

1999

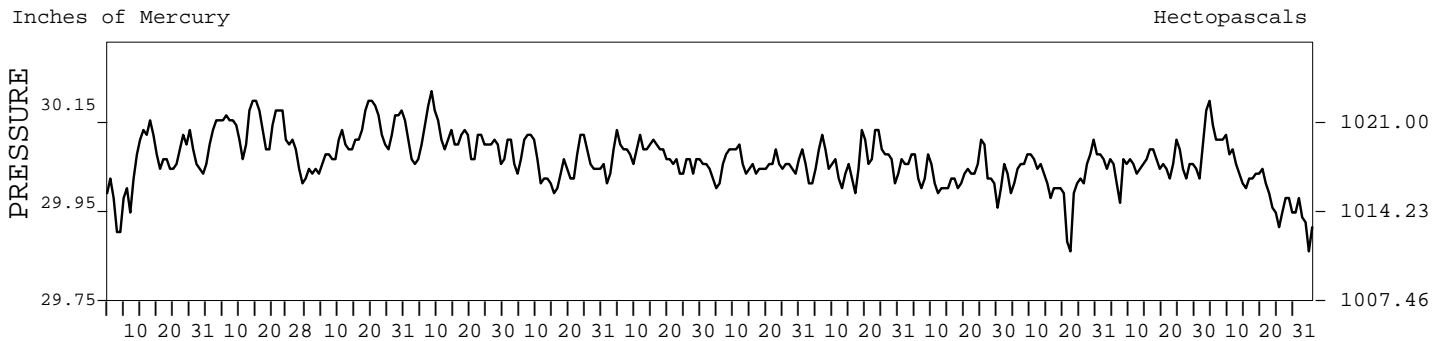
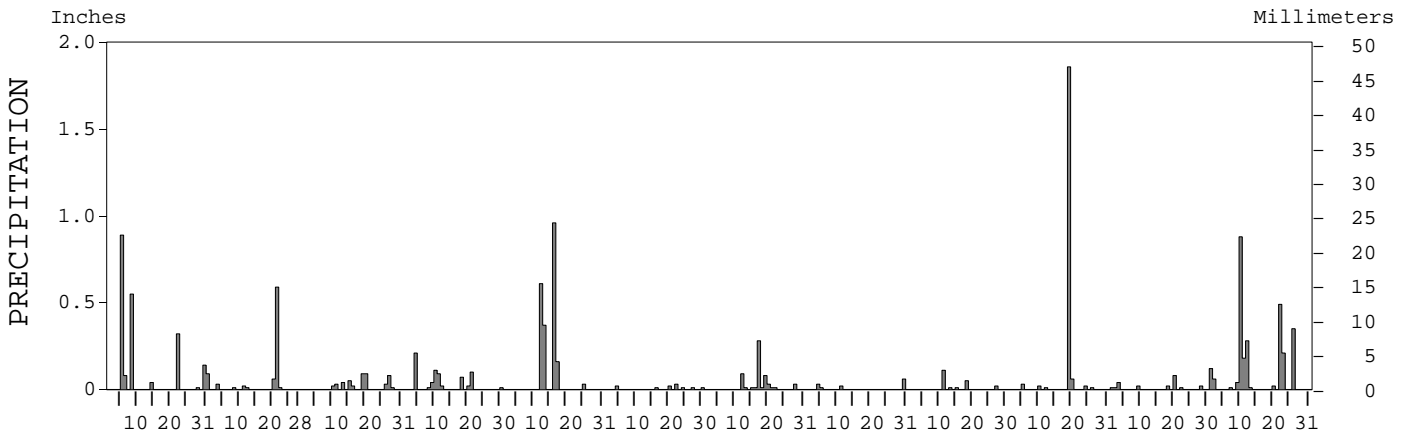
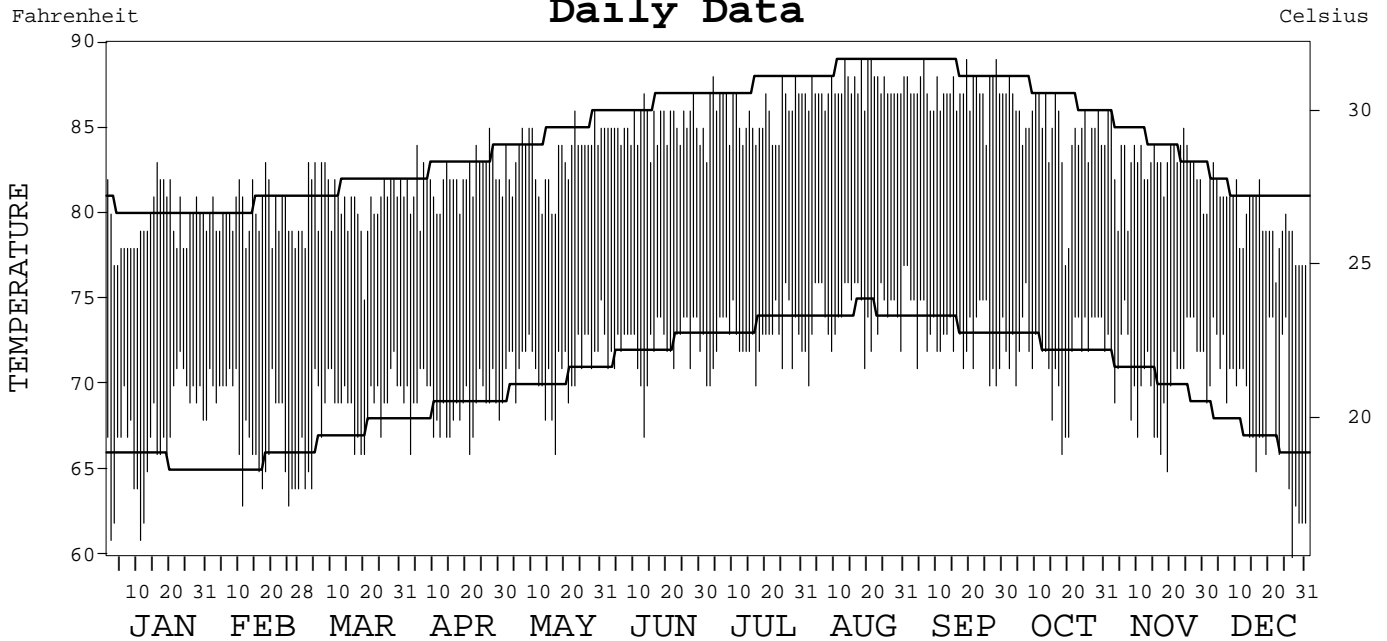
LOCAL CLIMATOLOGICAL DATA ANNUAL SUMMARY WITH COMPARATIVE DATA



ISSN 0198-1706

HONOLULU,
HAWAII (HNL)

Daily Data



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ASHEVILLE, NORTH CAROLINA

METEOROLOGICAL DATA FOR 1999

HONOLULU, HI (HNL)

LATITUDE: 21° 19' 39" N LONGITUDE: 157° 56' 35" W ELEVATION (FT): GRND: 16 BARO: 16 TIME ZONE: HAWAII (UTC + 10) WBAN: 22521

	ELEMENT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR	
TEMPERATURE °F	MEAN DAILY MAXIMUM	79.5	80.0	80.7	82.0	83.2	85.2	85.8	87.4	87.2	84.8	83.0	79.7	83.2	
	HIGHEST DAILY MAXIMUM	83	83	83	85	86	87	88	89	89	88	86	83	89	
	DATE OF OCCURRENCE	16	18	08+	27	29+	28+	29+	21+	28+	02	02+	03	SEP 28+	
	MEAN DAILY MINIMUM	67.1	67.4	68.5	68.8	71.0	72.3	72.7	74.2	73.1	71.8	70.7	68.5	70.5	
	LOWEST DAILY MINIMUM	61	63	64	66	66	67	70	70	70	66	65	60	60	
	DATE OF OCCURRENCE	11+	25+	04+	21+	17	13	17+	02	28+	18	19	27	DEC 27	
	AVERAGE DRY BULB	73.3	73.7	74.6	75.4	77.1	78.8	79.3	80.8	80.2	78.3	76.9	74.1	76.9	
	MEAN WET BULB	67.5	66.2	66.2	66.9	69.2	69.4	70.8	70.6	71.0	71.4	69.9	69.5	69.1	
	MEAN DEW POINT	64.1	61.7	61.5	62.3	65.1	64.7	66.6	65.6	66.8	68.2	66.4	66.9	65.0	
	NUMBER OF DAYS WITH:														
	MAXIMUM ≥ 90°	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	MAXIMUM ≤ 32°	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	MINIMUM ≤ 32°	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MINIMUM ≤ 0°	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
H/C	HEATING DEGREE DAYS		0	0	0	0	0	0	0	0	0	0	0		
	COOLING DEGREE DAYS	267	248	305	317	383	417	452	500	460	421	361	289	4420	
RH	MEAN (PERCENT)	74	68	66	66	69	65	68	62	67	73	72	80	69	
	HOUR 02 LST	82	77	74	75	76	74	78	71	75	81	78	85	77	
	HOUR 08 LST	79	74	71	71	70	66	73	65	69	76	75	84	73	
	HOUR 14 LST	63	55	54	53	57	51	55	49	54	62	63	73	57	
	HOUR 20 LST	75	70	69	69	71	68	70	66	69	76	74	80	71	
S	PERCENT POSSIBLE SUNSHINE														
W/O	NUMBER OF DAYS WITH:														
	HEAVY FOG (VISBY ≤ 1/4 MI)	0	0	0	0	0	0	0	0	0	0	0	0	0	
	THUNDERSTORMS	1	0	0	0	0	0	0	0	0	1	0	2	4	
CLOUDINESS	SUNRISE-SUNSET: (OKTAS)														
	CEILOMETER (≤ 12,000 FT.)														
	SATELLITE (> 12,000 FT.)														
	MIDNIGHT-MIDNIGHT: (OKTAS)														
	CEILOMETER (≤ 12,000 FT.)														
	SATELLITE (> 12,000 FT.)														
NUMBER OF DAYS WITH:															
CLEAR															
PARTLY CLOUDY															
CLOUDY															
PR	MEAN STATION PRESS. (IN.)	30.03	30.10	30.08	30.08	30.03	30.05	30.03	30.03	30.01	30.00	30.04	29.99	30.04	
	MEAN SEA-LEVEL PRESS. (IN.)	30.04	30.12	30.09	30.10	30.05	30.06	30.04	30.05	30.02	30.02	30.05	30.00	30.05	
WINDS	RESULTANT SPEED (MPH)	6.8	4.9	7.3	5.6	3.2	7.4	6.0	5.7	5.5	4.0	6.1	2.9	5.1	
	RES. DIR. (TENS OF DEGS.)	05	11	07	10	08	10	10	12	11	09	07	11	09	
	MEAN SPEED (MPH)	9.4	11.3	12.9	11.5	9.6	12.4	12.1	12.7	11.1	9.4	10.5	9.1	11.0	
	PREVAIL. DIR. (TENS OF DEGS.)	06	06	06	06	06	06	06	06	06	06	06	06	06	
	MAXIMUM 2-MINUTE WIND:														
	SPEED (MPH)	30	33	31	28	25	30	30	29	26	24	26	28	33	
	DIR. (TENS OF DEGS.)	06	06	06	07	07	07	06	07	06	06	07	06	06	
	DATE OF OCCURRENCE	24	03	29	10+	24	25	26	31+	01	05	28	06+	FEB 03	
	MAXIMUM 5-SECOND WIND:														
	SPEED (MPH)	37	43	38	36	30	37	36	36	33	30	33	36	43	
DIR. (TENS OF DEGS.)	05	07	06	04	08	07	08	08	04	05	07	05	07		
DATE OF OCCURRENCE	24	03	29	09+	24	25	26	31	01	27	28	06	FEB 03		
PRECIPITATION	WATER EQUIVALENT:														
	TOTAL (IN.)	2.12	0.73	0.46	0.68	2.13	0.11	0.57	0.12	0.20	2.01	0.21	2.65	11.99	
	GREATEST 24-HOUR (IN.)	0.97	0.60	0.09	0.21	1.06	0.03	0.28	0.06	0.11	1.86	0.08	0.95	1.86	
	DATE OF OCCURRENCE	05-06	21-22	20+	04	16-17	22	17	30	11	19	20	10-11	OCT 19	
	NUMBER OF DAYS WITH:														
	PRECIPITATION ≥ 0.01	8	7	10	10	5	7	11	4	5	7	8	12	94	
PRECIPITATION ≥ 0.10	4	1	0	3	4	0	1	0	1	1	0	7	22		
PRECIPITATION ≥ 1.00	0	0	0	0	0	0	0	0	0	1	0	0	1		
SNOWFALL	SNOW, ICE PELLETS, HAIL:														
	TOTAL (IN.)														
	GREATEST 24-HOUR (IN.)														
	DATE OF OCCURRENCE														
	MAXIMUM SNOW DEPTH (IN.)														
	DATE OF OCCURRENCE														
NUMBER OF DAYS WITH:															
SNOWFALL ≥ 1.0															

NORMALS, MEANS, AND EXTREMES

HONOLULU, HI (HNL)

LATITUDE: 21° 19' 39" N LONGITUDE: 157° 56' 35" W ELEVATION (FT): GRND: 16 BARO: 16 TIME ZONE: HAWAII (UTC + 10) WBAN: 22521

ELEMENT		POR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
TEMPERATURE °F	NORMAL DAILY MAXIMUM	30	80.1	80.5	81.6	82.8	84.7	86.5	87.5	88.7	88.5	86.9	84.1	81.2	84.4
	MEAN DAILY MAXIMUM	50	80.0	80.0	81.0	82.4	84.2	86.1	86.9	88.0	87.9	86.5	83.7	81.0	84.0
	HIGHEST DAILY MAXIMUM	30	88	88	88	91	93	92	94	93	95	94	93	89	95
	YEAR OF OCCURRENCE		1996	1984	1998	1996	1988	1996	1995	1997	1994	1984	1986	1995	SEP 1994
	MEAN OF EXTREME MAXS.	50	83.9	83.9	84.8	86.0	87.4	88.5	89.4	90.6	90.7	89.7	87.3	85.0	87.3
	NORMAL DAILY MINIMUM	30	65.6	65.4	67.2	68.7	70.3	72.2	73.5	74.2	73.5	72.3	70.3	67.0	70.0
	MEAN DAILY MINIMUM	50	65.6	65.5	67.0	68.7	70.2	72.2	73.4	74.2	73.5	72.3	70.4	67.5	70.0
	LOWEST DAILY MINIMUM	30	53	53	55	57	60	65	66	67	66	61	57	54	53
	YEAR OF OCCURRENCE		1998	1983	1976	1985	1989	1982	1990	1984	1985	1993	1990	1962	JAN 1998
	MEAN OF EXTREME MINS.	50	58.7	58.8	60.7	63.4	65.4	68.1	69.8	70.2	69.1	66.9	64.4	60.0	64.6
	NORMAL DRY BULB	30	72.9	73.0	74.4	75.8	77.5	79.4	80.5	81.4	81.0	79.6	77.2	74.1	77.2
	MEAN DRY BULB	50	72.8	72.8	74.0	75.5	77.1	79.1	80.2	81.0	80.7	79.3	77.0	74.2	77.0
	MEAN WET BULB	16	66.5	66.1	66.8	67.6	68.7	70.3	71.6	72.3	72.6	72.0	70.3	68.0	69.4
	MEAN DEW POINT	16	62.7	62.1	62.3	63.1	64.1	65.6	67.0	67.8	68.7	68.2	66.5	64.4	65.2
	NORMAL NO. DAYS WITH:														
MAXIMUM ≥ 90°	30	0.0	0.0	0.0	0.0	0.3	1.4	4.4	11.2	9.6	4.1	0.4	0.0	31.4	
MAXIMUM ≤ 32°	30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
MINIMUM ≤ 32°	30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
MINIMUM ≤ 0°	30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
H/C	NORMAL HEATING DEG. DAYS	30	0	0	0	0	0	0	0	0	0	0	0	0	0
	NORMAL COOLING DEG. DAYS	30	245	224	291	324	388	432	481	508	480	453	366	282	4474
RH	NORMAL (PERCENT)	30	73	71	69	67	66	64	65	64	66	68	70	72	68
	HOUR 02 LST	30	81	79	76	75	74	73	73	72	74	76	78	80	76
	HOUR 08 LST	30	81	78	73	70	67	66	67	68	68	70	74	78	72
	HOUR 14 LST	30	62	59	57	56	54	52	52	51	52	56	59	61	56
	HOUR 20 LST	30	74	71	70	70	69	67	68	68	68	70	72	74	70
S	PERCENT POSSIBLE SUNSHINE	46	65	68	72	70	72	74	76	77	77	71	64	63	71
W/O	MEAN NO. DAYS WITH:														
	HEAVY FOG (VISBY ≤ 1/4 MI)	50	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	THUNDERSTORMS	50	0.7	1.1	0.8	0.5	0.3	0.1	0.2	0.1	0.5	0.8	0.9	0.7	6.7
CLOUDINESS	MEAN:														
	SUNRISE-SUNSET (OKTAS)	51	4.3	4.4	4.6	4.9	4.6	4.4	4.2	4.1	4.2	4.5	4.6	4.4	4.4
	MIDNIGHT-MIDNIGHT (OKTAS)	33	4.1	4.1	4.3	4.5	4.3	4.2	4.2	3.9	3.9	4.1	4.5	4.3	4.2
	MEAN NO. DAYS WITH:														
	CLEAR	48	9.5	8.1	7.4	5.9	6.7	6.5	7.4	8.0	7.9	7.5	7.2	7.9	90.0
PARTLY CLOUDY	48	12.9	12.5	14.1	14.6	15.6	17.4	18.0	16.9	15.9	14.8	13.4	13.7	179.8	
CLOUDY	49	8.5	7.6	9.3	9.6	8.7	6.2	5.1	5.7	5.7	8.1	8.8	8.7	92.0	
PR	MEAN STATION PRESSURE (IN)	27	29.98	29.99	30.04	30.03	30.03	30.02	30.00	29.98	29.99	29.96	29.97	29.98	30.00
	MEAN SEA-LEVEL PRES. (IN)	16	30.00	30.01	30.06	30.06	30.04	30.02	30.01	30.00	29.99	29.97	29.99	30.01	30.01
WINDS	MEAN SPEED (MPH)	50	9.4	10.1	11.3	11.7	11.6	12.6	13.4	13.0	11.4	10.7	10.9	10.6	11.4
	PREVAIL. DIR. (TENS OF DEGS)	3	06	06	06	06	06	07	06	06	06	06	06	06	06
	MAXIMUM 2-MINUTE:														
	SPEED (MPH)	1	30	33	31	28	25	30	30	29	26	24	26	28	33
	DIR. (TENS OF DEGS)		06	06	06	07	07	07	06	07	06	06	07	06	06
	YEAR OF OCCURRENCE		1999	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999	FEB 1999
	MAXIMUM 5-SECOND:														
SPEED (MPH)	1	37	43	38	36	30	37	36	36	33	30	33	36	43	
DIR. (TENS OF DEGS)		05	07	06	04	08	07	08	08	04	05	07	05	07	
YEAR OF OCCURRENCE		1999	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999	FEB 1999	
PRECIPITATION	NORMAL (IN)	30	3.55	2.21	2.20	1.54	1.13	0.50	0.59	0.44	0.78	2.28	3.00	3.80	22.02
	MAXIMUM MONTHLY (IN)	53	14.74	13.68	20.79	8.92	7.23	2.46	2.33	3.08	2.74	11.15	18.79	17.29	20.79
	YEAR OF OCCURRENCE		1949	1955	1951	1963	1965	1971	1989	1959	1947	1978	1996	1987	MAR 1951
	MINIMUM MONTHLY (IN)	53	0.18	0.06	0.01	0.01	0.05	T	0.03	T	0.05	0.07	0.03	0.06	T
	YEAR OF OCCURRENCE		1986	1983	1957	1960	1949	1959	1950	1974	1977	1996	1962	1976	AUG 1974
	MAXIMUM IN 24 HOURS (IN)	50	6.72	6.88	17.07	4.21	3.44	2.28	2.20	2.35	1.40	7.57	9.15	8.25	17.07
	YEAR OF OCCURRENCE		1963	1955	1958	1972	1965	1967	1989	1959	1963	1978	1954	1987	MAR 1958
	NORMAL NO. DAYS WITH:														
PRECIPITATION ≥ 0.01	30	9.7	8.6	9.2	9.5	7.9	5.8	7.4	6.1	7.4	8.8	9.8	10.5	100.7	
PRECIPITATION ≥ 1.00	30	0.9	0.6	0.8	0.2	0.3	0.1	*	0.1	0.1	0.6	0.9	1.0	5.6	
SNOWFALL	NORMAL (IN)	30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	MAXIMUM MONTHLY (IN)	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	YEAR OF OCCURRENCE														
	MAXIMUM IN 24 HOURS (IN)	52	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	YEAR OF OCCURRENCE														
	MAXIMUM SNOW DEPTH (IN)	48	0	0	0	0	0	0	0	0	0	0	0	0	0
YEAR OF OCCURRENCE															
NORMAL NO. DAYS WITH:															
SNOWFALL ≥ 1.0	30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

PRECIPITATION (inches) 1999 HONOLULU, HI (HNL)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1970	1.81	0.77	0.07	0.74	0.21	0.23	2.01	0.21	0.39	1.88	5.94	1.23	15.49
1971	6.19	2.37	5.57	2.19	0.43	2.46	0.04	0.26	1.03	2.27	0.95	2.88	26.64
1972	5.28	5.00	2.45	5.15	0.12	0.79	0.20	0.46	0.92	2.39	0.59	3.59	26.94
1973	0.67	0.60	0.40	0.72	0.89	0.09	0.46	0.32	0.64	1.78	3.73	3.94	14.24
1974	4.21	1.28	3.49	4.13	0.82	1.52	0.44	T	2.08	2.77	2.69	0.59	24.02
1975	6.42	2.36	2.02	0.51	0.19	0.03	0.40	0.03	0.11	0.18	11.54	0.60	24.39
1976	1.29	6.08	2.67	0.71	0.26	0.18	0.24	0.17	0.33	0.45	0.46	0.06	12.90
1977	0.52	0.32	2.36	1.81	4.76	0.11	0.14	0.08	0.05	0.15	0.61	1.45	12.36
1978	0.34	0.75	1.37	2.07	3.39	1.06	0.20	0.83	0.28	11.15	1.55	2.06	25.05
1979	4.57	7.21	0.77	0.55	0.21	0.32	0.13	0.15	0.47	0.53	0.52	1.50	16.93
1980	8.91	2.26	3.04	1.13	0.78	1.76	0.37	0.36	0.41	0.30	0.21	7.37	26.90
1981	0.81	0.97	0.71	1.01	0.94	0.14	0.42	0.70	0.39	1.84	1.01	4.47	13.41
1982	12.82	2.16	3.73	1.28	0.13	0.35	0.20	1.98	0.52	7.24	1.32	3.19	34.92
1983	0.32	0.06	0.53	0.42	0.35	0.26	0.22	0.29	1.16	0.23	0.13	1.06	5.03
1984	0.21	0.60	1.08	2.41	0.16	0.08	0.23	0.04	1.36	1.89	3.58	5.44	17.08
1985	1.46	3.87	1.26	0.20	1.11	0.13	0.53	0.16	1.28	5.08	2.11	0.19	17.38
1986	0.18	1.38	0.17	0.35	0.81	0.36	1.54	0.90	2.00	1.23	4.23	0.78	13.93
1987	0.42	0.86	0.31	0.65	0.73	0.46	0.33	0.22	1.13	0.20	0.93	17.29	23.53
1988	3.05	1.31	0.67	0.50	1.25	0.04	0.12	0.34	0.86	0.23	1.39	6.71	16.47
1989	2.07	6.48	2.58	1.23	0.29	0.11	2.33	0.08	0.15	10.37	0.51	1.32	27.52
1990	4.32	4.15	0.86	0.30	0.30	0.08	0.49	0.01	0.98	0.47	2.96	4.92	19.84
1991	0.80	2.09	6.24	1.00	0.48	0.26	0.16	0.16	0.56	3.43	1.52	1.24	17.94
1992	0.43	1.35	0.72	0.11	1.13	0.10	2.01	0.97	2.08	2.57	1.04	6.49	19.00
1993	0.70	0.41	0.02	0.23	0.19	0.11	0.69	1.03	0.10	1.63	0.46	0.27	5.84
1994	0.78	7.04	3.77	0.46	0.09	0.23	0.48	0.14	0.39	1.56	0.20	0.45	15.59
1995	0.54	6.53	1.33	1.15	0.45	0.05	0.19	0.44	0.33	0.36	0.92	1.31	13.60
1996	3.52	1.00	2.68	0.34	0.13	1.01	0.74	2.17	0.78	0.07	18.79	1.89	33.12
1997	6.92	0.95	4.90	1.02	0.63	0.40	0.52	0.13	0.67	2.57	0.84	0.44	19.99
1998	0.77	0.21	0.03	0.54	0.16	0.29	0.19	0.15	0.05	0.13	0.85	1.15	4.52
1999	2.12	0.73	0.46	0.68	2.13	0.11	0.57	0.12	0.20	2.01	0.21	2.65	11.99
POR= 53 YRS	3.61	2.53	2.62	1.25	0.92	0.38	0.49	0.50	0.68	1.84	2.70	3.26	20.78

WBAN : 22521

AVERAGE TEMPERATURE (°F) 1999 HONOLULU, HI (HNL)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1970	74.2	73.3	76.9	78.3	80.4	81.1	82.2	83.8	79.0	78.5	75.8	74.7	78.2
1971	71.7	74.4	73.9	75.6	76.2	77.3	78.9	79.5	79.1	78.0	75.7	73.3	76.1
1972	70.4	70.6	72.8	75.0	77.3	78.9	80.4	81.1	80.5	79.3	76.7	71.6	76.2
1973	72.9	72.6	76.1	75.5	77.1	79.2	80.5	81.2	81.0	79.4	77.0	73.8	77.2
1974	74.5	74.4	74.0	77.4	78.2	79.3	79.9	81.2	80.0	79.5	75.7	75.8	77.5
1975	72.4	72.8	73.0	74.5	75.7	78.1	79.0	80.1	79.4	79.1	77.1	73.0	76.2
1976	73.7	72.0	73.6	75.1	77.5	78.2	79.8	80.8	80.7	79.1	75.3	75.3	76.8
1977	73.7	75.6	76.2	76.3	77.6	79.5	80.9	82.2	81.6	81.1	78.6	75.1	78.2
1978	74.2	73.2	75.7	76.8	78.2	78.7	79.0	80.5	80.5	77.8	74.7	72.4	76.8
1979	69.9	72.1	72.8	74.8	78.0	80.0	80.9	80.4	81.1	81.0	77.4	75.3	77.0
1980	71.9	72.4	75.0	76.1	78.3	79.5	80.9	81.0	81.6	80.1	78.0	74.4	77.4
1981	73.2	73.6	74.7	75.9	77.3	80.6	79.7	80.1	80.7	78.3	76.7	74.0	77.1
1982	73.2	71.7	74.0	75.4	78.3	79.6	80.6	81.4	81.4	79.4	75.7	72.0	76.9
1983	71.9	71.3	73.5	74.6	75.7	78.9	79.7	82.4	82.3	81.1	80.1	75.1	77.2
1984	74.6	74.6	75.8	77.0	78.7	79.3	81.0	81.7	81.3	80.2	79.0	74.1	78.1
1985	71.4	73.9	74.5	74.5	76.5	79.2	81.6	81.9	81.1	79.8	75.1	73.3	76.9
1986	72.8	72.6	76.5	77.5	78.3	80.0	81.6	82.9	82.1	80.6	79.2	75.1	78.3
1987	73.4	71.2	74.0	76.0	75.7	80.4	82.1	82.7	82.9	81.4	78.8	75.8	77.9
1988	73.1	74.7	76.0	77.3	78.9	80.8	81.8	82.1	82.1	80.1	79.9	75.6	78.5
1989	74.5	73.6	75.3	74.5	78.4	80.9	81.6	81.4	81.9	78.6	76.7	72.9	77.5
1990	74.7	71.5	73.1	76.6	78.1	80.0	80.8	82.3	82.3	80.9	77.3	74.1	77.6
1991	72.4	73.4	72.9	75.9	77.8	79.4	81.2	82.4	81.5	80.0	79.5	76.2	77.7
1992	72.9	73.2	74.9	75.6	77.8	81.3	81.5	82.2	81.3	79.4	77.0	76.7	77.8
1993	70.9	71.1	74.0	77.4	77.2	80.2	80.6	81.3	81.1	79.7	76.3	75.0	77.1
1994	72.0	73.6	73.2	76.0	79.3	80.9	82.9	84.3	84.0	82.5	80.8	76.6	78.8
1995	74.2	73.4	75.6	76.4	78.6	81.3	83.3	83.4	83.2	82.7	80.2	79.1	79.3
1996	76.2	74.0	74.3	79.9	79.0	81.3	82.1	82.8	81.4	81.7	76.9	73.1	78.6
1997	72.3	74.7	75.3	76.3	76.2	81.1	81.5	82.6	82.7	80.6	76.4	74.0	77.8
1998	72.5	72.8	75.1	75.1	76.6	78.3	79.7	81.1	81.0	79.8	77.8	74.8	77.1
1999	73.3	73.7	74.6	75.4	77.1	78.8	79.3	80.8	80.2	78.3	76.9	74.1	76.9
POR= 47 YRS	72.6	72.7	73.8	75.3	76.9	79.0	80.0	80.7	80.6	79.2	76.7	74.1	76.8

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HEATING DEGREE DAYS (base 65°F) 1999 HONOLULU, HI (HNL)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1983-84	0	0	0	0	0	0	0	0	0	0	0	0	0
1984-85	0	0	0	0	0	0	0	0	0	0	0	0	0
1985-86	0	0	0	0	0	0	0	0	0	0	0	0	0
1986-87	0	0	0	0	0	0	0	0	0	0	0	0	0
1987-88	0	0	0	0	0	0	0	0	0	0	0	0	0
1988-89	0	0	0	0	0	0	0	0	0	0	0	0	0
1989-90	0	0	0	0	0	0	0	0	0	0	0	0	0
1990-91	0	0	0	0	0	0	0	0	0	0	0	0	0
1991-92	0	0	0	0	0	0	0	0	0	0	0	0	0
1992-93	0	0	0	0	0	0	0	0	0	0	0	0	0
1993-94	0	0	0	0	0	0	0	0	0	0	0	0	0
1994-95	0	0	0	0	0	0	0	0	0	0	0	0	0
1995-96	0	0	0	0	0	0	0	0	0	0	0	0	0
1996-97							0	0	0	0	0	0	0
1996-97	0	0	0	0	0	0	0	0	0	0	0	0	0
1997-98	0	0	0	0	0	0	0	0	0	0	0	0	0
1998-99	0	0	0	0	0	0	0	0	0	0	0	0	0
1999-	0	0	0	0	0	0	0	0	0	0	0	0	0

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COOLING DEGREE DAYS (base 65°F) 1999 HONOLULU, HI (HNL)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1970	293	239	378	409	485	490	540	586	429	426	332	306	4913
1971	216	269	284	326	355	376	435	456	431	408	328	265	4149
1972	178	170	249	307	386	425	484	506	470	450	357	209	4191
1973	252	219	353	322	382	432	485	512	484	455	367	279	4542
1974	300	270	285	378	415	434	468	509	458	457	328	341	4643
1975	235	224	256	292	337	400	438	475	438	442	372	257	4166
1976	278	209	275	311	393	402	464	498	479	446	315	325	4395
1977	276	305	355	344	396	441	498	541	505	507	417	320	4905
1978	292	238	336	361	417	418	439	489	473	401	298	239	4401
1979	159	209	250	299	412	458	500	485	489	504	378	326	4469
1980	222	220	317	340	418	442	501	504	503	476	395	295	4633
1981	263	249	311	335	385	474	463	477	477	419	355	284	4492
1982	261	195	288	318	421	442	493	514	499	452	326	225	4434
1983	223	182	270	295	335	425	461	544	525	508	461	318	4547
1984	304	285	340	366	432	438	501	527	494	475	425	291	4878
1985	205	256	300	293	364	437	521	532	491	464	310	264	4437
1986	251	217	366	384	421	457	519	561	521	491	433	318	4939
1987	267	178	285	337	337	465	537	556	544	516	418	342	4782
1988	260	289	346	373	437	482	527	537	520	478	455	336	5040
1989	301	244	325	291	425	482	521	517	512	431	358	252	4659
1990	306	189	258	354	412	456	498	543	525	501	377	289	4708
1991	236	243	250	333	404	442	508	547	501	474	443	353	4734
1992	251	244	316	327	404	495	518	540	495	452	369	368	4779
1993	190	180	285	381	387	463	491	515	491	465	345	314	4507
1994	227	248	262	337	451	486	564	606	575	547	481	367	5151
1995	294	239	334	351	428	498	572	578	555	554	464	442	5309
1996	354	266	297	453	441	494	538	560	502	525	365	257	5052
1997	231	279	326	346	355	489	521	553	537	492	350	288	4767
1998	238	227	322	309	368	407	463	506	489	464	390	310	4493
1999	267	248	305	317	383	417	452	500	460	421	361	289	4420

SNOWFALL (inches) 1999 HONOLULU, HI (HNL)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1971-72	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972-73	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1973-74	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974-75	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975-76	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976-77	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1977-78	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1978-79	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979-80	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980-81	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981-82	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1982-83	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983-84	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984-85	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985-86	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986-87	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987-88	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1988-89	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1989-90	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990-91	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1991-92	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1992-93	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1993-94	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1994-95	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1995-96	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996-97	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997-98	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998-99													
1999-													
POR= 50 YRS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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REFERENCE NOTES:

<p>PAGE 1: THE TEMPERATURE GRAPH SHOWS NORMAL MAXIMUM AND NORMAL MINIMUM DAILY TEMPERATURES (SOLID CURVES) AND THE ACTUAL DAILY HIGH AND LOW TEMPERATURES (VERTICAL BARS).</p> <p>PAGE 2 AND 3: H/C INDICATES HEATING AND COOLING DEGREE DAYS. RH INDICATES RELATIVE HUMIDITY W/O INDICATES WEATHER AND OBSTRUCTIONS S INDICATES SUNSHINE. PR INDICATES PRESSURE. CLOUDINESS ON PAGE 3 IS THE SUM OF THE CEILOMETER AND SATELLITE DATA NOT TO EXCEED EIGHT EIGHTHS(OKTAS).</p> <p>GENERAL: T INDICATES TRACE PRECIPITATION, AN AMOUNT GREATER THAN ZERO BUT LESS THAN THE LOWEST REPORTABLE VALUE. + INDICATES THE VALUE ALSO OCCURS ON EARLIER DATES. BLANK ENTRIES DENOTE MISSING OR UNREPORTED DATA. NORMALS ARE 30-YEAR AVERAGES (1961 - 1990). ASOS INDICATES AUTOMATED SURFACE OBSERVING SYSTEM. PM INDICATES THE LAST DAY OF THE PREVIOUS MONTH. POR (PERIOD OF RECORD) BEGINS WITH THE JANUARY DATA MONTH AND IS THE NUMBER OF YEARS USED TO COMPUTE THE MEAN. INDIVIDUAL MONTHS WITHIN THE POR MAY BE MISSING. WHEN THE POR FOR A NORMAL IS LESS THAN 30 YEARS, THE NORMAL IS PROVISIONAL AND IS BASED ON THE NUMBER OF YEARS INDICATED. 0.* OR * INDICATES THE VALUE OR MEAN-DAYS-WITH IS BETWEEN 0.00 AND 0.05. CLOUDINESS FOR ASOS STATIONS DIFFERS FROM THE NON-ASOS OBSERVATION TAKEN BY A HUMAN OBSERVER. ASOS STATION CLOUDINESS IS BASED ON TIME-AVERAGED CEILOMETER DATA FOR CLOUDS AT OR BELOW 12,000 FEET AND ON SATELLITE DATA FOR CLOUDS ABOVE 12,000 FEET. THE NUMBER OF DAYS WITH CLEAR, PARTLY CLOUDY, AND CLOUDY CONDITIONS FOR ASOS STATIONS IS THE SUM OF THE CEILOMETER AND SATELLITE DATA FOR THE SUNRISE TO SUNSET PERIOD.</p>	<p>GENERAL CONTINUED: CLEAR INDICATES 0 - 2 OKTAS, PARTLY CLOUDY INDICATES 3 - 6 OKTAS, AND CLOUDY INDICATES 7 OR 8 OKTAS. WHEN AT LEAST ONE OF THE ELEMENTS (CEILOMETER OR SATELLITE) IS MISSING, THE DAILY CLOUDINESS IS NOT COMPUTED. WIND DIRECTION IS RECORDED IN TENS OF DEGREES (2 DIGITS) CLOCKWISE FROM TRUE NORTH. "00" INDICATES CALM. "36" INDICATES TRUE NORTH. RESULTANT WIND IS THE VECTOR AVERAGE OF THE SPEED AND DIRECTION. AVERAGE TEMPERATURE IS THE SUM OF THE MEAN DAILY MAXIMUM AND MINIMUM TEMPERATURE DIVIDED BY 2. SNOWFALL DATA COMPRISE ALL FORMS OF FROZEN PRECIPITATION, INCLUDING HAIL. A HEATING (COOLING) DEGREE DAY IS THE DIFFERENCE BETWEEN THE AVERAGE DAILY TEMPERATURE AND 65° F. DRY BULB IS THE TEMPERATURE OF THE AMBIENT AIR. DEW POINT IS THE TEMPERATURE TO WHICH THE AIR MUST BE COOLED TO ACHIEVE 100 PERCENT RELATIVE HUMIDITY. WET BULB IS THE TEMPERATURE THE AIR WOULD HAVE IF THE MOISTURE CONTENT WAS INCREASED TO 100 PERCENT RELATIVE HUMIDITY.</p> <p>ON JULY 1, 1996, THE NATIONAL WEATHER SERVICE BEGAN USING THE "METAR" OBSERVATION CODE THAT WAS ALREADY EMPLOYED BY MOST OTHER NATIONS OF THE WORLD. THE MOST NOTICEABLE DIFFERENCE IN THIS ANNUAL PUBLICATION WILL BE THE CHANGE IN UNITS FROM TENTHS TO EIGHTHS(OKTAS) FOR REPORTING THE AMOUNT OF SKY COVER.</p>
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1999
HONOLULU,
HAWAII (HNL)

Oahu, on which Honolulu is located, is the third largest of the Hawaiian Islands. The Koolau Range, at an average elevation of 2,000 feet parallels the northeastern coast. The Waianae Mountains, somewhat higher in elevation, parallel the west coast. Honolulu Airport, the business and Waikiki districts, and a number of the residential areas of Honolulu lie along the southern coastal plain.

The climate of Hawaii is unusually pleasant for the tropics. Its outstanding features are the persistence of the trade winds, the remarkable variability in rainfall over short distances, the sunniness of the leeward lowlands in contrast to the persistent cloudiness over nearby mountain crests, the equable temperature, and the general infrequency of severe storms.

The prevailing wind throughout the year is the northeasterly trade wind, although its average frequency varies from more than 90 percent during the summer to only 50 percent in January.

Heavy mountain rainfall sustains extensive irrigation of cane fields and the water supply for Honolulu. Oahu is driest along the coast west of the Waianaes where rainfall drops to about 20 inches a year. Daytime showers, usually light, often occur while the sun continues to shine, a phenomenon referred to locally as liquid sunshine.

The moderate temperature range is associated with the small seasonal variation in the energy received from the sun and the tempering effect of the surrounding ocean. Honolulu Airport has recorded as high as the lower 90s and as low as the lower 50s.

Because of the trade winds, even the warmest months are usually comfortable. But when the trades diminish or give way to southerly winds, a situation known locally as kona weather, or kona storms when stormy, the humidity may become oppressively high.

Intense rains of the October to April winter season sometimes cause serious, flash flooding. Thunderstorms are infrequent and usually mild and hail seldom occurs. Infrequently, a small tornado or a waterspout may do some damage. Only a few tropical cyclones have struck Hawaii, although others have come near enough for their outlying winds, waves, clouds, and rain to affect the Islands.

STATION LOCATION

HONOLULU, HAWAII

LOCATION	OCCUPIED FROM	OCCUPIED TO	AIRLINE DISTANCES AND DIRECTIONS FROM PREVIOUS LOCATION	LATITUDE NORTH	LONGITUDE WEST	ELEVATION ABOVE										* Type	REMARKS	
						SEA LEVEL	GROUND											AUTOMATED
							WIND	EXPOSURE	OROGRAPHIC	SURFACE	THERMOPHYSICAL	RAIN	WINDING	8 INCH	HYGROMETER			
CITY Alexander Young Building King & Bishop Streets	9/1/40	4/30/22		21° 19'	157°52'	9	120	112	111		99		99				Moved to Federal Building.	
Federal Building King & Richards Streets	5/1/22	12/31/76	700 ft. SSE	21° 19'	157°52'	12	98	87	86		67	67	67				Synoptic observations discontinued 1/1/47 due to airport station in operation. Weighing gage replaced tipping bucket gage 2/7/51, quadruple register moved to airport, tabulation of records reduced to temperature-precipitation only. Wind instruments removed 3/1/59. Data summarized and published through 1964.	
AIRPORT International Airport Terminal Bldg. (Formerly John Rogers Field)	1/27/46	10/11/62		21° 20'	157°55'	7	93	35	35		34		33				Hourly observations began 7/14/46. Tipping bucket gage and multiple register installed 2/7/51. Esterline-Angus recorder installed 8/8/57, replacing multiple register and Selsyn recorder.	
Administration Building International Airport	10/11/62	1/9/74	1 mi. NW	21° 20'	157°55'	7	25	a41	a41		40 b3			6			a - Standby equipment until 9/1/70 and after 8/18/71. Removed 1/10/74. b - Effective 1/10/74.	
Observatory Annex International Airport	1/10/74	02/01/98	0.9 mi. SW	21° 20'	157°56'	7	25	NA	4	6	3	NA	NA	6 c6	NA		Observatory Annex is located 500 feet SW of USCGS Disk marked "ARP 1956". c - Type change 6/27/85.	
Note: The hygrothermometer exposure was poor beginning about 1965 due to a progressively larger oil blackened area around the site that caused maximum temperatures to be too high to be representative for Honolulu and vicinity. The instrument was decommissioned 9/1/70 and reactivated 8/18/71, after the site had been restored to approximately natural conditions.																		
Honolulu Int'l Airport	02/01/98	Present	NA	21°20'	157°57'	16									S		ASOS Commissioned 02/01/98	

SUBSCRIPTION: Price and ordering information available through: National Climatic Data Center, Federal Building, Asheville, North Carolina 28801. **INQUIRIES/COMMENTS CALL: (704) 271-4800**

National Climatic Data Center
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Asheville NC 28801-5001

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