changes in the locations of the ebb and flood tide channels.

The publication contains a report, aerial photos, digital GIS files and accompanying data.

The investigation is not intended for use as a site-specific analysis tool, but instead to provide a more holistic understanding of the processes driving coastal change in Waldport.

Funding for this study was provided by the Oregon Department of Land Conservation and Development.

To preview this publication, visit: www.oregongeology.org/pubs/ofr/p-O-13-20.htm

The report can be purchased on CD for \$30 each from Nature of the Northwest Information Center, 800 NE Oregon Street, Suite 965, Portland, Oregon, 97232. You may also call (971) 673-2331 or order online at <http://www.NatureNW.org>. There is a \$4.95 shipping and handling charge for all mailed items.

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The Oregon Department of Geology and Mineral Industries is an independent agency of the State and has a broad responsibility in developing an understanding of the state’s geologic resources and natural hazards. The Department then makes this information available to communities and individuals to help inform and reduce the risks from natural hazards, such as earthquakes, tsunamis, landslides, floods and volcanic eruptions. The Department assists in the formulation of state policy where an understanding of geologic materials, geologic resources, processes, and hazards is key to decision-making. The Department is also the lead state regulatory agency for mining, oil, gas and geothermal exploration, production and reclamation. Learn more at www.OregonGeology.org.

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