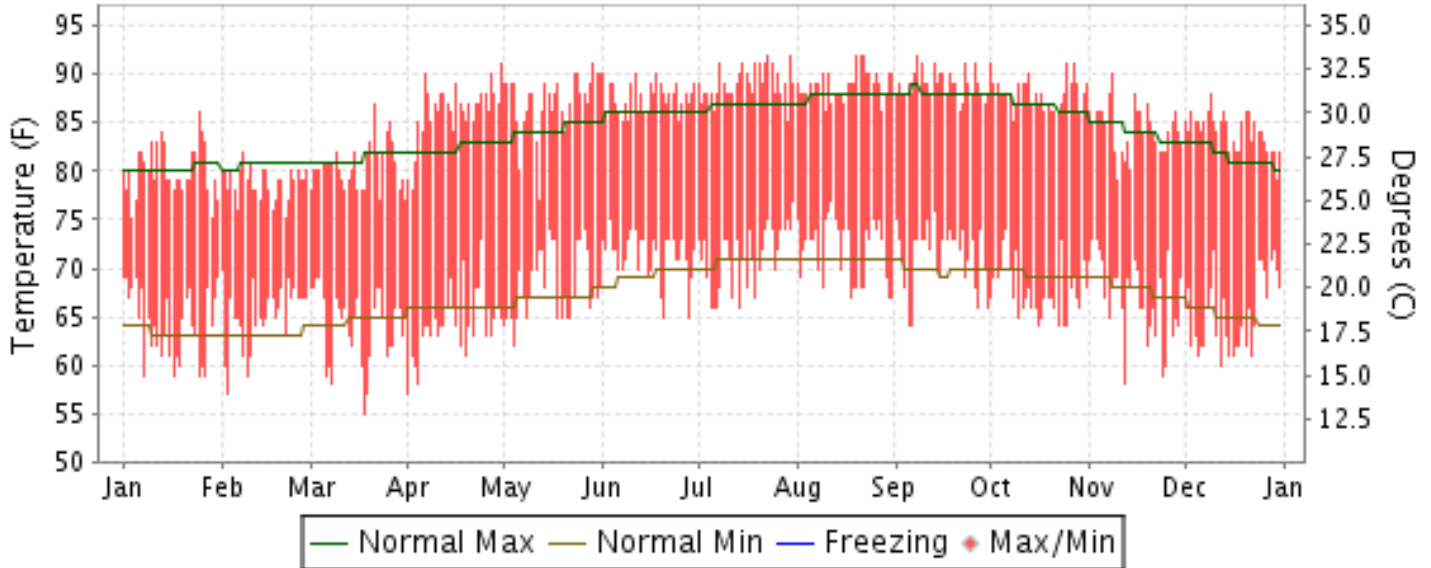


2013 LOCAL CLIMATOLOGICAL DATA ANNUAL SUMMARY WITH COMPARATIVE DATA

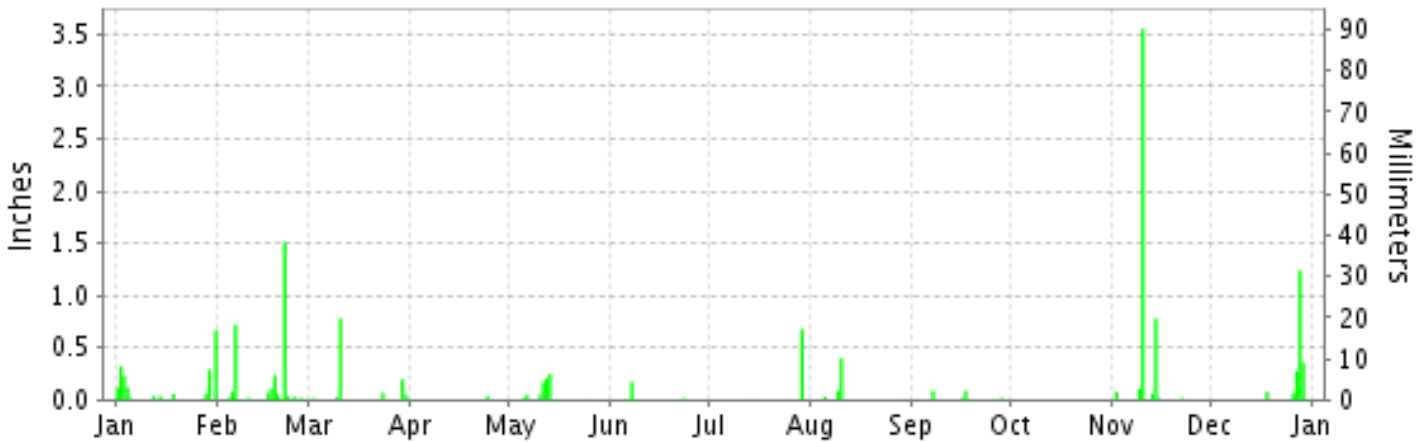
ISSN 0198-1722

KAHULUI, HAWAII (PHOG)

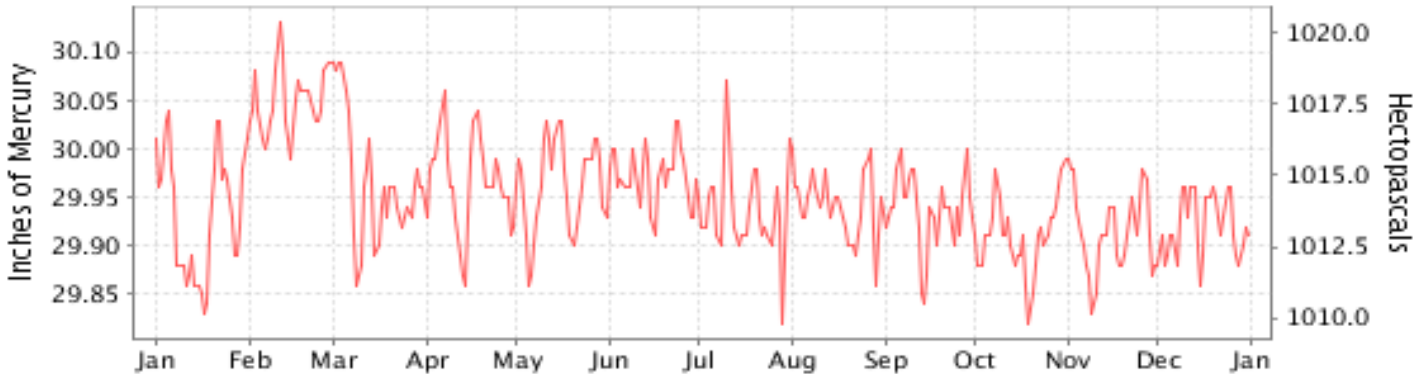
Daily Max/Min Temperature



Daily Precipitation



Daily Station Pressure



I CERTIFY THAT THIS IS AN OFFICIAL PUBLICATION OF THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION, AND IS COMPILED FROM RECORDS ON FILE AT THE NATIONAL CLIMATIC DATA CENTER.

NATIONAL
OCEANIC AND
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NATIONAL
ENVIRONMENTAL SATELLITE, DATA
AND INFORMATION SERVICE

NATIONAL
CLIMATIC DATA CENTER
ASHEVILLE, NORTH CAROLINA

Thomas R. Karl
DIRECTOR
NATIONAL CLIMATIC DATA CENTER

METEOROLOGICAL DATA FOR 2013

KAHULUI (PHOG)

LATITUDE:
20° 53'N

LONGITUDE:
156° 25'W

ELEVATION (FT):
GRND: 51 BARO: 44

TIME ZONE:
HAWAII (UTC -10)

WBAN: 22516

ELEMENT		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR	
TEMPERATURE °F	MEAN DAILY MAXIMUM	80.1	78.8	80.5	86.2	87.1	87.6	89.1	88.9	89.0	88.0	84.3	84.0	85.3	
	HIGHEST DAILY MAXIMUM	86	82	87	91	91	90	92	92	92	91	90	88	92	
	DATE OF OCCURRENCE	25	08	21	30	29	18+	30+	22+	08	27+	08	09	SEP 08	
	MEAN DAILY MINIMUM	64.3	65.1	64.0	64.3	68.3	71.3	71.2	71.9	71.3	67.7	66.9	65.4	67.6	
	LOWEST DAILY MINIMUM	59	57	55	57	62	65	66	67	64	64	58	60	55	
	DATE OF OCCURRENCE	27+	03	18	01	04	28+	14+	31+	06+	25+	12	12	MAR 18	
	AVERAGE DRY BULB	72.2	71.9	72.3	75.3	77.7	79.5	80.1	80.4	80.1	77.9	75.6	74.7	76.5	
	MEAN WET BULB	66.4	65.8	66.3	69.8	71.2	71.6	74.3	73.5	71.8	70.4	69.1	68.3	69.9	
	MEAN DEW POINT	63.0	62.0	63.1	67.1	68.3	67.9	72.0	70.3	68.1	66.7	65.7	65.1	66.6	
	NUMBER OF DAYS WITH:														
	MAXIMUM >= 90°	0	0	0	3	5	3	11	10	9	4	1	0	0	46
	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	0	0	
	COOLING DEGREE DAYS	231	202	233	317	401	442	476	485	461	405	325	308	4286	
RH	MEAN (PERCENT)	75	73	76	78	76	71	78	75	70	70	73	74	74	
	HOUR 02 LST	83	79	87	92	88	81	90	86	80	83	84	84	85	
	HOUR 08 LST	73	72	71	70	69	65	71	70	63	63	69	72	69	
	HOUR 14 LST	62	61	63	63	63	60	65	62	55	56	62	59	61	
	HOUR 20 LST	79	76	81	84	80	78	85	81	76	75	78	79	79	
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	0	0	0	0	0	0	1	0	0	0	0	0	1	
PR	MEAN STATION PRESS. (IN.)	29.93	30.05	29.97	29.97	29.96	29.97	29.94	29.94	29.94	29.91	29.92	29.92	29.95	
	MEAN SEA-LEVEL PRESS. (IN.)	30.01	30.12	30.04	30.04	30.03	30.05	30.01	30.01	30.01	29.98	29.99	29.99	30.02	
WINDS	RESULTANT SPEED (MPH)	7.9	14.4	5.3	5.0	8.3	15.6	12.0	13.6	12.4	7.2	6.6	5.9	9.5	
	RES. DIR. (TENS OF DEGS.)	05	05	05	06	05	05	05	05	05	05	05	05	06	
	MEAN SPEED (MPH)	11.0	14.8	9.5	8.9	10.8	16.1	13.3	14.2	13.1	9.2	8.5	8.1	11.5	
	PREVAIL.DIR.(TENS OF DEGS.)	04	05	05	06	05	05	06	05	05	04	05	05	05	
	MAXIMUM 2-MINUTE WIND														
	SPEED (MPH)	33	32	30	29	32	33	33	33	35	31	31	31	35	
	DIR. (TENS OF DEGS.)	07	04	20	05	04	04	04	04	04	05	05	04	04	
	DATE OF OCCURRENCE	06	04	09	25	14	13	27	31	16	05	02	10	SEP 16	
	MAXIMUM 3-SECOND WIND:														
	SPEED (MPH)	47	43	40	40	39	45	47	39	43	38	36	36	47	
DIR. (TENS OF DEGS.)	05	06	06	08	05	06	21	04	06	05	05	04	21		
DATE OF OCCURRENCE	08	18	02	18	14	02	29	31	21	05	02	10	JUL 29		
PRECIPITATION	WATER EQUIVALENT:														
	TOTAL (IN.)	1.98	2.96	1.17	0.04	0.79	0.27	0.73	0.54	0.25	T	4.64	2.04	15.41	
	GREATEST 24-HOUR (IN.)	0.67	1.52	0.78	0.04	0.28	0.18	0.68	0.49	0.11	T	3.55	1.41	3.55	
	DATE OF OCCURRENCE	31	21-22	10	24	11-12	07-08	29	09-10	16-17	22+	10	27-28	NOV 10	
	NUMBER OF DAYS WITH:														
PRECIPITATION 0.01	12	17	8	1	10	10	6	5	7	0	9	6	91		
PRECIPITATION 0.10	6	4	2	0	3	1	1	1	0	0	3	3	24		
PRECIPITATION 1.00	0	1	0	0	0	0	0	0	0	0	1	1	3		
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 KAHULUI (PHOG)

LATITUDE:
20° 53'N

LONGITUDE:
156° 25'W

ELEVATION (FT):
GRND: 51 BARO: 44

TIME ZONE:
HAWAII (UTC -10)

WBAN: 22516

	ELEMENT	POR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR	
TEMPERATURE °F	NORMAL DAILY MAXIMUM	30	80.6	80.7	81.4	82.4	84.4	86.3	87.2	88.0	88.0	86.8	84.1	81.6	84.3	
	MEAN DAILY MAXIMUM	59	80.2	79.7	81.0	82.0	84.0	85.4	86.4	87.3	87.2	86.4	83.6	81.3	83.7	
	HIGHEST DAILY MAXIMUM	49	90	89	90	91	92	94	95	97	96	96	93	90	97	
	YEAR OF OCCURRENCE		2006	2001	1984	2013	1996	1996	2010	1994	1997	1973	1990	1995	1995	AUG 1994
	MEAN OF EXTREME MAXS.	59	85.0	85.0	86.2	86.9	88.9	89.7	90.7	91.5	91.6	91.1	88.7	86.3	88.5	
	NORMAL DAILY MINIMUM	30	63.4	63.0	64.4	65.7	67.1	69.6	71.1	71.4	70.4	69.5	68.0	65.1	67.4	
	MEAN DAILY MINIMUM	59	63.6	63.1	64.5	65.7	67.1	69.0	70.5	71.1	70.0	69.3	67.6	65.3	67.2	
	LOWEST DAILY MINIMUM	49	22	50	51	54	56	58	58	61	59	58	55	52	22	
	YEAR OF OCCURRENCE		2004	2009	2005	1985	2012	1985	1965	2009	2009	1964	1985	1983	1983	JAN 2004
	MEAN OF EXTREME MINS.	59	55.8	55.5	57.2	59.2	60.7	62.8	63.7	64.7	64.0	62.5	61.3	57.6	60.4	
	NORMAL DRY BULB	30	72.0	71.8	72.9	74.0	75.8	78.0	79.1	79.7	79.2	78.2	76.0	73.3	75.8	
	MEAN DRY BULB	59	71.9	71.4	72.8	73.9	75.6	77.3	78.7	79.3	78.6	77.8	75.6	73.3	75.5	
	MEAN WET BULB	30	65.9	65.6	66.0	66.9	67.9	69.1	70.3	70.7	70.6	70.2	69.2	67.1	68.3	
	MEAN DEW POINT	30	64.2	63.6	64.2	64.5	66.0	67.1	68.4	69.0	68.5	68.3	67.3	65.3	66.4	
	NORMAL NO. DAYS WITH: MAXIMUM >= 90	30	0.0	0.0	0.0	0.0	0.4	1.0	2.5	4.3	4.5	3.6	0.6	0.1	17.0	
	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	217	192	245	272	333	388	439	456	426	408	331	259	3966	
RH	NORMAL (PERCENT)	30														
	HOUR 02 LST	30														
	HOUR 08 LST	30	82	80	77	74	71	69	70	71	70	73	76	79	74	
	HOUR 14 LST	30	62	59	59	58	56	55	56	56	55	57	60	61	58	
	HOUR 20 LST	30	77	75	74	73	71	71	72	72	72	73	75	76	73	
S	PERCENT POSSIBLE SUNSHINE	36	64	64	64	63	68	72	70	71	73	67	62	63	67	
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	55	0.6	0.3	0.3	0.3	0.2	0.0	0.1	0.1	0.1	0.2	0.3	0.3	2.8	
CLOUDINESS	MEAN: SUNRISE-SUNSET (OKTAS)	37	3.8	3.9	4.3	4.7	4.3	3.9	3.7	3.7	3.7	4.0	4.0	3.8	4.0	
	MIDNIGHT-MIDNIGHT (OKTAS)															
	MEAN NO. DAYS WITH: CLEAR	37	12.9	11.5	10.6	7.8	9.5	10.7	10.7	11.9	11.5	10.6	10.9	11.9	130.5	
	PARTLY CLOUDY	37	9.9	9.4	11.3	11.8	13.6	13.5	14.9	13.6	12.6	12.5	10.8	11.3	145.2	
	CLOUDY	37	8.2	7.4	9.1	10.5	7.9	5.8	5.3	5.5	5.8	7.9	8.3	7.8	89.5	
PR	MEAN STATION PRESSURE(IN)	30	29.93	29.95	29.83	29.98	29.97	29.96	29.94	29.93	29.91	29.91	29.93	29.94	29.93	
	MEAN SEA-LEVEL PRES. (IN)	30	30.00	30.02	30.06	30.06	30.04	30.03	30.02	30.00	29.98	29.98	29.99	30.01	30.02	
WINDS	MEAN SPEED (MPH)	30	10.8	11.4	12.6	13.4	13.1	15.6	15.5	15.1	13.2	12.1	11.7	11.0	13.0	
	PREVAIL.DIR(TENS OF DEGS)	23	05	05	05	05	05	05	05	05	05	05	05	05	05	
	MAXIMUM 2-MINUTE: SPEED (MPH)	15	48	40	41	35	37	38	38	36	37	36	41	44	48	
	DIR. (TENS OF DEGS)		20	20	04	06	06	04	06	04	04	04	22	19	20	
	YEAR OF OCCURRENCE		2004	2004	2010	2003	2012	1999	1999	2008	2006	2011	2001	2007	JAN 2004	
	MAXIMUM 3-SECOND SPEED (MPH)	15	64	47	55	44	47	49	47	45	45	43	52	58	64	
	DIR. (TENS OF DEGS)		19	20	04	08	08	05	21	09	04	07	22	02	19	
	YEAR OF OCCURRENCE		2004	2004	2010	2012	2012	2012	2013	2012	2006	2010	2001	2009	JAN 2004	
PRECIPITATION	NORMAL (IN)	30	2.87	1.89	2.45	1.55	0.74	0.20	0.50	0.50	0.38	1.20	2.20	3.35	17.83	
	MAXIMUM MONTHLY (IN)	59	14.46	8.31	10.90	14.29	4.36	2.50	1.65	1.54	1.43	5.66	9.27	10.21	14.46	
	YEAR OF OCCURRENCE		1980	1972	1967	1989	1987	1967	1989	1982	1987	1985	1965	1996	JAN 1980	
	MINIMUM MONTHLY (IN)	59	T	0.06	0.01	0.01	T	0.00	0.01	0.02	0.02	T	0.07	0.01	0.00	
	YEAR OF OCCURRENCE		2012	2000	2008	2003	1972	1957	1999	2002	2002	2013	2011	1975	JUN 1957	
	MAXIMUM IN 24 HOURS (IN)	59	7.01	4.98	5.42	4.83	2.41	2.36	1.04	1.21	1.16	4.85	5.48	5.82	7.01	
	YEAR OF OCCURRENCE		1980	1972	1967	1989	1987	1967	1989	1982	1965	1985	1965	1955	JAN 1980	
	NORMAL NO. DAYS WITH: PRECIPITATION >= 0.01	30	9.6	8.5	10.3	9.2	6.3	5.1	7.3	6.5	4.5	7.0	9.7	10.7	94.7	
	PRECIPITATION >= 1.00	30	0.7	0.4	0.6	0.3	0.1	0.0	0.0	0.0	0.0	0.2	0.6	0.7	3.6	
	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)		44	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)		39	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) 2013 KAHULUI (PHOG)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1984	2.45	0.67	1.42	1.07	0.47	0.02	0.09	0.46	0.11	T	1.16	0.64	8.56
1985	1.16	2.03	1.96	0.25	1.20	0.01	0.53	0.52	0.10	5.66	4.61	1.97	20.00
1986	1.30	1.36	3.93	3.95	1.02	0.77	0.25	0.45	0.05	0.96	1.49	2.86	18.39
1987	2.91	1.41	0.57	3.77	4.36	0.12	0.13	0.62	1.43	0.25	3.02	5.72	24.31
1988	7.72	0.93	0.89	1.37	0.17	0.02	0.21	0.46	0.23	0.84	3.76	10.19	26.79
1989	1.59	5.38	3.96	14.29	0.85	0.42	1.65	0.50	0.31	4.71	2.25	4.72	40.63
1990	6.32	7.94	2.98	0.06	1.50	0.90	0.39	0.50	0.50	0.60	6.44	7.07	35.20
1991	2.94	4.94	2.89	0.50	0.24	0.13	0.37	1.06	1.17	0.15	0.23	1.47	16.09
1992	2.40	1.02	0.34	0.90	1.58	0.30	1.09	0.16	1.32	1.47	3.55	2.85	16.98
1993	2.19	0.21	1.55	1.28	0.52	0.09	1.30	0.80	0.78	1.19	1.99	0.79	12.69
1994	1.12	1.64	4.23	0.99	0.05	0.72	1.30	0.50	1.11	0.10	1.26	0.91	13.93
1995	2.73	0.91	2.13	1.76	0.61	0.26	0.46	0.63	0.12	0.80	0.92	2.12	13.45
1996	2.47	3.02	6.75	0.50	0.46	0.18	.52	.18	.18	T	6.53	10.21	31.00
1997	9.23	1.11	3.06	1.34	0.83	0.71	1.22	0.14	0.09	0.50	3.10	1.75	23.08
1998	0.36	0.49	0.18	1.27	0.44	0.04	0.18	0.21	0.41	0.08	1.93	1.17	6.76
1999	2.01	1.70	1.48	0.34	0.51	0.09	0.01	0.31	0.03	0.41	0.22	2.55	9.66
2000	1.00	0.06	0.34	1.26	0.04	0.09	0.78	1.20	0.54	0.79	3.44	0.18	9.72
2001	0.02	0.90	0.42	0.20	0.08	0.18	0.19	0.69	0.09	1.24	3.41	3.11	10.53
2002	3.75	0.99	1.80	0.64	1.83	0.01	0.66	T	T	4.42	0.42	0.55	15.07
2003	2.40	5.33	1.70	0.01	T	0.02	0.07	0.21	0.17	0.15	1.05	2.72	13.83
2004	7.89	3.08	8.54	2.47	2.24	0.04	0.05	0.36	0.02	T	T	1.48	26.17
2005	4.91	1.99	4.24	0.30	0.21	0.05	1.23	0.62			1.76	0.14	
2006	0.74	0.69	5.34	0.27	0.75	T	0.14	0.04	0.23	4.16	3.04	3.25	18.65
2007	0.48	0.93	2.13	0.25	0.05	T	0.11	0.13	0.03	0.48	1.59	6.88	13.06
2008	1.42	1.03	0.01	0.66	0.04	0.01	0.47	0.40	0.19	0.13	0.65	4.54	9.55
2009	4.43	0.38	2.22	1.42	0.01	0.13	0.08	0.90	0.12	0.30	1.55	2.55	14.09
2010	0.99	0.62	1.40	0.77	0.03	0.05	0.06	0.06	0.20	0.40	1.25	3.61	9.44
2011	4.31	2.85	0.71	0.06	1.31	0.28	0.63	0.19	0.08	0.10	0.07		
2012	T		2.61	0.33	0.55	0.38	0.12	0.18	0.36	T	0.23	0.21	
2013	1.98	2.96	1.17	0.04	0.79	0.27	0.73	0.54	0.25	T	4.64	2.04	15.41
POR= 59 YRS	3.51	2.43	2.54	1.33	0.66	0.22	0.46	0.45	0.33	0.97	2.22	2.97	18.09

WBAN : 22516

AVERAGE TEMPERATURE (°F) 2013 KAHULUI (PHOG)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1984	73.4	73.4	75.9	77.0	78.5	80.5	80.0	79.5	79.4	80.5	79.0	74.2	77.6
1985	72.0	73.0	70.7	70.8	73.1	75.1	77.6	77.8	77.1	76.7	73.0	71.2	74.0
1986	70.4	71.4	73.7	74.3	75.9	77.1	79.4	80.6	79.4	77.5	77.1	72.9	75.8
1987	72.0	69.3	72.0	72.8	72.4	76.5	78.6	78.9	79.5	78.3	75.6	73.8	75.0
1988	71.5	72.3	73.4	74.2	76.5	77.8	78.9	79.2	78.9	77.5	76.8	73.1	75.8
1989	72.3	72.6	73.2	72.0	75.5	77.3	79.0	78.0	78.6	77.6	74.8	71.7	75.2
1990	72.7	70.8	72.0	74.6	75.5	77.9	78.4	79.6	80.3	78.4	76.5	73.0	75.8
1991	71.7	72.6	72.1	74.4	75.8	76.6	78.3	79.6	79.0	78.3	77.3	74.8	75.9
1992	71.4	71.8	72.9	74.1	76.3	78.6	79.2	80.5	80.4	78.5	76.9	75.4	76.3
1993	71.2	69.6	71.9	75.3	76.0	78.7	79.5	80.3	80.0	78.2	75.9	73.8	75.9
1994	71.1	74.0	73.0	73.6	76.2	78.2	80.0	81.2	80.7	79.0	76.5	73.5	76.4
1995	71.6	72.7	74.4	74.7	76.0	79.0	80.3	80.6	79.9	79.8	77.9	75.9	76.9
1996	75.1	72.5	72.2	77.0	78.0	80.6	81.4	80.9	80.4	80.2	77.6	73.3	77.4
1997	72.4	73.4	74.6	74.8	75.6	79.5	80.0	80.2	81.3	79.6	75.6	73.2	76.7
1998	71.7	71.9	73.3	73.8	74.4	76.3	78.0	79.1	77.9	77.2	75.9	72.0	75.1
1999	71.3	71.0	72.9	73.7	75.7	77.0	77.5	78.3	78.6	76.5	75.2	72.9	75.1
2000	70.3	71.6	73.4	73.8	75.9	77.6	78.9	79.1	77.8	78.2	75.4	72.1	75.3
2001	72.5	72.0	72.9	74.3	75.4	77.3	78.8	79.5	79.2	77.0	75.7	73.7	75.7
2002	71.9	70.8	72.2	74.2	75.7	78.0	78.4	79.7	77.9	77.5	75.0	73.1	75.4
2003	71.9	71.7	73.9	74.9	76.2	78.6	80.2	80.6	79.6	79.0	76.5	73.2	76.4
2004	71.9	73.4	72.6	73.7	76.3	78.8	79.5	81.3	80.0	79.4	76.3	73.2	76.4
2005	73.0	72.2	71.3	74.2	77.0	78.3	79.2	78.6	79.9	77.5	75.5	73.5	75.9
2006	75.0	72.6	74.8	73.8	74.3	77.9	79.1	80.1	79.5	78.4	76.1	73.6	76.3
2007	73.3	72.0	73.7	74.2	76.5	78.1	79.9	79.5	79.4	77.6	74.9	73.4	76.0
2008	68.9	68.6	71.7	74.1	76.2	77.5	78.5	79.2	78.0	77.9	74.9	73.7	74.9
2009	70.9	70.7	70.7	71.4	74.9	77.5	78.7	79.2	78.8	78.7	75.7	71.9	74.9
2010	72.2	71.0	72.9	74.6	76.8	78.4	79.0	80.3	78.6	77.3	74.9	73.7	75.8
2011	71.5	73.1	74.4	74.7	76.5	77.4	77.9	79.0	76.8	76.7	75.7	73.6	75.6
2012	72.9	72.3	72.4	74.3	75.4	77.1	78.0	78.9	78.5	77.7	74.8	73.6	75.5
2013	72.2	71.9	72.3	75.3	77.7	79.5	80.1	80.4	80.1	77.9	75.6	74.7	76.5
POR= 59 YRS	71.9	71.4	72.8	73.9	75.6	77.3	78.7	79.3	78.6	77.8	75.6	73.3	75.5

HEATING DEGREE DAYS (base 65°F) 2013 KAHULUI (PHOG)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1984-85	0	0	0	0	0	0	0	0	0	0	2	0	2
1985-86	0	0	0	0	0	0	0	0	0	0	0	0	0
1986-87	0	0	0	0	0	0	0	1	0	0	0	0	1
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	1	0	0	0	0	1
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	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
1999-00	0	0	0	0	0	0	0	0	0	0	0	0	0
2000-01	0	0	0	0	0	0	0	0	0	0	0	0	0
2001-02	0	0	0	0	0	0	0	0	0	0	0	0	0
2002-03	0	0	0	0	0	0	0	0	0	0	0	0	0
2003-04	0	0	0	0	0	0	0	0	0	0	0	0	0
2004-05	0	0	0	0	0	0	0	0	0	0	0	0	0
2005-06	0	0	0	0	0	0	0	0	0	0	0	0	0
2006-07	0	0	0	0	0	0	0	0	0	0	0	0	0
2007-08	0	0	0	0	0	0	0	0	0	0	0	0	0
2008-09	0	0	0	0	0	0	0	2	0	0	0	0	2
2009-10	0	0	0	0	0	0	0	0	0	0	0	0	0
2010-11	0	0	0	0	0	0	0	0	0	0	0	0	0
2011-12	0	0	0	0	0	0	0	0	0	0	0	0	0
2012-13	0	0	0	0	0	0	0	0	0	0	0	0	0
2013-	0	0	0	0	0	0	0	0	0	0	0	0	0

WBAN : 22516

COOLING DEGREE DAYS (base 65°F) 2013 KAHULUI (PHOG)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1984	264	250	346	367	425	472	470	456	437	486	425	295	4693
1985	223	229	182	178	260	312	397	403	371	370	250	200	3375
1986	174	187	276	287	345	373	454	490	442	392	370	249	4039
1987	226	127	224	242	237	353	430	440	440	418	326	282	3745
1988	210	218	267	285	364	390	438	444	426	395	358	261	4056
1989	234	193	260	218	331	375	440	412	414	400	301	215	3793
1990	246	169	223	294	332	394	422	458	467	425	352	252	4034
1991	211	219	228	290	341	353	421	458	427	417	375	312	4052
1992	207	205	254	282	358	413	448	489	468	427	362	331	4244
1993	199	135	222	316	347	419	454	482	456	417	334	278	4059
1994	196	259	255	267	355	400	471	507	478	439	351	269	4247
1995	213	219	296	298	347	426	482	492	453	466	393	348	4433
1996	320	226	230	368	410	473	518	499	471	479	383	264	4641
1997	239	244	306	300	336	439	468	478	496	460	324	261	4351
1998	214	200	266	269	302	347	412	442	392	385	334	223	3786
1999	199	174	252	268	341	366	398	420	412	361	310	252	3753
2000	172	197	268	273	345	388	438	444	394	412	318	227	3876
2001	239	204	252	281	327	376	434	459	430	381	327	276	3986
2002	220	168	233	286	337	397	422	465	394	393	306	258	3879
2003	219	198	283	305	353	414	477	492	446	441	353	261	4242
2004	221	250	243	267	357	419	460	509	456	453	346	263	4244
2005	253	207	203	283	378	407	448	426	453	392	325	270	4045
2006	293	217	313	271	296	391	430	474	442	423	341	274	4165
2007	262	203	277	283	362	401	472	456	437	400	302	269	4124
2008	128	111	218	280	357	380	427	447	397	408	308	278	3739
2009	191	164	185	199	313	381	430	446	421	434	326	217	3707
2010	231	172	253	294	371	409	439	480	415	388	305	275	4032
2011	207	234	302	300	361	382	409	442	363	370	329	275	3974
2012	251	222	237	288	327	372	411	439	410	400	301	274	3932
2013	231	202	233	317	401	442	476	485	461	405	325	308	4286

SNOWFALL (inches) 2013 KAHULUI (PHOG)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
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					
1998-99													
1999-00													
2000-01													
2001-02													
2002-03													
2003-04													
2004-05													
2005-													
POR= 44 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

WBAN : 22516

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. 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 CLEAR INDICATES 0 - 2 OKTAS, PARTLY CLOUDY INDICATES 3 - 6 OKTAS, AND CLOUDY INDICATES 7 OR 8 OKTAS.</p> <p>GENERAL CONTINUED: 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</p>	<p>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. 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. STATION HISTORY STOPPED WITH THE 2009 ANNUAL. IF YOU NEED STATION HISTORY INFORMATION GO TO "Historical Observing Metadata Repository", URL IS: http://www.ncdc.noaa.gov/homr/ SNOWFALL STOPPED MONTH & YEAR INDICATED ABOVE. NO FURTHER YEARS INCLUDED UNLESS RESTARTED.</p> <p>NOTE: The "Period of Record:(POR)" for all "averages" is based on "Summary of the Day First Order Station" and "Cooperative Summary of the Day" archives.</p>
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2013 KAHULUI HAWAII (PHOG)

Kahului Airport is located in the relatively broad central valley of Maui near the northern coast of the island. Five miles to the west, the mountains of west Maui rise abruptly, reaching an elevation of 5,788 feet above sea level at the crest of Puu Kukui 10 miles west of the station. To the southeast the terrain rises gradually to the summit of Haleakala at 10,023 feet, located 17 miles from the airport.

The outstanding features of the climate are the equable temperature regime, the marked seasonal variation in rainfall, the persistent surface winds from the northeast quadrant, and the rarity of severe storms.

The extremely equable temperatures at Kahului are associated with the tempering effect of the Pacific Ocean and the small seasonal variation in the amount of energy received from the sun. The range in normal temperature between the warmest month, August, and the coldest month, February, is 7.2 degrees.

Rainfall is relatively light. The contrast between the dry season, which extends from May through October, and the wet season, November through April, is quite pronounced. Major widespread rainstorms, which account for the bulk of the precipitation in the area, usually occur several times during each wet season, but are infrequent in the dry season. Approximately 50 percent of the normal annual rainfall occurs in the three months of December through February, and over 80 percent in the six months of the wet season. June is the driest month, receiving about 1 percent of the annual total. Occasionally, an entire dry season month will go by with no measurable precipitation whatever. At the other extreme, a single wet season storm sometimes contributes more than one-half the total rainfall in an individual year.

Showers constitute the greatest number of rainfall occurrences and although most of these are light and short-lived, very heavy showers do occur at times. Thunderstorms, which are reported rather infrequently, are usually associated with major storms in the wet season.

Violent, damaging, windstorms are rare, but sometimes occur in connection with major storms moving through the region.

Hurricanes, with winds of 75 mph, or more, rarely affect the Kahului area. However, tropical storms, which are similar to hurricanes, except that the wind speed is less than 75 mph, may pass close enough to produce heavy rain and strong wind at Kahului once every several years.

The large Pacific semipermanent high pressure cell, which is usually centered north of the Hawaiian Islands, is one of the important climatic controls affecting the circulation of air in the region. Over the central North Pacific, this cell produces a rather persistent flow of air from the northeast known as the Northeast Trades. Thus, surface wind at Kahului is predominantly from the northeast quadrant. The trade-wind flow is most prevalent during the dry season. Wind is more variable during the wet season although, on the average, the trades still blow more than 50 percent of the time during this period.

The normal trade winds, accentuated by the funneling effect between Haleakala and the west Maui mountains, as well as by the daytime thermally induced low pressure in the valley, often attain a speed of 40 to 45 mph at the airport, but serve to make living conditions in the nearby Kahului-Wailuku community pleasant and comfortable. Air conditioning is used in only a few business establishments and residences.

Humidity at Kahului is usually moderate to high, with wet season humidities averaging slightly higher than those in the dry season. However, due to the system of natural ventilation provided by the prevailing winds, the weather is seldom oppressive even during the warmer months of the year.

Station History

KAHULUI, HI

NAME	Begin Date	End Date	Latitude	Longitude	Elevation Feet	Relocation	Platform
KAHULUI NAS	1944-02-01	1947-05-31	20° 54'	-156° 25'			MILITARY
KAHULUI AP	1954-04-01	1964-04-01	20° 54'	-156° 25'	40		AIRWAYS, COOP
KAHULUI AP	1964-04-01	1969-01-01	20° 54'	-156° 25'	48		AIRWAYS, COOP
KAHULUI AP	1969-01-01	1998-03-01	20° 54'	-156° 25'	48		COOP, WXSVC
KAHULUI AP	1998-03-24	Present	20° 53'	-156° 25'	51		AIRWAYS, ASOS, COOP
KAHULUI AP	1998-03-01	1998-03-24	20° 54'	-156° 25'	48		AIRWAYS, ASOS, COOP
KAHULUI AP	1952-07-01	1954-04-01	20° 54'	-156° 25'	40		AIRWAYS

Element History

Element	Begin Date	End Date	Frequency	Time Of Observation	Equipment *	Equipment * Modifications	Equipment Exposure
TEMP	1962-10-01	1998-03-24	DAILY	2400			
PRECIP	1962-10-01	1998-03-24	DAILY	2400	TB	RCRD	
PRECIP	1998-03-24	Present	HOURLY	2400	TB	RCRD	
TEMP	1998-03-24	Present	DAILY	2400	HYGR		
PRECIP	1998-03-24	Present	DAILY	2400	TB	RCRD	
PRECIP	1954-04-01	1962-10-01	DAILY	2400	TB	RCRD	
TEMP	1954-04-01	1962-10-01	DAILY	2400			
PRECIP	1962-10-01	1998-03-24	HOURLY	2400	TB	RCRD	

* For explanation of codes and abbreviations see Station Metadata link below.

Other Station Information can be found at:

ASOS Implementation by NWS: <http://www.nws.noaa.gov/ops2/Surface/asosimplementation.htm>

Station Metadata website: <http://www.ncdc.noaa.gov/homr>

INQUIRES/COMMENTS CALL: (828) 271-4800, option 2

Fax Number : (828) 271-4876

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