

CLIMATE AND SOIL.

By B. S. Pague.

Oregon is traversed, north and south, by the Cascade mountains, which divides the state into geographical, as well as into climatic parts. About two-thirds of the state lie east of the mountains, and it has a climate of a semi-arid nature. To the west of the mountains the climate is moist, with comparatively small temperature changes.

The Columbia and tributary rivers drain the eastern portion of the state, and where the river cuts through the Cascade mountains is where Wasco county begins, extending eastward along the Columbia river, then joined by Sherman county. These counties extend southward from the Columbia river a distance of about 60 miles. These two counties comprise the extreme northwestern portion of Oregon east of the Cascades, termed Eastern Oregon or the Inland Empire.

TOPOGRAPHY.

The counties are in general rolling in surface. The snow capped summit of Mount Hood forms a portion of the western boundary, and from the mountain chain eastward there are several minor mountains or high hills between which are many fertile valleys. The Columbia river is the northern boundary of the counties. The land surface along the river has an elevation of from 100 to 300 feet; south of the river is a range of hills having elevations of from 200 to 600 feet, and then there is the rolling country. The Deschutes river drains the major portion of Wasco county, the John Day drains the eastern portion of Wasco and Sherman counties, and Hood river drains the western portion of Wasco county; these rivers and their tributaries traverse most fertile and productive valleys.

CLIMATE.

By the climate of a place is meant the rain, snow, temperature, winds, and all those phases of the elements which are commonly called the weather. The United States Weather Bureau collects and compiles weather data, and it is such data upon which this article is based. Wasco county has one of the largest, most complete and accurate weather reports made in the State of Oregon. The first record was made by the United States Hospital Corps, at old Fort Dalles, commencing in 1850 and continuing quite regularly until 1867. In December, 1874, Mr. Samuel L. Brooks, of The Dalles, began making meteorological records which he yet continues. Without his valuable record but little information could be given concerning the climate of these counties. Dr. P. G. Barrett has since 1891 made a complete record, and at the government works at Cascade Locks records have been made since 1879. There have been desultory efforts made to make records at Bake Oven, Dufur and at Grass Valley, but none are of sufficient length to cause them to have any real value. Records have been commenced at Moro by Mr. Wm. Henrichs, which will prove of great value.

TEMPERATURE.

The mean temperature of these counties is 49 to 52 degrees. The mean temperature decreases, as a rule, with distance from the Columbia river and with elevation. The mean winter temperature, December-February, is from 31 to 36 degrees, while the summer, June-August, is from 58 to 73 degrees. The mean of the highest temperature during the year range from 56 to 62 degrees, and of the lowest from 40 to 42 degrees. The mean of the lowest temperature is below the freezing point (32 degrees) during December, January and February; during the heat of summer the lowest temperature which occur, as a rule, about sunrise, range from 55 to 58 degrees along the rivers and lower dependent upon the elevation.

During the heat of summer the highest temperature is from 98 to 105 degrees, extending from May to October, during winter the lowest temperatures are from 1 to 19 degrees below zero, extending from December to March inclusive. While temperatures to and below zero are recorded frequently during the winter season, they do not occur every winter, except, of course, on the highest elevations. The maximum temperature during the winter months always, for a month, average above the freezing point. While the extreme maximum and extreme minimum temperatures give a wide range, yet the climate is not rigorous as might be supposed. The cold of winter is of short duration, the heat of summer not injurious, and seldom uncomfortable. The usual daily avocations proceed during the mid heated term. Sunstroke or prostrations from heat are unknown. The air is always dry, and especially so during warmer portions of the year. The dryness of the air produces rapid evaporations of the moisture on the body and a cooling takes place, thus enabling the body to withstand the high temperature. The nights are comparatively cool in the summer or growing season, yet they are, along the river, the warmest in the Pacific Northwest. Warm nights are necessary to the growth and development of vegetables in the early spring, and especially to the growth of peaches. Owing to the cool nights generally prevalent over the Pacific Northwest, peach culture on a large and profitable scale is confined to a comparatively limited area, and of this area there are no records yet obtained of that suitable night temperature, more favorable than that found in portions of Wasco and Sherman counties, thence eastward along the Columbia river for 200 miles.

PRECIPITATION.

The precipitation of Eastern Oregon occurs principally from October to April, and the same is true of these counties. At Cascade Locks, over an area of a few miles, the annual precipitation is 80 inches. This large amount is produced by local causes; to the east mile by mile it decreases; at Hood River 38 inches annually occur, while at The Dalles, but 45 miles from Cascade Locks, the annual amount is 15 inches. The precipitation continues to decrease, with increase in distance from the Cascades, through Wasco and Sherman counties and to Arlington, in Gilliam county, where but nine inches annually occur. To the east of Arlington the influence of the Blue mountains is felt, and the precipitation slowly increases. Less than 20 inches of precipitation annually occur over the greater portion of Wasco and Sherman counties, and of this amount the greater portion falls from November 1, to April 1. There is an increase of rain fall in Sherman county as compared with the amount at The Dalles. What this amount is is not at present known. The topography of the country east of Sherman county is the cause of this local increase. From April to July showers occur, the total for any month seldom amounts to over one inch. During July and August an occasional thunder storm gives rain, but otherwise it is rare, that there is enough rainfall to lay the dust, the average for July and August combined is only 0.29 of an inch over the greater portion of both counties. Snow falls from November 15 to March 15, in varying depths. Some winters the total will amount to several feet, other winters not so much falls. In the southern and western portions of Wasco county the snow fall is heavier than in the other portion of the county. Snow seldom remains on the ground for a long period, due the prevalence of Chinook winds, produced by the dynamic heating of the air. These occur at various intervals, usually following a cold period, and they quickly melt the snow and clear the ranges for food for the cattle.

There is no climate that is exactly similar to that of the section under discussion; it has the cold of winter and the

warmth of summer that is found in Missouri, but it has not the disagreeable features attendant upon the climate of that state. Oregon, as a whole, ranks first for the lowest death rate and the counties of Wasco and Sherman are among those having the lowest death rate in the state. The climatic conditions are detrimental to the continuation of malarial and intermittent fevers, and all violent forms of disease are unknown.

SOIL.

The soil is, as a rule, of very fine texture. It is a light grey soil, which darkens slightly on moistening. It is abundantly supplied with potash, but phosphoric acid is deficient. To one unacquainted with its peculiarities, the soil would not be considered especially favorable, but when its present production is considered and its possible productive capacity based on its present production, it is seen that the soil possesses constituents that produce unusual, and almost phenomenal crops of cereals, fruit, hay and vegetables, and when irrigation is practiced the productive capacity is almost doubled.

The soil is of such a nature, as to allow of the sub soil moisture to rise to the surface, and on this fact rests the production of the wonderful crops, that with an annual precipitation of less than 20 inches would be impossible. The soil contains some lime, and humus is also found in some sections in considerable quantity.

PRODUCTION.

Along the Columbia, Deschutes and John Day rivers, is to be found the conditions ideal for the peach, and while these sections are now fast taking rank as the first peach-growing section of Oregon, it will be but a few years until the peaches of these two counties will control the market of the Pacific Northwest. While the ideal peach belt has been found, that for the most perfect and best keeping apples and the best shipping strawberries has been found in the Hood River valley. On the slopes of Mount Hood, almost to the snow line, apples grow to perfection. Prunes, pears, plums, etc., also grow to perfection. The vegetables are among the earliest in the market in the spring, and no place can produce finer ones. On the hill sides grapes grow to perfection, and a good champagne grape can be profitably produced. The higher land produces wheat, barley, rye and bunchgrass for cattle. The valleys produce great crops of hay, especially so when irrigated. Rain in Wasco always insures a large wheat yield. Wasco county has more diversified crops than has Sherman county, the latter is so far almost exclusively a wheat producing county.

The following statement gives the important temperature and precipitation data for The Dalles and Hood River, both in Wasco county, and in order that the distribution of precipitation in the surrounding section may be understood data for Cascade Locks, on the northwestern edge of Wasco county; for Arlington, Gilliam county, the place of least precipitation in Oregon; for Heppner, Morrow county and Crook, Crook county, are included.

PLACE	DATA	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Ann'
The Dalles S. L. Brooks Observer Record 1878-98	Mean Max. Temperature	36	45	56	65	72	77	80	83	74	63	50	41	62
	Mean Min. Temperature	25	29	34	40	45	55	58	58	49	41	34	30	42
	Mean Temp.	31	36	46	53	61	67	73	71	62	52	42	35	52
	Avg'ge Prec.	28.6	1.98	1.35	0.73	0.64	0.53	0.15	0.14	0.52	1.46	1.74	3.18	15.37
Hood River Dr. G. P. Barrett Observer Record 1891-97	Mean Max. Temperature	36	41	49	54	60	69	76	76	65	58	48	39	56
	Mean Min. Temperature	26	28	32	38	44	49	54	54	48	41	37	31	40
	Mean Temp.	33	35	41	47	55	58	66	66	56	50	43	35	49
	Avg'ge Prec.	7.35	4.50	3.64	2.26	1.54	1.08	0.20	0.20	1.71	2.95	3.88	8.35	37.76
Cascade Locks	Avg'ge Prec.	14.04	9.87	7.71	6.45	3.71	2.63	0.94	0.61	3.57	7.27	9.10	13.80	79.70

THE DALLES, OREGON.

The Dalles, as a municipality, dates its existence from 1857, having been incorporated by an act of the territorial legislature passed January 26th of that year. But as a place of importance in the annals of the Northwest, it is of much longer duration.

The fierce rapids in the Columbia river a few miles above the town were celebrated and widely known, long before any settlement of white people was made, or even contemplated. The town derives its name from the rapids in the river. These were called La Grande Dall de la Columbia (the great trough of the Columbia) by the early Canadian voyageurs of the Hudson Bay Company. These rapids were a source of great trouble and vexation to those hardy river men, who early in the century traveled to and from the post at Vancouver and the posts of the Hudson Bay Company, that were scattered about the Columbia valley, wherever the needs of the trappers demanded, with furs and merchandise. The many lives sacrificed in making the perilous descent of these rapids caused it to be known as the most dangerous place on the entire river.

The earliest and first knowledge of The Dalles is found in the writings of Lewis and Clarke, who encamped on its site, near the mouth of mill creek, in 1803, and rested for a time after the arduous work of making the portage around the rapids. They were troubled by the Indians, who were savage and quite hostile. The journals of the expedition contain thrilling accounts of their experience in making the transfer, and of their encounters with the Indians. Captain Bonneville afterwards experienced similar difficulties with the Astor expedition.

In early Indian tradition the place was called "Winquatt." It was also known as "Wishram," and is referred to by these names in the journals of Lewis and Clarke, and of the Bonneville expedition. By the Methodist missionaries it was denominated "Wascopum." It was a central point and was dominated by the ancient and powerful tribe of Wascoes, a remnant of whom are yet to be seen about the streets of The Dalles, and whose shanties and rude dwellings adorn the west banks of Mill creek.

By reason of its central location, and being at the head of navigation, so to speak, and at the eastern base of the Cascade range, it became a great trading center among

the different tribes of Indians inhabiting the entire country. Here would come the Willamettes and Klackamas from the valley of the Willamette; the Klatzops, Chinooks and others from the coast coming up the Columbia in great canoes; the Nes Perces, Klickitats, Walla Wallas, Spokanes, Yakimas and other tribes from the interior portion of the great Columbia basin would come in canoes down the river or across the grass plains stretching away to the east, south and north, to fish for salmon at the great "Tum water," and to barter their furs and robes for wampum, and other commodities of the tribes to the west of the great range. Slaves were a common article of commerce among these savages. The captives taken by the coast tribes would be disposed of to those of the interior and vice versa. Fierce and bloody wars were often waged for the supremacy and control of the place, and it was only the powerful and strong who were able to retain possession of the most desirable spot in the country, to the aborigines.

The Indian names of many places in the immediate vicinity of The Dalles are worthy of being perpetuated, and it is not unfitting that some of them be reproduced in this sketch. "Winquatt" signifies surrounded by a bold bluff of rocks. Its fitness for the site of this city will be easily apparent. The mouth of Mill creek was termed "Will-look-it," meaning looking through an opening or gap. Three Mile creek at its mouth, "We-galth," a place of danger, for it was here that the war-like Snakes and others from beyond the Deschutes and the confines of the Blue mountains, were wont to make their descents on the village of Winquatt. "Qua-qual-chal" was the name of the site of the old United States garrison. It means squirrel point. The large spring west of the Catholic cemetery was termed "Gai-galt we-la-leth." The mountain to the southeast of the town was called "Shinni-na-kalth," the mountain that marks the course of the sun. West of Chenoweth creek is a rocky hill, rugged and precipitous, on the east and north. This point is called "Ethno-a-Chalk," the vulture's nest. The mountain to the west was known as "Molock Oahuit," the elk's trail. "She-looks-thla-gipt-whalth," the wolf spring was given to the spring of pure water on the old Irvine donation. The rapids in the river were called "Tum wata," fierce and roaring water. Numbers more could be given

but only such as are of local significance have been mentioned. Many of these aboriginal names are beautiful and significant. It is to be regretted that more of them have not been retained as the names of the places they were for so long.

It was in 1820 that the first settlement of white people was made at the location of The Dalles. This was but a rude post of the Hudson Bay Company, and was established by James Birnie for the purpose of trading with the Indians and to assist the voyagers of the company in making the difficult transfers about the long portage of The Dalles. Birnie remained in charge of the post for a considerable time. It was finally abandoned; the reason assigned being the hostility of the Indians, who were ever jealous of any threatened interference with their fishing and trading advantages, and strenuously opposed the encroachment of the whites. No event of importance is recorded from the time the post of the Hudson Bay Company was removed until the fall of 1834, when Revs. Lee and Perkins located the historic Methodist mission. This was completed in 1837, and it was by the missionaries called Wascopum, one of the aboriginal names given to the place and its vicinity, while by the Indians it was for many years known as "Perkins House." The mission buildings were situated on the bench a short distance east of the Wasco Academy grounds, where the outlines of the foundation of the principal building are yet to be seen. The missionaries did a great and good work among the hitherto savage natives, in teaching them habits of industry and instilling the principles of Christianity in their minds. The influence of their teachings was long felt, and was manifest in the Indian wars of later years. This outpost of civilization was maintained by the Methodists for more than ten years. Lee continued the superintendency of the mission until 1844, when he was succeeded by Rev. Geo. Gary, who continued in charge until 1847. In that year Rev. William Roberts assumed control of the mission. For over ten years the Methodist mission station constituted the sole settlement of white people at The Dalles, and it was the first permanent settlement made. This was during the period when the territory was claimed by both England and the United States. It was a project dear to the hearts of Lee and his associates to hold the country for the United States, and much credit is due to them and the missionaries of the American Board, who, while endeavoring to