

## TILLAMOOK COUNTY

Geography

Tillamook County, located along the Oregon coast between Lincoln and Clatsop counties, comprises an area of 1,115 square miles. Tillamook, an important coastal town situated on Tillamook Bay, is the county seat.

The topography is that of moderately rugged mountain country and similar to the other counties of northwestern Oregon situated in the Coast Range province. Maximum elevation is about 3,500 feet. The coast line is straight with several bold cliffs or headlands of igneous rock between which are located beaches and inlets. The main streams, the Nehalem, Wilson, Trask, and Nestucca rivers flow westward to the Pacific Ocean.

Lumbering, dairying, and fishing are the main industries. The mining industry of the county consists of sand, gravel, and crushed rock production. Small coal seams have been found on and near Neahkahnie Mountain.

Geology

Geological maps by Warren, Norbistrath, and Grivetti (1945) and Snively and Vokes (1949) cover most of Tillamook County. These maps and the geological descriptions accompanying them were used in compiling the following account of the geology of this county.

Tillamook County is largely covered by a thick series of Eocene basaltic lavas and pyroclastics. Middle Eocene to middle Miocene marine and brackish water sediments with interbedded volcanic material are exposed to the west and south of this series. Upper Oligocene to lower Miocene intrusive igneous rocks occupy a portion of southwestern Tillamook County. Middle Miocene and younger basaltic flows and feeder dikes form most of the headlands along the coast, such as Cape Mears and Cape Lookout. Pleistocene and Recent alluvial deposits occur at the mouths of the major streams and on the beaches along the coast.

The Tillamook volcanic series (Eocene), consisting predominantly of basaltic lavas and tuffs, are the oldest rocks exposed in the county. They occupy most of the county north of the Nestucca River except along the coast. Along the western edge this series is overlain by marine and brackish water sedimentary beds of Cowlitz age (upper Eocene) to Astoria age (middle Miocene). Included in this group of sediments are the Oligocene formations (Keasey, Gries Ranch, Pittsburg Bluff, and Blakely) described in detail by Warren and Norbistrath (1946) from exposures in the Upper Nehalem River basin in Clatsop and Columbia counties.

Bordering the exposure of the Tillamook volcanic series on the southwest, Snively and Vokes (1949) mapped shaly siltstones, claystones, and basaltic sandstones with intercalated volcanic material, for which the name Nestucca formation (upper Eocene) was proposed. These strata extend southward into Lincoln County and eastward into Yamhill and Polk counties. The Nestucca is equivalent to the upper part of the Tillamook volcanic series and the Cowlitz formation.

Burpee sandstone (middle Eocene) is exposed over a small area in southeastern Tillamook County. Intruding the Burpee and Nestucca formations are rather large bodies of gabbro, diorite, and basalt considered as upper Oligocene to lower Miocene in age.