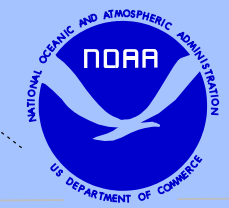


U.S. DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
National Weather Service

**MARINE WEATHER SERVICES CHART**  
HAWAIIAN WATERS AND CENTRAL PACIFIC  
NOT TO BE USED FOR NAVIGATION



**MARINE WEATHER REPORTING PROGRAM**  
The National Weather Service (NWS) has established a nationwide Mariner Report Program – MAREP – to help improve marine warnings and forecasts. Through this cooperative effort, professional mariners make radio reports of sea and wind conditions to NWS marine forecasters. If you would like to participate or learn more about this volunteer program, please call:  
NWS Honolulu 808-973-5286 ext.237

**EXPLANATION OF ADVISORIES/WARNINGS**

**SMALL CRAFT ADVISORY:** Issued to alert mariners to sustained (more than two hours) weather or sea conditions, either present or forecast, that might be hazardous to small boats. Boaters/Mariners will be able to receive the Small Craft Advisory by keeping tuned to a NOAA Weather Radio Station or the Coast Guard and commercial radio stations that transmit marine weather information. The threshold conditions for the Small Craft Advisory are usually based on 25 knots of wind or hazardous wave conditions. Decision as to the degree of hazard will be left to the boat operator, based on experience and the size and type of boat. There is no legal definition of the term "small craft".

**GALE WARNING:** Issued to indicate winds within the range of 34 to 47 knots are either present or forecast for the area.

**STORM WARNING:** Issued to indicate winds of 48 knots or above, no matter how high the speed, are either present or forecast for the area.

**SPECIAL MARINE WARNING:** Issued whenever a severe local storm or strong wind of brief duration is imminent and is not covered by existing warnings or advisories.

**TROPICAL STORM WARNING:** Issued to indicate winds within the range of 34 to 63 knots are either present or forecast in conjunction with a tropical cyclone.

**HURRICANE WARNING:** Issued to indicate winds 64 knots or more are either present or forecast for the area in conjunction with a tropical cyclone.

**TSUNAMI WARNING:** Issued by the National Weather Service Pacific Tsunami Warning Center, Ewa Beach, when one meter or higher water levels (above normal water levels) produced by seismic disturbance are forecast for the area.

**NOTE:** A "TROPICAL STORM WATCH" or "HURRICANE WATCH" is issued whenever a tropical storm or hurricane becomes a threat to a coastal area. The "WATCH" is not a warning, but indicates that the tropical cyclone is near enough that persons in the area covered by the "WATCH" should listen to their radios for subsequent advisories and be ready to take precautionary action in case tropical storm or hurricane warnings are issued.

**NATIONAL WEATHER SERVICE TELEPHONE NUMBERS**  
Oahu and vicinity recorded forecast and assistance.

NWS OFFICE	TELEPHONE	HOURS/LOCAL TIME
Honolulu, HI	808-973-5286 x237	4:00 AM - 8:00 PM Recorded forecast only at other times. Recorded forecast contains latest Oahu vicinity forecast and warnings issued.

**AUTOMATICALLY ANSWERED TELEPHONES**  
Weather, tides, sunrise, sunset, marine forecast, and also small craft advisory, gale, storm, Hurricane warning information

ISLAND	TELEPHONE	HOURS/LOCAL TIME
Hawaii	808-935-9883	24 hours
Kauai	808-245-3564	
Maui	808-877-3477	
Oahu	808-973-4382	

Coastal winds and wave observations from NOAA ocean buoys.

STATION	TELEPHONE	HOURS/LOCAL TIME
Oahu	808-973-6114	24 hours

Local island forecasts and warnings when issued:

ISLAND	TELEPHONE	HOURS/LOCAL TIME
Hawaii	808-961-5582	24 hours
Kauai	808-245-6001	
Maui	808-877-5111	
Oahu	808-973-4380/4381	

**NOAA WEATHER RADIO**

NOAA Weather Radio broadcasts on 162.40 and 162.55 MHz can usually be received up to 100 miles from the transmitting antenna site, depending on terrain and the quality of the receiver. The VHF-FM frequencies used for these broadcasts require narrow band FM receivers. The National Weather Service recommends receivers having a sensitivity of one microvolt or less and a quieting factor of 20 decibels.

Some receivers are equipped with a warning alarm device that can be turned on by means of a tone signal controlled by the National Weather Service office concerned. This signal is transmitted for 13 seconds preceding an announcement of a severe weather warning.

Included are wind observations from the Hawaiian Coastal Wind reporting sites and wind and wave observations from the NOAA ocean buoys. The broadcast also includes urgent safety announcements for mariners as provided by the U.S. Coast Guard.

**WINDS IN HAWAIIAN WATERS**

August and September in Hawaii are normally warm and dry with persistent trade winds. Over the nearby open sea, these average 13 to 16 knots, and are predominantly from the east-northeast, with directions northeast through east occurring nearly 90 percent if the time in August and about 85 percent of the time in September. However, as summer merges into fall, the trades diminish in frequency and by the end of December occur only about half the time.

The trade winds are ordinarily stronger in the afternoon and lightest in the early morning, the difference being greater in waters close inshore than in those further off.

The ragged and varied terrain of the islands exerts the most pronounced influence on the speed and direction of the wind. Around headlands, in exposed channels, and to the lee of some gorges, passes, and saddles, the trades may be much stronger and gustier than over the open ocean.

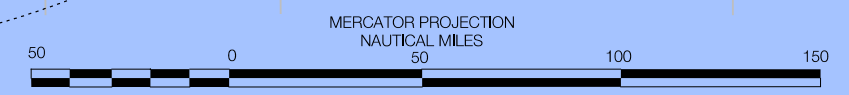
In contrast, waters for as much as 10 miles leeward of the highest mountains may be entirely sheltered from the trade winds and experience instead onshore sea breezes during the day and gentle offshore land breezes at night. This sheltering and the resulting diurnal wind cycle are particularly evident off the Kona coast of the Big Island and south of Haleakala on Maui, but to some degree exist off all lee coasts. Where mountain barriers are lower, as on Kauai, Oahu, Lanai and Molokai, the trade winds may be damped out for only a mile or two to leeward, most noticeably so if they are below their usual strength.

Although the trades are often strong and gusty enough to require small craft advisories, Hawaii's strongest winds are those associated with weather systems of the October-April half-year. Beginning usually by late fall, but more commonly in winter, galeforce winds may be brought into Hawaiian waters by Kona storms forming within the subtropics, cold fronts moving in from the northwest, and Pacific storms migrating eastward north of the islands.

From time to time, chiefly in summer and early fall, hurricanes, tropical storms, and tropical depressions either form in the central north Pacific or originate in the east north Pacific and move westward into this area. An average of 4-5 hurricanes, tropical storms, and tropical depressions occur each year in the central north Pacific.

**LEGEND**

- ⊙ NOAA WEATHER RADIO TRANSMITTER SITE
- DAYTIME WARNING DISPLAY SITE
- ▲ DAY AND NIGHT WARNING DISPLAY SITE
- ⚓ DATA BUOY
- \* COASTAL WIND REPORTING SITE
- ▨ MARINE SANCTUARY



NOAA WEATHER RADIO BROADCASTS

CITY	STATION	FREQUENCY	BROADCAST TIMES
Hawaii Kai, Oahu, HI	KBA-99	162.40 MHz	Continuously, 24 hrs a day
Kokee, Kauai, HI	KBA-99	162.40 MHz	Continuously, 24 hrs a day
Kulani Cone, Hawaii, HI	KBA-99	162.55 MHz	Continuously, 24 hrs a day
Mt. Haleakala, Maui, HI	KBA-99	162.40 MHz	Continuously, 24 hrs a day
Mt. Kaala, Oahu, HI	KBA-99	162.55 MHz	Continuously, 24 hrs a day
South Point, Hawaii, HI	KBA-99	162.55 MHz	Continuously, 24 hrs a day

These VHF-FM radio stations, locations shown on the map, are operated by the National Weather Service. This is a continuous broadcast, 24 hours a day. Broadcast recordings are updated every 1 to 6 hours and amended at any time that conditions warrant. The broadcast includes the latest coastal forecast and warnings for Hawaiian waters within 40 miles of the shorelines and inter-island channels. These products are supplemented by synopses, forecasts, and warnings for offshore waters within 240 nautical miles of the islands. Forecasts start with a statement describing any marine warnings in effect or a "No Warning" statement followed by a weather summary and forecast. Warnings are preceded by a 1050 Hz alert tone.

NOAA WEATHER RADIO BROADCAST TELEPHONE INTERCEPT

ISLAND	PHONE #
Oahu	808-973-6109
Hawaii	808-935-5055
Maui	808-871-6706
Kauai	808-245-2919

NWS PRODUCTS VIA WWW HF VOICE

The National Institute of Standards and Technology broadcasts a time and frequency service from stations WWV in Fort Collins, CO and WWVH in Kawai, Hawaii, commonly known to mariners as "Time Tick", used as an aid in celestial navigation. Included in these are hourly voice broadcasts of current highseas storm warnings for the Atlantic, Pacific, and Gulf of Mexico provided by the National Weather Service (NWS). For some further information on WWV, WWVH, and time signals worldwide, see NGA Publication 117 "Radio Navigational Aids".

WWVH (Hawaii)  
 FREQUENCIES : 2.5, 5, 10, 15 MHz (AM)  
 48 - 51 minutes past the hour Pacific highseas warnings

DIAL - A - BUOY

Dial-A-Buoy gives mariners an easy way to obtain reports via a cell-phone. Dial-A-Buoy provides wind and wave measurements taken within the last hour at National Data Buoy Center (NDBC) buoy and Coastal-Marine Automated Network (C-MAN) stations. The stations operated by NDBC, part of the National Weather Service, are located in the Atlantic, Pacific, Gulf of Mexico, and the Great Lakes. The Dial-A-Buoy service has since expanded to include stations owned and operated by other organizations including the United Kingdom Met Office and Environment Canada. To access Dial-A-Buoy, dial (228) 688-1948 using any touch-tone or cell-phone. For internet users, more information is at: <http://seaboard.ndbc.noaa.gov/dial.shtml>

BUOY AND C-MAN DATA AVAILABLE VIA E-MAIL (FTPMAIL)

Current buoy and C-MAN data is now available in a very compact form via http:, ftp:, or e-mail (FTPMAIL).

Via http:  
[http://www.ndbc.noaa.gov/data/latest\\_obs/](http://www.ndbc.noaa.gov/data/latest_obs/)

Via ftp:  
[ftp://www.ndbc.noaa.gov/data/latest\\_obs/](ftp://www.ndbc.noaa.gov/data/latest_obs/)

Via e-mail (FTPMAIL)  
<http://weather.noaa.gov/pub/fax/buoydata.txt> (instructions)

Send an e-mail to: [ftpmail@weather.noaa.gov](mailto:ftpmail@weather.noaa.gov)  
 Subject Line: Put anything you like  
 Body: open [www.ndbc.noaa.gov](http://www.ndbc.noaa.gov)  
 cd data  
 cd latest\_obs  
 get 42007.txt  
 get gdl1.txt  
 quit

WEATHER RULES FOR SAFE BOATING

Before setting out:  
 Obtain the latest available weather forecast for the boating area. The NOAA Weather Radio continuous broadcasts (VHF-FM) are the best way to keep informed of the expected weather and sea conditions. If you hear on the radio that warnings are in effect, don't venture out on the water unless you are confident your boat can be navigated safely under forecast conditions of wind and sea.

- While afloat:
- Keep a weather eye out for: the approach of dark, threatening clouds, which may foretell a squall or thunderstorm; any steady increase in wind or sea; any increase in wind velocity opposite in direction to a strong tidal current. A dangerous rip tide condition may form steep waves capable of broaching a boat.
  - Check radio weather broadcasts for latest forecasts and warnings.
  - Heavy static on your AM radio may be an indication of nearby thunderstorm activity.
  - If a thunderstorm catches you while afloat, you should remember that not only gusty winds but also lightning poses a threat to safety.
    - stay below deck if possible.
    - keep away from metal objects that are not grounded to the boat's protection system.
    - don't touch more than one grounded object at the same time (or you may become a shortcut for electrical surges passing through the protection system).
    - put on a life jacket and prepare for rough sea conditions.

NWS MARINE PRODUCTS VIA RADIOFAX

For National Weather Service (NWS) marine radiofax products, detailed schedules, and worldwide marine radiofax broadcast schedules please check out:  
<http://www.nws.noaa.gov/om/marine/radiofax.htm>

HIGH SEAS RADIOTELEPHONE WEATHER BROADCASTS

CITY	STATION	CARRIER FREQUENCY (kHz)	BROADCAST TIMES (UTC)
Point Reyes, CA	NMC (USCG)	4426.0	0430, 1030
		8764.0	0430, 1030, 1630, 2230
		13089.0	0430, 1030, 1630, 2230
		17314.0	1630, 2230
Honolulu, HI	NMO (USCG)	6501.0	0600, 1200
		8764.0	0005, 0600, 1200, 1800
		13089.0	0005, 1800
Guam	NRV	6501.0	0930, 1530
		13089.0	0330, 2130

HIGH SEAS RADIOTELEX (SITOR) WEATHER BROADCASTS

CITY	STATION	FREQUENCY (kHz)	BROADCAST TIMES UTC
Point Reyes, CA	NMC (USCG)	8416.5	0005, 1800
		16806.5	0005, 1800
		518	0000, 0400, 0800
		NAVTEX(C)	1200, 1600, 2000
Honolulu, HI	NMO (USCG)	8416.5	0130, 0730, 1330, 2030
		12579.0	0130, 0730, 1330, 2030
		22376.0	0130, 2030
		518	0040, 0440, 0840
Guam	NRV (USCG)	12579.0	0500, 1500, 1900, 2315
		16086.5	0500, 1500, 1900, 2315
		22376.0	0500, 1500, 1900, 2315
		518	0100, 0500, 0900
Cambria, CA	NMC (USCG)	518	1300, 1700, 2100
		NAVTEX(Q)	0045, 0445, 0845
			1245, 1645, 2045

OTHER MARINE WEATHER SERVICES CHARTS AVAILABLE

- |  |  |
|--|--|
| MSC-1 Eastport, ME to Montauk Point, NY      | MSC-9 Point Conception, CA to Point St. George, CA |
| MSC-2 Montauk Point, NY to Manasquan, NJ     | MSC-10 Point St. George, CA to Canadian Border     |
| MSC-3 Manasquan, NJ to Cape Hatteras, NC     | MSC-11/12 Great Lakes                              |
| MSC-4 Cape Hatteras, NC to Savannah, GA      | MSC-13 Hawaiian Waters                             |
| MSC-5 Savannah, GA to Apalachicola, FL       | MSC-14 Puerto Rico and Virgin Islands              |
| MSC-6 Apalachicola, FL to Morgan City, LA    | MSC-15 Alaskan Waters                              |
| MSC-7 Morgan City, LA to Brownsville, TX     | MSC-16 Guam and the Northern Mariana Islands       |
| MSC-8 Mexican Border to Point Conception, CA |  |

Copies of these charts are available for \$1.25 each from:  
 FAA/ National Aeronautical Charting Office  
 Distribution Division, AVN-530  
 6303 Ivy Lane, Suite 400  
 Greenbelt, MD 20770  
 Telephone: (301) 436-8301  
 (800) 638-8972 toll free, U.S. only  
 (301) 436-6829 FAX

E-mail: [AMC-chartsales@faa.gov](mailto:AMC-chartsales@faa.gov)  
<http://chartmaker.ncd.noaa.gov>  
 or your local chartagent:  
<http://chartmaker.ncd.noaa.gov/nsd/states.html>

Marine Service Charts can be viewed at: <http://www.nws.noaa.gov/om/marine/pub.htm>  
 For nautical charts on the web for navigation purposes go to: <http://www.oceanservice.noaa.gov/pubs/welcome.html>  
 These nautical charts are also available from local marinas and marine supply stores.

INTERNET ADDRESSES

- National Weather Service Home Page  
<http://www.nws.noaa.gov>
- National Weather Service Pacific Region Headquarters  
<http://www.prh.noaa.gov/pr/hq/>
- National Weather Service Honolulu HI  
 Website: <http://www.prh.noaa.gov/hnl>  
 Marine Products: <http://www.prh.noaa.gov/hnl/pages/marine.php>
- National Data Buoy Center  
<http://seaboard.ndbc.noaa.gov/>
- U.S. Coast Guard Navigation Center  
<http://www.navcen.uscg.gov/marcomms>
- National Weather Service Products and Dissemination  
<http://www.nws.noaa.gov/om/marine/home.htm>

NATIONAL WEATHER SERVICE RADIOFAX AND TEXT FORECASTS AVAILABLE VIA E-MAIL (FTPMAIL)

National Weather Service radiofax charts and text forecasts are available via E-mail. The FTPMAIL server is intended to allow Internet access for mariners and other users who do not have direct access to the World Wide Web but who are equipped with an e-mail system. Turnaround is generally in under 1 hour, however, performance may vary widely and receipt cannot be guaranteed. To get started in using the NWS FTPMAIL service, follow these simple directions to the FTPMAIL "help" file (11 bytes).

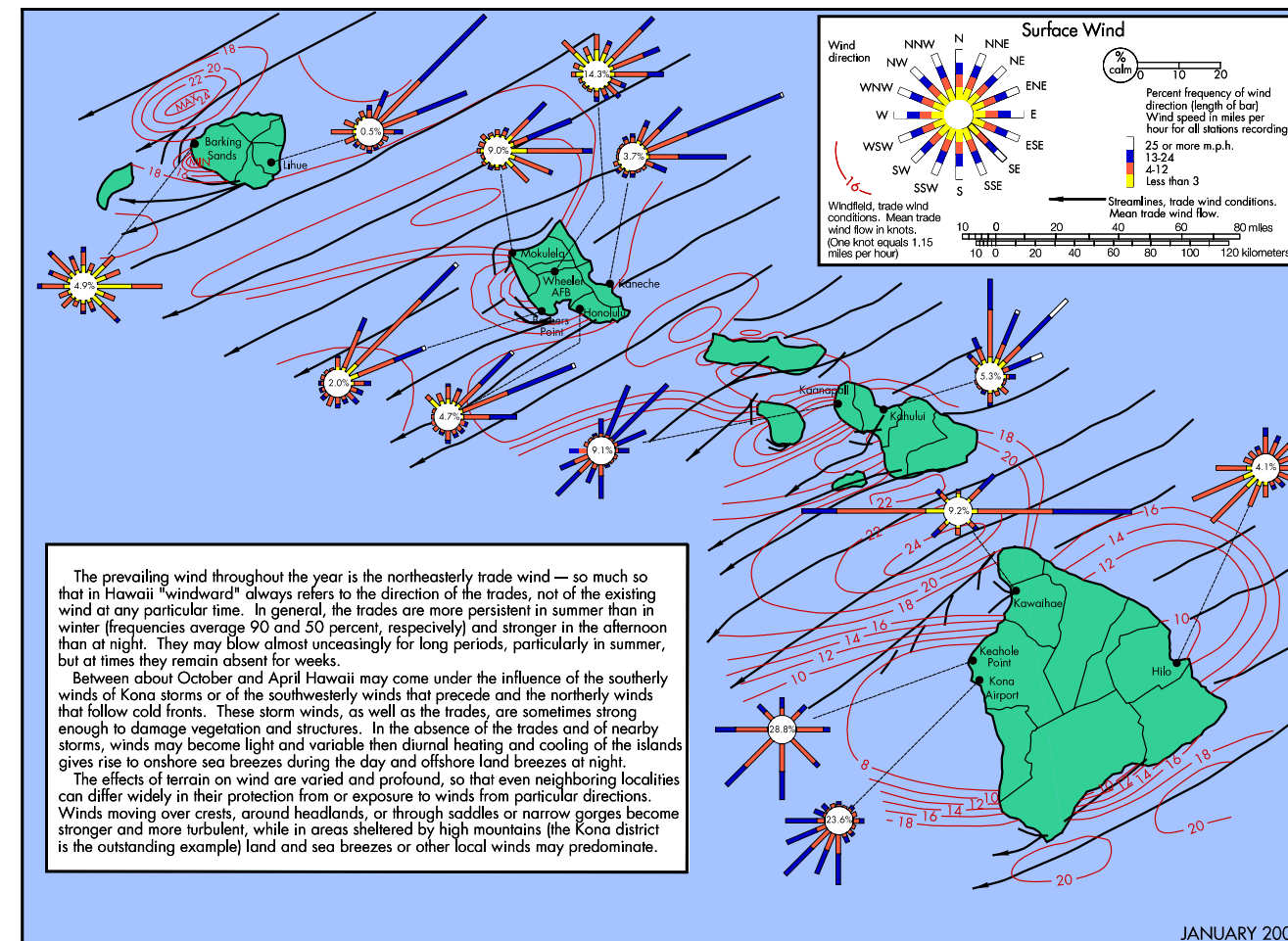
Address: [ftpmail@weather.noaa.gov](mailto:ftpmail@weather.noaa.gov)  
 Subject: (not required)  
 Body: help

Direct any questions to 301-713-1677, extension 128,  
 or 301-713-0882, extension 122.

BROADCASTS OF MARINE WEATHER FORECASTS AND WARNINGS BY MARINE RADIOTELEPHONE STATIONS

CITY	STATION	FREQUENCY, kHz/MHz	BROADCAST TIMES UTC
Honolulu, HI	NMO	~ CH 22A	0500, 1700
		#* 2670 kHz	0545, 1145, 1745, 2345

\* Preceded by announcement on 2182 kHz  
 ~ Preceded by announcement on ch. 16.  
 # Single Sideband, suppressed carrier, carrier frequency.



The prevailing wind throughout the year is the northeasterly trade wind — so much so that in Hawaii "windward" always refers to the direction of the trades, not of the existing wind at any particular time. In general, the trades are more persistent in summer than in winter (frequencies average 90 and 50 percent, respectively) and stronger in the afternoon than at night. They may blow almost unceasingly for long periods, particularly in summer, but at times they remain absent for weeks.

Between about October and April Hawaii may come under the influence of the southerly winds of Kona storms or of the southwesterly winds that precede and the northerly winds that follow cold fronts. These storm winds, as well as the trades, are sometimes strong enough to damage vegetation and structures. In the absence of the trades and of nearby storms, winds may become light and variable then diurnal heating and cooling of the islands gives rise to onshore sea breezes during the day and offshore land breezes at night.

The effects of terrain on wind are varied and profound, so that even neighboring localities can differ widely in their protection from or exposure to winds from particular directions. Winds moving over crests, around headlands, or through saddles or narrow gorges become stronger and more turbulent, while in areas sheltered by high mountains (the Kona district is the outstanding example) land and sea breezes or other local winds may predominate.

JANUARY 2004