

Climatology of the United States

No. 20 1971-2000

Station: DEATH VALLEY, CA

COOP ID: 042319

Climate Division: CA 7

NWS Call Sign:

Elevation: -194 Feet

Lat: 36° 28N

Lon: 116° 52W

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	65.5	38.7	52.1	87	1962	8	56.7	1980	20	1963	13	48.2	1991	401	1	.0	.0	30.5	.0	4.0	.0
Feb	73.2	45.5	59.4	97	1986	28	64.5	1995	26+	1985	7	54.4	1998	176	17	.0	.4	27.9	.0	.7	.0
Mar	80.5	53.7	67.1	102	1986	29	73.9	1972	26	1989	4	62.0	1991	73	138	.1	5.1	31.0	.0	@	.0
Apr	89.3	61.6	75.5	111	1981	30	83.5	1989	39	1999	9	69.0	1975	16	328	4.2	16.7	30.0	.0	.0	.0
May	98.7	70.9	84.8	122	2000	30	90.7+	1997	46+	2000	11	76.4	1998	1	615	15.8	25.9	31.0	.0	.0	.0
Jun	108.8	80.1	94.5	128	1994	30	99.3	1981	54	1993	6	87.6	1998	0	884	26.6	29.6	30.0	.0	.0	.0
Jul	114.9	86.3	100.6	129	1998	18	104.4	1994	67+	1992	4	96.4	1987	0	1103	30.1	31.0	31.0	.0	.0	.0
Aug	113.2	84.3	98.8	127	1993	3	102.7	1994	65	1972	27	93.9	1976	0	1046	30.3	30.8	31.0	.0	.0	.0
Sep	105.3	74.9	90.1	123	1996	2	94.9	1974	55	1986	27	84.5	1985	0	753	24.1	29.1	30.0	.0	.0	.0
Oct	92.2	60.7	76.5	113+	2001	1	83.0	1988	37	1996	22	71.4	1984	10	366	6.8	20.0	31.0	.0	.0	.0
Nov	75.8	46.8	61.3	98	1988	1	66.2	1995	30	1994	28	56.3	1994	156	45	.0	.7	29.9	.0	.5	.0
Dec	65.1	37.5	51.3	88	1998	17	55.0	1977	22+	1990	25	44.9	1990	424	0	.0	.0	30.6	.0	6.5	.0
Ann	90.2	61.8	76.0	129	Jul 1998	18	104.4	Jul 1994	20	Jan 1963	13	44.9	Dec 1990	1257	5296	138.0	189.3	363.9	.0	11.7	.0

+ 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: 1961-2001

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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	.35	.14	.80	1988	17	2.59	1995	.00+	2000	2.7	1.0	.2	.0	.00	.00	.00	.00	.04	.13	.25	.41	.63	1.02	1.41	
Feb	.42	.09	.99	1998	24	2.37	1976	.00+	1999	2.5	1.2	.2	.0	.00	.00	.00	.00	.04	.12	.25	.43	.72	1.24	1.79	
Mar	.42	.30	1.00	1978	1	1.64	1978	.00+	1999	3.0	1.1	.2	@	.00	.00	.00	.06	.14	.24	.36	.51	.72	1.10	1.47	
Apr	.12	.00	1.47	1988	15	1.70	1988	.00+	2000	1.1	.2	@	@	.00	.00	.00	.00	.00	.00	.01	.06	.17	.40	.65	
May	.10	.01	.60	1977	9	.96	1977	.00+	2000	1.4	.3	@	.0	.00	.00	.00	.00	.00	.01	.04	.09	.16	.30	.46	
Jun	.05	.00	.40	1997	14	.53	1972	.00+	2000	.4	.2	.0	.0	.00	.00	.00	.00	.00	.00	.00	.00	.01	.13	.30	
Jul	.11	.01	.60	1974	23	.68	1974	.00+	2000	.9	.4	@	.0	.00	.00	.00	.00	.00	.00	.03	.09	.17	.35	.53	
Aug	.14	.00	.95	1977	17	1.20	1984	.00+	1999	.9	.4	.1	.0	.00	.00	.00	.00	.00	.00	.00	.04	.16	.46	.76	
Sep	.19	.01	1.11	1997	26	1.48	1997	.00+	2000	1.3	.5	@	@	.00	.00	.00	.00	.00	.00	.08	.18	.33	.60	.87	
Oct	.13	.02	.55	1972	4	1.09	1972	.00+	1999	1.0	.3	@	.0	.00	.00	.00	.00	.00	.00	.04	.10	.21	.42	.64	
Nov	.12	.00	.80	1981	29	1.45	1987	.00+	2000	.9	.3	.1	.0	.00	.00	.00	.00	.00	.00	.00	.04	.15	.41	.70	
Dec	.18	.07	.53	1992	8	.87	1992	.00+	2000	2.0	.5	.1	.0	.00	.00	.00	.00	.00	.05	.12	.20	.32	.53	.74	
Ann	2.33	2.28	1.47	Apr 1988	15	2.59	Jan 1995	.00+	Dec 2000	18.1	6.4	.9	@	.45	.77	1.16	1.47	1.78	2.09	2.43	2.83	3.35	4.17	4.93	

+ 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: 1961-2001

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

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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	#	.0	0	0	#	1974	5	#	1974	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Feb	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Mar	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.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	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Dec	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Ann	#	.0	N/A	N/A	#	Jan 1974	5	#	Jan 1974	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.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	3/08	2/28	2/22	2/16	2/12	2/07	2/01	1/26	1/18
32	2/16	2/07	2/01	1/26	1/21	1/15	1/09	1/02	12/22
28	2/01	1/20	1/11	1/02	12/24	12/12	0/00	0/00	0/00
24	12/17	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00
20	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00
16	0/00	0/00	0/00	0/00	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	11/03	11/11	11/17	11/21	11/26	12/01	12/05	12/11	12/19
32	11/17	11/24	11/29	12/03	12/07	12/11	12/15	12/20	12/28
28	11/27	12/08	12/15	12/23	12/30	1/08	1/24	0/00	0/00
24	12/20	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00
20	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00
16	0/00	0/00	0/00	0/00	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	321	309	301	294	287	280	273	264	252
32	>365	341	331	324	318	312	306	299	289
28	>365	>365	>365	>365	>365	>365	351	340	328
24	>365	>365	>365	>365	>365	>365	>365	>365	>365
20	>365	>365	>365	>365	>365	>365	>365	>365	>365
16	>365	>365	>365	>365	>365	>365	>365	>365	>365

* 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	401	176	73	16	1	0	0	0	0	10	156	424	1257
60	256	81	24	3	0	0	0	0	0	2	70	277	713
57	178	42	11	0	0	0	0	0	0	0	38	196	465
55	134	24	6	0	0	0	0	0	0	0	23	149	336
50	54	4	0	0	0	0	0	0	0	0	4	63	125
32	0	0	0	0	0	0	0	0	0	0	0	0	0

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	622	765	1088	1303	1636	1874	2126	2069	1743	1379	879	599	16083
55	44	145	381	613	923	1184	1413	1356	1053	666	212	35	8025
57	25	107	324	553	861	1124	1351	1294	993	604	167	20	7423
60	10	61	244	466	768	1034	1258	1201	903	513	109	8	6575
65	1	17	138	328	615	884	1103	1046	753	366	45	0	5296
70	0	3	64	209	467	734	948	891	603	237	13	0	4169

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	398	585	860	1082	1389	1647	1876	1837	1520	1143	651	371	398	983	1843	2925	4314	5961	7837	9674	11194	12337	12988	13359
45	248	443	705	932	1234	1497	1721	1682	1370	988	501	223	248	691	1396	2328	3562	5059	6780	8462	9832	10820	11321	11544
50	121	300	551	782	1079	1347	1566	1527	1220	833	354	101	121	421	972	1754	2833	4180	5746	7273	8493	9326	9680	9781
55	41	169	400	632	924	1197	1411	1372	1070	678	217	32	41	210	610	1242	2166	3363	4774	6146	7216	7894	8111	8143
60	5	76	254	482	770	1047	1256	1217	920	524	110	2	5	81	335	817	1587	2634	3890	5107	6027	6551	6661	6663
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	262	367	546	692	872	985	1080	1068	919	717	418	251	262	629	1175	1867	2739	3724	4804	5872	6791	7508	7926	8177

(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