



# National Weather Service

## Storm Data and Unusual Weather Phenomena



March 2000

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm
----------	------	----------------------------	---------------------------	--------------------------	--------------------------------	---------------------------------	---------------------------------	------------------------------	--------------------

### HAWAII

HIZ003-005>008

**Kauai Leeward - Oahu South Shore - Waianae Coast - Oahu North Shore - Oahu Koolau**

<b>01</b>	<b>0000HST</b>	<b>0</b>	<b>0</b>	<b>Drought</b>
<b>31</b>	<b>2359HST</b>			

The statewide dry pattern that started in February continued through the first half of March. A ridge of high pressure remained in place over, or just north of, the island chain resulting in light winds that allowed local land-sea breeze circulations to develop. These local circulation patterns did not produce significant interior showers due to the very stable air mass over the region.

The second half of March saw a shift to a wet pattern with the resumption of trade winds and troughing in the upper levels of the atmosphere. Moderate to fresh, and occasionally strong, trades helped bring in showers on a daily basis. The onset of rainfall also brought welcome relief to windward areas of the state that were dry since early February. Upper level troughing was deep enough to help trigger thunderstorms over the island of Hawaii on 27 March, and over south Kauai on 29 March. The thunderstorms over south Kauai brought enough rain to produce minor flooding. These rains were followed by a late-season cold front that pushed across the island chain from Kauai to Maui on 31 March. Rains associated with the front fell over some of the drought-stricken leeward areas around the state, but much more is needed to overcome substantial rainfall deficits that have been accumulating since as far back as 1997.

#### Maui County

Overall, most of Maui County remained in a drought condition, with most sites reporting well below average totals for both March and the year-to-date. The cold front was able to bring much needed rainfall to portions of Upcountry Maui on 31 March, but these areas need much more rainfall to be considered back to normal. For example, over the last 12 months, rainfall deficits at Ulupalakua Ranch have grown to the point where another 23 inches of rain would be needed to bring totals back to the average. The highest totals for March were 2.84 inches at Pukalani (86 percent of average) and 2.79 inches at Waikapu Golf Course (87 percent of average). For the Waikapu GC site, 2.75 inches of the monthly total fell on 31 March.

#### Island of Hawaii

March rainfall totals for the Big Island were within the range of 30 to 50 percent of average at 12 of 19 sites. For the windward sites, a good portion of this rain occurred on 27 March in heavy showers and thunderstorms triggered by an upper-level trough near the isle. Although the cold front failed to reach the Big Island, moist pre-frontal southeasterlies brought showers to the Puna and Kau areas, with the gage at Pahala recording 3.73 inches on 30 March. The highest Big Island total for March was 9.28 inches at the Glenwood gage, though this amount was well below the average of 20.10 inches.

The following list contains rainfall statistics for selected locations from Maui County and the island of Hawaii. The first column is the observed rainfall for March. The second column is the 30-year average for that location, while the third column lists the percent of average rainfall for the month. The fourth and fifth columns are the year-to-date total and the year-to-date percent of average, respectively.

	Mar 00	Avg.	% Avg.	YTD	YTD % Avg.
<b>Maui</b>					
Kahului	0.34	2.70	13	1.40	14
Hana	2.53	9.50	27	9.47	37
Kihei	0.05	2.10	2	0.08	1
Lahainaluna	0.14	2.40	6	0.30	3
Wailuku	0.96	3.60	27	3.29	26
Kula	0.87	2.80	31	2.06	1 8
Ulupalakua	1.43	4.00	36	2.09	15
<b>Molokai</b>					
Kaunakakai	0.48	1.80	27	1.18	15
<b>Lanai</b>					
Lanai City	1.34	3.70	36	2.33	17
<b>Island of Hawaii</b>					
Hilo Airport	5.81	13.90	42	24.20	71
Pahala	4.60	6.30	73	6.71	3 3
Honaunau	2.22	5.10	44	3.65	30
Kamuela (Upper)	2.53	6.70	38	12.88	7 1
Glenwood	9.28	20.10	46	33.37	63
Laupahoehoe	5.00	19.50	26	26.10	5 6



# National Weather Service

## Storm Data and Unusual Weather Phenomena



March 2000

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm
----------	------	----------------------------	---------------------------	--------------------------	--------------------------------	---------------------------------	---------------------------------	------------------------------	--------------------

### HAWAII

Kamakoa	0.22	1.90	12	0.29	4
Kapapala	2.04	7.00	29	4.25	20

The scarcity of rainfall for the third consecutive year has been taking a toll on farmers and ranchers, especially in those parts of Maui and the Big Island of Hawaii that were recently declared disaster areas.

Macadamia nut growers complain that the drought has shortened the growing season by two months, while ranchers are suffering from a lack of feed for their livestock. Costs have been rising for these groups as their incomes fall.

One ranch owner said that the current drought is the worst one since the ranch started keeping rainfall records in 1925. Also, with the lack of precipitation, irrigation systems are becoming more and more stressed.

### HIZ001>007

**Niihau - Kauai Windward - Kauai Leeward - Kauai Mountains - Oahu South Shore - Waianae Coast - Oahu North Shore**

01	0000HST		0	0	High Surf
02	1700HST				

A series of storm lows far west and northwest of the state generated surf of 8 to 12 feet along the north and west shores of all the islands.

### HIZ004

**Kauai Mountains**

02	2100HST		0	0	High Wind (M52)
03	0600HST				

Southeast winds sustained at 40 to 45 mph with gusts to 60 mph occurred near the summits of Mauna Kea and Mauna Loa.

### HIZ001>007

**Niihau - Kauai Windward - Kauai Leeward - Kauai Mountains - Oahu South Shore - Waianae Coast - Oahu North Shore**

14	1000HST		0	0	High Surf
17	0400HST				

An intense late-winter storm low northwest of Hawaii produced surf of 12 to 18 feet along the north shores and 8 to 12 feet along the west shores of all the islands.

### Honolulu County

2 NE Waianae

15	1400HST		0	0	Wild/Forest Fire
21	1800HST				

A brush fire charred 1500 acres in leeward Oahu over a six-day period. Over that time, the fire was contained several times, only to reignite. Dry conditions in the area were primarily responsible for allowing smoldering embers to repeatedly flare up into significant blazes over the six days. No injuries or serious property damage were reported.

The cause of the fire was not under investigation. Unless there is evidence of arson, natural causes for these types of fires are assumed, according to a fire department spokesman.

### Hawaii County

3 S Kamuela

20	1125HST		0	0	Wild/Forest Fire
	2000HST				

A brush fire burned about 850 acres in the Puukapu Farm Lots subdivision near Waimea, forcing 50 residents to flee their homes. Three small structures, all of them utility-type sheds, were destroyed. Drought conditions in the area, along with 40- to 45-mile-per-hour winds and the heat of the day, contributed to the severity of the blaze.

The fire started from someone repairing a vehicle in the area, but exactly how it began was not clear.

### HIZ007

**Oahu North Shore**

21	1500HST		0	0	High Wind (M45)
	2000HST				

A strong high pressure cell to the north of the state caused sustained winds of 40 mph with gusts to 52 mph from Waimea to Kawaihae in the leeward Kohala area of the Big Island. No injuries or damage were reported.



# National Weather Service

## Storm Data and Unusual Weather Phenomena



March 2000

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons	Estimated Damage	Character of Storm
					Killed	Injured	Property

### HAWAII

<b>HIZ007</b>	<b>Oahu North Shore</b>	21 22	2000HST 0300HST		0	0	<b>Wind</b>
	A strong area of high pressure north of the islands generated sustained winds at 29 to 35 mph, with gusts to 46 mph, in the leeward Kohala part of the Big Island, from Waimea to Kawaihae.						
<b>HIZ007</b>	<b>Oahu North Shore</b>	22 23	1130HST 0400HST		0	0	<b>Wind</b>
	Strong high north of the Hawaiian Islands caused winds of 32 to 37 mph, with gusts to 54 mph, in the leeward Kohala section of the Big Island, from Waimea to Kawaihae.						
<b>HIZ003</b>	<b>Kauai Leeward</b>	22 23	1600HST 0400HST		0	0	<b>Wind</b>
	Intense high pressure cell north of the state generated winds of 30 to 35 mph, with gusts to 45 mph, along the southern coastal section of the saddle area in Maui, from Maalaea to Kihei.						
<b>HIZ007</b>	<b>Oahu North Shore</b>	23	1241HST 1530HST		0	0	<b>Wind</b>
	Strong high pressure north of the islands produced winds of 30 mph, with gusts to 38 mph, in the leeward Kohala area of the Big Island, from Waimea to Kawaihae.						
<b>HIZ001&gt;007</b>	<b>Niihau - Kauai Windward - Kauai Leeward - Kauai Mountains - Oahu South Shore - Waianae Coast - Oahu North Shore</b>	23 27	1900HST 1700HST		0	0	<b>High Surf</b>
	An intense storm low northwest of the state generated surf of 15 to 20 feet along north shores and 8 to 12 feet along west shores of all the Hawaiian Islands.						
<b>Kauai County Hanapepe to Koloa</b>	<b>Kauai Leeward</b>	29	1615HST 1915HST		0	0	<b>Urban/Sml Stream Fld</b>
	Heavy showers that occurred over south central and southeast Kauai caused some minor flooding and ponding of roadways, but no injuries or significant damage were reported.						
<b>HIZ001&gt;006</b>	<b>Niihau - Kauai Windward - Kauai Leeward - Kauai Mountains - Oahu South Shore - Waianae Coast</b>	31	1300HST 2359HST		0	0	<b>High Surf</b>
	A storm low that rapidly developed north of Hawaii caused surf of 8 to 10 feet along the north shores of all the islands						