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: BISHOP AP, CA **COOP ID: 040822**

Climate Division: CA 7 **NWS Call Sign: BIH** **Elevation: 4,102 Feet** **Lat: 37˚22N** **Lon: 118˚21W**

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	53.6	22.4	38.0	76+	1998	12	42.8	1984	-7	1974	10	29.7	1974	843	0	.0	.0	20.6	.5	29.1	.1
Feb	58.4	26.4	42.4	81	1986	27	48.3	1995	-2+	1969	8	37.7	1994	643	0	.0	.0	22.7	.4	24.1	.0
Mar	64.3	31.0	47.7	87	1966	31	55.2	1972	9+	1971	2	41.9	1991	545	0	.0	.0	28.4	.0	18.4	.0
Apr	72.1	36.0	54.1	93+	1989	8	60.5	1989	15	1953	9	47.0	1975	344	3	.0	.4	29.5	.0	8.3	.0
May	81.2	43.7	62.5	101	1951	26	69.4	1984	25	1964	3	54.1	1998	138	45	.1	5.0	31.0	.0	1.2	.0
Jun	91.5	50.7	71.1	109	1954	22	76.5	1981	29+	1988	7	65.3	1995	21	191	3.2	19.0	30.0	.0	.1	.0
Jul	97.9	55.7	76.8	109+	2000	31	79.8	1994	34	1987	18	72.7	1987	1	357	11.6	28.7	31.0	.0	.0	.0
Aug	95.8	53.7	74.8	107+	1993	2	78.7	1971	37	1959	20	70.8	1976	1	293	6.6	26.6	31.0	.0	.0	.0
Sep	87.6	46.9	67.3	112	1995	11	71.0	1974	26+	1986	26	60.6	1986	46	106	.5	12.6	30.0	.0	.4	.0
Oct	76.0	37.1	56.6	97	1980	1	61.8	1988	16	1970	28	52.7	1998	276	8	.0	1.4	30.7	.0	7.3	.0
Nov	62.4	27.1	44.8	84+	1988	3	51.1	1995	5	1958	17	37.2	1994	609	0	.0	.0	27.0	.0	24.1	.0
Dec	54.3	21.6	38.0	78+	1958	11	43.1+	1981	-8+	1990	22	31.6	1990	847	0	.0	.0	21.3	.4	29.3	.2
Ann	74.6	37.7	56.2	112	Sep 1995	11	79.8	Jul 1994	-8+	Dec 1990	22	29.7	Jan 1974	4314	1003	22.0	93.7	333.2	1.3	142.3	.3

\+ 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	.88	.60	3.32	1952	15	3.08	1995	.00+	1991
Feb	.97	.39	3.50	1969	24	5.16	1998	.00+	1997
Mar	.62	.41	1.75	1991	4	2.94	1991	.00+	1997
Apr	.24	.07	1.58	1982	11	1.62	1982	.00+	1997
May	.26	.09	.95	1953	15	1.04+	1989	.00+	2000
Jun	.21	.04	.68	1982	19	1.31	1998	.00+	2000
Jul	.17	.04	.83	1976	16	1.47	1976	.00+	2000
Aug	.13	.03	.43	1977	17	.64	1983	.00+	1997
Sep	.28	.18	1.25	1994	28	1.28	1994	.00+	1996
Oct	.20	.08	.88	1957	20	.90	1972	.00+	1999
Nov	.44	.10	1.28	1950	19	1.97	1984	.00+	2000
Dec	.62	.53	2.67	1982	22	2.67	1982	.00+	2000
Ann	5.02	4.62	3.50	Feb 1969	24	5.16	Feb 1998	.00+	Dec 2000

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	3.9	2.1	.6	.1
Feb	3.9	2.2	.6	.1
Mar	3.8	1.7	.3	.1
Apr	1.9	.7	.1	@
May	2.4	.8	.1	.0
Jun	1.7	.6	.1	.0
Jul	1.9	.6	@	.0
Aug	1.7	.4	.0	.0
Sep	2.2	.8	.1	@
Oct	1.4	.7	.1	.0
Nov	2.2	1.2	.3	@
Dec	2.4	1.3	.3	.1
Ann	29.4	13.1	2.6	.4

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	.00	.00	.04	.17	.33	.52	.76	1.07	1.51	2.27	3.05
Feb	.00	.00	.05	.15	.30	.49	.74	1.10	1.63	2.58	3.57
Mar	.00	.00	.04	.11	.21	.33	.49	.72	1.05	1.64	2.25
Apr	.00	.00	.00	.01	.05	.11	.18	.28	.43	.69	.95
May	.00	.00	.00	.00	.04	.10	.18	.29	.46	.75	1.05
Jun	.00	.00	.00	.00	.01	.05	.11	.21	.36	.63	.90
Jul	.00	.00	.00	.00	.01	.04	.10	.18	.30	.52	.75
Aug	.00	.00	.00	.00	.01	.03	.07	.12	.21	.38	.57
Sep	.00	.00	.00	.02	.07	.13	.21	.32	.48	.76	1.05
Oct	.00	.00	.00	.00	.02	.07	.13	.22	.35	.58	.82
Nov	.00	.00	.00	.02	.06	.14	.27	.45	.73	1.28	1.86
Dec	.00	.00	.00	.06	.18	.32	.50	.74	1.09	1.69	2.29
Ann	1.86	2.33	3.00	3.56	4.10	4.65	5.24	5.94	6.82	8.17	9.42

\+ 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:
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Climate Division: CA 7 **NWS Call Sign: BIH** **Elevation: 4,102 Feet** **Lat: 37°22N** **Lon: 118°21W**

Snow (inches)

Snow Totals

Means/Medians (1)

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median
Jan	3.9	.4	#	0
Feb	1.1	#	#	0
Mar	.6	.0	#	0
Apr	.1	.0	#	0
May	.0	.0	#	0
Jun	.0	.0	#	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	.0	.0	0	0
Oct	.1	.0	0	0
Nov	.4	.0	#	0
Dec	1.3	.0	#	0
Ann	7.5	.4	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	9.1	1982	5	20.7	1982	14+	1995	8	3	1974
Feb	12.1	1976	6	21.0	1976	14	1976	7	2	1976
Mar	4.0	1982	17	4.8	1982	2	1982	17	#	1982
Apr	1.9	1980	22	1.9	1980	1	1980	22	#	1980
May	.4	1980	11	.4+	1988	0	0	0	#	1995
Jun	.0	0	0	.0	0	0	0	0	#	1992
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	1.8	1978	30	1.8	1978	0	0	0	0	0
Nov	2.1	1978	11	2.1+	1981	1+	1985	12	#	1985
Dec	5.5	1979	24	7.9	1984	4	1988	28	1	1988
Ann	12.1	Feb 1976	6	21.0	Feb 1976	14+	Jan 1995	8	3	Jan 1974

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	1.6	1.1	.4	.2	.0
Feb	.4	.1	.2	.1	@
Mar	.6	.2	@	.0	.0
Apr	.1	.0	.0	.0	.0
May	.1	.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	.3	.2	.0	.0	.0
Dec	.9	.5	.1	@	.0
Ann	4.0	2.1	.7	.3	@

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	3.6	1.8	.9	.1
Feb	.8	.4	.2	.1
Mar	.1	.0	.0	.0
Apr	@	.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	.1	.0	.0	.0
Dec	.6	.2	.0	.0
Ann	5.2	2.4	1.1	.2

+ 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	6/14	6/07	6/02	5/28	5/24	5/20	5/15	5/10	5/02
32	5/25	5/18	5/12	5/08	5/04	4/30	4/25	4/20	4/13
28	5/16	5/07	5/01	4/26	4/21	4/16	4/11	4/05	3/27
24	4/22	4/14	4/09	4/04	3/31	3/26	3/22	3/16	3/09
20	4/04	3/25	3/18	3/12	3/06	3/01	2/23	2/15	2/06
16	3/09	2/27	2/20	2/14	2/08	2/02	1/27	1/19	1/07

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	9/19	9/24	9/28	10/01	10/05	10/09	10/14	10/20
32	9/29	10/05	10/09	10/12	10/15	10/18	10/22	10/26	10/31
28	10/09	10/14	10/18	10/21	10/24	10/27	10/30	11/03	11/08
24	10/18	10/23	10/27	10/31	11/03	11/06	11/10	11/14	11/19
20	10/29	11/04	11/07	11/11	11/14	11/17	11/20	11/24	11/29
16	11/06	11/14	11/20	11/25	11/29	12/04	12/09	12/15	12/24

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	159	149	142	135	130	124	118	111	101
32	190	181	174	169	164	158	153	146	137
28	214	204	197	191	185	180	174	167	157
24	245	235	228	222	217	211	205	198	188
20	287	275	266	259	252	245	237	229	217
16	347	325	314	304	296	288	280	270	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)

Heating Degree Days (1)

Base Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
65	843	643	545	344	138	21	1	1	46	276	609	847	4314
60	682	493	387	213	80	5	0	0	14	157	459	683	3173
57	589	409	303	152	48	1	0	0	5	101	373	590	2571
55	527	354	249	118	32	0	0	0	2	72	318	528	2200
50	380	223	139	51	10	0	0	0	0	25	194	382	1404
32	36	4	0	0	0	0	0	0	0	0	5	36	81

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	207	293	479	653	934	1164	1378	1316	1049	753	379	206	8811
55	0	1	9	65	244	475	665	603	363	106	4	0	2535
57	0	0	4	40	194	417	603	541	305	73	1	0	2178
60	0	0	1	17	127	330	510	448	222	37	0	0	1692
65	0	0	0	3	45	191	357	293	106	8	0	0	1003
70	0	0	0	0	10	82	205	151	32	0	0	0	480

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	54	125	252	423	695	936	1138	1078	819	519	174	54	54	179	431	854	1549	2485	3623	4701	5520	6039	6213	6267
45	9	47	129	280	541	786	983	923	669	369	84	12	9	56	185	465	1006	1792	2775	3698	4367	4736	4820	4832
50	0	9	48	161	389	636	828	768	519	231	25	0	0	9	57	218	607	1243	2071	2839	3358	3589	3614	3614
55	0	0	9	72	254	487	673	613	372	111	1	0	0	0	9	81	335	822	1495	2108	2480	2591	2592	2592
60	0	0	0	17	132	339	518	458	234	40	0	0	0	0	0	17	149	488	1006	1464	1698	1738	1738	1738
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	92	141	225	330	467	566	658	633	525	402	196	101	92	233	458	788	1255	1821	2479	3112	3637	4039	4235	4336

(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.
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