

Climatology of the United States

No. 20

1971-2000

Station: MOXEE CITY 10 E, WA

COOP ID: 455688

Climate Division: WA 8

NWS Call Sign:

Elevation: 1,550 Feet Lat: 46° 30N

Lon: 120° 10W

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	37.3	23.1	30.2	65	1971	31	37.7	1994	-21	1957	26	16.0	1979	1079	0	.0	.0	2.9	10.5	27.4	.7
Feb	44.7	27.1	35.9	68	1988	21	42.1	1991	-20+	1950	3	25.8	1989	814	0	.0	.0	7.6	3.8	22.3	.3
Mar	54.9	31.2	43.1	75+	1966	29	47.6	1992	3+	1960	4	39.4	1975	682	0	.0	.0	23.9	.2	19.1	.0
Apr	63.3	35.4	49.4	87+	1977	25	53.8	1977	18	1968	13	45.0	1975	469	0	.0	.0	29.5	.0	10.9	.0
May	71.7	41.5	56.6	99	1986	30	61.1	1993	19	1965	5	51.4	1984	273	12	.0	.6	31.0	.0	3.2	.0
Jun	79.2	47.6	63.4	102+	1992	23	69.2	1992	28	1962	3	58.5	1971	113	65	.1	2.3	30.0	.0	.1	.0
Jul	86.3	52.3	69.3	104+	1994	22	74.4	1998	29	1954	2	63.3	1993	33	166	.7	10.4	31.0	.0	.0	.0
Aug	85.8	52.1	69.0	108	1961	4	74.1	1977	32	1960	22	63.8	1975	38	161	.4	9.4	31.0	.0	.0	.0
Sep	76.6	45.4	61.0	98+	1950	2	66.4	1990	24	1950	30	56.1	1985	168	48	.0	1.6	30.0	.0	.8	.0
Oct	63.1	36.7	49.9	88	1958	3	56.4	1988	15	1972	30	45.5	1984	468	0	.0	.0	29.4	.0	8.9	.0
Nov	46.5	29.6	38.1	72	1999	13	43.3	1999	-7+	1985	24	24.3	1985	809	0	.0	.0	11.4	2.5	19.6	.2
Dec	36.5	23.1	29.8	60+	1999	16	36.3	1980	-23	1964	17	18.9	1985	1091	0	.0	.0	2.3	11.3	27.7	.9
Ann	62.2	37.1	49.6	108	Aug 1961	4	74.4	Jul 1998	-23	Dec 1964	17	16.0	Jan 1979	6037	452	1.2	24.3	260.0	28.3	140.0	2.1

+ 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

061-A

Climatography of the United States

No. 20

1971-2000

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

Station: MOXEE CITY 10 E, WA

COOP ID: 455688

Climate Division: WA 8

NWS Call Sign:

Elevation: 1,550 Feet Lat: 46°30N

Lon: 120°10W

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	.97	.97	.85	1990	8	2.89	1995	.08	1977	7.3	3.4	.2	.0	.13	.21	.35	.48	.63	.78	.96	1.19	1.49	1.98	2.45
Feb	.65	.59	.58	1968	22	1.73	1980	.00+	1988	6.5	2.5	@	.0	.00	.12	.25	.35	.45	.56	.67	.81	.99	1.28	1.56
Mar	.73	.57	.67	1984	21	2.18	1987	.05	1994	6.3	2.6	.2	.0	.10	.16	.26	.36	.47	.59	.72	.89	1.11	1.48	1.84
Apr	.64	.52	1.26	1995	28	2.51	1995	.00+	1981	4.7	2.2	.2	@	.00	.05	.15	.25	.36	.48	.62	.80	1.04	1.44	1.84
May	.75	.58	1.19	2000	30	1.96	1998	.04	1979	5.1	2.4	.2	@	.12	.19	.29	.40	.50	.62	.75	.91	1.13	1.48	1.81
Jun	.62	.38	1.84	1991	20	4.15	1991	.00	1976	4.2	1.9	.2	@	.01	.03	.10	.19	.28	.40	.55	.75	1.02	1.51	1.99
Jul	.28	.20	1.60	1963	17	1.42	1992	.00+	2000	2.4	.8	.1	@	.00	.00	.03	.07	.12	.18	.25	.35	.48	.70	.93
Aug	.49	.16	2.99	1976	6	4.20	1976	.00+	2000	2.2	1.0	.2	.1	.00	.00	.01	.05	.11	.20	.33	.52	.81	1.36	1.95
Sep	.43	.31	.99	1954	16	1.53	1971	.00+	1999	3.1	1.4	.2	.0	.00	.00	.03	.10	.18	.28	.39	.54	.74	1.08	1.44
Oct	.58	.47	1.17	1994	27	1.95	1973	.00+	1987	4.1	2.0	.1	@	.00	.00	.12	.22	.32	.43	.57	.73	.95	1.33	1.70
Nov	.97	.77	1.10	2001	28	2.64	1973	.00	1990	7.7	3.4	.2	@	.09	.20	.36	.50	.65	.80	.98	1.19	1.48	1.94	2.39
Dec	1.05	.89	1.42	1977	13	3.27	1996	.00	1978	7.8	3.9	.3	@	.08	.19	.36	.51	.67	.85	1.05	1.29	1.62	2.16	2.68
Ann	8.16	7.91	2.99	Aug 1976	6	4.20	Aug 1976	.00+	Aug 2000	61.4	27.5	2.1	.1	5.18	5.73	6.45	7.01	7.51	8.00	8.51	9.08	9.77	10.80	11.69

+ 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

Complete documentation available from:

www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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Station: MOXEE CITY 10 E, WA

COOP ID: 455688

Climate Division: WA 8

NWS Call Sign:

Elevation: 1,550 Feet

Lat: 46° 30N

Lon: 120° 10W

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	4.7	3.3	2	#	7.0	1979	10	16.0	1980	13	1993	19	10	1993	2.9	2.1	.5	.1	.0	8.6	5.8	3.8	1.3
Feb	2.0	1.1	#	#	4.7	1993	19	7.6	1989	9	1997	11	4	1997	1.2	.8	.2	.0	.0	2.4	1.4	.5	.0
Mar	.8	.0	#	0	3.0	1971	22	5.5	1971	5	1993	2	1	1993	.5	.4	@	.0	.0	.4	.2	.1	.0
Apr	.0	.0	#	0	.5	1975	14	.6	1975	1	1975	14	#	1975	.1	.0	.0	.0	.0	.1	.0	.0	.0
May	#	.0	#	0	#	1999	8	#+	1999	#	1999	8	#	1999	.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	.1	.0	#	0	1.3	1971	31	2.3	1971	1	1973	31	#+	1991	.1	.1	.0	.0	.0	.1	.0	.0	.0
Nov	1.7	.0	#	0	11.0	1996	19	14.6	1996	9	1996	24	3	1996	.7	.6	.3	@	@	.7	.6	.6	.0
Dec	4.4	4.0	1	#	6.7	1996	29	15.5	1992	18	1996	31	7	1996	3.1	2.0	.5	.1	.0	9.9	7.3	3.3	.3
Ann	13.7	8.4	N/A	N/A	11.0	Nov 1996	19	16.0	Jan 1980	18	Dec 1996	31	10	Jan 1993	8.6	6.0	1.5	.2	@	22.2	15.3	8.3	1.6

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

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-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

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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	6/21	6/14	6/09	6/05	6/01	5/28	5/24	5/19	5/12
32	5/30	5/25	5/21	5/18	5/15	5/12	5/09	5/05	4/30
28	5/11	5/04	4/29	4/24	4/20	4/16	4/12	4/07	3/31
24	4/21	4/11	4/04	3/28	3/23	3/17	3/11	3/03	2/21
20	3/21	3/10	3/03	2/24	2/18	2/12	2/05	1/29	1/18
16	3/03	2/21	2/14	2/08	2/03	1/28	1/22	1/15	1/06
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	9/12	9/17	9/20	9/23	9/25	9/28	10/01	10/04	10/08
32	9/22	9/27	9/30	10/04	10/06	10/09	10/12	10/16	10/21
28	10/03	10/08	10/12	10/16	10/19	10/22	10/25	10/29	11/04
24	10/18	10/23	10/28	10/31	11/03	11/07	11/10	11/14	11/20
20	10/31	11/07	11/12	11/16	11/20	11/24	11/28	12/02	12/09
16	10/30	11/09	11/17	11/24	11/30	12/06	12/13	12/21	1/01
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	137	130	124	120	116	111	107	101	94
32	165	158	152	148	144	140	135	130	123
28	209	199	192	186	181	175	169	162	152
24	261	249	240	232	225	218	210	201	189
20	310	297	289	281	274	267	259	250	238
16	344	327	315	306	298	290	281	271	256

* 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

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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	1079	814	682	469	273	113	33	38	168	468	809	1091	6037
60	924	674	527	322	152	44	8	10	81	316	659	936	4653
57	831	590	434	239	97	21	1	3	45	231	571	843	3906
55	769	534	372	187	67	12	0	1	28	180	514	781	3445
50	624	401	227	86	20	1	0	0	6	81	377	627	2450
32	195	62	3	0	0	0	0	0	0	0	61	176	497

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	139	172	345	521	762	942	1157	1146	871	556	242	108	6961
55	0	0	0	18	116	263	444	434	209	23	5	0	1512
57	0	0	0	9	84	212	383	374	166	11	2	0	1241
60	0	0	0	3	46	146	296	288	112	3	0	0	894
65	0	0	0	0	12	65	166	161	48	0	0	0	452
70	0	0	0	0	2	19	76	73	15	0	0	0	185

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	12	32	119	276	505	691	906	892	625	315	65	10	12	44	163	439	944	1635	2541	3433	4058	4373	4438	4448
45	1	5	38	145	353	541	751	737	475	182	17	0	1	6	44	189	542	1083	1834	2571	3046	3228	3245	3245
50	0	0	5	60	212	391	596	582	330	84	3	0	0	0	5	65	277	668	1264	1846	2176	2260	2263	2263
55	0	0	0	18	107	246	441	427	200	31	0	0	0	0	0	18	125	371	812	1239	1439	1470	1470	1470
60	0	0	0	1	45	133	292	278	100	7	0	0	0	0	0	1	46	179	471	749	849	856	856	856
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	2	20	85	193	328	441	571	566	404	208	27	0	2	22	107	300	628	1069	1640	2206	2610	2818	2845	2845

(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