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: PUUNENE 396, HI **COOP ID: 518543**

Climate Division: HI 5 **NWS Call Sign:** **Elevation: 60 Feet** **Lat: 20˚52N** **Lon: 156˚27W**

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	3.93	2.68	6.00	1980	9	14.03	1971	.22	1977
Feb	2.28	2.22	5.56	1951	22	7.56	1979	.00	2000
Mar	2.58	2.12	3.95	1979	28	7.65	1994	.00	2000
Apr	1.64	.84	3.90	1989	9	14.27	1989	.00	1990
May	.62	.39	1.73	1968	11	4.02	1987	.00+	2000
Jun	.14	.02	2.08	1967	30	.79	1971	.00+	2000
Jul	.27	.14	1.12	1989	23	1.35	1989	.00+	1999
Aug	.34	.26	.95	1958	2	1.22	1972	.00+	1999
Sep	.29	.11	.90	1963	17	1.76	1987	.00+	1999
Oct	1.14	.60	5.48	1989	9	7.34	1985	.00+	1998
Nov	2.16	1.61	3.45+	1988	5	7.44	1996	.00	1991
Dec	3.26	2.89	6.56	1988	7	11.56	1996	.04	1976
Ann	18.65	17.29	6.56	Dec 1988	7	14.27	Apr 1989	.00+	Jun 2000

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	8.3	5.4	2.3	1.1
Feb	6.7	3.9	1.5	.5
Mar	7.9	3.8	1.5	.8
Apr	6.5	3.0	.7	.3
May	3.4	1.5	.4	.1
Jun	1.2	.4	.1	.0
Jul	2.2	.8	.1	.0
Aug	2.7	1.0	.2	.0
Sep	2.0	.8	.2	.0
Oct	3.5	1.9	.5	.3
Nov	6.6	3.5	1.2	.6
Dec	7.3	4.4	1.7	.9
Ann	58.3	30.4	10.4	4.6

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	.27	.51	1.00	1.54	2.14	2.84	3.69	4.76	6.25	8.78	11.28
Feb	.08	.26	.59	.92	1.28	1.69	2.18	2.79	3.64	5.06	6.45
Mar	.12	.35	.73	1.11	1.52	1.98	2.51	3.18	4.09	5.60	7.08
Apr	.01	.04	.17	.35	.59	.91	1.32	1.88	2.71	4.20	5.74
May	.00	.00	.00	.05	.15	.28	.46	.70	1.06	1.72	2.39
Jun	.00	.00	.00	.00	.00	.01	.06	.13	.24	.43	.64
Jul	.00	.00	.01	.06	.11	.17	.24	.34	.47	.69	.92
Aug	.00	.00	.03	.08	.14	.21	.30	.42	.58	.86	1.15
Sep	.00	.00	.00	.03	.09	.15	.24	.35	.51	.78	1.06
Oct	.00	.00	.07	.21	.40	.64	.94	1.34	1.93	2.95	3.99
Nov	.04	.16	.43	.73	1.07	1.48	1.97	2.61	3.51	5.05	6.59
Dec	.05	.15	.42	.79	1.27	1.89	2.68	3.77	5.36	8.20	11.14
Ann	6.47	8.23	10.79	12.95	15.02	17.14	19.46	22.16	25.62	30.97	35.89

\+ 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: 1949-2001
(3) Derived from 1971-2000 daily data

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

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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 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 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. 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

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. 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