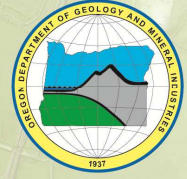


# OREGON DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES

VICKI S. MCCONNELL, STATE GEOLOGIST



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## Contact

Ali Ryan, Earth Science Information Officer  
Office: 971-673-0628 Cell: 503-347-5898  
alison.ryan@state.or.us

## **New maps unravel the geology, hazards of Oregon's southern coast**

PORTLAND, Ore. – New maps by the Oregon Department of Geology and Mineral Industries (DOGAMI) reveal more than ever before about the complex and intriguing geology of the southern Oregon coast between Port Orford and Bandon.

Geologists identified thousands of blocks of rock, unlike except for their location, brought together over millions of years by plate tectonics.

“The rocks have their own initial history,” says DOGAMI geologist Tom Wiley. “Then they come together and have a shared history.”

That history becomes even clearer with the emerging technology of zircon dating, which was used for the first time. Geologists collected sandstone for all the area's geologic units. The sandstone was crushed and the zircon grains collected, then analyzed with a laser. With the potential for more accurate age dating comes a chance to know even more.

“We're starting to be able to unravel the really complex stories of these far-travelled pieces,” says DOGAMI geologist Jason McClaughry.

The maps also offer much-improved information about geologic hazards and resources. Coastal Curry and Coos counties were last mapped in the 1970s, says McClaughry. Since then, understanding of geologic hazards – such as a Cascadia Subduction Zone earthquake, tsunami, and landslides – has improved, as has mapping technology.

New maps were created with lidar, which provides accurate high-resolution images of the earth. Lidar has dramatically increased identification of potential hazards.

“Early maps showed a handful of landslides,” McClaughry says. “The new map shows 1,400.”

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

Administrative Offices  
800 NE Oregon St., Ste. 965  
Portland, OR 97232  
Phone: (971) 673-1555  
Fax: (971) 673-1562

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Mineral Land Regulation and Reclamation Program  
229 Broadalbin St. SW  
Albany, OR 97321  
Phone: (541) 967-2039  
Fax: (541) 967-2075  
info@mlrr.oregongeology.com  
Gary W. Lynch,  
Assistant Director

Coastal Field Office  
313 SW 2nd, Ste. D  
Newport, OR 97365  
Phone: (541) 574-6642  
Fax: (541) 265-5241  
Jonathan C. Allan,  
Coastal Team Leader

Eastern Oregon Field Office  
Baker County Courthouse  
1995 3rd St., Ste. 130  
Baker City, OR 978149  
Phone: (541) 523-3133  
Fax: (541) 523-5992  
Jason D. McClaughry,  
Field Geologist

Nature of the Northwest  
Information Center  
800 NE Oregon St., Ste. 965  
Portland, Oregon 97232  
(971) 673-2331  
Email: info@naturenw.org  
Web: www.NatureNW.org  
Donald J. Haines, Manager

This geologic mapping is part of a multi-year project, begun in 2012, to map the Oregon coast from the California border north to Coos Bay. The effort is supported in part by the U.S. Geological Survey (USGS) STATEMAP component of the National Cooperative Geologic Mapping Program.

#### **See the geology**

**Cape Blanco State Park:** A walk out on the cape offers a look at different rock types sandwiched by a fault zone.

**Devils Kitchen and China Creek Waysides:** See accreted terranes, rock formations that originated in other places, with faults cutting through.

#### **About the Publication**

**DOGAMI Open-File Report O-14-01, Geologic map of the southern Oregon coast between Port Orford and Bandon, Curry and Coos Counties, Oregon** by Thomas J. Wiley, Jason D. McClaughry, Lina Ma, Katherine A. Mickelson, Clark A. Niewendorp, Laura L. Stimely, Heather H. Herinckx, and Jonathan Rivas contains geologic maps; geodatabase containing polygon, line, and point data; digital databases containing geochemical analyses, isotopic age-dates, and water well data; and a summary report.

To preview this publication, visit: <http://bit.ly/oregongeology1>

The report can be purchased on CD for \$30 from Nature of the Northwest Information Center, [www.NatureNW.org](http://www.NatureNW.org), 800 NE Oregon Street, Suite 965, Portland, Oregon, 97232, (971) 673-2331. 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](http://www.OregonGeology.org)