

Climatology of the United States

No. 20

1971-2000

Station: WAIKIKI 717.2, HI

COOP ID: 519397

Climate Division: HI 2

NWS Call Sign:

Elevation: 10 Feet

Lat: 21° 16N

Lon: 157° 49W

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 >= 90	Max >= 70	Max >= 50	Max <= 32	Min <= 32	Min <= 0
Jan	80.9	64.5	72.7	89+	1989	20	74.8	1984	51	1969	20	70.5	1994	0	240	.0	31.0	31.0	.0	.0	.0
Feb	81.1	64.7	72.9	90	1984	29	75.2	1997	51	1987	27	70.7	1993	0	221	@	28.3	28.3	.0	.0	.0
Mar	82.1	66.3	74.2	92	1986	18	76.4	1984	53	1976	12	72.3	1975	0	285	.1	31.0	31.0	.0	.0	.0
Apr	83.1	67.7	75.4	90	1968	7	77.9	1996	55	1973	7	73.0	1975	0	312	.0	30.0	30.0	.0	.0	.0
May	84.6	68.8	76.7	93	1995	11	78.4+	1996	59+	1987	10	73.5	1975	0	363	.1	31.0	31.0	.0	.0	.0
Jun	86.3	71.0	78.7	93	1987	26	80.8	1996	60	1979	8	75.7	1975	0	409	1.3	30.0	30.0	.0	.0	.0
Jul	87.1	72.3	79.7	95	1987	12	81.5	1996	63	1979	15	77.2	1976	0	455	4.1	31.0	31.0	.0	.0	.0
Aug	88.2	72.7	80.5	92+	2000	16	82.0	1996	62+	1984	9	78.4	1976	0	479	6.4	31.0	31.0	.0	.0	.0
Sep	88.1	72.2	80.2	95	1986	9	81.8+	1990	61	1965	7	78.3+	1983	0	455	6.4	30.0	30.0	.0	.0	.0
Oct	86.9	71.2	79.1	95	1984	5	80.7	1996	61	1965	25	77.9	1983	0	435	2.7	31.0	31.0	.0	.0	.0
Nov	84.2	69.5	76.9	92	1980	6	79.2	1986	56	1972	27	74.6	1985	0	356	.3	30.0	30.0	.0	.0	.0
Dec	82.0	66.4	74.2	90+	1983	12	76.8	1995	52	1983	17	71.3	1972	0	285	.1	31.0	31.0	.0	.0	.0
Ann	84.6	68.9	76.8	95+	Jul 1987	12	82.0	Aug 1996	51+	Feb 1987	27	70.5	Jan 1994	0	4295	21.5	365.3	365.3	.0	.0	.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: May 2005

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1965-2001

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

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: WAIKIKI 717.2, HI

COOP ID: 519397

Climate Division: HI 2

NWS Call Sign:

Elevation: 10 Feet

Lat: 21°16N

Lon: 157°49W

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	3.40	1.55	4.15	1982	20	15.50	1982	.34	1986	12.5	5.3	1.7	1.0	.16	.33	.72	1.17	1.69	2.32	3.09	4.08	5.49	7.92	10.35
Feb	2.41	1.78	3.95	1979	4	8.86	1979	.05	2000	9.0	3.8	1.4	.6	.09	.20	.46	.77	1.14	1.59	2.14	2.87	3.91	5.70	7.52
Mar	2.28	1.62	3.30	1974	13	8.81	1991	.16	1993	11.4	4.0	1.0	.6	.19	.35	.65	.96	1.31	1.71	2.18	2.77	3.59	4.96	6.31
Apr	1.38	1.37	2.00	1972	15	4.07	1972	.12	1990	11.1	3.7	.6	.1	.19	.30	.50	.69	.89	1.12	1.37	1.69	2.12	2.82	3.50
May	1.20	.65	5.66	1965	3	5.41	1977	.15	1971	9.1	2.5	.7	.2	.07	.13	.28	.44	.63	.84	1.11	1.45	1.92	2.74	3.55
Jun	.72	.42	2.62	1971	16	2.84	1971	.07	1995	8.9	1.2	.3	.0	.07	.12	.21	.31	.42	.55	.70	.88	1.14	1.56	1.98
Jul	.89	.51	2.10	1986	25	3.72	1986	.08	1978	10.4	1.8	.3	.1	.05	.10	.20	.32	.46	.62	.82	1.08	1.44	2.05	2.66
Aug	.59	.49	1.80	2001	27	2.18	1982	.04	1990	8.6	1.3	.1	.0	.04	.08	.15	.23	.32	.43	.55	.71	.94	1.31	1.68
Sep	.97	.64	2.57	1991	22	3.44	1985	.24	1975	8.7	2.2	.4	.1	.14	.22	.36	.50	.64	.79	.97	1.19	1.48	1.96	2.42
Oct	2.05	1.22	6.12	1978	31	7.46	1989	.13	1975	10.3	3.2	1.0	.6	.12	.24	.49	.77	1.09	1.46	1.91	2.48	3.28	4.65	6.01
Nov	2.87	1.81	5.86	1973	29	13.07	1996	.19	1994	12.3	4.6	1.5	.7	.16	.32	.66	1.05	1.49	2.01	2.64	3.46	4.60	6.56	8.51
Dec	3.47	2.51	8.21	1967	18	15.58	1987	.08	1976	13.2	5.1	1.8	.9	.21	.42	.84	1.31	1.85	2.47	3.23	4.19	5.55	7.84	10.13
Ann	22.23	24.38	8.21	Dec 1967	18	15.58	Dec 1987	.04	Aug 1990	125.5	38.7	10.8	4.9	10.77	12.67	15.28	17.37	19.31	21.25	23.32	25.67	28.62	33.06	37.04

+ 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: 1965-2001

(3) Derived from 1971-2000 daily data

Complete documentation available from:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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Station: WAIKIKI 717.2, HI

COOP ID: 519397

Climate Division: HI 2

NWS Call Sign:

Elevation: 10 Feet

Lat: 21° 16N

Lon: 157° 49W

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	0	.0	0	0	.0	0	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	.0	N/A	N/A	.0	0	0	.0	0	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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No. 20 1971-2000

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Climate Division: HI 2

NWS Call Sign:

Elevation: 10 Feet

Lat: 21° 16N

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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	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00
32	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00
28	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00
24	0/00	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	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00
32	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00
28	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00
24	0/00	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	>365	>365	>365	>365	>365	>365	>365	>365	>365
32	>365	>365	>365	>365	>365	>365	>365	>365	>365
28	>365	>365	>365	>365	>365	>365	>365	>365	>365
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

Complete documentation available from:

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1971-2000**

Station: WAIKIKI 717.2, HI

COOP ID: 519397

Climate Division: HI 2 NWS Call Sign: Elevation: 10 Feet Lat: 21°16N Lon: 157°49W

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	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0
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	1263	1145	1308	1302	1386	1399	1478	1502	1445	1458	1346	1308	16340
55	550	501	595	612	673	709	765	789	755	745	656	595	7945
57	488	445	533	552	611	649	703	727	695	683	596	533	7215
60	395	361	440	462	518	559	610	634	605	590	506	440	6120
65	240	221	285	312	363	409	455	479	455	435	356	285	4295
70	94	90	134	162	208	259	300	324	305	280	206	134	2496

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	1022	962	1069	1070	1149	1166	1244	1264	1211	1217	1115	1071	1022	1984	3053	4123	5272	6438	7682	8946	10157	11374	12489	13560
45	867	817	914	920	994	1016	1089	1109	1061	1062	965	916	867	1684	2598	3518	4512	5528	6617	7726	8787	9849	10814	11730
50	712	672	759	770	839	866	934	954	911	907	815	761	712	1384	2143	2913	3752	4618	5552	6506	7417	8324	9139	9900
55	557	527	604	620	684	716	779	799	761	752	665	606	557	1084	1688	2308	2992	3708	4487	5286	6047	6799	7464	8070
60	402	382	449	470	529	566	624	644	611	597	515	451	402	784	1233	1703	2232	2798	3422	4066	4677	5274	5789	6240
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	712	672	757	769	831	855	905	922	876	891	809	761	712	1384	2141	2910	3741	4596	5501	6423	7299	8190	8999	9760

(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/normals/usnormals.html

f. Mean "number of days statistics" for temperature were calculated from a serially complete daily data set. A serial dataset was not available for precipitation,

To ensure that a station's data was adequate to estimate these statistics, the following criteria were used:

1. A station must have 80% of its data for the 1971-2000 time period.
2. Only months with at least 21 days are used.
3. There must be a least 21 months (meeting criteria 2.) in the sample.

g. Snowfall and snow depth statistics were derived daily values quality controlled to be consistent with 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 differences 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. Other inconsistencies may appear from comparing statistically modeled values such as degree days to observed temperatures.

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

c. Snow Tables

1. Cooperative Summary of the Day

d. Freeze Data Table

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

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