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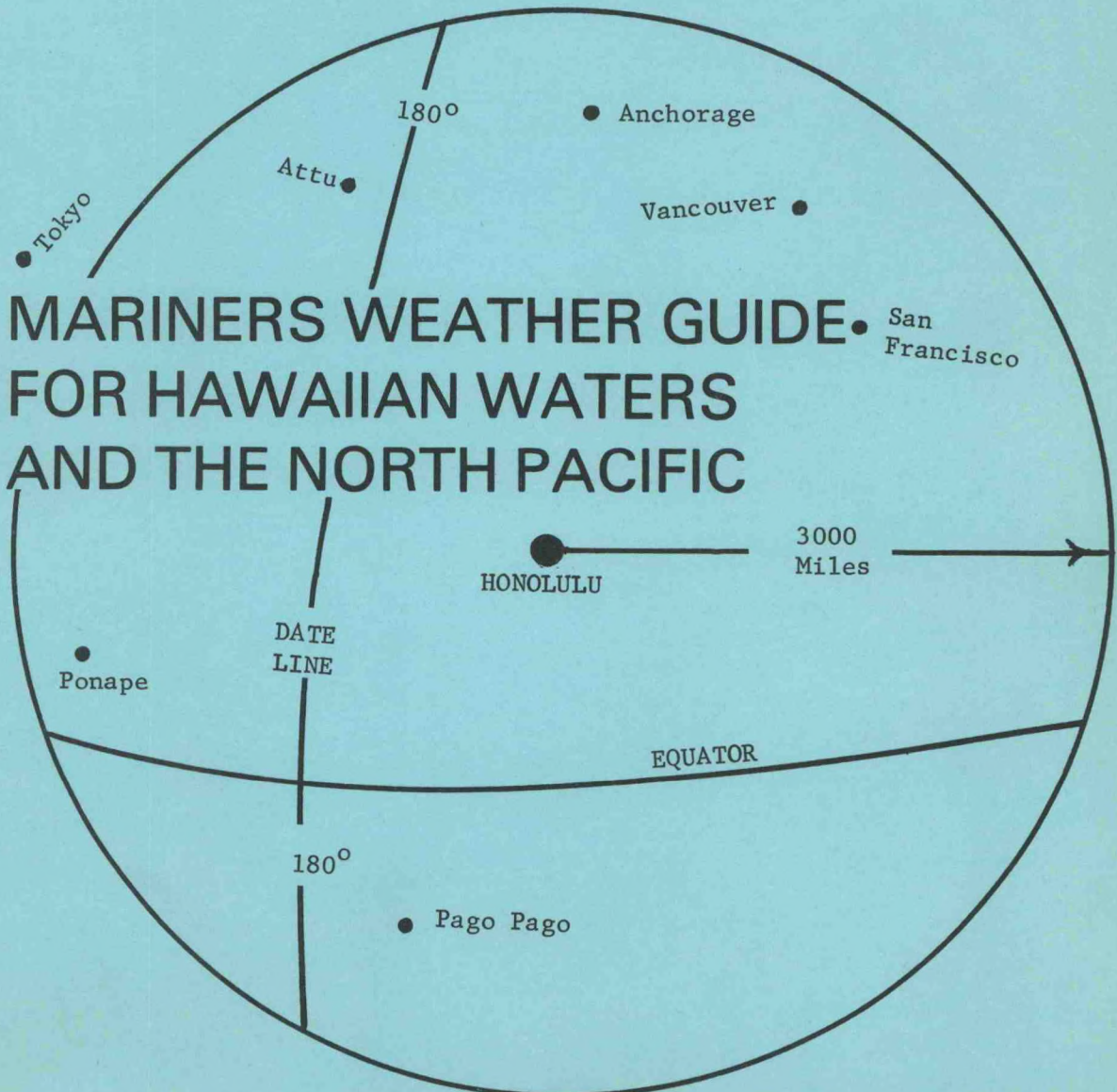
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U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL WEATHER SERVICE



NW 601



MARINERS WEATHER GUIDE FOR HAWAIIAN WATERS AND THE NORTH PACIFIC

PACIFIC REGION
HONOLULU,
HAWAII

HIGH FREQUENCY RADIO COVERAGE FROM HONOLULU

JUNE 1972

This is one of a series of pamphlets prepared by the NOAA National Weather Service, Honolulu, Hawaii, to describe the types of weather information services that are available in the Pacific Region. This pamphlet describes warnings and forecasts prepared to help both commercial shipping and pleasure boatmen operate more safely and efficiently in the Hawaiian coastal waters and on the high seas in the North Pacific.

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MW 6001

FOREWORD

Whether you are the master of a large cargo ship or a sampan, a crew member on a yacht or the Sunday afternoon "captain" of an El Toro, the weather can be important to your operation. National Weather Service forecasters would like to help you learn more about how and where to get the latest storm warning or marine weather forecast.

While ashore, weather forecasts can be obtained from a variety of commercial radio and television broadcasts. In some cities the latest forecasts for coastal waters can be obtained anytime, day or night, by dialing a marine weather telephone number; in Honolulu, for example, recorded forecasts for Hawaiian coastal waters can be obtained by calling 841-0428.

Once under way though, weather broadcasts, particularly those on marine radio frequencies, are the most reliable sources of timely warning and forecast information. Every safety-conscious mariner should be familiar with the scheduled broadcasts of marine weather information made by the National Weather Service, the Hawaiian Telephone Company, RCA Global Communications, the U. S. Coast Guard, and the National Bureau of Standards.

The purpose of this pamphlet is to provide the sailor--whether a professional or a weekend amateur--with a guide to weather broadcasts for the Hawaiian waters and the high seas of the North Pacific. We hope that the broadcast schedules and other information included here will be helpful to all mariners.

VOICE BROADCASTS OF MARINE WEATHER FORECASTS AND WARNINGS

The National Weather Service Forecast Office (WSFO) in Honolulu issues marine weather forecasts at several scheduled times daily and may issue marine storm warnings (gale, storm, or hurricane) or small craft warnings at any time that conditions warrant. Criteria for the various types of warnings are described on page 6 of this brochure.

Warnings and forecasts for mariners are broadcast at various times and on several frequencies, as described below, by the following stations:

U. S. Coast Guard, NMO	National Weather Service, KBA-99
Hawaiian Telephone Co., KBP	National Bureau of Standards, WWVH
RCA Global Communications, KQM	Federal Aviation Administration, KVM-70

1. Forecasts for Hawaiian Waters (The interisland channels and the open ocean out to about 20 miles from shore; approximate areas are shown on the map on the back cover of this brochure).

These forecasts start with a statement describing any marine warnings in effect or a "No Warning" statement. Forecasts of wind, sea, and weather conditions expected during the next 18 to 24 hours and the outlook for the daylight hours of "tomorrow" are also included. They are issued every three hours and are disseminated as Part I of weather broadcasts (voice) on the following radio stations:

<u>Station</u>	<u>Frequency</u>	<u>Times (HST)</u>
KBP	2530 kHz	Midnight; 6:00 a.m.; Noon; 6:00 p.m.
NMO	2670 kHz	2:00; 5:00; 8:00; 11:00 a.m. and same times p.m.
KBA-99	162.55 MHz Oahu and Hilo*	The marine forecasts repeat every few minutes as they are continuously cycled
KBA-99	162.40 MHz Kauai# and Maui*	along with other types of forecasts for Hawaii.

Forecasts for the Hawaiian Waters are also available as a recorded telephone service in Hawaii--see inside of back cover.

*Target date for the installation of the Hilo transmitter on 162.55 MHz is August 1972. The Maui repeat broadcasts will be on 169.075 MHz until that time when they will change to 162.40 MHz.

#The Kauai broadcasts (repeats of the Oahu broadcasts) on 162.40 MHz are expected to become operational by July 1972.

2. Forecasts for Waters Within 1000 Miles of Honolulu.

These include a statement describing any warnings in effect for this high-seas area or a "No Warning" statement, a brief weather situation discussion, and 24-hour forecasts of wind and sea conditions for the high seas within 1000 miles of Honolulu. They are disseminated as Part II of the weather broadcasts by Radio KBP, NMO, and KBA-99 described under Forecasts for Hawaiian Waters on the opposite page.

A sample forecast for the Hawaiian Waters and High Seas Within 1000 Miles of Honolulu (Parts I and II) is shown on page 8 of this brochure.

NMO, U. S. COAST GUARD RADIO HONOLULU, BROADCASTS IMMEDIATELY ON 2670 kHz ANY WARNINGS THAT MAY BE ISSUED BETWEEN SCHEDULED BROADCASTS. THESE SPECIAL WARNING BROADCASTS ON 2670 kHz ARE PRECEDED BY ANNOUNCEMENTS ON 2182 kHz AND 156.8 MHz. THE WARNINGS ARE BROADCAST CONTINUOUSLY FROM TIME OF ISSUANCE ON KBA-99, 162.55 MHz AND 162.40 MHz.

* * * * *

3. Storm Information Service for North Pacific.

Brief (42-second) broadcasts on WWVH give information about storms in the North Pacific. These broadcasts are made from the National Bureau of Standards (NBS) radio station WWVH, Kauai, at 49 and 51 minutes past each hour.

The eastern North Pacific from the equator to Alaska is covered at 49 minutes past every hour. Storms in the North Pacific west of the 180th meridian are covered at 51 minutes past every hour. Primary emphasis is given to location, intensity and movement of typhoons, hurricanes, tropical storms, other storms and gales. Additional weather information is included as time permits. All information broadcast is provided by the NWS Forecast Office in Honolulu.

The storm and other weather information is superimposed on the time signals broadcast by WWVH simultaneously on five frequencies: 2.5, 5, 10, 15, and 20 MHz.

These brief messages are intended to alert mariners to storm threats near their position or course. Mariners needing more detailed information about the weather can get this from other weather broadcasts. A sample of a typical WWVH storm information broadcast appears on page 8.

4. Forecasts for Central and North Pacific High-Seas Areas.

Forecasts are for the 24-hour periods beginning at 7:00 p.m. and 10:00 a.m. HST (0500 and 2000 GMT) and cover the area between longitudes 140°W and 160°E, and from the equator to 50°N latitude. Broadcasts first describe any storm or gale warnings in effect, followed by the marine forecasts and a weather summary.

Voice broadcasts of these warnings and forecasts include:

		<u>GMT</u>	<u>HST</u>
KQM	17272.5 kHz	2025	10:25 a.m. (except Sunday).
KQM	8751.2 kHz	0525	7:25 p.m. (except Sunday).

* * * * *

RADIOTELEGRAPH (CW) BROADCASTS OF FORECASTS AND WARNINGS

In addition to voice broadcasts, marine weather forecasts and warnings are also available in regularly scheduled radiotelegraph (CW) broadcasts.

1. Hawaiian Waters and High Seas Within 1000 Miles of Honolulu.

NMO (CW)	440 kHz	2000 GMT	10:00 a.m. HST
(USCG)		0500 GMT	7:00 p.m. HST

2. Forecasts for the Central and North Pacific Areas Described in 4, Above.

KHK (CW)	484 kHz	2030 GMT	10:30 a.m. HST (daily).
	16978.4 kHz		Warnings on receipt and
	13029 kHz		30 minutes after even
(RCA)	8542 kHz		hours.*
KHK (CW)	484 kHz	0530 GMT	7:30 p.m. HST (except
	8542 kHz		Sunday). Warnings on
	13029 kHz		receipt and 30 minutes
	16978.4 kHz		after even hours.*

*KHK hours of operation are 6:00 a.m. to 10:00 p.m. except 8:00 a.m. to 4:00 p.m. on Sundays, HST.

RADIOFACSIMILE BROADCASTS OF WEATHER MAPS FOR MARINERS

Ships equipped with facsimile recording equipment may receive weather maps for the central and western North Pacific from the National Weather Service Forecast Office, Honolulu, Hawaii.

The area covered extends from the equator to 50°N from 140°W to 132°E. Maps showing current conditions over this area are broadcast every six hours. Maps showing wind and sea conditions forecast to occur about 23 hours from broadcast time are available twice daily; a longer-range map for planning use is broadcast once daily. Schedules are shown below.

Broadcasts are from FAA Radio Honolulu, KVM-70, on two frequencies simultaneously. The two frequencies judged best under prevailing propagation conditions are selected.

23,331.5 kHz	16,135.0 kHz	13,627.5 kHz	11,090.0 kHz
9,982.5 kHz	7,770.0 kHz	5,037.5 kHz	

KVM-70 also broadcasts facsimile maps for aviation uses; some of these might be of interest to mariners. Hours of facsimile broadcasts are:

2310-0112 GMT	0700-0845 GMT	1130-1335 GMT	1910-2045 GMT.
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A complete schedule may be obtained from Pacific Region Headquarters of the NWS by calling Honolulu 546-5688 or by writing to P. O. Box 3650, Honolulu, HI 96811. Charts of primary interest to mariners are broadcast as follows:

0037 and 1315 GMT	Pacific Weather Map for Mariners, 1800/0600 GMT
0047 and 1325 GMT	Forecast Weather Map for 0000 and 1200 GMT (next day)
0718 and 1918 GMT	Pacific Weather Map for Mariners, 0000/1200 GMT
0708 only	Weather Map for Planning -- depicts conditions expected around 1200 GMT, two days later.

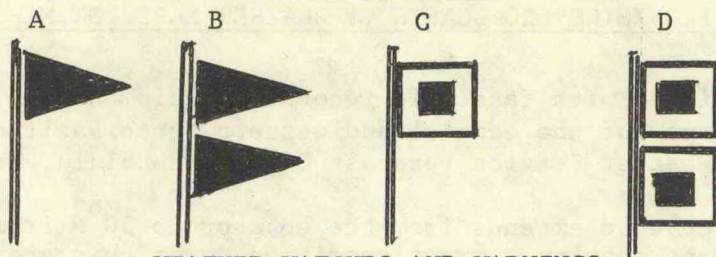
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Warnings and forecasts for the eastern and central North Pacific are also broadcast--VOICE and CW--from radio stations in Alaska and the west coasts of Canada and the U. S. Warnings and forecasts for the western North Pacific are available in CW broadcasts from stations in Guam, Japan, and the Philippines.

Details on these and other broadcasts throughout the world may be obtained from the NOAA publication, Weather Service for Merchant Shipping.

SMALL CRAFT, GALE, STORM, AND HURRICANE WARNINGS

Daytime Signals



WEATHER WATCHES AND WARNINGS

- A. SMALL CRAFT WARNING: One RED pennant displayed by day and a RED light ABOVE a WHITE light at night to indicate that wind or sea conditions, or both, considered hazardous to small craft operations are occurring or are forecast to occur in coastal waters. Winds may range as high as 33 knots.

IMPORTANT: The SMALL CRAFT WARNING covers a wide range of wind speeds and/or sea conditions. Also, "small craft" include boats of many designs and sizes. Therefore, boaters should regard the SMALL CRAFT WARNING display signal as an alert that wind and/or sea conditions potentially dangerous to their boats exist or are forecast. (When "normal" trade winds prevail in the Kalohi, Pailolo and Alenuihaha Channels, wind speeds are frequently above the lower limits for Small Craft Warnings; consequently, SMALL CRAFT WARNINGS will be issued for these channels only if conditions are near the lower limits for Gale Warnings, 30-35 knots.)

- B. GALE WARNING: Two RED pennants displayed by day and a WHITE light ABOVE a RED light at night to indicate that winds within the range 34 to 47 knots are forecast for the area.
- C. STORM WARNING: A single square RED flag with a BLACK center displayed during daytime and two RED lights at night to indicate that winds 48 knots and above, no matter how high the speed, are forecast for the area. However, if the winds are associated with a tropical cyclone (hurricane), the STORM WARNING display indicates that winds within the range 48 to 63 knots are forecast.
- D. HURRICANE WARNING: Displayed only in connection with a tropical cyclone (hurricane). Two square RED flags with BLACK centers displayed by day and a WHITE light between two RED lights at night to indicate that winds 64 knots and above are forecast for the area.

WATCH: A "WATCH" is an announcement issued by the National Weather Service whenever a storm or hurricane threatens an area. The "Watch" announcement is not a warning; therefore, flags are not displayed. The purpose is to alert everyone in the area covered by the "Watch" to the need to listen to their radios for additional information and possible warnings.

COASTAL WARNING DISPLAY STATIONS

STATE OF HAWAII

	<u>Latitude</u>	<u>Longitude</u>	<u>Type Display</u>
HAWAII - KONA COAST			
Kailua-Kona (Kona Pier)	19°38.6' N	156°00.0' W	D
Mahukona	20°11.3'	155°54.3'	D
MAUI COUNTY			
Hana, Maui	20°45.6' N	155°59.1' W	D
Kahului Harbor, Maui	20°53.9'	156°28.3'	D
Kaumalapau Harbor, Lanai	20°47.3'	156°59.5'	D
*Kaunakakai, Molokai	21°05.0'	157°01.9'	D
Lahaina, Maui	20°52.5'	156°40.9'	D
Maalaea Harbor, Maui	20°47.7'	156°30.8'	D
OAHU			
Ala Wai Yacht Harbor, Honolulu	21°17.4' N	157°50.6' W	D
Aloha Tower, Honolulu	21°18.6'	157°52.1'	D
Heeia, Kaneohe Bay	21°26.8'	157°48.7'	D
Kaneohe MCAS, Mokapu Peninsula	21°26.5'	157°46.0'	D
Kaneohe Yacht Club	21°25.1'	157°46.3'	D
Keehi Marina, Honolulu	21°19.2'	157°53.6'	D&N
Kewalo Basin, Honolulu	21°17.7'	157°51.4'	D

WESTERN PACIFIC

CAROLINE ISLANDS

Koror 07°19.9' N 134°27.8' E D
(Small craft warnings only)

MARSHALL ISLANDS

Kwajalein, Marshall Islands 08°44.0' N 167°44.3' E D

D - Day Displays

D&N - Day and Night Displays

*Flagpole to be installed by December 1972.

SAMPLE MARINE FORECASTS

1. For Hawaiian Waters and the High Seas out to 1000 Miles from Honolulu, as broadcast by KBA-99, KBP, and NMO.

NATIONAL WEATHER SERVICE 8 AM MARINE FORECASTS FOR TODAY AND TONIGHT

PART ONE ... FORECASTS FOR HAWAIIAN WATERS

SMALL CRAFT WARNINGS ARE IN EFFECT FOR ALL HAWAIIAN WATERS EXPOSED TO GUSTY NORTHERLY WINDS.

WINDS OVER HAWAIIAN WATERS WILL BE NORTHERLY 15 TO 25 KNOTS WITH GUSTS TO 30 KNOTS. SEAS WILL AVERAGE SIX FEET. SWELLS OVER THE OPEN WATER. ...

CHANNEL WINDS

KAUAI AND MOLOKAI .. NORTH 15 TO 25 WITH GUSTS TO 30 KNOTS.
KALOHI . . . etc.

OUTLOOK FOR MONDAY CONTINUED GUSTY WINDS BECOMING NORTHEASTERLY

PART TWO ... FORECASTS FOR THE HIGH SEAS WITHIN 1000 MILES OF HONOLULU

THERE ARE NO WARNINGS FOR THE HIGH SEAS AROUND HAWAII.

A HIGH PRESSURE CENTER 1000 MILES NORTHWEST OF HONOLULU WILL MOVE EAST AT 25 KNOTS. WITHIN 300 MILES OF THE CENTER WINDS WILL BE 10 KNOTS SEAS TWO FEET AND WEATHER FAIR.

A FRONTAL SYSTEM . . . EAST OF THE FRONT WINDS WILL BE SOUTHWEST . . .

NORTH OF 30 NORTH WINDS WILL BE NORTHWEST 20 TO 30 KNOTS.

SOUTH OF 15 NORTH . . . etc.

2. Storm Information Service for the High Seas as broadcast by WWVH.

WEATHER WARNINGS NORTH PACIFIC
1200 ZULU TUESDAY.

GALE 51 NORTH 158 WEST NEARLY STATIONARY
WINDS 35 KNOTS SEAS TO 15 FEET OUTWARD 600 MILES
SOUTH SEMICIRCLE 300 MILES NORTH SEMICIRCLE.

PATCHY DENSE FOG OBSERVED NORTH AND EAST OF . . . etc.

MORE TO FOLLOW IN 75 SECONDS. (At 51 minutes past the hour)

GALE 41 NORTH 148 EAST MOVING NORTHEAST 25, WINDS 40
KNOTS SEAS 15 FEET OUTWARD 400 MILES SOUTH QUADRANT.

CONDENSED GUIDE TO MARINE WEATHER VOICE BROADCASTS

<u>Time (HST)</u>	<u>Station</u>	<u>Frequency</u>
Continuous	KBA-99 NOAA	162.55 MHz (Oahu and Hilo)* 162.40 MHz (Kauai and Maui)*
Midnight	KBP TELCO	2530 kHz
2:00 a.m.	NMO USCG	2670 kHz
5:00 a.m.	NMO USCG	2670 kHz
6:00 a.m.	KBP TELCO	2530 kHz
8:00 a.m.	NMO	2670 kHz
10:25 a.m.	KQM RCA	17,272.5 kHz (For High Seas)
11:00 a.m.	NMO	2670 kHz
Noon	KBP	2530 kHz
2:00 p.m.	NMO	2670 kHz
5:00 p.m.	NMO	2670 kHz
6:00 p.m.	KBP	2530 kHz
7:25 p.m.	KQM	8751.2 kHz (For High Seas)
8:00 p.m.	NMO	2670 kHz
11:00 p.m.	NMO	2670 kHz
Hourly at 49 and 51 minutes past every hour	WVH NBS	2.5, 5, 10, 15 and 20 MHz (For High Seas)

APPROXIMATE MAXIMUM BROADCAST RANGES
FOR AVERAGE PROPAGATION CONDITIONS

Hawaii Stations

KBA-99*	VHF line-of-sight (see map on other side)
KBP	Day - 200 miles; Night - 1000 miles
NMO	Day - 200 miles; Night - 1000 miles
KQM	Most of the North Pacific
WVH	Most of the North Pacific

MARINE WEATHER INFORMATION BY AUTOMATIC TELEPHONE:
HAWAIIAN WATERS ONLY

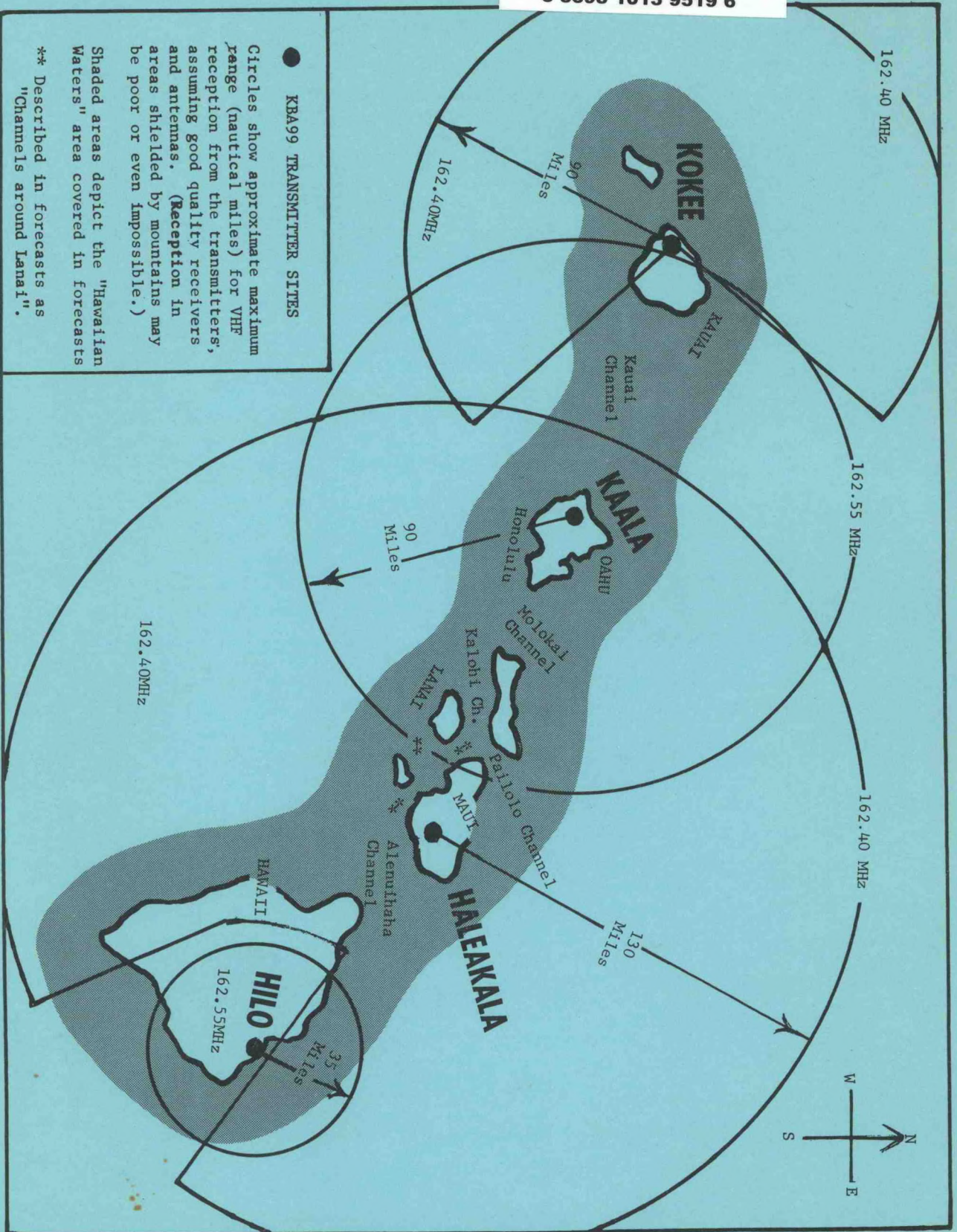
Hawaii - 935-9883	Maui - 877-3477
Oahu - 841-0428	Molokai - 552-2477

(On Kauai, call the NWS at 245-6001)

*See footnotes on Page 2.



HAWAIIAN WATERS AND KBA-99 RADIO COVERAGE



● KBA99 TRANSMITTER SITES

Circles show approximate maximum range (nautical miles) for VHF reception from the transmitters, assuming good quality receivers and antennas. (Reception in areas shielded by mountains may be poor or even impossible.)

Shaded areas depict the "Hawaiian Waters" area covered in forecasts

** Described in forecasts as "Channels around Lanai".