PART III.

Physical Description

Physical Regions of Washington

On the basis of surface features, Washington may be divided into eight general regions. Agricultural settlement is influenced by factors of topography, climate, soil, forest vegetation and water resources distinctive to each of the physiographic regions. Each has become a different type of farming area as settlers have learned to adapt crops and livestock to the conditions, or have improved limitations through drainage or irrigation.

Coastal Plains

A narrow, sandy plain with shallow bays, tidal flats, stream deltas and low headlands lies between the coastline and the Coast Range. It extends from the Columbia River mouth almost to Cape Flattery, being widest and lowest in the Grays Harbor and Willapa Bay districts. The climate is mild and damp with a long growing season, but it is too cool, cloudy and wet for most crops. Originally this area was covered with heavy forests and much is now covered with woodlands. Lumbering and manufacture of wood products is the main industry. Farming is largely of the livestock and dairying type on low uplands and drained areas in the lower Chahalis River Valley. Cranberry growing is important and well-adapted to numerous, boggy areas in the Grays Harbor and Willapa Bay sections. The shallow bays are also used for oyster culture. Fishing is common in the rivers and coastal banks.

Coast Range

The Coast Range is an uplifted area of sedimentary and metamorphic rocks divided into the Olympic Mountains and the Willapa Hills. The Olympics tower to nearly 8,000 feet in a dome-like structure, carved deeply by rivers. These mountains have the heaviest precipitation in the state. Snowfields and heavy forest cover the mountains. Most of the wilderness area is within the Olympic National Forest and Olympic National Park, being managed for recreation, wildlife and timber. Farm settlement is limited to some foothill river plains and coastal terraces such as the Dungeness and Port Angeles districts along the Strait of Juan De Fuca. Here in the lee of the mountains, rainfall is moderate and irrigation is practiced by some livestock farmers. The Willapa Hill country is wet, heavily forested and carved into numerous narrow vallets. Logging is the main industry, combined with livestock farming in the upper Chehalis River Valley and along the banks of the Columbia River. Wet climate, hilly topography and the difficulty of clearing stump land retards agriculture.

Willamette-Puget Sound Lowland

A broad lowland, described as a trough or valley, lies between the Coast Range and the Cascade Mountains. The northern part is the Puget Sound Lowland which has been glaciated and occupied by the sea in the lowest section. The continental glacier reached slightly south of Olympia. Under a warming climate it melted and geologists believe it receded about 25,000 years ago, leaving an infertile plain of moraines and outwash gravels, sands and clays known today

as the Puget Glacial Drift Plain. Its rolling surface has numerous lakes and bogs. Most of the major cities--Seattle, Tacoma, Everett, Bellingham and Olympia--have been built on moraines bordering the Sound. Rivers, such as the Nooksack, Skagit, Snoqualmie, White and Puyallup, built up deltas and flood plains over the older gravelly plains. These narrow valleys are more fertile than the older glacial plains and support numerous small dairy, vegetable and berry farms. Most of the gravelly areas are wooded with a second-growth forest and are used for pastures. In the southern part of the Willamette-Puget Sound Lowland, there are two large valleys--the Cowlitz and Chehalis. They drain a low, hilly area with several flat prairies and bottom lands.

Agriculture is handicapped by poor drainage and flooding of the river deltas and plains, by heavy winter rainfall, by cloudy but dry summers, by coarse, gravelly upland soils and by densely wooded land which is costly to clear. Advantages are mild climate and a location close to major markets for farm products such as milk, poultry and vegetables.

Cascade Mountains

The Cascades are a wide and high topographic and climatic barrier which separates western and eastern Washington. The range is made up of sedimentary, igneous and metamorphic rocks which have been carved by glaciers and streams. High, isolated volcanic cones of lava such as Mt. Adams (12,307 feet), Mt. Rainier (14,408 feet) and Mt. Baker (10,791 feet) appear upon the older Cascade rocks. The Cascade crest varies between 3,000 and 10,000 feet and is higher and more rugged in northern Washington. Roads and railroads have been built across its lower passes in central and southern Washington. The Columbia River has cut a deep gorge and the lowest pass through the barrier. The western slope is wet and heavily forested with Douglas fir. The eastern slope is drier with a less-dense pine forest. Nearly all classified as forest land, most of the area is in Federal ownership in five national forests and Mount Rainier National Park. Tree fruit farming in the eastern slope valleys of Wenatchee, Chelan, Methow, Naches and the Columbia Gorge is most important. Sheep and cattle summer grazing on alpine grasslands is another use. Deep western slope valley bottoms such as the Skagit, Snoqualmie, Nisqually, Cowlitz and Lewis also contain livestock farms. The area is vitally important as a source of timber. Steep terrain, wet climate, short growing seasons and heavy forest vegetation are main handicaps for agriculture.

Columbia Basin

A low plateau of old lava rocks covered with stream and wind-deposited soils extends in a series of plains, ridges, coulees and hilly from the Cascades to the eastern Washington border. The area is basin-like in structure, being higher around its margins and sloping inward to low and level central plains. It has been sharply eroded by the Columbia River and its interior tributaries, the Snake, Yakima, Palouse and Spokane Rivers. The basin has sub-areas created by crustal movements and erosion.

The Yakima Folds are a series of hilly ridges extending from the Cascades eastward into the lower part of the basin. The Yakima and Columbia Rivers have cut gaps through the ridges and built up plains in the troughs between them. The rich, alluvial plain of the Yakima River is an important irrigated valley.

The Waterville Plateau is a tableland of thin soils overlaying basaltic rock at an elevation of 2,500 to 3,000 feet. It has gorges cut by the Columbia River and ancient glacial outwash streams once flowing in Moses and Grand Coulees. It is too high for irrigation and is used for dryland grain and livestock farming. The high plain is often called the Big Bend country.

The Channelled Scablands is a belt of dry terrain carved by ice-age rivers into a series of couless. Bare rock is exposed in the coulees. Small plateaus between the old river channels have thin soils used for dryland farming. The Grand Coulee of this region has been developed into a major irrigation reservoir.

The Palouse Hills consist of fertile deposits of wind-blown soil overlaying basaltic lava flows. After being deposited in large dunes, the formation was reshaped by streams into an intricate pattern of low, rounded hills which are tilled for wheat, barley and legumes. The hills receive 16 to 25 inches of rainfall and have deep, porous and fertile soils. It is one of the richest farming areas of the Pacific Northwest.

The Central Plains are low and relatively level expanses of soil, deposited by old streams crossing the Channelled Scablands and later by the flooding of the Yakima, Columbia, Snake and Walla Walla Rivers. Climate is desert-like (6-12 inches of precipitation per year). The lower lands of the area, the Quincy and Pasco Basins and the Walla Walla Valley, are irrigated. Quincy Basin is a new irrigation area watered by Grand Coulee Dam.

Agricultural handicaps in Columbia Basin regions are mainly found in its dry, continental climate. Large irrigation systems built since 1900 have overcome much of the need for water on rich valley and basin soils. Dryland farming in higher areas is practiced widely, although occasional variations in rainfall, lack of snowfall, winter-kill, water and wind erosion inflict damage to field crops and to livestock ranges.

Okanogan Highlands

A portion of the Rocky Mountains, consisting of well-eroded old granites, lavas and sedimentary rocks, extends across north central Washington. These are the Okanogan Highlands, the state's richest mineral area. Summit levels reach 4,000 to 5,000 feet with peaks exceeding 7,000 feet. Prominent north-south valleys are occupied by irrigated tree fruit and livestock farms. These are the Okanogan, Sanpoil, Kettle and Colville Valleys. The Columbia River gorge through the Okanogan Highlands is occupied by the large man-made lake behind Grand Coulee Dam--Roosevelt Lake. High and wetter portions are forested with pine and larch, and are managed for timber and for livestock ranges by the United States Forest Service and the Bureau of Indian Affairs. Cold winter temperatures, short growing seasons, dry valley climates and distance from markets are farming handicaps.

Selkirk Mountains

The Selkirks, a range of the Rocky Mountain system, extend into the northeast corner of Washington. The rocks are old mineralized granites and metamorphics reaching elevations of over 7,000 feet. The Pend Oreille River Valley

at the base of the Selkirks is an agricultural area of narrow bottom lands settled by livestock farmers. Nearly all of the uplands are in Kaniksu National Forest. While climate is cool and growing seasons are short, the Pend Oreille Valley has an advantage of being closely located to the Spokane metropolitan market area.

Blue Mountains

The Blue Mountains are an uplifted and eroded plateau extending into the southeastern corner of Washington. The strata are mainly ancient crystalline rocks which contain some minerals. The highest point of the mountains in the Washington section is Diamond Peak (6,401 feet), on the divide between the Grande Ronde, Tucannon and Touchet Rivers. These rivers, and the Walla Walla River, have cut valleys into the plateau. Extensive pine forest and grassland areas are in the highlands within Umatilla National Forest, where rainfall is 30 to 40 inches. The Snake River has cut a deep valley and gorge across the lower parts of the mountains. The area is well developed agriculturally around its northern foothills where wind-blown soils are deep and irrigation systems are used. The Walla Walla and Tucannon Valleys are rich grain, legume and livestock areas grown under irrigation and by dry farming. Grazing is an important use of the high lands by livestock ranchers in the upper valleys.

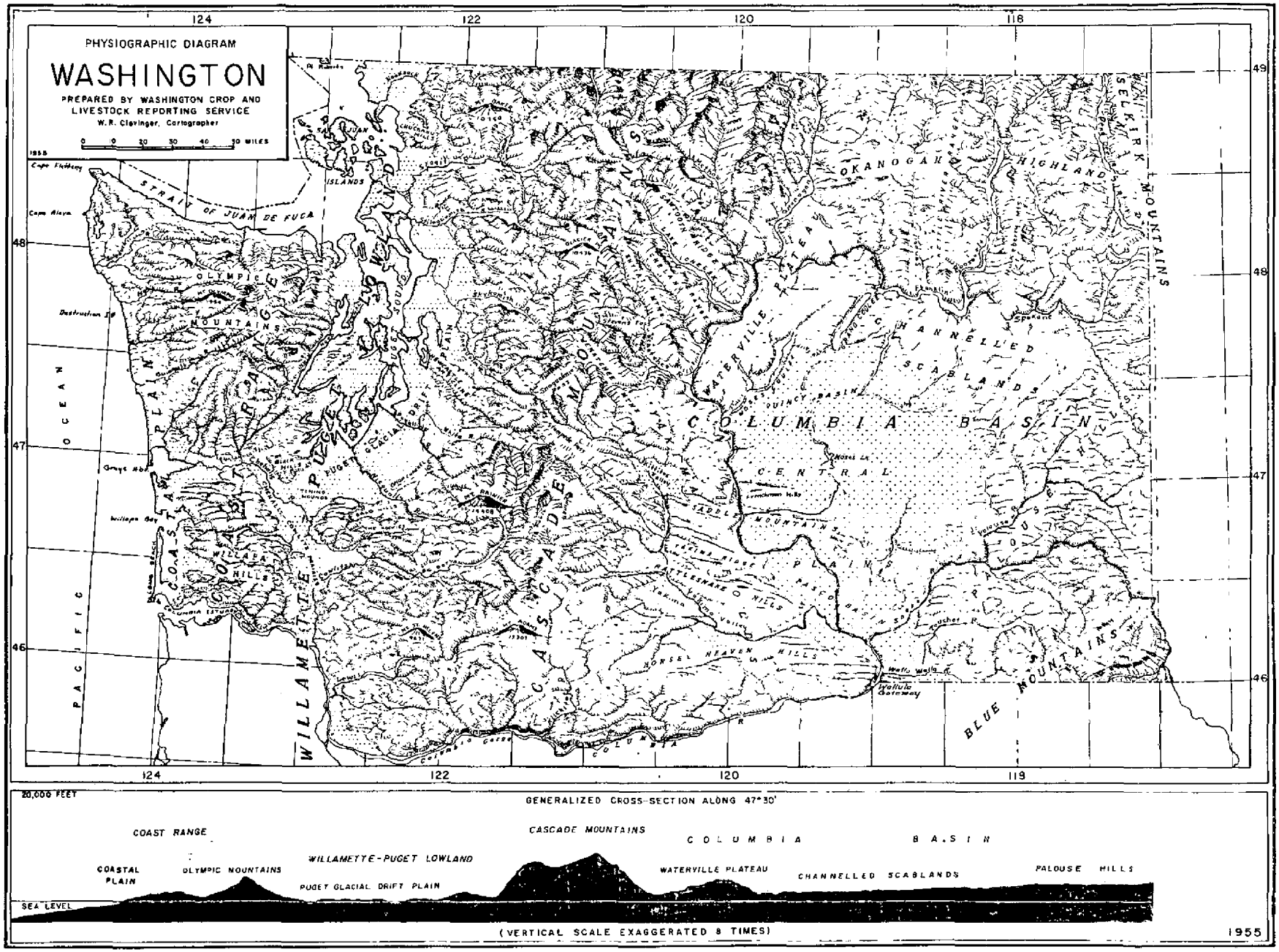
Topography of Thurston County

Three rather distinct divisions characterize the topography of Thurston County. Its boundaries include portions of three major physiographic provinces making up western Washington and Oregon. These are the Coast Range, the Willamette-Puget Lowland and the Cascade Mountains.

The Coast Range together with a portion of the upper Chehalis River Valley comprises a zone of low hill and valley plains in western Thurston County. Many narrow creek valleys characterize that section. The upper Chehalis River bottomlands in the Rochester and Grand Mound district are important farm lands with an elevation of 60 to 100 feet. The Black River tributary of the Chehalis forms another plain and prairie area of farming in the Little Rock district. Both valleys contain sub-soils of glacially deposited material. Most of the Coast Range is too rough for farming. There the hills range from 300 feet to a summit of 2,667 feet on Capitol Peak. Sedimentary rocks forming the Range extend northward to the Puget Sound inlets of northwestern Thurston County. Eld and Totten Inlets of the Sound have steep bluffs and narrow beaches.

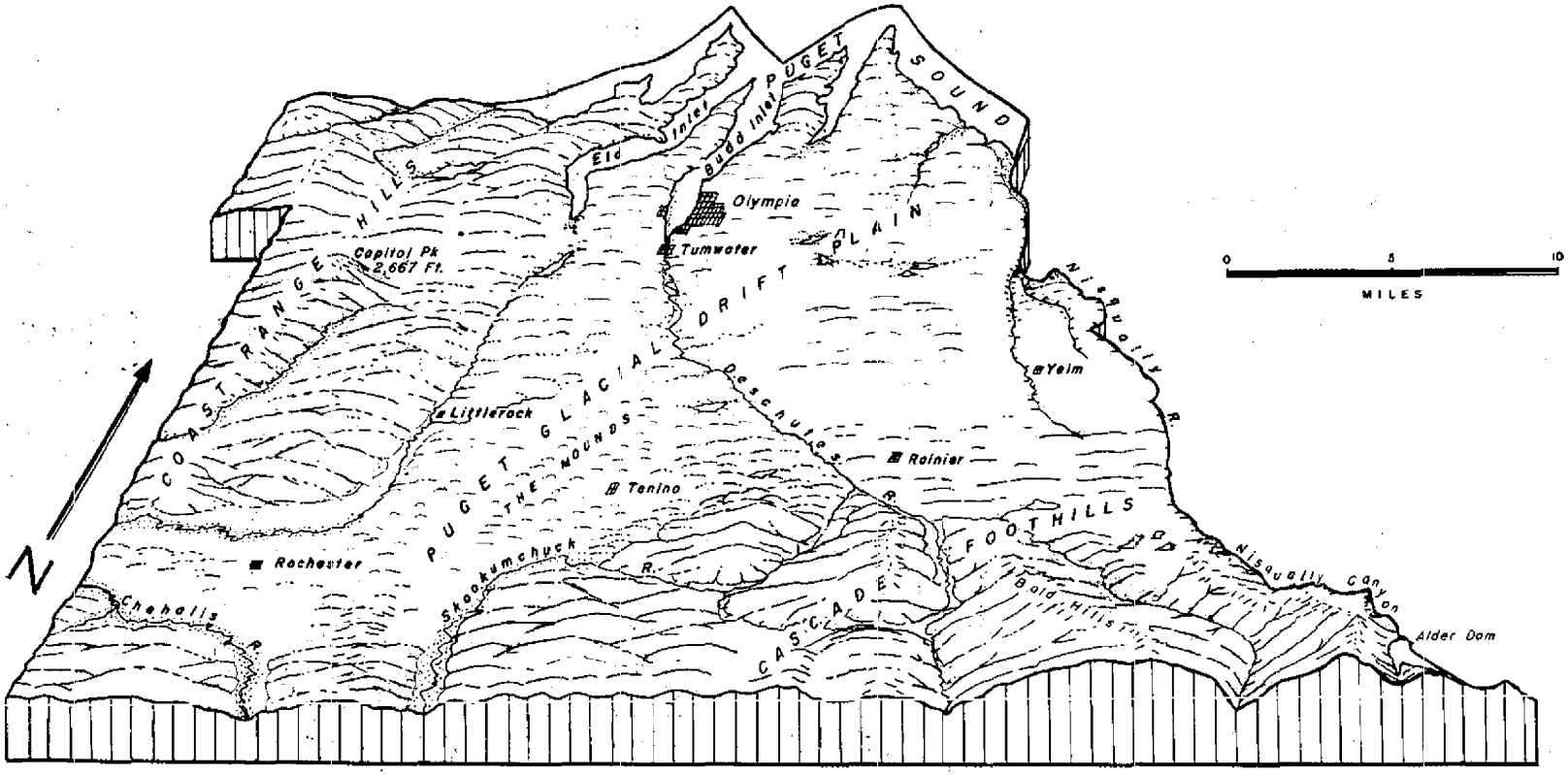
The Willamette-Puget Lowland, between the Cascades and the Coast Range, contains most of the populated and farm-developed land of Thurston County. The main characteristic is a rolling and lake-dotted lowland called the Puget Glacial Drift Plain. Major ice sheets of the geological Pleistocene Ice Age lay stagnant over this area 10,000 to 25,000 years ago. As the ice sheets melted, deep deposits of clays, sands and gravels and large boulders were left in some localities. Glacier-borne material was deposited unevenly leaving numerous Kettle holes which became lakes and ponds and heaps of material which became moraines and mounds.

A distinctive landscape feature is a belt of small mounds 10 to 20 feet high extending from Tenino to Rochester. Geologists believe these mounds were formed when the last ice sheet melted and dropped small pockets of gravel and


PHYSIOGRAPHIC DIAGRAM
WASHINGTON
PREPARED BY WASHINGTON CROP AND LIVESTOCK REPORTING SERVICE
W.R. Clevinger, Cartographer
0 10 20 30 40 50 MILES
1955
124
122
120
118
49
48
47
46
PACIFIC OCEAN
STRAIT OF JUAN DE FUCA
SAN JUAN ISLANDS
OLYMPIC MOUNTAINS
COASTAL PLAIN
PUGET GLACIAL DRIFT PLAIN
WILLAMETTE-PUGET LOWLAND
PUGET SOUND
WILLAPA HILLS
COAST RANGE
CASCADE MOUNTAINS
OKANOGAN HIGHLAND
SELKIRK MOUNTAINS
WATERVILLE PLATEAU
COLUMBIA BASIN
CHANNELLED SCABLANDS
QUINCY BASIN
CENTRAL
SADDLE MOUNTAINS
PALOUSE HILLS
PASCO BASIN
RATTLESNAKE HILLS
HORSE HEAVEN HILLS
BLUE MOUNTAINS
Spokane
Yakima
Walla Walla
Grand Coulee
Columbia Gateway
20,000 FEET
GENERALIZED CROSS-SECTION ALONG 47°30'
COAST RANGE
CASCADE MOUNTAINS
COLUMBIA BASIN
COASTAL PLAIN
OLYMPIC MOUNTAINS
WILLAMETTE-PUGET LOWLAND
PUGET GLACIAL DRIFT PLAIN
WATERVILLE PLATEAU
CHANNELLED SCABLANDS
PALOUSE HILLS
SEA LEVEL
(VERTICAL SCALE EXAGGERATED 8 TIMES)
1955

TOPOGRAPHIC DIAGRAM

THURSTON COUNTY



WASHINGTON CROP AND LIVESTOCK REPORTING SERVICE

W. R. CLEVINGER

sand which appeared as small heaps when the ice was gone. A theory has been advanced also that they were formed by the digging and heaping of material by an extinct rodent. The mound area in south Thurston County is a grassland of about 200 feet in elevation with local districts known as Frost, Rock Mound and Rochester Prairies. Livestock farming utilizing the grasslands is most common here. Low, summer-season top-soil moisture results from the coarseness of the gravelly prairies.

Northward in the Olympia, Lacey and Yelm districts the glacial till plain has large areas of flat prairies and gently-sloped moraines with several large lakes and numerous small bogs of clay and peat. Important flatland areas of 200 to 500 elevation underlain with deep deposits of coarse glacial material are Chambers, Hawks, Weir, Ruth, Smith and Yelm Prairies. The upper soil horizons are too coarse to hold moisture, but ground water is plentiful in deeper deposits of clay underlying them. Some rather large lakes occupy low places in the glacial drift plain--notably Chambers, Offut, Hicks, Long, Patterson and Lawrence Lakes.

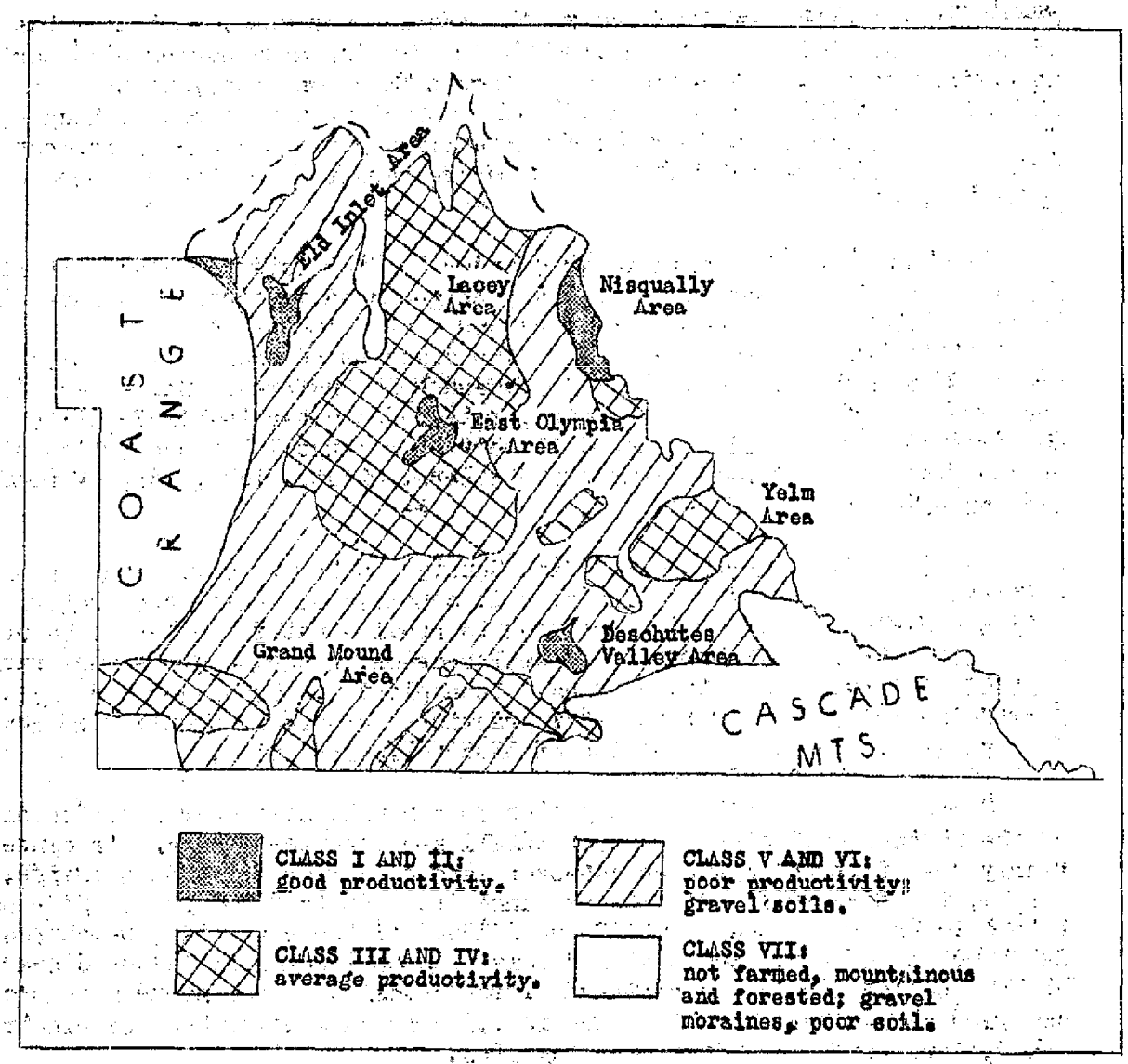
Agriculture in northern Thurston County has had to solve many physical problems growing out of the glacial soil conditions. Large cooperative irrigation systems and deep wells are used to provide water for berry, vegetable and fruit crops. Bush berries, specialty crops, hothouse crops and grasses best adapted to a glaciated area have been planted. Grassland and livestock farming have expanded as some other practices were found unsuited to the conditions imposed by glacial action of past geological time.

Southeastern Thurston County lies in a rough, stream-eroded, foothill belt of the Cascade Mountains. Heavy rainfall and steepness of terrain causes nearly all of it to remain as cut-over land or in large forest holdings. Called locally the Bald Hills, elevations range from 250 to 2,500 feet. Some narrow bottom lands are farmed in the upper reaches of the Nisqually, Deschutes and Skookumchuck Rivers. Sedimentary rocks with coal seams are exposed near Bucoda, an area called the Tono coalfield. Thick deposits of sandstone were once quarried at Tenino. The hill zone is valuable as a watershed for electrical power, irrigation and city water supplies.

Land Classification and Soils

A recent soil survey in Thurston County divided the land into 7 broad classes of economic use. 1/ As a result of the geological history of mountain building and wide glaciation, the larger part of Thurston County falls into low quality farmlands and soils, and much of the land is considered unsuitable for agriculture. Typical of glacial plains with unevenly deposited clay, sand, gravel and rocky material, lowland soils vary greatly from place to place in texture, depth and fertility. There are numerous small lake beds of clay and peat and many uplands of gravel moraines and exposed rock strata.

1/ Agric. Exp. Station, State College of Washington, Pullman. Economic Land Use Class Map, Thurston County, Washington, 1949.



Source: State College of Washington, Economic Land Use Class Map, Thurston County, Washington, 1945.

Figure 5.- General Quality of the Land in Thurston County

Class I and II land, consisting of soil and terrain with excellent to good productivity, is limited to a few river valley and lake districts. The largest area of this best land is about 2,000 acres in the Nisqually River delta district on Puget Sound. Drained and reclaimed to some extent, the silt loams are productive of hay and grain, root crop and berry crops. Smaller pockets of less than 1,000 acres of Class I and II land are found in East Olympia, the middle Deschutes Valley and at the head of Eld Inlet.

Class III and IV lands of average to below average productivity are widely and unevenly distributed. They mainly consist of fairly level plains of sandy and gravelly loams of glacial origin. Moisture and humous content is low but sufficient for grain crops, pasture and berries. For best yields sprinkler

irrigation is required. A common soil type is the Spanaway series, a fine gravelly and sandy soil widely spread over the prairie plains between the Nisqually and Deschutes Rivers.

Poor and unproductive land in Classes V and VI makes up nearly half of the lowlands of Thurston County. These lands are rolling and steep consisting of large glacial moraines, Puget Sound shore bluffs and the large mound area between Grand Mound and Tenino. Soils of these lands are generally thin, gravelly and dry in the summer. Glacial deposits of boulders and unassorted rocky material is common. Most of this land is in woodland and woodland pasture.

Class VII land is hilly and mountainous and is mainly in the Coast Range and Cascade Mountain zones. Although small localities are grazed or farmed such as in the Skookumchuk and upper Deschutes Valleys, it is a type of land best suited to permanent forest growing. Nearly all of it today is in coniferous stands of Douglas fir, hemlock and spruce.

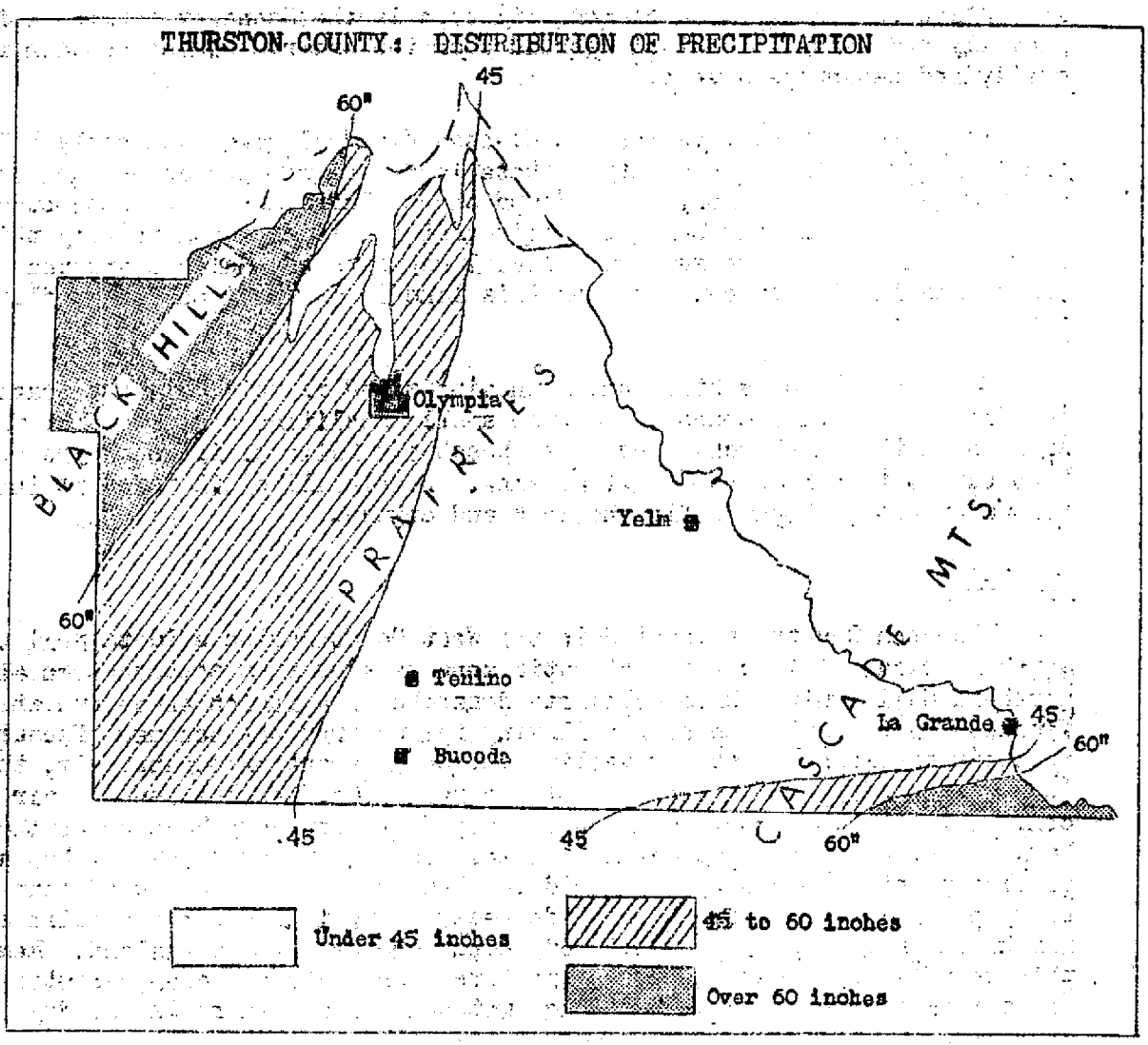
Climate

Thurston County is located in the West Coast Marine climate region of North America. This coastal climatic zone extends from southeastern Alaska to northern California. Climatologists describe this region as one which is influenced by the mild, moist air flowing inland from the oceans. Because of mountain barriers and the prevailing inland movement of oceanic air, the climate is cool, cloudy and wet for most of the year. Cold or hot and dry air from the continental interior seldom invades Puget Sound Lowlands because of the high barrier formed by the Cascade Mountains. The Puget Sound country has a climate similar to other parts of the world located on the west coasts of continents between the latitudes of 40 to 55 degrees. This includes the British Isles, northwest Europe, southern Chile of South America and New Zealand. Regions in this climate are noted for dairy and forest products and crops adapted to cool, moist climatic conditions with long wet seasons and short summer dry seasons.

Thurston County contains three general climatic sub-zones related to its location within portions of the Coast Range, the Willamette-Puget Lowland and the Cascade Mountains. With elevations ranging from sea level on Puget Sound to over 2,500 feet in the Cascades, temperature, precipitation and growing season conditions vary considerably from place to place. While there are no Weather Bureau data from most localities, the records of weather observation stations within Thurston and those from some stations in Pierce and Lewis Counties provide a general picture of climatic conditions.

There are three rather distinct precipitation zones. The Coast Range section of western Thurston County, known locally as the Black Hills, is a wet, rainy and cloudy belt. Mostly rain with some mid-winter snow, precipitation in some localities such as Capitol Peak exceeds 70 inches. Rainfall results from moist, westerly winds being forced upward as they travel inland from the Pacific Ocean. Fog and cloud cover is quite common over this belt for nine months of the year.

A zone of drier conditions with 40 to 60 inches of rainfall stretches between the Black Hills and the Cascade Mountains. This is a low, rolling area



Source: U.S. Weather Bureau, Climatological Data, Washington, Annual Summary, 1956.

Figure 6.- Distribution of Precipitation, Thurston County

Table 6.- Precipitation for Selected Stations by Months
Thurston County

Station and Elevation in Feet	Average Monthly Precipitation (in inches)												Annual Average (inches)
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	
Olympia (190)	5.69	6.35	4.50	2.34	1.66	1.28	.72	1.16	1.80	4.50	6.77	8.66	45.93

Source: U.S. Weather Bureau, Climatological Data, Washington, Annual Summary 1956.

of prairies, glacial moraines and plains, being part of the Willamette-Puget Lowland. After passing over the Coast Range, westerly winds descend and less moisture is dropped as they pass over this lowland. Rainfall diminishes rapidly eastward of Olympia and Rochester and there is less cloudiness. Soil moisture conditions become quite dry in summer both because of lighter rainfall and the porous nature of the gravelly and sandy glacial soils. Rainfall and low topsoil moisture requires sprinkler irrigation for best yields of crops and pasture. The Yelm district once was widely irrigated by flumes distributing water from the Deschutes River. The prairies about Yelm, Tenino and Grand Mound are one of the dryland areas of western Washington.

A highland, rainy zone extends through the southeastern extremity of Thurston County. It coincides with the Bald Hills locality of the Cascade Mountains. Like the Coast Range, it is a belt of heavy precipitation dropped by the ascent of the westerly winds up the western slope of the mountains. More snowfall occurs here than elsewhere in the county. With the exception of some bottomland pockets of the upper Deschutes and Skookumchuk River Valleys, it is a forested, non-agricultural area.

Temperature records kept at the Olympia Airport for a number of years show that the Puget Sound lowland area of Thurston County has mild winters and cool summers. On the average, temperatures during a 24-hour period in mid-winter will range from 35 to 50 degrees and seldom will go below freezing. Summer temperatures are cool, ranging between 55 at night to 75 at mid-day. Extreme heat of 90 degrees or more is rare. Mild winters and moderate summers result from the influence of ocean breezes and westerlies coming inland from the nearby Pacific Ocean. Moderating influences of Puget Sound waters are felt in many localities in the form of breezes coming off this inland sea.

Temperature conditions are favorable for agriculture based on grassland and hay, but are somewhat cool for grain, vegetable and fruit crops that require warm daily temperatures. The growing season is 180 to 200 days in the prairie areas and is excellent for grass although mild daily temperatures are not favorable for certain crops. Frost conditions vary greatly with localities. Numerous low bogs and valley bottoms inland from the Sound receive more frost than the higher and sloping lands surrounding them. Ground fogs and valley fogs accumulate over Puget Sound during cold, calm periods of the fall and winter season and often prevent killing frosts and freezes.

Table 7.- Temperatures For Selected Stations, By Months
Thurston County

Station and Elevation in Feet	Average Temperatures (in degrees Fahrenheit)												Annual Average
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	
Olympia (190)	37.0	40.0	43.7	48.4	54.1	58.9	62.8	62.9	58.1	51.0	43.5	39.4	45.74

Source: U.S. Weather Bureau, Climatological Data, Washington Annual Summary, 1956.

Table 8.- Temperature Extremes, Dates of Killing Frost
Thurston County

Station and Elevation in Feet	Temperature Extremes Recorded (degrees Fahrenheit)		Killing Frost Average Dates	
	Coldest	Hottest	Last in Spring	First in Fall
Olympia (190)	-2	104	April 20	October 28

Source: U.S. Weather Bureau, Climatological Data, Washington 1956

Forests and Wildlife

About 75 percent of all the land in Thurston County is classified as forest land by the Forest Service. 1/ Forests growing in the Coast Range, the Cascade Mountains and non-agricultural sections of the Puget Sound lowlands are an important part of the resources of Thurston County. Some of the earliest activity in the area on Budd Inlet and at Tumwater was based on logging and lumbering. From 1854 to 1920 much of the lowland timber was harvested and the land on which the trees grew became farmland. Since then a new crop of timber owned by companies and by numerous farmers is becoming increasingly important in the county's economy. A vast area of young woodlands on farms, company-owned tree-farms, State and Federal-owned public forests provides a source of rural income and yields returns in the form of water conservation and recreational use by campers, hunters and fishermen.

A Forest Service survey of Thurston County shows that 78 percent of its forest lands are owned by individuals or are under management by private concerns. Total private ownership of forest land was 274,000 acres at the time of the survey. Of this, about 86,000 acres is in farm-woodlands owned by over 800 different farms. The remainder of 188,000 acres is in tree farms managed by timber companies, paper companies and railroads. The Vail Tree Farm of Weyerhaeuser Timber Company covers a large area in southeastern Thurston County.

Publicly-owned forest land amounts to 78,000 acres or about one-fifth of the county's forest resource. Ownership by the State of Washington in public school, college and university lands and in tax delinquent lands totals 61,000 acres. Over 24,000 acres are in school and college lands. Federal land in Snoqualmie National Forest, Fort Lewis Military Reservation and in the Nisqually and Chehalis Indian Reservations covers 17,000 acres. Fort Lewis Military Reservation is the largest Federal holding, having 15,810 acres.

Forests consist of four principal types. Douglas fir is dominant as a commercial timber. Hemlock and Sitka spruce in mixture, commonly found in the Coast Range, is second in value and board feet. Lodge pole pine and alder and maple hardwoods are third and fourth. Pole timber and seedlings and saplings,

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1/ U.S. Dept. of Agric., Forest Service, Pacific Northwest Forest and Range Experiment Station, Portland, Oregon. Forest Statistics for Thurston County, Washington. Oct. 1955.

or young re-growth is most prevalent. Young timber generally below sawmill size is dominant on over 275,000 acres. Most forest management by farmers and by companies is concentrated on protecting, thinning and improving these young stands for future harvesting.

Wildlife resources are an important part of rural economy. As a by-product of forest land and streams and lakes they contribute to development of tourist industry and recreational services. Many rural families derive some direct returns from hunting, trapping and fishing. Statistical reports by the Washington State Game Department indicate the importance of Thurston County's wildlife resources. 1/ The Department lists 15 lowland and mountain lakes and six streams which yield trout and bass. A recent annual report on steelhead sport fishing showed the Nisqually River yielding over 3,000 of these game fish during a season. A 1955 report on hunting showed that Thurston County forest areas yielded over 1,750 deer; another report on upland bird hunting showed a yield of 2,680 pheasants. In winter months the glacial lakes, marshes, streams and mountain forests yield wild furs to trappers living in rural areas. A most recent reppot for Thurston County showed a catch of 1,140 muskrat, 56 mink, 41 raccoon and 10 otter. 2/

1/ See Washington State Game Bulletins (published quarterly). Wash. State Game Department, 509 Fairview N., Seattle 9, Washington.

2/ Washington State Game Department, "Report of Trappers Catch of Fur-Bearing Animals, 1955-56 Season" (mimeographed) 509 Fairview N., Seattle 9.