U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data,
and Information Service

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: KENT, WA **COOP ID: 454169**

Climate Division: WA 3 **NWS Call Sign:** **Elevation: 30 Feet** **Lat: 47˚25N** **Lon: 122˚15W**

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	46.9	34.6	40.8	64	1981	20	44.5	1986	-10	1950	18	34.1	1980	752	0	.0	.0	11.1	.5	11.5	.0
Feb	51.0	36.0	43.5	71+	1986	27	47.7	1991	-5+	1950	2	35.1	1989	602	0	.0	.0	17.2	.2	8.6	.0
Mar	55.4	38.5	47.0	74+	1995	30	50.3	1986	10	1955	4	42.8	1971	561	0	.0	.0	26.6	.0	6.0	.0
Apr	61.0	41.7	51.4	86	1976	30	54.3	1992	25+	1985	21	47.3	1975	409	0	.0	.0	29.6	.0	2.5	.0
May	67.3	46.9	57.1	92+	1963	21	60.6	1992	27+	1982	3	53.6	1999	249	3	.0	@	31.0	.0	.2	.0
Jun	71.9	52.0	62.0	100	1955	9	65.0	1982	33	1956	19	58.5	1971	111	19	.0	.5	30.0	.0	.0	.0
Jul	77.4	55.3	66.4	99+	1994	20	69.4	1998	38	1962	3	62.5	1993	40	81	.0	1.7	31.0	.0	.0	.0
Aug	77.7	55.5	66.6	99+	1981	10	70.4	1977	34	1980	29	62.5	1973	37	88	.0	1.2	31.0	.0	.0	.0
Sep	72.4	51.0	61.7	96+	1988	3	65.8	1990	28	1972	27	58.1	1972	128	28	.0	.4	30.0	.0	.2	.0
Oct	61.6	44.2	52.9	86+	1987	1	55.7	1988	24+	1971	29	50.4	1972	374	0	.0	.0	30.4	.0	2.1	.0
Nov	51.6	38.5	45.1	74	1970	2	49.3	1995	-1+	1985	24	35.5	1985	598	0	.0	.0	19.7	.2	7.3	.1
Dec	46.1	34.7	40.4	69	1980	27	44.5	1979	3	1983	23	35.2	1985	763	0	.0	.0	9.7	.9	12.3	.0
Ann	61.7	44.1	52.9	100	Jun 1955	9	70.4	Aug 1977	-10	Jan 1950	18	34.1	Jan 1980	4624	219	.0	3.8	297.3	1.8	50.7	.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/normals/usnormals.html

(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

Issue Date: February 2004

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Precipitation (inches)

Precipitation Totals

Month	Means/ Medians(1) Mean	Means/ Medians(1) Median	Extremes Highest Daily(2)	Year	Day	Highest Monthly(1)	Year	Lowest Monthly(1)	Year
Jan	5.30	5.50	2.30+	1990	9	8.35	1990	.83	1985
Feb	4.47	4.64	2.95	1996	8	8.80	1972	.37	1993
Mar	4.08	3.90	2.25	1972	5	7.90	1997	1.09	1992
Apr	2.87	2.79	2.19	1991	4	6.82	1991	.67	1977
May	2.06	1.97	1.79	1997	31	4.39	1984	.40	1992
Jun	1.74	1.52	2.24	2000	12	3.93	1984	.16	1987
Jul	.88	.72	1.15	1954	1	3.53	1983	.00	1984
Aug	1.20	.99	1.73	1975	18	4.36	1975	.02	1974
Sep	1.75	1.57	1.97	1978	23	5.75	1978	.00+	1993
Oct	3.37	3.14	2.16	1955	9	8.21	1975	.31	1987
Nov	6.06	5.68	2.60	2001	14	10.33	1999	.99	1976
Dec	5.81	5.91	6.00	1949	27	10.79	1979	1.86	1978
Ann	39.59	38.41	6.00	Dec 1949	27	10.79	Dec 1979	.00+	Sep 1993

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	17.8	11.4	2.9	.8
Feb	16.1	11.1	2.5	.5
Mar	17.2	11.0	2.2	.3
Apr	13.7	8.3	1.4	.2
May	12.4	6.2	.6	.1
Jun	8.8	4.4	1.0	.1
Jul	5.4	2.6	.4	.0
Aug	5.9	3.0	.6	.2
Sep	8.0	4.5	1.0	.2
Oct	13.0	7.8	1.9	.5
Nov	19.1	13.0	3.9	1.1
Dec	19.4	11.9	4.2	1.1
Ann	156.8	95.2	22.6	5.1

Precipitation Probabilities (1)

Probability that the monthly/annual precipitation will be equal to or less than the indicated amount

Monthly/Annual Precipitation vs Probability Levels
These values were determined from the incomplete gamma distribution

Month	.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95
Jan	2.15	2.63	3.32	3.89	4.42	4.97	5.55	6.23	7.09	8.40	9.59
Feb	1.23	1.65	2.30	2.86	3.41	3.99	4.63	5.39	6.37	7.92	9.36
Mar	1.80	2.16	2.67	3.08	3.47	3.86	4.28	4.76	5.37	6.29	7.12
Apr	.86	1.13	1.54	1.89	2.24	2.59	2.98	3.44	4.04	4.96	5.83
May	.68	.88	1.16	1.41	1.64	1.89	2.15	2.46	2.86	3.48	4.05
Jun	.39	.55	.81	1.04	1.27	1.51	1.78	2.11	2.54	3.23	3.87
Jul	.07	.16	.31	.44	.57	.72	.89	1.09	1.37	1.82	2.25
Aug	.06	.12	.26	.42	.61	.83	1.10	1.45	1.94	2.79	3.64
Sep	.00	.08	.31	.57	.86	1.20	1.61	2.13	2.87	4.12	5.36
Oct	.79	1.11	1.60	2.04	2.48	2.94	3.46	4.08	4.89	6.18	7.39
Nov	2.00	2.58	3.42	4.14	4.83	5.54	6.32	7.23	8.41	10.23	11.91
Dec	2.17	2.71	3.49	4.14	4.76	5.39	6.08	6.87	7.88	9.44	10.87
Ann	29.06	31.13	33.76	35.75	37.51	39.21	40.95	42.88	45.21	48.58	51.48

\+ 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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Snow (inches)

Snow Totals

Means/Medians (1)

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median
Jan	1.1	.0	#	0
Feb	.1	.0	#	0
Mar	#	.0	0	0
Apr	#	.0	#	0
May	.0	.0	0	0
Jun	.0	.0	0	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	.0	.0	0	0
Oct	.0	.0	0	0
Nov	.2	.0	0	0
Dec	.5	.0	#	0
Ann	1.9	.0	N/A	N/A

Extremes (2)

Month	Highest Daily Snow Fall	Year	Day	Highest Monthly Snow Fall	Year	Highest Daily Snow Depth	Year	Day	Highest Monthly Mean Snow Depth	Year
Jan	9.0	1972	25	10.0	1972	10	1972	25	2	1972
Feb	1.1	1971	27	1.1	1971	5	1972	3	1	1972
Mar	#	1974	2	#+	1974	0	0	0	0	0
Apr	#	1975	2	#+	1975	#	1975	2	#	1975
May	.0	0	0	.0	0	0	0	0	0	0
Jun	.0	0	0	.0	0	0	0	0	0	0
Jul	.0	0	0	.0	0	0	0	0	0	0
Aug	.0	0	0	.0	0	0	0	0	0	0
Sep	.0	0	0	.0	0	0	0	0	0	0
Oct	.0	0	0	.0	0	0	0	0	0	0
Nov	2.0	1977	23	3.0	1977	0	0	0	0	0
Dec	2.5	1971	29	4.0	1972	4+	1972	12	2	1971
Ann	9.0	Jan 1972	25	10.0	Jan 1972	10	Jan 1972	25	2+	Jan 1972

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	.6	.3	.1	.1	.0
Feb	.1	.1	.0	.0	.0
Mar	.0	.0	.0	.0	.0
Apr	.0	.0	.0	.0	.0
May	.0	.0	.0	.0	.0
Jun	.0	.0	.0	.0	.0
Jul	.0	.0	.0	.0	.0
Aug	.0	.0	.0	.0	.0
Sep	.0	.0	.0	.0	.0
Oct	.0	.0	.0	.0	.0
Nov	.2	.1	.0	.0	.0
Dec	.2	.2	.0	.0	.0
Ann	1.1	.7	.1	.1	.0

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	.4	.0	.0	.0
Feb	@	.0	.0	.0
Mar	.0	.0	.0	.0
Apr	.0	.0	.0	.0
May	.0	.0	.0	.0
Jun	.0	.0	.0	.0
Jul	.0	.0	.0	.0
Aug	.0	.0	.0	.0
Sep	.0	.0	.0	.0
Oct	.0	.0	.0	.0
Nov	.0	.0	.0	.0
Dec	.2	.1	.0	.0
Ann	.6	.1	.0	.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

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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	5/28	5/20	5/14	5/09	5/04	4/30	4/25	4/19	4/11
32	5/06	4/27	4/20	4/15	4/10	4/04	3/30	3/23	3/14
28	4/13	4/02	3/24	3/17	3/10	3/03	2/24	2/15	2/03
24	3/03	2/22	2/15	2/09	2/04	1/29	1/22	1/13	0/00
20	2/17	2/05	1/26	1/18	1/10	1/01	12/20	0/00	0/00
16	2/01	1/16	1/02	12/15	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	9/11	9/20	9/26	10/01	10/06	10/11	10/16	10/22	10/31
32	10/02	10/10	10/16	10/21	10/25	10/30	11/04	11/09	11/17
28	10/17	10/27	11/03	11/09	11/15	11/20	11/26	12/03	12/13
24	11/09	11/16	11/22	11/27	12/01	12/06	12/11	12/18	0/00
20	11/19	11/30	12/09	12/16	12/24	1/02	1/16	0/00	0/00
16	12/09	12/23	1/05	1/22	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	197	182	172	162	154	145	136	125	111
32	242	227	216	207	198	189	180	169	154
28	299	281	269	259	249	239	229	216	199
24	>365	>365	328	314	303	293	284	273	259
20	>365	>365	>365	>365	355	337	324	311	296
16	>365	>365	>365	>365	>365	>365	>365	>365	338

***** 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)

Heating Degree Days (1)

Base Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
65	752	602	561	409	249	111	40	37	128	374	598	763	4624
60	597	462	406	260	118	29	5	5	43	221	448	608	3202
57	504	378	313	177	63	8	0	0	16	137	363	515	2474
55	442	323	255	127	37	3	0	0	7	90	307	454	2045
50	297	196	125	39	5	0	0	0	0	21	182	306	1171
32	12	2	0	0	0	0	0	0	0	0	4	10	28

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	283	324	462	581	778	898	1064	1074	890	649	396	270	7669
55	0	0	5	18	102	211	351	361	206	25	9	0	1288
57	0	0	0	8	66	156	289	299	156	11	4	0	989
60	0	0	0	1	28	87	201	211	93	2	0	0	623
65	0	0	0	0	3	19	81	88	28	0	0	0	219
70	0	0	0	0	0	1	17	19	4	0	0	0	41

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	94	135	213	332	515	644	790	797	627	386	171	88	94	229	442	774	1289	1933	2723	3520	4147	4533	4704	4792
45	33	44	86	187	360	494	635	642	477	238	69	30	33	77	163	350	710	1204	1839	2481	2958	3196	3265	3295
50	0	5	19	74	209	344	480	487	327	111	14	0	0	5	24	98	307	651	1131	1618	1945	2056	2070	2070
55	0	0	0	23	91	196	325	332	185	31	0	0	0	0	0	23	114	310	635	967	1152	1183	1183	1183
60	0	0	0	2	30	77	174	178	72	3	0	0	0	0	0	2	32	109	283	461	533	536	536	536
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	24	50	97	177	282	366	486	491	369	192	54	23	24	74	171	348	630	996	1482	1973	2342	2534	2588	2611

(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

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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.
Compete documentation for the 1971-2000 Normals is available on the internet from:
www.ncdc.noaa.gov/oa/climate/normals/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 are 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.

a. Temperature/ Precipitation Tables
   1. 1971-2000 Monthly Normals
   2. Cooperative Summary of the Day
   3. National Weather Service station records
   4. 1971-2000 serially complete daily data

b. Degree Day Table
   1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals
   2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data

c. Snow Tables
   1. Snow Climatology
   2. Cooperative Summary of the Day

d. Freeze Data Table
   1971-2000 serially complete daily data

References

U.S. Climate Normals 1971-2000, www.ncdc.noaa.gov/normals.html
U.S. Climate Normals 1971-2000-Products Clim20, www.ncdc.noaa.gov/oa/climate/normals/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