

Climatography of the United States

No. 20

1971-2000

Station: ICE HARBOR DAM, WA

COOP ID: 453883

Climate Division: WA 8

NWS Call Sign:

Elevation: 368 Feet

Lat: 46°15N

Lon: 118°53W

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	40.7	26.8	33.8	67	1990	10	41.2	1999	-14	1996	31	18.6	1979	969	0	.0	.0	7.3	6.8	21.2	.7
Feb	47.7	29.7	38.7	74	1986	25	44.3	1991	-14+	1996	4	27.0	1989	736	0	.0	.0	14.2	2.3	16.5	.4
Mar	57.6	34.6	46.1	81	1960	26	50.3	1992	10	1993	1	41.8	1971	585	0	.0	.0	28.0	.1	9.4	.0
Apr	65.5	40.2	52.9	94	1977	25	57.2+	1987	22	1986	24	47.3	1975	367	2	.0	.1	29.8	.0	2.4	.0
May	73.1	46.9	60.0	100	1958	27	64.6	1993	33	1996	5	56.4	1977	174	20	.0	1.4	31.0	.0	.0	.0
Jun	80.2	53.2	66.7	110	1961	18	72.7	1992	38	1963	30	62.8	1971	55	106	.2	4.6	30.0	.0	.0	.0
Jul	88.0	58.7	73.4	112	1960	19	78.9	1998	45+	1962	3	68.7	1993	7	267	1.8	13.8	31.0	.0	.0	.0
Aug	88.1	58.7	73.4	118	1961	5	77.7	1971	38	1964	31	69.6	1975	6	266	1.9	13.3	31.0	.0	.0	.0
Sep	79.3	50.0	64.7	100+	1987	1	70.3	1990	27	1985	29	59.7	1971	102	90	@	2.8	30.0	.0	.3	.0
Oct	66.3	40.5	53.4	89	1958	4	58.7	1988	20	1971	29	51.2	1984	361	1	.0	.0	30.5	.0	3.8	.0
Nov	50.5	34.3	42.4	78	1999	13	47.7	1998	6	1959	16	29.4	1985	678	0	.0	.0	18.2	.8	11.1	.1
Dec	41.3	28.1	34.7	67+	1993	11	41.3	1999	-14	1968	31	22.6	1985	939	0	.0	.0	7.5	5.7	20.6	.9
Ann	64.9	41.8	53.4	118	Aug 1961	5	78.9	Jul 1998	-14+	Feb 1996	4	18.6	Jan 1979	4979	752	3.9	36.0	288.5	15.7	85.3	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/normals/usnormals.html

Issue Date: February 2004

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1957-2001

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

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No. 20 1971-2000

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

Station: ICE HARBOR DAM, WA

COOP ID: 453883

Climate Division: WA 8

NWS Call Sign:

Elevation: 368 Feet Lat: 46°15N

Lon: 118°53W

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	1.21	1.22	.77	1975	26	2.76	1975	.23	1977	12.9	4.6	.2	.0	.34	.46	.63	.78	.93	1.08	1.25	1.46	1.72	2.13	2.51
Feb	1.05	1.00	.65	1970	13	2.04	2000	.13	1988	10.2	4.1	.1	.0	.34	.44	.58	.71	.83	.96	1.09	1.25	1.46	1.79	2.08
Mar	1.08	1.04	1.01	1986	12	2.54	1989	.15	1994	10.4	3.8	.2	@	.27	.38	.53	.67	.81	.96	1.12	1.31	1.56	1.96	2.33
Apr	.79	.72	.90	1969	6	2.22	1978	.02	1973	7.6	2.5	.2	.0	.07	.13	.23	.34	.46	.60	.76	.97	1.24	1.71	2.17
May	.98	.90	1.07	2000	31	2.93	1991	.06	1992	7.5	2.7	.5	.1	.19	.28	.43	.56	.69	.84	1.00	1.19	1.45	1.87	2.26
Jun	.71	.70	2.50	1957	6	1.80	1995	.00	1986	6.1	2.1	.3	.0	.07	.15	.26	.37	.47	.59	.72	.87	1.08	1.42	1.75
Jul	.28	.23	.92	1992	23	1.40	1992	.00+	1988	3.1	.9	.1	.0	.00	.00	.03	.07	.12	.18	.25	.34	.46	.68	.89
Aug	.53	.25	1.36	1993	17	2.59	1978	.00+	2000	3.9	1.5	.3	.1	.00	.00	.00	.06	.15	.27	.42	.62	.91	1.43	1.96
Sep	.48	.42	.72	1971	2	1.90	1982	.00	1990	5.0	1.6	.1	.0	.00	.01	.05	.10	.17	.26	.38	.55	.80	1.24	1.70
Oct	.84	.68	1.36	1982	29	2.28	1982	.00	1987	6.8	2.3	.3	.1	.03	.10	.23	.35	.48	.63	.81	1.03	1.33	1.84	2.33
Nov	1.55	1.22	1.56	1996	19	3.70	1973	.20	1976	12.6	5.0	.5	.1	.34	.48	.71	.91	1.12	1.34	1.58	1.88	2.27	2.89	3.48
Dec	1.45	1.45	.93	1995	12	4.03	1973	.49	1988	12.5	5.4	.1	.0	.44	.58	.79	.96	1.13	1.31	1.51	1.74	2.03	2.50	2.92
Ann	10.95	11.59	2.50	Jun 1957	6	4.03	Dec 1973	.00+	Aug 2000	98.6	36.5	2.9	.4	6.47	7.27	8.34	9.17	9.92	10.66	11.44	12.31	13.39	14.97	16.38

+ 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: 1957-2001

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

Complete documentation available from:
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COOP ID: 453883

Climate Division: WA 8

NWS Call Sign:

Elevation: 368 Feet

Lat: 46° 15N

Lon: 118° 53W

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	1.6	1.5	1	#	5.0	1998	12	5.0+	1998	13	1993	19	7	1993	2.4	1.0	.2	.1	.0	1.5	.1	.0	.0
Feb	.8	.0	0	0	6.0	1990	13	7.0	1990	7	1993	20	5	1993	.9	.6	.1	.1	.0	.6	.2	.2	.0
Mar	.1	.0	#	0	1.0	1980	5	1.5	1993	5	1993	3	1	1993	.1	.1	.0	.0	.0	.2	.2	@	.0
Apr	.0	.0	0	0	.0	0	0	.0	0	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	.2	.0	#	0	2.0	1996	24	2.0	1996	3	1977	24	#+	1996	.1	.1	.0	.0	.0	.1	.0	.0	.0
Dec	2.3	1.0	#	0	5.0	1996	27	11.0	1996	10	1996	30	2	1996	1.2	.8	.3	.1	.0	.9	.4	.2	.1
Ann	5.0	2.5	N/A	N/A	6.0	Feb 1990	13	11.0	Dec 1996	13	Jan 1993	19	7	Jan 1993	4.7	2.6	.6	.3	.0	3.3	.9	.4	.1

+ 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	5/11	5/06	5/03	4/30	4/27	4/24	4/21	4/17	4/13
32	4/22	4/16	4/12	4/09	4/06	4/03	3/30	3/26	3/21
28	4/11	4/04	3/29	3/24	3/20	3/15	3/10	3/05	2/25
24	3/30	3/18	3/10	3/03	2/24	2/17	2/10	2/02	1/21
20	3/09	2/27	2/19	2/13	2/07	2/01	1/25	1/16	12/31
16	2/24	2/14	2/07	1/31	1/25	1/19	1/11	12/30	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	9/23	9/28	10/02	10/05	10/08	10/10	10/13	10/17	10/22
32	9/29	10/05	10/09	10/12	10/16	10/19	10/23	10/27	11/02
28	10/10	10/18	10/24	10/29	11/03	11/08	11/13	11/19	11/27
24	10/29	11/07	11/15	11/21	11/26	12/02	12/08	12/15	12/25
20	11/07	11/19	11/27	12/04	12/11	12/18	12/26	1/05	1/23
16	11/23	12/04	12/12	12/20	12/27	1/03	1/12	1/26	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	184	177	172	167	163	159	154	149	142
32	215	208	202	197	192	188	183	177	170
28	263	251	242	235	228	221	213	205	193
24	327	309	296	285	275	264	253	240	222
20	>365	353	329	316	306	296	287	276	261
16	>365	>365	>365	347	333	323	313	302	288

* 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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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	969	736	585	367	174	55	7	6	102	361	678	939	4979
60	814	596	430	230	74	14	0	1	40	213	531	784	3727
57	727	513	338	159	37	4	0	0	18	136	448	692	3072
55	669	461	278	119	21	1	0	0	10	93	393	632	2677
50	526	332	146	46	3	0	0	0	1	29	268	489	1840
32	151	45	1	0	0	0	0	0	0	0	29	111	337

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	206	233	438	625	869	1041	1283	1283	979	663	341	194	8155
55	11	5	3	55	176	352	570	570	299	43	15	3	2102
57	7	1	1	34	131	295	508	508	247	24	10	0	1766
60	0	0	0	15	75	214	415	416	178	8	4	0	1325
65	0	0	0	2	20	106	267	266	90	1	0	0	752
70	0	0	0	0	2	38	140	138	36	0	0	0	354

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	46	79	210	396	635	815	1050	1049	752	428	141	54	46	125	335	731	1366	2181	3231	4280	5032	5460	5601	5655
45	11	26	91	248	480	665	895	894	602	280	60	19	11	37	128	376	856	1521	2416	3310	3912	4192	4252	4271
50	0	3	25	126	327	515	740	739	453	153	22	1	0	3	28	154	481	996	1736	2475	2928	3081	3103	3104
55	0	0	0	47	186	365	585	584	309	66	3	0	0	0	0	47	233	598	1183	1767	2076	2142	2145	2145
60	0	0	0	11	84	223	430	429	178	21	0	0	0	0	0	11	95	318	748	1177	1355	1376	1376	1376
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	20	46	136	245	382	505	671	674	477	270	66	24	20	66	202	447	829	1334	2005	2679	3156	3426	3492	3516

(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