

Climatography of the United States No. 20

National Climatic Data Center
Federal Building
151 Patton Avenue
Asheville, North Carolina 28801
www.ncdc.noaa.gov

Station: HILLSBORO, OR

1971-2000

COOP ID: 353908

Climate Division: OR 2

NWS Call Sign:

Elevation: 160 Feet

Lat: 45° 31N

Lon: 122° 59W

Temperature (°F)

Mean (1)				Extremes										Degree Days (1) Base Temp 65		Mean Number of Days (3)					
Month	Daily Max	Daily Min	Mean	Highest Daily(2)	Year	Day	Highest Month(1) Mean	Year	Lowest Daily(2)	Year	Day	Lowest Month(1) Mean	Year	Heating	Cooling	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
Jan	45.8	35.1	40.5	63	1953	12	44.7	1995	-10	1950	31	31.5	1979	761	0	.0	.0	10.6	.9	13.7	.0
Feb	50.5	36.7	43.6	70+	1988	29	49.1	1992	-9	1950	2	35.9	1989	600	0	.0	.0	16.8	.4	9.8	.0
Mar	56.3	39.3	47.8	78	1994	28	52.5	1992	18	1960	1	43.4	1971	534	0	.0	.0	26.7	.0	5.3	.0
Apr	61.7	41.8	51.8	90+	1998	30	55.8	1989	25+	1965	6	47.0	1975	398	0	.0	@	29.4	.0	2.0	.0
May	67.9	46.4	57.2	100	1983	29	62.0	1997	25	1969	29	53.1	1977	252	9	@	.5	31.0	.0	.2	.0
Jun	73.4	51.4	62.4	102	1992	23	66.6	1992	34	1965	27	58.0	1971	113	34	@	1.2	30.0	.0	.0	.0
Jul	80.4	54.7	67.6	108	1956	19	72.3	1998	38	1955	2	62.8	1993	41	118	.5	4.8	31.0	.0	.0	.0
Aug	81.1	53.9	67.5	106	1977	17	71.4	1986	37	1965	29	63.6	1980	38	115	.8	5.1	31.0	.0	.0	.0
Sep	76.3	49.3	62.8	103	1988	3	67.3	1998	29	1965	17	58.9	1985	113	47	.1	2.2	30.0	.0	.1	.0
Oct	64.7	43.0	53.9	92+	1987	2	58.2	1988	21	1972	30	50.9	1984	347	0	.0	.1	30.3	.0	1.7	.0
Nov	52.3	39.2	45.8	78	1959	1	51.0	1995	8	1955	15	37.5	1985	579	0	.0	.0	20.6	.2	6.7	.0
Dec	45.7	35.6	40.7	64+	1980	26	47.5	1999	-2	1972	8	34.1	1990	756	0	.0	.0	9.6	1.3	12.3	@
Ann	63.0	43.9	53.5	108	Jul 1956	19	72.3	Jul 1998	-10	Jan 1950	31	31.5	Jan 1979	4532	323	1.4	13.9	297.0	2.8	51.8	@

+ Also occurred on an earlier date(s)

@ Denotes mean number of days greater than 0 but less than .05

Complete documentation available from: www.ncdc.noaa.gov/oa/climate/normal/usnormals.html

Issue Date: February 2004

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1948-2001

(3) Derived from 1971-2000 serially complete daily data

056-A

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NWS Call Sign:

Elevation: 160 Feet Lat: 45°31N

Lon: 122°59W

Precipitation (inches)																								
	Precipitation Totals									Mean Number of Days (3)				Precipitation Probabilities (1) Probability that the monthly/annual precipitation will be equal to or less than the indicated amount										
	Means/ Medians(1)		Extremes							Daily Precipitation				Monthly/Annual Precipitation vs Probability Levels These values were determined from the incomplete gamma distribution										
Month	Mean	Med-ian	Highest Daily(2)	Year	Day	Highest Monthly(1)	Year	Lowest Monthly(1)	Year	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95
Jan	5.76	6.10	2.84	1974	15	9.66	1990	.32	1985	19.7	11.8	4.0	1.0	1.47	2.01	2.85	3.59	4.32	5.09	5.94	6.96	8.29	10.38	12.35
Feb	4.72	4.39	2.68	1949	10	10.31	1999	.87	1993	17.4	11.4	3.0	.6	1.38	1.83	2.51	3.09	3.66	4.25	4.90	5.67	6.66	8.22	9.67
Mar	3.93	3.68	1.60	1961	5	6.93	1972	1.17	1992	18.2	11.0	2.0	.3	1.63	1.99	2.49	2.91	3.30	3.69	4.12	4.61	5.23	6.18	7.04
Apr	2.46	2.08	1.82	1991	5	5.03	1993	.74	1977	15.7	7.4	.9	.1	.72	.95	1.30	1.61	1.90	2.21	2.55	2.95	3.47	4.29	5.04
May	1.90	1.81	1.17	1978	13	4.77	1998	.13	1992	12.6	5.7	.9	@	.39	.56	.84	1.09	1.35	1.62	1.94	2.31	2.81	3.60	4.35
Jun	1.47	1.31	2.04	1985	7	4.38	1984	.21	1986	9.2	4.4	.5	.1	.30	.44	.65	.85	1.05	1.26	1.50	1.79	2.17	2.78	3.36
Jul	.60	.37	1.25	1983	19	2.81	1983	.00+	1994	4.1	1.7	.2	@	.00	.03	.10	.19	.29	.41	.55	.73	.98	1.41	1.84
Aug	.90	.48	1.33	1985	1	3.03	1977	.00+	1998	4.3	2.2	.5	.2	.00	.02	.11	.22	.37	.55	.77	1.06	1.49	2.24	2.99
Sep	1.55	1.33	1.47	1996	15	3.46	1982	.00+	1993	7.3	4.3	.8	.2	.00	.12	.36	.61	.86	1.16	1.50	1.92	2.51	3.48	4.44
Oct	2.67	2.48	2.60	1994	27	5.75	1975	.11	1988	11.9	7.1	1.5	.2	.42	.65	1.04	1.40	1.78	2.20	2.68	3.26	4.04	5.30	6.51
Nov	5.90	5.59	3.40	1996	19	12.76	1973	.87	1976	20.5	13.2	3.7	.9	1.68	2.24	3.09	3.82	4.54	5.29	6.12	7.09	8.36	10.35	12.19
Dec	6.33	6.47	2.81	1955	21	13.78	1996	1.54	1976	20.3	12.7	4.4	1.2	1.98	2.58	3.47	4.24	4.98	5.75	6.59	7.58	8.86	10.85	12.69
Ann	38.19	37.45	3.40	Nov 1996	19	13.78	Dec 1996	.00+	Aug 1998	161.2	92.9	22.4	4.8	25.38	27.79	30.92	33.32	35.47	37.55	39.72	42.13	45.08	49.37	53.12

+ Also occurred on an earlier date(s)

Denotes amounts of a trace

@ Denotes mean number of days greater than 0 but less than .05

** Statistics not computed because less than six years out of thirty had measurable precipitation

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1948-2001

(3) Derived from 1971-2000 serially complete daily data

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Station: HILLSBORO, OR

COOP ID: 353908

Climate Division: OR 2

NWS Call Sign:

Elevation: 160 Feet

Lat: 45° 31N

Lon: 122° 59W

Snow (inches)																							
Snow Totals															Mean Number of Days (1)								
Means/Medians (1)					Extremes (2)										Snow Fall >= Thresholds					Snow Depth >= Thresholds			
Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median	Highest Daily Snow Fall	Year	Day	Highest Monthly Snow Fall	Year	Highest Daily Snow Depth	Year	Day	Highest Monthly Mean Snow Depth	Year	0.1	1.0	3.0	5.0	10.0	1	3	5	10
Jan	1.5	.0	#	0	10.3	1978	3	10.3	1978	5+	1975	8	#+	1998	1.1	.6	.1	@	@	.8	.1	@	.0
Feb	.7	.0	#	0	3.3	1989	2	5.0	1971	1+	1985	5	1	1985	.8	.5	.1	.0	.0	.1	.0	.0	.0
Mar	.1	.0	#	0	1.0	1972	1	1.0	1972	#	1976	1	#	1976	.2	@	.0	.0	.0	.0	.0	.0	.0
Apr	#	.0	0	0	#	1976	15	#+	1976	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
May	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Jun	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Jul	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Aug	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Sep	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Oct	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov	.4	.0	#	0	4.6	1977	22	4.8	1977	4	1977	22	#+	1985	.2	.1	.1	.0	.0	.2	@	.0	.0
Dec	.8	.0	#	0	3.5	1985	1	4.6	1978	4	1972	13	1	1972	.6	.4	.1	.0	.0	.3	.0	.0	.0
Ann	3.5	.0	N/A	N/A	10.3	Jan 1978	3	10.3	Jan 1978	5+	Jan 1975	8	1+	Feb 1985	2.9	1.6	.4	@	@	1.4	.1	@	.0

+ Also occurred on an earlier date(s) #Denotes trace amounts

@ Denotes mean number of days greater than 0 but less than .05

-9/-9.9 represents missing values

Annual statistics for Mean/Median snow depths are not appropriate

(1) Derived from Snow Climatology and 1971-2000 daily data

(2) Derived from 1971-2000 daily data

Complete documentation available from:

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NWS Call Sign:

Elevation: 160 Feet

Lat: 45° 31N

Lon: 122° 59W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (thru Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/28	5/20	5/15	5/10	5/05	4/30	4/26	4/20	4/12
32	5/10	4/30	4/23	4/17	4/11	4/05	3/30	3/23	3/13
28	3/29	3/17	3/08	2/28	2/21	2/14	2/07	1/29	1/17
24	2/23	2/13	2/06	1/31	1/26	1/19	1/13	1/03	0/00
20	2/16	2/05	1/27	1/18	1/09	12/26	0/00	0/00	0/00
16	1/30	1/17	1/06	12/24	0/00	0/00	0/00	0/00	0/00
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/21	9/28	10/03	10/07	10/11	10/15	10/19	10/23	10/30
32	10/05	10/14	10/20	10/26	10/31	11/06	11/11	11/18	11/27
28	10/24	11/03	11/10	11/16	11/21	11/27	12/03	12/10	12/20
24	11/12	11/26	12/06	12/15	12/23	1/01	1/11	1/25	0/00
20	12/06	12/21	1/02	1/13	1/27	2/20	0/00	0/00	0/00
16	12/16	12/29	1/08	1/21	0/00	0/00	0/00	0/00	0/00
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	190	179	171	164	158	151	145	137	125
32	246	231	221	211	203	194	185	174	159
28	327	306	292	281	271	261	250	237	220
24	>365	>365	>365	353	334	320	308	295	279
20	>365	>365	>365	>365	>365	>365	358	334	316
16	>365	>365	>365	>365	>365	>365	>365	>365	353

* Probability of observing a temperature as cold, or colder, later in the spring or earlier in the fall than the indicated date.

0/00 Indicates that the probability of occurrence of threshold temperature is less than the indicated probability.

Derived from 1971-2000 serially complete daily data

Complete documentation available from:

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NWS Call Sign:

Elevation: 160 Feet Lat: 45°31N Lon: 122°59W

Degree Days to Selected Base Temperatures (°F)													
Base	Heating Degree Days (1)												
Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
65	761	600	534	398	252	113	41	38	113	347	579	756	4532
60	606	460	379	254	129	37	8	7	39	199	433	601	3152
57	513	376	291	175	77	14	1	1	16	125	349	508	2446
55	451	323	235	129	49	6	0	0	7	84	295	448	2027
50	307	197	118	48	11	0	0	0	0	24	180	306	1191
32	16	3	0	0	0	0	0	0	0	0	6	18	43

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	278	327	489	592	780	911	1101	1100	923	677	418	285	7881
55	0	3	11	31	116	227	388	387	241	48	16	3	1471
57	0	0	6	16	82	174	327	326	189	26	10	1	1157
60	0	0	0	5	41	108	241	239	122	8	4	0	768
65	0	0	0	0	9	34	118	115	47	0	0	0	323
70	0	0	0	0	0	5	41	38	11	0	0	0	95

Growing Degree Units (2)																								
Base	Growing Degree Units (Monthly)												Growing Degree Units (Accumulated Monthly)											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	85	130	232	341	522	659	837	832	664	417	183	85	85	215	447	788	1310	1969	2806	3638	4302	4719	4902	4987
45	23	48	99	199	367	509	682	677	514	263	84	29	23	71	170	369	736	1245	1927	2604	3118	3381	3465	3494
50	0	5	29	91	216	359	527	522	365	132	21	2	0	5	34	125	341	700	1227	1749	2114	2246	2267	2269
55	0	0	0	33	107	213	373	367	223	42	0	0	0	0	0	33	140	353	726	1093	1316	1358	1358	1358
60	0	0	0	5	44	100	222	213	106	10	0	0	0	0	0	5	49	149	371	584	690	700	700	700
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	19	51	118	188	294	381	513	510	407	241	69	23	19	70	188	376	670	1051	1564	2074	2481	2722	2791	2814

(1) Derived from the 1971-2000 Monthly Normals

(2) Derived from 1971-2000 serially complete daily data

Note: For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

Notes

- a. The monthly means are simple arithmetic averages computed by summing the monthly values for the period 1971-2000 and dividing by thirty. Prior to averaging, the data are adjusted if necessary to compensate for data quality issues, station moves or changes in station reporting practices. Missing months are replaced by estimates based on neighboring stations.
- b. The median is defined as the middle value in an ordered set of values. The median is being provided for the snow and precipitation elements because the mean can be a misleading value for precipitation normals.
- c. Only observed validated values were used to select the extreme daily values.
- d. Extreme monthly temperature/precipitation means were selected from the monthly normals data.
Monthly snow extremes were calculated from daily values quality controlled to be consistent with the Snow Climatology.
- e. Degree Days were derived using the same techniques as the 1971-2000 normals.
Complete documentation for the 1971-2000 Normals is available on the internet from:
www.ncdc.noaa.gov/oa/climate/normal/usnormals.html
- f. Mean "number of days statistics" for temperature and precipitation were calculated from a serially complete daily data set.
Documentation of the serially complete data set is available from the link below:
- g. Snowfall and snow depth statistics were derived from the Snow Climatology.
Documentation for the Snow Climatology project is available from the link under references.

Data Sources for Tables

Several different data sources were used to create the Clim20 climate summaries. In some cases the daily extremes appear inconsistent with the monthly extremes and or the mean number of days statistics. For example, a high daily extreme value may not be reflected in the highest monthly value or the mean number of days threshold that is less than and equal to the extreme value. Some of these difference are caused by different periods of record. Daily extremes are derived from the station's entire period of record while the serial data and normals data were for the 1971-2000 period. Therefore extremes observed before 1971 would not be included in the 1971-2000 normals or the 1971-2000 serial daily data set. Inconsistencies can also occur when monthly values are adjusted to reflect the current observing conditions or were replaced during the 1971-2000 Monthly Normals processing and are not reconciled with the Summary of the Day data.

- | | |
|---|---|
| <ol style="list-style-type: none">a. Temperature/ Precipitation Tables<ol style="list-style-type: none">1. 1971-2000 Monthly Normals2. Cooperative Summary of the Day3. National Weather Service station records4. 1971-2000 serially complete daily datab. Degree Day Table<ol style="list-style-type: none">1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data | <ol style="list-style-type: none">c. Snow Tables<ol style="list-style-type: none">1. Snow Climatology2. Cooperative Summary of the Dayd. Freeze Data Table
1971-2000 serially complete daily data |
|---|---|

References

U.S. Climate Normals 1971-2000, www.ncdc.noaa.gov/normal.html
U.S. Climate Normals 1971-2000-Products Clim20, www.ncdc.noaa.gov/oa/climate/normal/usnormalsprods.html
Snow Climatology Project Description, www.ncdc.noaa.gov/oa/climate/monitoring/snowclim/mainpage.html
Eischeid, J. K., P. Pasteris, H. F. Diaz, M. Plantico, and N. Lott, 2000: Creating a serially complete, national daily time series of temperature and precipitation for the Western United States. J. Appl. Meteorol., 39, 1580-1591,
www1.ncdc.noaa.gov/pub/data/special/serialcomplete_jam_0900.pdf