A Summary of . . .

Climate and Weather for Corvallis, Oregon

1889 through 1960

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SUMMARY OF CLIMATE AND WEATHER OF CORVALLIS, OREGON

Wheeler Calhoun *

The official weather station for Corvallis is located on the Hyslop Agronomy Experimental Farm, six miles northeast of Corvallis, Oregon just off of Highway 20. It is situated on the main Willamette Valley floor a few miles to the east of the coast range foothills. The elevation is 251 ft. above sea level at a latitude of 40° 25' N. and longitude 123° 15' W.

This station is operated by the Farm Crops Department at Oregon State College. The Cooperative Weather Station was established by Captain E. Grimm of the U. S. Army Signal Corps in October 1889. In 1891 the U. S. Weather Bureau was established and took charge of this station with John Fulton assuming the duties as observer. He made weather and special soil temperature observations until 1895. Ellsworth Erwin carried on the work until January 1910 when W. L. Powers was assigned to this duty and the work expanded to include evaporation and other observations related to drainage, irrigation, and soil-moisture investigations. E. F. Torgerson kept the weather record from 1918 to 1946 with R. O. Swan assisting in these records. From 1946 until 1950 Powers assumed responsibility again for those records. Eugene Dannen assumed these duties from 1950 to May of 1952. At that time the weather station was transferred from the campus of Oregon State College to its present location at Hyslop Agronomy Experimental Farm at which time Wheeler Calhoun took over as weather observer.

The present equipment includes the standard maximum and minimum thermometers and rain gauge, a quadruple register for continuous records of rain, wind direction, and velocity. Other instruments in use are standard mercurial barometer, barograph, wet and dry bulb, hygrothermograph, distance soil thermometers, portable recording rain gauge, evaporation pan, hook gauge, and still well.

Weather, by definition, refers to the local meteorlogic conditions at a particular time. Climate, on the other hand, is a summary or average of weather for a long period of time.

Climate is of interest to everyone but has special importance to farmers and Agricultural Research workers. The weather effects the choice in crops, time of planting, harvest, crop composition, quality, and so on. Weather records are useful to help determine the seasonal effects on crops, crop adaptation, and crop harvest condition.

The climate at Corvallis, which is fairly representative of the Willamette Valley may be designated as a mild subcoastal type with moist open winters, a dry harvest period in late summer, and a fairly long growing season. There is comparative freedom from strong winds, hail, and electrical storms.

Prevailing south westerly winds bring the modifying effect of the ocean. According to Keith Butson, climatological service aide for the

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U. S. Weather Bureau in Portland, the coldest winter weather and the warmest summer weather are associated with the advent of a continental air mass from the north or east. This condition brings the very cold air from the eastern Oregon and western Plateau over the Cascade Mountain Range or down the Columbia River Gorge in winter. In summer, the air which prevails over the eastern Oregon and Washington plateau is extremely dry and warm. Its eastward movement across the Cascades or down the Columbia Gorge brings the hottest weather to the Willamette Valley and increases the fire danger in the forests west of the Cascades.

These extreme conditions are terminated in both summer and winter by the change in air circulation to a westerly component and the modifying effect of the Pacific Ocean is realized. These east wind regimes of extreme temperature conditions vary in length from one to as high as 8 to 10 days. In both winter and summer, clear skies and low relative humidities are associated with the east wind.

The first 5 tables and the 2 figures on pages 3 to 9 are the normal summaries of the climate of Corvallis for the 25 year period of 1936 through 1960. Included in these tables are the extremes of the climate from 1889 through 1960. An annual summary of these tables and figures are shown on page 10. This summary also includes the extremes of climate from 1889 through 1960.

The climate of Corvallis as reflected in these 25 year normal summary tables is for the current years of 1936 through 1960. This current normal or average gives a more accurate picture of the weather today than a long term average or normal would. Thus a more reliable prediction of weather for tomorrow can be made.

Tables number 8 and 9 on pages 11 and 12 show precipitation and temperature averages for a 60 year period, from 1901 through 1960. Both tables show a 60 year average by seasons as to amount of precipitation and the temperature ranges. These tables show a different picture of climate in Corvallis as compared to the 25 year normal.

TABLE 1: PRECIPITATION

Month	Normal Total (Inches)	Record High (Inches)	Yr	Record Low (Inches)	Yr	Normal Snowfall (Inches)	Record High Snowfall (Inches)	Yr.
January	6.42	13.61	09	1.99	20	4.89	51.90	50
February	5.10	15.23	04	.12	20	1.00	9.50	23
March	4.06	11.70	04	.43	26	.62	6.50	91
April	2.10	7.99	37	.22	39	.02	1.50	11
May	1.85	5.71	96	.16	47	0	0	
June	1.29	3.84	52	0	18	0	0	
July	.32	2.72	47	0	11 Times	0	0	
August	.38	2.76	99	0	7 Times	0	0	
September	1.30	5.40	20	T	3 Times	0	0	
October	3.53	9.70	50	T	2 Times	.20	5.00	36
November	5.44	16.69	96	.22	90	.38	9.50	55
December	6.15	14.15	33	2.33	30	.42	20.00	19
MEAN TOTAL FOR 25 YRS.	37.94					7.53		

Normal Precipitation is for a 25 year average from 1936 through 1960.
Extremes in Precipitation are from 1889 through 1960.

Figure 1 PRECIPITATION

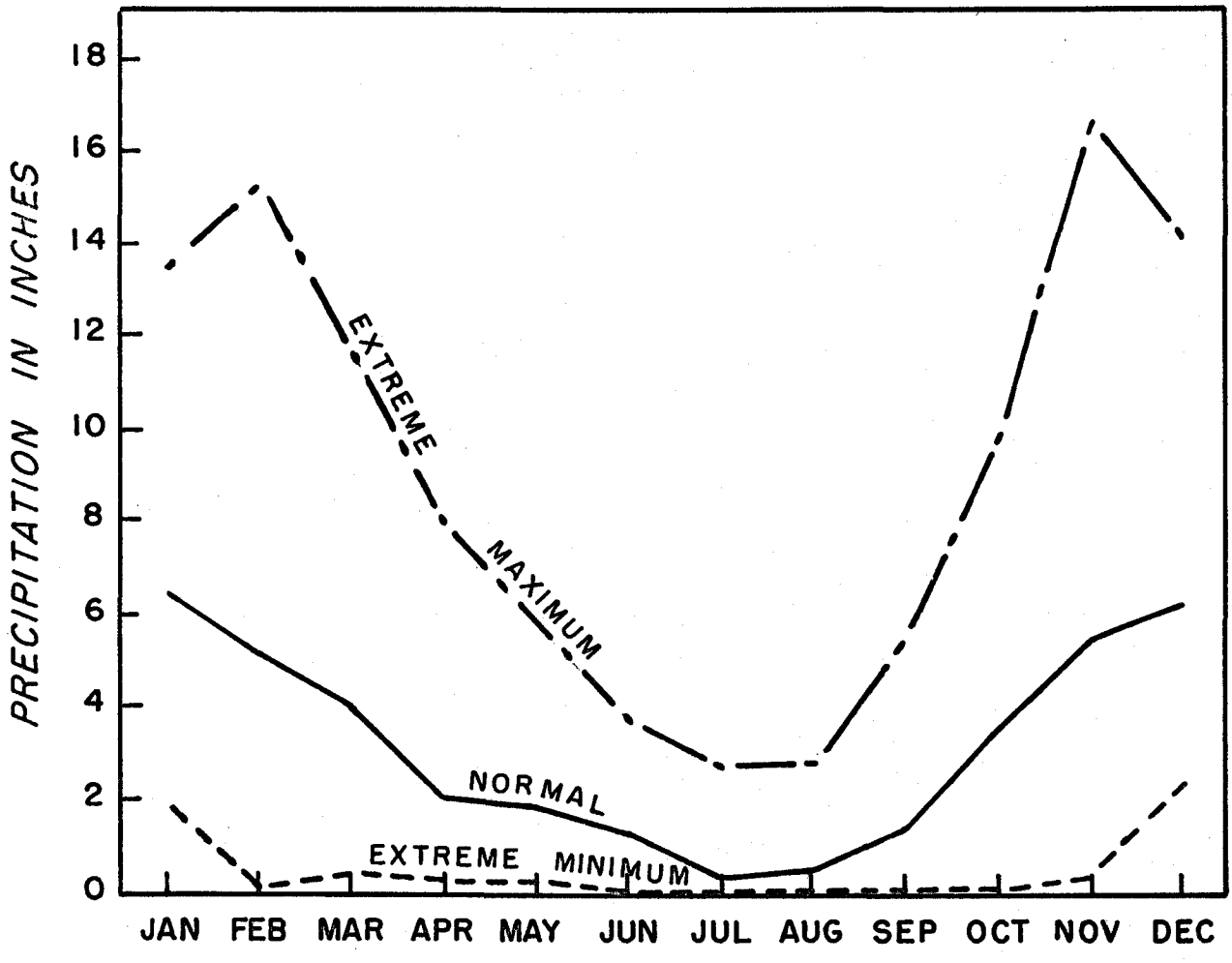

TABLE 2: TEMPERATURES

Month	Monthly Maximum (°F)	Monthly Minimum (°F)	Monthly Mean (°F)	Record Max. (°F)	Yr.	Record Min. (°F)	Yr	# of Times Above 100°	# of Times Below 30°
January	45.34	32.53	38.96	64.0	14 31 40	-1	09	0	596
February	50.54	35.07	42.80	69.0	05 16	-5	99	0	405
March	55.34	36.98	46.17	79.0	47	13	91	0	224
April	62.32	40.49	51.41	89.0	36	24	18	0	63
May	68.80	44.95	56.86	95.0	97	28	09	0	0
June	73.44	49.34	61.42	102.0	25	32	11 29	5	0
July	81.31	51.88	66.66	107.0	46	36	20	37	0
August	80.95	51.41	66.24	102.0	02 42 60	37	39	15	0
September	76.77	48.85	62.81	103.0	44	26	19	2	3
October	64.69	43.45	54.28	90.0	32 36	13	19	0	40
November	53.13	37.51	45.36	73.0	90	10	96	0	270
December	48.06	35.66	41.70	66.0	50	-14	19	0	432
MEAN FOR 25 YRS.	Yearly Max. 63.39	Yearly Min. 42.34	Yearly Mean. 52.89						

Normal Temperatures are a 25 year average from 1936 through 1960.
Extremes in Temperatures are from 1889 through 1960.

Figure 2 TEMPERATURE

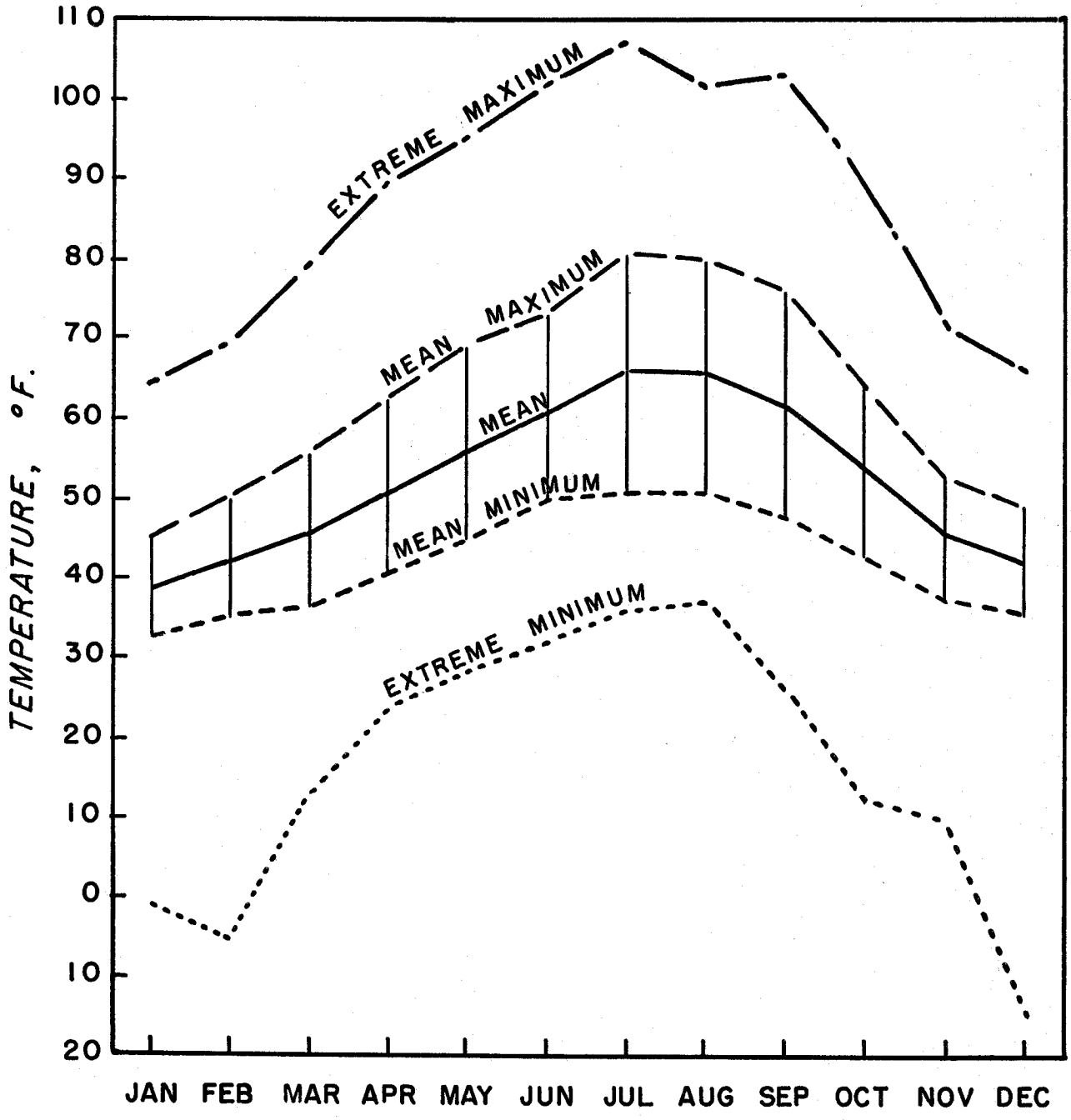

TABLE 3: SKY CONDITION

Month	Clear (# Days)	Partly Cloudy (# Days)	Cloudy (# Days)	Rainy (# Days)
January	4	8	19	17
February	5	10	14	18
March	7	11	13	17
April	9	12	9	14
May	11	12	8	12
June	10	11	9	9
July	18	10	3	3
August	17	9	5	3
September	15	10	5	6
October	8	11	12	13
November	4	9	17	16
December	3	9	19	20
YEARLY MEAN FOR 25 YRS.	9	10	11	12

Normal is a 25 year average from 1936 through 1960.

TABLE 4: KILLING FROST

Year	Last Spring Frost Month	Day	First Fall Frost Month	Day	Frost Free Days
1936	May	2	October	29	180
1937	March	18	November	30	257
1938	April	6	October	15	192
1939	March	10	November	4	239
1940	February	20	November	22	275
1941	March	14	November	17	248
1942	April	24	November	11	201
1943	April	26	November	6	194
1944	March	28	November	15	232
1945	March	5	October	24	233
1946	February	11	October	28	259
1947	February	28	November	23	267
1948	April	27	October	28	183
1949	March	24	October	17	206
1950	March	12	November	10	222
1951	April	24	October	21	189
1952	May	4	November	2	182
1953	April	10	November	1	204
1954	April	28	October	26	181
1955	April	27	November	23	210
1956	April	5	November	15	223
1957	April	7	November	1	207
1958	April	5	November	16	225
1959	April	15	November	6	205
1960	April	16	November	9	206
NORMAL FOR 25 YEARS	April	2	November	5	217
EXTREMES:	February 20, 1940		November 22, 1940		276

June, July, August have been frost free for 71 years.

Lowest May Temperature: 28° on May 1, 1915
Lowest September Temp: 26° on Sept 29, 1919

Normal for Killing Frost is a 25 year average from 1936 through 1960.

TABLE 5: EVAPORATION

Month	Normal (Inches)	Highest (Inches)	Yr	Lowest (Inches)	Yr
April	2.552 — 22 yrs	3.896	31	.728	53
May	4.053 — 24 yrs	5.520	16	2.290	19
June	4.642 — 25 yrs	7.484	24	2.976	47
July	4.347 — 24 yrs	9.892	60	4.080	15
August	6.002 — 25 yrs	8.313	58	3.769	54
September	3.936 — 24 yrs	5.275	22	2.699	54
October	2.054 — 4 yrs	2.881	52	1.295	55
NORMAL	3.770 — 25 yrs	9.892	July 60	.728	April 53

Evaporation is measured from open pan.

25 YEAR WEATHER SUMMARY — 1936 through 1960

Temperatures (°F)

Annual Mean Temperature	52.89
Annual Maximum Mean Temperature	63.39
Annual Minimum Mean Temperature	42.34
Maximum Mean for July	81.31
Maximum Mean for January	45.34
Minimum Mean for January	32.53
Minimum Mean for July	51.88
Highest Temperature — July 20, 1946	107.00
Lowest Temperature — January 31, 1950	-1
Number of Times Below 30°F	2033
Number of Times Above 100°F	59
Average Frost-Free Period	217

Precipitation (Inches)

Total Annual Precipitation	37.94
Wettest Year — 1937	64.12
Driest Year — 1944	22.99
Greatest Monthly Average — January	6.42
Lowest Monthly Average — July	.32
Highest Monthly Precipitation — December 1933	14.15
Total Annual Snowfall	7.53
Greatest Snowfall — January 1950	51.90

TABLE 6: PRECIPITATION AND SNOWFALL
1901 through 1960

	PRECIPITATION				SNOWFALL	
Month	Average Precip-itation Inches	Wettest Month Inches	Driest Month Inches	Maximum 24 Hrs. Inches	Average Snow-fall Inches	Highest Snowfall Inches
December	6.62	14.15	2.33	2.78	1.03	20.00
January	6.55	13.61	1.99	3.43	3.81	51.90
February	5.24	15.23	.12	2.56	.80	9.50
Winter	18.41				5.64	
March	4.11	11.70	.43	1.89	.43	5.00
April	2.34	7.99	.22	2.06	.05	1.50
May	1.72	4.21	.16	1.05	0	0
Spring	8.17				.48	
June	1.17	3.84	0	2.14	0	0
July	.33	2.72	0	1.75	0	0
August	.39	2.18	0	.95	0	0
Summer	1.89				0	
September	1.49	5.40	T	1.58	0	0
October	3.14	9.70	T	2.26	.08	5.00
November	6.14	12.69	.24	3.16	.18	9.50
Fall	10.77				.26	
TOTAL OF AVERAGES	39.24				6.38	

TABLE 7: TEMPERATURES
1901 through 1960

Month	Monthly Average Degrees	Average Maximum Degrees	Average Minimum Degrees	Highest Degrees	Lowest Degrees
December	40.85	47.20	34.97	66	-14
January	38.49	45.21	32.69	64	- 1
February	41.98	49.43	34.45	69	11
Winter	40.85	47.28	34.04		
March	46.26	55.46	37.04	82	14
April	51.08	62.16	40.09	91	24
May	55.99	67.95	43.99	95	28
Spring	51.11	61.86	40.37		
June	61.08	72.31	48.58	102	32
July	65.16	80.82	51.61	107	36
August	65.20	81.17	51.35	102	37
Summer	63.81	78.10	50.51		
September	60.46	75.23	48.14	103	26
October	53.79	64.67	42.83	90	23
November	45.45	52.95	35.25	72	14
Fall	53.23	64.28	42.07		