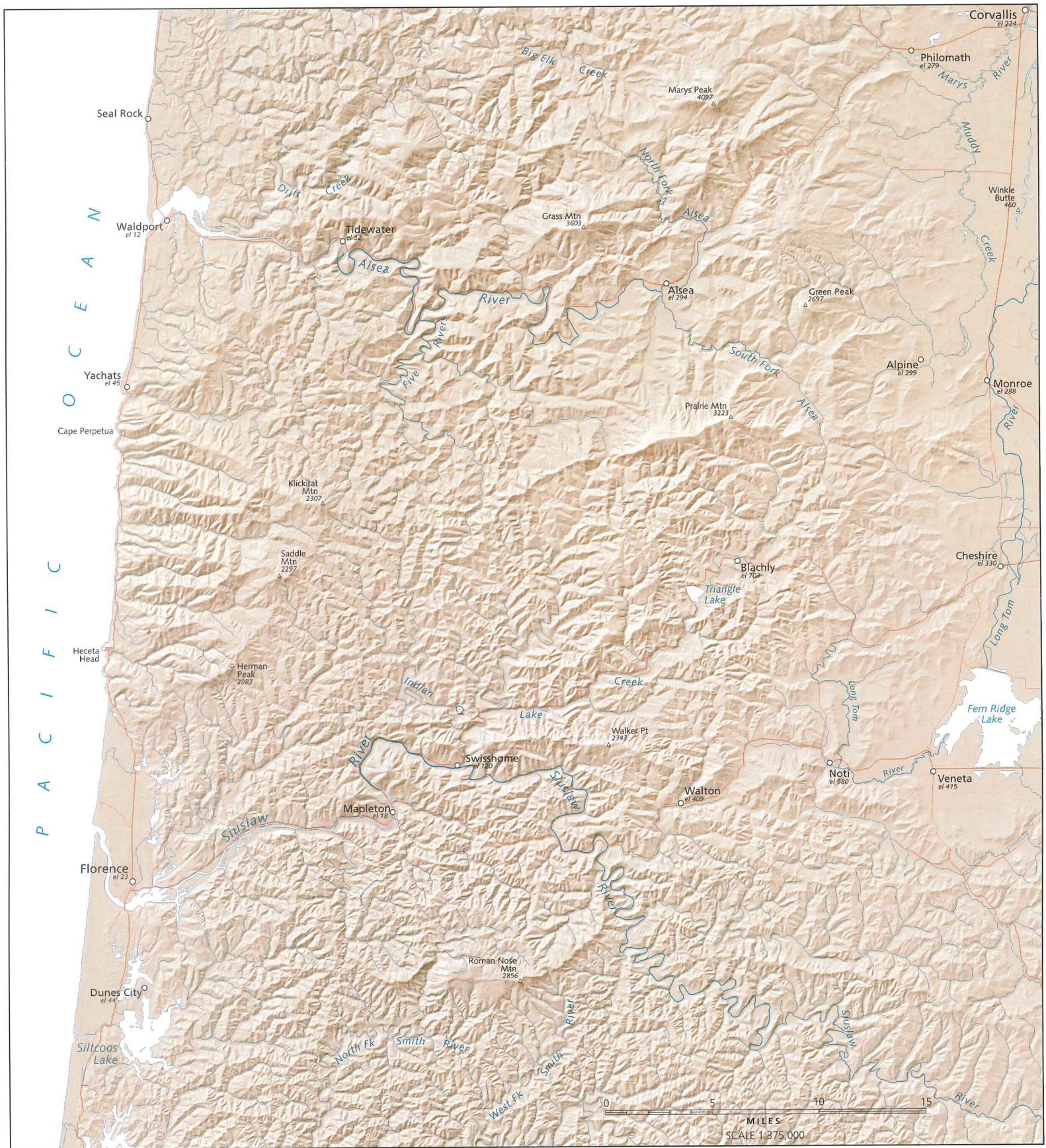


# Landforms: Coast Range; Blue Mountains



## Coast Range

The collision of the Juan de Fuca Microplate with the North American Plate elevated the Coast Range in a number of stages beginning in the Miocene epoch (for geologic time scale, see Geologic Ages, pages 144–145). The regional grain of this area appears as northwest by southeast-oriented valleys which follow faults imposed by the uplift and arching of the Coast Range. Much of this region is underlain by silt as well as delta and deep sea fan sands dating back 50 million

years. Higher elevations in the range—such as Roman Nose Mountain, Prairie Mountain and Marys Peak—are supported by intrusive crystalline rocks that date from the Oligocene epoch. The Oregon Coast today is a series of rocky volcanic headlands interspersed with long sandy beaches and pocket coves. The headlands of Heceta Head and Yachats are armored by the locally derived volcanic Yachats Eocene Basalt rocks which date back 40 to 42 million years. At Seal Rock, however, the lavas that form rugged sea cliffs originated

at vents several hundred miles away in Eastern Oregon and Western Idaho. Termed “invasive basalts,” these much younger lavas of Miocene epoch—only 16 to 17 million years old—are part of the famed Columbia River Basalt Group that spread over much of southeastern Washington and northeastern Oregon before pouring through the Columbia River Gorge to eventually reach the Pacific. Today the Coast Range is steadily tilting toward the east and being elevated as much as an inch in ten years, even as the Willamette Valley is slowly sinking.