

Climatology of the United States

No. 20

1971-2000

Station: HEBER RANGER STN, AZ

COOP ID: 023961

Climate Division: AZ 2

NWS Call Sign:

Elevation: 6,590 Feet Lat: 34° 24N

Lon: 110° 33W

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	47.2	18.1	32.7	72	1969	7	38.3	1986	-25	1963	13	28.3+	1979	1004	0	.0	.0	11.6	2.1	29.3	1.3
Feb	50.8	20.6	35.7	78	1954	26	40.3	1995	-18	1962	28	31.7	1985	821	0	.0	.0	15.7	.7	26.3	.7
Mar	55.8	25.0	40.4	78+	1954	10	45.0	1972	-12	1966	4	34.4	1973	763	0	.0	.0	23.3	.1	26.5	@
Apr	63.4	29.1	46.3	85+	2000	28	52.1	1989	2	1972	14	39.4	1983	563	0	.0	.0	27.6	.0	20.9	.0
May	71.9	36.3	54.1	91+	2000	30	60.1	2000	13	1967	1	49.6	1975	344	6	.0	.2	30.9	.0	10.0	.0
Jun	82.0	44.0	63.0	100	1970	26	68.5	1974	21	1955	2	58.6	1991	119	59	.0	3.7	30.0	.0	1.9	.0
Jul	83.9	52.6	68.3	100	1989	3	70.5	1989	30	1968	4	65.3	1987	9	109	@	6.1	31.0	.0	.0	.0
Aug	81.0	51.8	66.4	98	1969	9	69.0	1994	30	1968	24	64.1	1979	29	73	.0	1.2	31.0	.0	.0	.0
Sep	76.3	44.9	60.6	94	1996	3	65.4	1983	21	1965	30	57.1	1985	154	21	.0	.2	30.0	.0	1.2	.0
Oct	66.6	33.7	50.2	87+	1996	12	54.5	1988	6	1965	19	44.5	1984	462	1	.0	.0	29.6	@	13.5	.0
Nov	54.8	23.9	39.4	78+	1980	4	44.5	1995	-11	1976	28	34.7	2000	769	0	.0	.0	21.3	.3	26.1	.2
Dec	47.4	18.3	32.9	70	1958	7	39.0	1977	-22	1968	22	27.8	1978	998	0	.0	.0	13.3	1.8	29.1	1.3
Ann	65.1	33.2	49.2	100+	1989	3	70.5	1989	-25	1963	13	27.8	1978	6035	269	@	11.4	295.3	5.0	184.8	3.5

+ 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: 1950-2001

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Lon: 110°33W

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	1.50	1.06	1.94	1995	26	5.04	1997	.00+	1998	5.4	3.2	.7	.2	.00	.05	.23	.44	.69	.99	1.35	1.82	2.48	3.62	4.77	
Feb	1.55	1.21	1.54	1994	8	3.94	1973	.00+	1984	5.6	3.2	.8	.4	.00	.19	.48	.73	.98	1.25	1.56	1.93	2.43	3.25	4.03	
Mar	1.70	1.62	1.96	1989	26	4.26	1978	.00+	1997	5.8	3.7	.9	.2	.00	.00	.56	.86	1.14	1.44	1.77	2.17	2.67	3.51	4.30	
Apr	.60	.48	1.00	1999	2	2.28	1999	.00+	1993	3.5	1.9	.1	@	.00	.00	.06	.15	.26	.38	.54	.74	1.02	1.49	1.97	
May	.74	.38	1.44	1973	5	4.07	1992	.00+	2000	3.4	1.7	.3	.1	.00	.00	.06	.15	.27	.42	.61	.87	1.25	1.92	2.60	
Jun	.48	.21	1.77	2000	29	2.92	2000	.00+	1998	2.6	1.3	.3	@	.00	.00	.00	.01	.08	.18	.33	.53	.84	1.39	1.97	
Jul	2.70	2.93	1.97	1987	31	5.27	1988	.21	1993	11.0	6.2	1.7	.6	.60	.85	1.25	1.60	1.96	2.34	2.77	3.27	3.95	5.01	6.02	
Aug	3.23	3.23	4.35	1951	28	6.93	1999	.81	1976	11.7	6.8	1.7	.6	.95	1.26	1.72	2.12	2.51	2.91	3.36	3.88	4.56	5.62	6.61	
Sep	2.01	1.61	3.35	1995	7	5.31	1983	.00	1973	7.3	4.0	1.1	.3	.05	.19	.46	.74	1.06	1.43	1.88	2.45	3.24	4.57	5.90	
Oct	1.64	1.55	2.52	1972	19	7.42	1972	.00+	1999	4.9	3.0	1.0	.6	.00	.07	.28	.52	.79	1.11	1.50	1.99	2.69	3.88	5.06	
Nov	1.48	1.42	1.78	1978	12	4.96	1978	.00+	1999	4.2	2.6	.9	.4	.00	.00	.21	.47	.75	1.05	1.41	1.86	2.48	3.48	4.48	
Dec	1.54	1.09	2.75	1967	14	4.66	1992	.00+	1999	4.2	2.8	.9	.2	.00	.00	.17	.42	.70	1.03	1.41	1.91	2.60	3.74	4.89	
Ann	19.17	18.51	4.35	Aug 1951	28	7.42	Oct 1972	.00+	May 2000	69.6	40.4	10.4	3.6	13.62	14.69	16.07	17.11	18.04	18.94	19.86	20.89	22.13	23.93	25.49	

+ 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: 1950-2001

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

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Climate Division: AZ 2

NWS Call Sign:

Elevation: 6,590 Feet

Lat: 34° 24N

Lon: 110° 33W

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	9.7	7.0	2	1	14.0	1974	5	36.1	1974	32	1997	14	13	1997	2.0	1.5	.8	.4	.2	5.0	3.2	1.5	.5
Feb	7.2	3.0	1	#	16.0	1994	8	27.5	1973	19	1973	22	10	1973	1.8	1.4	.8	.5	@	4.1	3.1	2.4	1.4
Mar	6.3	3.0	#	#	18.0	2000	6	40.8	1973	17	2000	7	5	1973	1.7	1.5	.8	.4	@	2.0	1.5	.8	.1
Apr	2.3	.0	#	0	19.0	1999	2	19.5	1977	11	1977	2	1	1977	.7	.7	.4	.1	.1	.5	.3	.1	@
May	#	.0	0	0	#	1987	21	#+	1987	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	#	1973	10	#	1973	2	1991	30	#	1991	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov	2.0	.0	#	0	9.0	1975	29	16.0	1975	16	1975	29	6	1983	.7	.6	.3	.2	.0	1.0	.6	.3	@
Dec	5.2	2.0	1	#	12.0	1992	19	19.0	1995	19	1990	22	6	1987	1.9	1.5	.8	.4	@	6.9	3.9	1.9	.1
Ann	32.7	15.0	N/A	N/A	19.0	Apr 1999	2	40.8	Mar 1973	32	Jan 1997	14	13	Jan 1997	8.8	7.2	3.9	2.0	.3	19.5	12.6	7.0	2.1

+ 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	7/06	6/30	6/26	6/23	6/19	6/16	6/13	6/08	6/03
32	6/20	6/15	6/11	6/08	6/05	6/02	5/30	5/27	5/22
28	6/12	6/05	5/31	5/27	5/23	5/19	5/15	5/10	5/03
24	5/22	5/15	5/10	5/06	5/02	4/28	4/24	4/19	4/13
20	5/15	5/06	4/29	4/24	4/19	4/14	4/09	4/02	3/25
16	4/25	4/14	4/06	3/30	3/23	3/17	3/10	3/02	2/19
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	9/03	9/08	9/12	9/15	9/18	9/21	9/24	9/27	10/02
32	9/16	9/21	9/24	9/28	10/01	10/04	10/07	10/11	10/16
28	9/24	9/30	10/04	10/08	10/11	10/14	10/18	10/22	10/28
24	10/05	10/11	10/15	10/18	10/21	10/25	10/28	11/01	11/07
20	10/15	10/20	10/24	10/28	10/31	11/03	11/07	11/11	11/16
16	10/23	10/29	11/02	11/06	11/09	11/13	11/16	11/20	11/26
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	114	106	100	94	90	85	79	73	65
32	138	130	125	121	117	112	108	103	96
28	168	158	152	146	140	135	129	122	113
24	195	187	181	176	171	167	162	156	148
20	227	216	208	201	194	188	181	172	161
16	269	256	246	238	230	223	214	205	191

* 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)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
Below													
65	1004	821	763	563	344	119	9	29	154	462	769	998	6035
60	849	681	608	415	211	50	1	3	63	313	619	843	4656
57	756	597	515	331	145	25	0	0	31	231	529	750	3910
55	694	541	454	277	109	14	0	0	17	183	469	688	3446
50	539	401	307	161	43	3	0	0	3	86	322	533	2398
32	71	29	12	2	0	0	0	0	0	0	14	88	216

Cooling Degree Days (1)

Base	Cooling Degree Days (1)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
Above													
32	90	133	273	429	686	930	1123	1066	857	562	234	113	6496
55	0	0	1	14	81	254	410	353	184	31	0	0	1328
57	0	0	0	8	56	205	348	292	138	18	0	0	1065
60	0	0	0	2	28	140	256	201	80	7	0	0	714
65	0	0	0	0	6	59	109	73	21	1	0	0	269
70	0	0	0	0	1	16	16	9	2	0	0	0	44

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	17	33	91	217	449	706	895	838	633	337	82	16	17	50	141	358	807	1513	2408	3246	3879	4216	4298	4314
45	0	1	29	104	301	556	740	683	483	203	24	0	0	1	30	134	435	991	1731	2414	2897	3100	3124	3124
50	0	0	1	32	165	407	585	528	337	94	0	0	0	0	1	33	198	605	1190	1718	2055	2149	2149	2149
55	0	0	0	6	65	259	430	373	192	26	0	0	0	0	0	6	71	330	760	1133	1325	1351	1351	1351
60	0	0	0	0	15	131	275	218	82	3	0	0	0	0	0	0	15	146	421	639	721	724	724	724
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	39	64	122	219	353	490	579	543	423	277	114	43	39	103	225	444	797	1287	1866	2409	2832	3109	3223	3266

(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/normal/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 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/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