OREGON DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES

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New studies examine Oregon coastal flood hazards

Cutting-edge approaches used for in-depth understanding

NEWPORT, Ore. – New mapping and analyses offer better-than-ever scientific understanding of Oregon's coastal flood hazards.

The Oregon Department of Geology and Mineral Industries (DOGAMI) has released new coastal flood hazard studies for Clatsop, Tillamook, Lincoln and Curry counties. These studies include detailed hazard zones developed for the open coast using new coastal engineering analyses, decades of ocean wave and water level data, refined modeling approaches, and technology – including use of high-resolution lidar data.

"These reports offer state-of-the-art coastal engineering science," says Jonathan Allan, DOGAMI coastal geomorphologist. "The information is critical not only for further study, but for local, state and federal mitigation planning, risk analysis and disaster response to 1-percent-annual-probability, or 100-year, extreme storm events."

The work included mapping the geomorphology of the coast, assessing recent and historical patterns of coastal change, field measurements of beaches and bluffs, and new bathymetric surveys of the surf. Oregon State University investigator Peter Ruggiero, a key technical partner, led the wave modeling and the bathymetric surveying campaigns.

Collection of nearshore bathymetric surveys for much of the Oregon coast also provides an all-new look at the ocean floor from the beach out to depths of approximately 60 feet.

"These types of data have never been collected before," Allan says. "Prior to this the area from the shore out through the surf was a black hole for data in Oregon."

The detailed science contained in the reports will be used to update regulatory flood insurance rate maps. Specifically, the new analyses reflect updated extreme wave runup and water level calculations, which ultimately help to guide the determination of Special Flood Hazard Areas (SFHAs) maintained by the Federal Emergency Management Agency.

The four reports are available for free download:

- Open-File Report O-15-07, Coastal flood hazard study, Curry County, Oregon, by Jonathan C. Allan, Peter Ruggiero, Nick Cohn, Jed T. Roberts, and Laura L. Stimely. Download.
- Open-File Report O-15-06, Coastal flood hazard study, Lincoln County, Oregon, by Jonathan C. Allan, Peter Ruggiero, Nick Cohn, Gabriel Garcia, Fletcher E. O'Brien, Laura L. Stimely, Jed T. Roberts. Download.
- Open-File Report O-15-05, Coastal flood hazard study, Clatsop County, Oregon, by Jonathan C. Allan, Peter Ruggiero, Gabriel Garcia, Erica L. Harris, Jed T. Roberts, and Laura L. Stimely. Download.
- Special Paper 47, Coastal flood hazard study, Tillamook County, Oregon, by Jonathan C. Allan, Peter Ruggiero, Gabriel Garcia, Fletcher E. O'Brien, Laura L. Stimely, and Jed T. Roberts. Download.

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