

**NATIONAL WEATHER SERVICE INSTRUCTION 10-311**

**APRIL 2, 2024**

**Operations and Services**

**Marine and Coastal Weather Services, NWSPD 10-3**

**OFFSHORE, NAVTEX, AND HIGH SEAS FORECASTS**

**NOTICE:** This publication is available at: <https://www.nws.noaa.gov/directives/>.

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**SUMMARY OF REVISIONS:** This instruction supersedes NWSI 10-311, “*Offshore, NAVTEX, High Seas, and Marine Forecast Services,*” dated August 16, 2018. Additional changes include:

1. Title changed from “OFFSHORE, NAVTEX, HIGH SEAS, AND MARINE FORECAST SERVICES” to “OFFSHORE, NAVTEX, AND HIGH SEAS FORECASTS.”
2. Modified last sentence Section 2.1 on the Offshore Waters Forecast (OFF) product. In 2.3.8.c, modified language for instances where significant weather poses navigation hazards. In 2.3.8.d, added language about freezing spray thresholds and headline products, noting differences in Alaska Region and connecting language to the definitions outlined in NWSI 10-303.
3. Omitted the entire section on the Marine Weather Discussion (product category MIM), former Section 3, moving up previous Sections 4 and 5 (NAVTEX and the High Seas Forecast, respectively) as the new Sections 3 and 4.
4. Modifications to Section 4.5, describing NWS responsibility for broadcasting forecasts and information via satellite systems for METAREAs IV and XII.
5. In Section 5.5.1 “C CODES”, added, “C codes are not used for broadcast with SafetyCast.” In Section 5.5.2, “When the NWS begins using Safetycast operationally, the HSFAT1 and HSFEP1 will be broadcast by Iridium’s satellites at the same broadcast times listed above.”
6. Appendix A has added, “72 Hour Surface Forecast, 72 Hour 500 mb Forecast, 72 Hour Wind,/ Wave Forecast, 72 Hour Wave Period Forecast”. Appendix B. Deleted “MIM” and added new examples of Offshore, NAVTEX and High Seas forecasts.

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**Offshore, NAVTEX, and High Seas Forecasts**

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## 1 Introduction

This procedural instruction provides product specifications for the main alphanumeric and graphical offshore and high seas weather products issued by four National Weather Service (NWS) Weather Forecast Offices (WFOs), and the National Centers for Environmental Prediction (NCEP), including the Ocean Prediction Center (OPC), and the Tropical Analysis and Forecast Branch (TAFB) of the National Hurricane Center (NHC). The WFOs which prepare text offshore forecasts are: WFO Honolulu, HI (HFO), WFO Anchorage, AK (AFC), WFO Fairbanks (AFG), and WFO Juneau, AK (AJK).

## 2 Offshore Waters Forecast (product category OFF)

### 2.1 Mission Connection

The Offshore Waters Forecast (OFF) provides forecast and warning information to mariners who travel on the oceanic waters adjacent to the U.S., its territorial coastal waters and the Caribbean Sea. The OFF, produced in alphanumeric format, serves users who operate from the coastal

waters out several hundred nautical miles from shore. The Offshore Waters Forecast (OFF) provides forecast and warning information to mariners who travel on the oceanic waters adjacent to the U.S., its territorial coastal waters and the Caribbean Sea. The OFF, produced in alphanumeric format, serves users who operate from the coastal waters out several hundred nautical miles from shore. OPC, TAFB, HFO and Alaska Region also provide the forecasts for the Offshore waters in gridded form via the National Digital Forecast Database.

**2.2 Issuance Guidelines**

**2.2.1 Creation Software**

WFOs will produce the OFF using the Advanced Weather Interactive Processing System (AWIPS) software formatters. The Interactive Forecast Preparation System (IFPS) Graphical Forecast Editor (GFE) application formatting tools will be used for generation of product content.

**2.2.2 Issuance Criteria**

The Alaska Region will issue the OFF at least twice a day with updates as necessary. TAFB, OPC, and WFO HFO will issue the OFF four times daily at regular intervals, with updates as necessary.

**2.2.3 Issuance Time**

OFFs are routinely-scheduled products. Forecasters should make the OFF available to users by the scheduled issuance time, but no earlier than one (1) hour before this issuance time. In the communications header, list the issuance time in Coordinated Universal Time (UTC), but in the mass media header, list the valid time in local time.

National Centers and WFOs should issue OFFs based on the following, except during tropical cyclone events, when the routine issuance time may be delayed:

<u>Responsible Office</u>	<u>Issuance Times (UTC)</u>	
	<u>Scheduled Issuance</u>	<u>Scheduled Issuance</u>
OPC (Atlantic)	0320	
	0920	
	1520	
	2120	
OPC (Pacific)	0420	
	1020	
	1620	
	2220	
NHC / TAFB	0320	
	0920	
	1520	
	2120	
WFOs Anchorage, Juneau, Fairbanks	1200 (DST*)	1300 (standard time)

	0000 (DST*)	0100 (standard time)
WFO Honolulu	0400	
	1000	
	1600	
	2200	

\*DST means Daylight Savings Time

During a tropical cyclone event, the issuing office may delay the “scheduled” issuance of the OFF until after advisories from the NHC, Central Pacific Hurricane Center (CPHC) or Joint Typhoon Warning Center (JTWC) are issued. In these circumstances, the OFF should be issued as soon as reasonably possible, but no later than 1 hour after receiving the appropriate hurricane center’s advisory.

In all forecasts, include forecast periods as shown below. The Days 3 through 5 periods may be subdivided into 12-hour time blocks. All forecast periods beyond the current day will be described by the day of the week. For example, in a forecast issued Sunday evening, include: TONIGHT, MON, MON NIGHT, etc.

The early morning forecasts will cover:

Rest of Tonight	(Optional. covers issuance time to 6AM, as needed)	Pre 1st Period
Today	(Issuance time to 6PM)	1st Period
Tonight	(6PM to 6AM)	2nd Period
Day 2	(6AM to 6PM)	3rd Period
Day 2 Night	(6PM to 6AM)	4th Period
Day 3	(6AM to 6AM)	5th Period
Day 4	(6AM to 6AM)	Day 4
Day 5	(6AM to 6AM)	Day 5

The late afternoon forecast will cover:

Rest of This Afternoon	(Optional. covers issuance time to 6PM, as needed)	Pre 1st Period
Tonight	(Issuance time to 6AM)	1st Period
Tomorrow	(6AM to 6PM)	2nd Period
Tomorrow Night	(6PM to 6AM)	3rd Period
Day 2	(6AM to 6PM)	4th Period
Day 2 Night	(6PM to 6AM)	5th Period
Day 3	(6AM to 6AM)	6th Period
Day 4	(6AM to 6AM)	Day 4
Day 5	(6AM to 6AM)	Day 5

#### 2.2.4 Valid Time

OFFs are valid from the time of issuance until the expiration time.

### **2.2.5 Product Expiration Time**

The OFF product expiration time is not more than 14 hours from the initial issuance.

## **2.3 Technical Description**

OFFs will follow the format and content described in this section.

### **2.3.1 Mass News Disseminator (MND) Broadcast Line**

None.

### **2.3.2 MND Header**

The OFF MND Header is, “OFFSHORE WATERS FORECAST.” A location may be added, on the same line. See Figure 1.

### **2.3.3 Content**

Follow the format for the OFF as shown in section 2.4. Examples of the OFF can be found in Appendix A. Forecasters may subdivide each marine zone (e.g., NORTHERN HALF, SOUTHERN HALF; WATERS SOUTH OF 40N; etc.) to describe significant differences. If geographical reference points are used in the subdivision, forecasters should ensure they are well known.

Forecasters should include applicable National Marine Sanctuaries (NMS) name(s), as noted in NWS Instruction (NWSI) 10-302, in the appropriate OFF. These NMS names should be included in the specific zone(s) and / or the general area description.

An optional time period “Rest of this Afternoon” or “Rest of Tonight” period may be used to cover situations when there is significant ongoing weather such as a Gale warning during issuance time, though expected to end by 6AM or 6PM where applicable. Even though the product is valid at issuance, this clarifies that the ongoing conditions will end shortly. It may not be clear that a product issued at 4:30 PM with a first period listed as “TONIGHT” covers active ongoing weather at 4:30 PM in the afternoon, which ends in late afternoon or early evening.

Similarly, forecasters may combine zones for which they are responsible if conditions are expected to be homogeneous. However, forecasters should not combine a zone with only a portion of another. The forecaster may combine forecast periods (beyond the first period) if, in the forecaster’s opinion, the weather elements in each are consistent. Also, the forecaster may subdivide the first period of the forecast to account for rapid weather changes. The OFF includes marine-based zone Universal Geographic Codes (UGCs).

Above the synopsis, OFF products will include a statement that explains the seas forecast as the significant wave height which is the average of the highest 1/3 of the waves, and that individual waves may be more than twice as high.

Offices issuing OFFs for areas with significant sea ice coverage may choose to cease forecasts when the zone becomes mostly covered. The threshold for determining when the zone forecast should be started and ended will be determined by the WFO and Regional headquarters according to partner and user needs.

### 2.3.4 Synopsis

The synopsis for the OFF should be a concise, understandable description of the significant surface weather features that may cause significant winds and seas over the forecast area during the forecast period. Areas in the tropics often have significant upper level features which are the dominant cause of the weather, e.g., TUTTs (Tropical Upper Tropospheric Troughs) and upper level lows. The synopsis may mention these features.

Forecasters should concentrate on the first 48 hours. At a minimum, the synopsis should identify major weather systems and the strength, trend, and movement of each. After 48 hours, less detail is needed; include a general description of systems impacting the area especially if they are expected to generate gale force, storm force, or hurricane force winds. Such systems do not necessarily have to be located within the forecast area.

Marine synopses for the high seas and offshore forecasts may use descriptive terms for winds and seas consistent with the Beaufort scale as shown in the NWS glossary (<https://w1.weather.gov/glossary/>).

For tropical cyclones expected to impact the forecast area, forecasters should include forecast positions out to 72 hours with a generalized position description at 96 and 120 hours. In accordance with NWSI 10-601, it is highly recommended the following caveat be included in the synopsis: “Forecast winds in and near active tropical cyclones should be used with caution due to uncertainty in forecast track, size, and intensity.”

When a volcano near an offshore zone has a confirmed eruption, or is in a heightened active state, it should be briefly mentioned in the synopsis. The volcano should be identified by name and location (example: the latitude / longitude position, and / or mountain range, and / or a distance from a major population center). If the volcano is in a heightened level of unrest, the specific threat level may be included. If the volcano has recently erupted, state the most recent eruption time and if ash or debris have been reported or are suspected on the ocean surface in the offshore area. Confirmation of eruption or threat level attribution may be given to the appropriate volcano observatory (example: Alaska Volcano Observatory or Cascades Volcano Observatory). Forecasters may also include the appropriate office name and phone number or High Frequency (HF) radio frequency to request mariner reports. It is imperative that any mention about volcanic activity in an offshore product first be coordinated with the WFO responsible for neighboring coastal waters areas.

Examples:

MOUNT RAINIER VOLCANO [AT POSITION 46.8N 121.7W] [IN THE CASCADE MOUNTAIN RANGE OF WASHINGTON] [60 NM SE OF TACOMA] IS CURRENTLY IN A STATE OF UNREST AND COULD ERUPT WITH LITTLE NOTICE. MARINERS

TRAVELING IN THE VICINITY OF MOUNT RAINIER ARE URGED TO EXERCISE CAUTION. IF MARINERS ENCOUNTER VOLCANIC ASH OR FLOATING VOLCANIC DEBRIS...YOU ARE ENCOURAGED TO REPORT THE OBSERVATION WITH THE OCEAN PREDICTION CENTER BY CALLING 301-683-1520.

THE ALASKA VOLCANO OBSERVATORY CONFIRMED OKMOK VOLCANO [AT POSITION 53.4N 168.2W] [IN THE CENTRAL ALEUTIAN ISLANDS] [70 NM SW OF DUTCH HARBOR] HAS ERUPTED AT 1437 UTC 9 FEBRUARY. VOLCANIC ASH MAY BE REACHING THE SURFACE NEAR/IN THE VICINITY OF UMNAK ISLAND. ASH HAS BEEN REPORTED ON THE SURFACE OF THE OCEAN 30 NM S OF UMNAK ISLAND. MARINERS SHOULD EXERCISE CAUTION. IF MARINERS ENCOUNTER VOLCANIC ASH OR FLOATING VOLCANIC DEBRIS...YOU ARE ENCOURAGED TO REPORT THE OBSERVATION TO THE KODIAK WEATHER SERVICE OFFICE AT 907-481-1718.

### 2.3.5 Headlines

Use headlines to emphasize weather events likely to have a significant impact on mariners or marine operations. In each headline, indicate the severity of the event in the priority order given below.

The most significant headline should generally stand alone. However, forecasters may include more than one headline to indicate multiple hazards or worsening conditions. Do not include a headline that downgrades a current condition in later periods (e.g., a storm warning in effect improving to a gale warning). Refer to the NWS definitions in NWSI 10-303 for appropriate definitions of gale, storm, and hurricane force wind warnings.

In the headline, forecasters should include a general statement of the threat, the time period, and, if necessary, the specific area impacted.

Do not include headlines for severe local storm watches and warnings, tropical cyclone watches, and small craft advisories in the OFF. However, forecasters may use other headlines, such as “WARNING POSSIBLE WED” or “GALE FORCE WINDS POSSIBLE WED”, especially for stronger storms in later forecast periods.

a. Non-Tropical Cyclone Related Headlines. In the OFF, forecasters should use the following headlines, in the priority order given, if appropriate criteria are occurring or are expected to be met. For Gale, Storm and Hurricane Force Wind Warnings, NWS offices responsible for the OFF will issue warnings when wind criteria are forecast for the first two twelve (12) hour periods (for the first 24 hours), and may issue warnings through the fourth period when forecaster confidence is high. In addition, when forecaster confidence is high, marine offices may include a headline in the OFF such as “GALE FORCE (or GALE FORCE CONDITIONS or STORM FORCE or HURRICANE FORCE WINDS) POSSIBLE xxxDAY,” for the remaining periods of the forecast.

1. Hurricane Force Wind Warning
2. Storm Warning
3. Gale Warning



4. Heavy Freezing Spray Warning
5. Volcanic Ashfall Advisory

In accordance with NWSI 10-310, in situations where winds gust frequently above advisory / warning thresholds, forecasters should use discretion in issuing advisories or warnings, as appropriate, to alert users and partners to hazardous marine conditions. Gusts occurring on a time-scale greater than two hours are considered frequent. Gusts should not be included in the forecast unless they are expected to be at least 15 knots (KT) greater than the sustained wind.

Based on event significance, forecasters may include headlines for events expected to impact the forecast area such as freezing spray, restrictions lowering visibilities below 1/4 nautical mile (NM), or ashfall from volcanoes.

b. Tropical Cyclone Related Headlines. For Tropical Storm and Hurricane Warnings, NWS offices responsible for the OFF will issue appropriate warnings when wind criteria are forecast for the first 36 hours (if forecaster confidence is high, 48 hours) based on forecast information contained in the appropriate tropical cyclone advisories.

c. Volcanic Ash Headlines. If a confirmed volcanic eruption could significantly impact marine operations in the given offshore zone, forecasters should include an *Ashfall Advisory headline*. The NWS does not issue ashfall warnings for offshore marine areas at this time.

### 2.3.6 1-3 Day Forecast Periods

In the OFF product, include specific wind and sea states for all periods in the 1 through 3 Day forecasts. Forecasters should also include major precipitation events, ice accretion, ashfall, and low visibility conditions as conditions warrant. The preferred wording uses the GFE and the text formatters. The formatters will create probabilistic wording for the specific forecast periods in the body of the forecast when appropriate.

Example:

.TUE...TROPICAL STORM CONDITIONS POSSIBLE. W WINDS 25 TO 30 KT. SEAS 10 TO 15 FT.

### 2.3.7 4-5 Day Forecast Periods

Include the wind and sea height information in the 4 through 5 Day forecast periods. Forecasters may also note other major events such as ice accretion and low visibility.

When a tropical cyclone threatens to impact an OFF zone, forecasters should include an indication of the tropical cyclone, based on NHC, CPHC, and / or Weather Prediction Center (WPC) guidance, for the specific day(s) impacted. Because large positional and intensity errors are possible in these cases, forecasts should not use specific wind and sea values. The preferred way to accomplish the wording is through the use of the GFE and the text formatters. The formatters will create probabilistic wording for the specific forecast periods in the body of the forecast when appropriate.

Example:

.SUN...HURRICANE CONDITIONS POSSIBLE.

### 2.3.8 OFF - Forecast Parameters

#### a. Winds.

Winds represent predominant conditions at 10 meters above the surface of the water. Forecasters should give directions to eight points of the compass and speeds rounded to the nearest 5 KT.

Forecast changes in wind direction should be for changes of 45 degrees or more, and forecast changes in wind speed should be for changes of 10 knots or more. Wind speed transition terms such as “INCREASING” and “DIMINISHING” and direction transition terms such as “BECOMING” and “SHIFTING” should be used to add clarity to the forecast trends. The terms “VEERING, BACKING, BECOMING, SHIFTING,” or “RISING” may be used when appropriate, but not “DECREASING.” Transition terms will end in an “-ing,” e.g., do not use the term “BECOME,” “INCREASE,” or “SHIFT.”

When there are significant differences expected between sustained winds and gusts, the OFF should contain either a specific wind gust speed or a more generic phrase to describe the gusty condition of the winds, e.g., “E WINDS TO 70 KT WITH GUSTS TO 85 KT.”; “WITH HIGHER GUSTS.” Gusts should not be included in the forecast unless they are expected to be at least 15 KT greater than the sustained wind.

Note significant changes (i.e., at a minimum, those changes denoting a change in warning category) in the winds during the forecast period.

#### b. Seas.

Give sea state as significant wave height or broken into appropriate components (e.g., “WIND WAVES 2 TO 4 FT”, “NORTHEAST SWELL TO 10 FT”, “SEAS 12 FT”). Whenever a SWELL is specified, include the direction from which the swell is propagating, to 8 points of the compass. NCEP marine centers will provide a range of seas in their OFFs, i.e., 4 TO 6 FT or 10 TO 15 FT. When upper values in the range exceed double the lower value of the sea heights, a qualifier may be added to express the region where the highest seas are located.

Example: SEAS 10 TO 22 FT...HIGHEST SEAS N OF 28N BETWEEN 50W AND 65W.

Forecasters should not use descriptive terms, such as MODERATE or ROUGH.

Sea state forecasts should be included for marine areas or portions of marine areas not covered by ice. For other marine areas where coverage of 7/10 or more of sea ice is expected, forecasts of sea state are usually omitted; however, if the area has at least 10%

contiguous open water, sea state forecasts may be given. In these cases, use the phrase “SEAS IN ICE FREE WATERS.”

c. Significant Weather / Visibility.

When it is expected, forecasters should include significant weather posing a hazard to navigation (i.e., widespread fog or other restriction lowering visibilities to 1 NM or less, or thunderstorms). Based on forecaster discretion, and / or expected impact to users, forecasters may include obstructions to visibility at or below 5 NM. Forecasters may use areal coverage terms like “patchy,” “widespread,” or “areas of” to describe fog or other significant weather. Forecasters may use precipitation probability terms “CHANCE”, “OCCASIONAL”, etc., as defined in NWSI 10-204, and may include specific visibility distances. However, forecasters should not include sky cover.

d. Icing.

Forecasters should include a headline for a HEAVY FREEZING SPRAY WARNING in the offshore waters (OFF) when there is an ice accretion rate greater than or equal to 2 cm per hour. In the Alaska Region, an ice accretion rate greater than or equal to 0.7 cm per hour is defined as heavy freezing spray. See definitions in NWSI 10-303.

**2.3.9 Coordination and Collaboration**

Offices and centers with adjoining or overlapping areas of responsibility should coordinate and collaborate to ensure products are consistent and compatible. This effort includes communication with appropriate governmental forecast agencies outside the United States.

Forecasters should refer to Section 5, Digital Forecast Collaboration, of NWSI 10-201, *National Digital Forecast Database and Local Database Description and Specifications*, for detailed information on the coordination and collaboration processes for gridded forecasts and analyses, available at: <https://www.nws.noaa.gov/directives/sym/pd01002001curr.pdf>.

**2.4 Format**

The format of the OFF can be seen in Figure 1. This product is available in industry standard encoding and languages, and may include, but not limited to, American Standard Code for Information Interchange, eXtensible Markup Language, Wireless Markup Language and Hyper Text Markup Language (ASCII, XML, WML, and HTML).

<p>(WMO ID) (ISSUANCE DATE TIME)                  (AWIPS ID)</p> <p>OFFSHORE WATERS FORECAST (PLUS OPTIONAL LOCATION)                  NATIONAL WEATHER SERVICE (CITY)(STATE)                  (VALID TIME) AM/PM (LOCAL TIME ZONE)(DAY)(DATE)</p> <p>OFFSHORE WATERS FORECAST FOR (FORECAST AREA)</p> <p>(STATEMENT EXPLAINING SEAS FORECAST)</p>
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```

(SYNOPSIS UGC CODE)-(EXPIRATION TIME)-
(VALID TIME) AM/PM (LOCAL TIME ZONE)(DAY)(DATE)

.SYNOPSIS FOR (BRIEF DESCRIPTION OF FORECAST AREA)...TEXT.

$$

(AREAL UGC[S])-(EXPIRATION TIME)-
(FORECAST AREAL DESCRIPTOR[S])
(VALID TIME) AM/PM (LOCAL TIME ZONE)(DAY)(DATE)

...HEADLINE (if needed)...

.PERIOD 1...
.PERIOD 2...
.PERIOD 3...
.PERIOD 4...
.PERIOD 5... (Optional Period for some issuances)...
.(DAY 3)...
.(DAY 4)...
.(DAY 5)...

```

**Figure 1:** Offshore Waters Forecast (OFF) Format

**2.4.1 OFF - Unscheduled Forecasts**

As needed, forecasters should append either “...UPDATED” or “...CORRECTED” to the product header whenever, respectively, an unscheduled OFF is issued or when an error in the OFF is corrected. They should also add a short description of the updated or corrected items just below the areal header to highlight the change.

**2.5 Graphic Products**

Appendix A lists existing graphic products. Forecasters will ensure the graphics are consistent with compatible text products. Additionally, forecasters should ensure graphic products reaching the edges of an office’s warning area are consistent with compatible products in neighboring warning areas.

**2.6 Updates, Amendments and Corrections**

OFFs will be updated when the on-duty forecast team believes the current forecast is not representative, or when significant format or content errors are detected. WFOs and National Centers will correct OFFs for significant format and grammatical errors. Amendment codes (AAX) and update/correction codes (CCx) will be followed using NWSI 10-1701, section 4.1.

```

(WMO ID) (ISSUANCE DATE TIME)
(AWIPS ID)

```

```

OFFSHORE WATERS FORECAST...UPDATED (or ...CORRECTED)
NATIONAL WEATHER SERVICE (CITY)(STATE)
(VALID TIME) AM/PM (LOCAL TIME ZONE)(DAY)(DATE)

OFFSHORE WATERS FORECAST FOR (FORECAST AREA) (UPDATED FOR....(ex.
HIGHER SEAS))

(STATEMENT EXPLAINING SEAS FORECAST)

(SYNOPSIS UGC CODE)-(EXPIRATION TIME)-
(VALID TIME) AM/PM (LOCAL TIME ZONE)(DAY)(DATE)

.SYNOPSIS FOR (TOTAL FORECAST AREA)...TEXT.

$$

(AREAL UGC[S])-(EXPIRATION TIME)-
    
```

**Figure 2:** Unscheduled Offshore Waters Forecast (OFF) Format

### 3 NAVTEX Forecasts

#### 3.1 Mission Connection

The NAVTEX acronym is derived from NAVigational information TELeprinter EXchange. NAVTEX forecasts support the international SOLAS (Safety of Life At Sea) convention of the International Maritime Organization (IMO) and is a part of the Global Maritime Distress and Safety System (GMDSS). For more information about NAVTEX and the GMDSS, visit: <https://www.weather.gov/marine/gmdss>. The NAVTEX forecast is a text forecast issued to accommodate broadcast restrictions of the U.S. Coast Guard NAVTEX transmitters. NAVTEX forecasts provide forecast and warning information to mariners who travel on the oceanic waters adjacent to the U.S. and its territorial coastal waters, and serves users who operate from the coastal waters up to 200 NM from shore. The NAVTEX should include the highest winds and seas, and associated warnings for the respective broadcast area.

#### 3.2 Issuance Guidelines

##### 3.2.1 Creation Software

WFOs and National Center offices should use text editors and / or available formatters to compose the NAVTEX forecast.

##### 3.2.2 Issuance Criteria

The NAVTEX forecast represents a combination of the Coastal Waters Forecast (CWF) and the OFF. However, those offices issuing the CWF and the OFF will retain full responsibility for those products.

### **3.2.3 Issuance Time**

The NAVTEX forecast will be issued immediately following the OFF transmittal.

### **3.2.4 Valid Time**

NAVTEX Forecasts are valid from the time of issuance until the expiration time.

### **3.2.5 Product Expiration Time**

The NAVTEX forecast expiration time is not more than 14 hours from the initial issuance.

## **3.3 Technical Description**

NAVTEX forecasts will follow the format and content described in this section.

### **3.3.1 MND Broadcast Line**

None.

### **3.3.2 MND Header**

The NAVTEX marine products are broadcast via U.S. Coast Guard (USCG) NAVTEX stations. Refer to NWSI 10-302, section 4, NAVTEX Forecast Areas of Responsibility, for detailed description of areas. For the NAVTEX first MND line use:

NAVTEX MARINE FORECAST [+ optional area description]

The 2nd line should be one line only, in accordance with NWSI 10-1701, section 4.2.3:

Issuing Office

The 3rd line should be in accordance with NWSI 10-1701, section 4.2.4:

Time / Date

No extraneous lines, e.g., "INCLUDING THE STELLWAGEN BANK NATIONAL MARINE SANCTUARY."

A general area description should not be included immediately below the MND lines.

### **3.3.3 Content**

NAVTEX forecasts will include the same content as the CWF and the OFF. Exceptions: Do not include UGCs.

In each NAVTEX forecast, match the broadcast areas of the appropriate USCG transmitters as listed in NWSI 10-302. Forecasters may combine forecast periods if weather features are similar.

No NAVTEX forecast will be longer than 89 lines including blank lines. Include the phrase: “...PLEASE REFER TO DETAILED COASTAL WATERS FORECASTS (CWF) AVAILABLE THROUGH NOAA WEATHER RADIO AND OTHER SOURCES” before the synopsis.

### **3.3.4 Synopsis**

The synopsis should be consistent with synopses contained in the CWF and the OFF.

### **3.3.5 Headlines**

Forecasters should list applicable headlines from both CWFs and OFFs in the NAVTEX forecast, including those involving the extended portion of the forecast. Exception: Forecasters should not include headlines for small craft advisories or for severe local storm watches and warnings. Append the annotation ‘WITHIN XX NM OF SHORE’ for items restricted to coastal waters areas, where XX is the appropriate distance of the restricted item.

### **3.3.6 1-2 Day Forecast Periods**

Include conditions representing values found throughout the entire forecast area.

### **3.3.7 3-5 Day Forecast Periods**

Include winds and seas only. Local policy may include significant weather (i.e., thunderstorms, freezing spray) in days 3-5.

### **3.3.8 NAVTEX - Forecast Parameters**

In the NAVTEX forecast, include the same forecast parameters as forecast in the OFF and the CWF.

## **3.4 Format**

This product is available in industry standard encoding and languages, which may include, but are not limited to, ASCII, XML, WML and HTML. To ensure proper dissemination of the NAVTEX forecast, follow the following format:

(WMO ID) (ISSUANCE DATE TIME)  
 (AWIPS ID)

NAVTEX MARINE FORECAST (PLUS OPTIONAL LOCATION)  
 NATIONAL WEATHER SERVICE (CITY)(STATE)  
 -example of alternative text for line 2:  
 NWS OCEAN PREDICTION CENTER WASHINGTON DC (See NWSI 10-1701)  
 (SCHEDULED ISSUANCE TIME) AM/PM (LOCAL TIME ZONE)(DAY)(DATE)

... PLEASE REFER TO DETAILED COASTAL WATERS FORECASTS (CWF)  
 AVAILABLE THROUGH NOAA WEATHER RADIO AND OTHER SOURCES...

.SYNOPSIS...(TEXT).

(FORECAST AREA[S])

...HEADLINE(S) (if necessary)...

.PERIOD 1...  
 .PERIOD 2...  
 .PERIOD 3...  
 .PERIOD 4...  
 .PERIOD 5... (Optional Period for some issuances)...  
 .(DAY 3)...  
 .(DAY 3 NIGHT)...  
 .(DAY 4)...  
 .(DAY 4 NIGHT)...  
 .(DAY 5)...  
 .(DAY 5 NIGHT)...

\$\$

FORECASTER NAME (Optional)

**Figure 3:** NAVTEX Forecast Format

**3.4.1 NAVTEX - Unscheduled Forecasts.**

Update NAVTEX forecasts only in the rare circumstance when a major modification is required. During a tropical cyclone event, the issuing office may delay the “scheduled” issuance of the NAVTEX until after advisories from the NHC, CPHC or JTWC are issued. In these circumstances, the NAVTEX should be issued as soon as reasonably possible, but no later than 1 hour after receiving the appropriate hurricane center’s advisory.

**3.5 Updates, Amendments and Corrections**

As NAVTEX is a single frequency system, each NAVTEX station and content provider takes measures to prevent mutual interference with other stations. To avoid such mutual interference,



each NAVTEX station is assigned specific time slots. When a NAVTEX broadcast may exceed the assigned broadcast period, or broadcast a warning at an unscheduled time, the NAVTEX station schedules arrangements with nearby stations to prevent potential mutual interference. Such rescheduling of broadcasts may result in an undesirable cascade effect, inhibiting the fundamental purpose of the NAVTEX system. Therefore, unscheduled broadcasts, and lengthy forecasts should be avoided. When changes are necessary, amendment codes (AAx) and update/correction codes (CCx) will be followed using NWSI 10-1701, section 4.1.

#### **4 High Seas Forecast (product category HSF)**

The areas of high seas forecasts are explicitly defined by the World Meteorological Organization (WMO) and will not be modified without prior coordination with NWS Headquarters Analyze, Forecast, and Support Office. The NWS issues High Seas Forecasts and Warnings for METAREAs IV (Western Atlantic) and XII (Eastern Pacific) as part of the WMO's Worldwide Met-Ocean Information and Warning Service (WWMIWS). For more information about METAREAs and the WWMIWS, visit: <https://wwmiws.wmo.int/>. The OPC, TAFB, and WFO Honolulu (HFO) are the HSF issuing offices of the NWS.

##### **4.1 Mission Connection**

The HSF provides warning and forecast information to mariners who travel on the oceanic waters. The NWS provides forecasts in our area of responsibility for mariners of the High Seas in both graphic and alphanumeric format.

##### **4.2 Issuance Guidelines**

###### **4.2.1 Creation Software**

OPC, TAFB and WFO HFO should produce the HSF using text editors where automated software formatters are not yet available.

###### **4.2.2 Issuance Criteria**

The HSF will be issued every six hours, including any marine warnings for gale, storm, and tropical cyclone conditions. Refer to NWSI 10-302, section 5, for a description of the areas covered in these forecasts.

###### **4.2.3 Issuance Time**

HSFs are routinely-scheduled products. OPC, TAFB and WFO HFO should issue HSFs based on the following:

<u>Issuing Office</u>	<u>Issuance Times (UTC)</u>				<u>Effective Until (UTC)</u>			
	Current Day				Day 2			
OPC / Atlantic	0430	1030	1630	2230	0000	0600	1200	1800
TAFB / Atlantic	0430	1030	1630	2230	0000	0600	1200	1800
TAFB / Pac.	0430	1030	1630	2230	0000	0600	1200	1800
OPC / Pacific	0430	1030	1630	2230	0000	0600	1200	1800
OPC / TAFB / HFO Pacific	0545	1145	1745	2345	0000	0600	1200	1800
HFO / Pac. (N. of Equator)	0500	1100	1700	2300	0000	0600	1200	1800
HFO / Pac. (S. of Equator)	0530	1130	1730	2330	0000	0600	1200	1800

#### 4.2.4 Valid Time

HSFs are valid from the time of issuance until the expiration time.

#### 4.2.5 Product Expiration Time

HSFs are superseded by the next forecast issuance in 6 hours.

### 4.3 Technical Description

HSFs will follow the format and content described in this section.

#### 4.3.1 MND Broadcast Line

None.

#### 4.3.2 MND Header

The HSF MND Header is “HIGH SEAS FORECAST”.

#### 4.3.3 Content

To ensure understanding by users, only use the abbreviations noted in NWSI 10-303. Also, forecasters should include the appropriate “C Code” (CCODE) (for use by Inmarsat SafetyNET satellite broadcast system) and WMO Meteorological Area (METAREA) in the header, as shown in NWSIs 10-302. Follow the format for the HSF as shown in section 5.4; examples of the HSF can be found in Appendix A.

The first part of the HSF describes WARNINGS in effect for systems with sustained winds of 34 KT or greater. The expected trends, movement and 24-hour and 48-hour forecast positions as applicable, and conditions are described. The forecast has less detailed information than the OFF.

The second part of the HSF consists of the SYNOPSIS AND FORECAST section, which describes weather systems not meeting the warning criteria. The message describes the initial, 24 hour, and 48 hour forecast positions as applicable, along with associated conditions, if appropriate.

- a. Securite. The term SECURITE is an international communications code that indicates safety information follows. HSFs qualify as safety information; therefore SECURITE is routinely included in their heading.
- b. Warnings. Forecasters should include individual paragraphs listed by category of warning (hurricane, tropical storm, hurricane force wind, storm, gale, freezing spray, or volcano). In each paragraph, include a synopsis taken from, as applicable, the latest synoptic surface analysis or the latest tropical cyclone forecast/advisory from the NHC or CPHC showing the following:
  1. For tropical warnings, forecasters should provide the appropriate warning headline (i.e., HURRICANE WARNING...), the cyclone's system type (potential, subtropical or tropical cyclone, or tropical storm, or hurricane), and its identifier (name or number). The HSF will not include headlines for Tropical Depressions. Tropical Depressions will be included in the Synopsis and Forecast section if the initial, 24-, and 48-hour forecast are below Tropical Storm or Hurricane warning status.

The headline will be the highest tropical cyclone warning type for the 48-hour forecast. Forecasters may include forecast points out to 120 hours for tropical cyclones when conditions warrant and for which consistent guidance is available.

In accordance with NWSI 10-601, it is highly recommended the following caveat be included in the warning section: "Forecast winds in and near active tropical cyclones should be used with caution due to uncertainty in forecast track, size, and intensity."

2. For all extratropical cyclones,
  - a. Location of the center (in whole degrees of latitude and longitude);
  - b. Central pressure (in millibars (mb));
  - c. For each quadrant, the areal coverage (in NM from the center) of the various wind categories (storm, gale, etc.) and associated seas greater than 12 feet;
  - d. Direction (eight points of the compass), speed of movement (KT), and trend in movement and / or intensity.
  - e. For non-tropical systems, initial and forecast locations of fronts and troughs associated with such warnings.
  - f. A polygon-based description of a warning using latitude/longitude points where there are no defined extratropical cyclones associated with the warning area or where, based on forecaster's judgment, a polygon provides for the mariner a clearer description of the warning.

**Example:**

...GALE WARNING...

.OVER FORECAST WATERS WITHIN AN AREA BOUNDED BY 38N160E TO 41N170E TO 34N173E TO 32N172E TO 32N160E TO 38N160E WINDS 30 TO 40 KT. SEAS 12 TO 20 FT. ELSEWHERE WITHIN AN AREA BOUNDED BY 40N160E TO 43N170E TO 35N175E TO 30N173E TO 30N160E TO 40N160E WINDS 20 TO 30 KT. SEAS 8 TO 16 FT.

.24 HOUR FORECAST WITHIN AN AREA BOUNDED BY 43N180W TO 46N171W TO 37N167W TO 34N175W TO 43N180W WINDS 30 TO 40 KT. SEAS 13 TO 22 FT. ELSEWHERE WITHIN AN AREA BOUNDED BY 43N177E TO 48N175W TO 44N165W TO 33N166W TO 32N179W TO 43N177E WINDS 20 TO 30 KT. SEAS 10 TO 18 FT.

.48 HOUR FORECAST WITHIN AN AREA BOUNDED BY 48N157W TO 51N156W TO 52N152W TO 49N149W TO 48N157W WINDS 25 TO 35 KT. SEAS 12 TO 20 FT. ELSEWHERE WITHIN AN AREA BOUNDED BY 47N160W TO 54N161W TO 55N154W TO 48N144W TO 47N160W WINDS TO 25 KT. SEAS 8 TO 16 FT.

3. The central pressure (in mb) expected at 24 hours; include the tropical cyclone name.
4. The central pressure (in mb) expected at 48 hours; include the tropical cyclone name.
5. For non-tropical systems, initial and forecast locations of fronts and troughs associated with such warnings.
6. For Icing. Forecasters should include a headline for a HEAVY FREEZING SPRAY WARNING in the High Seas Forecast (HSF) when there is an ice accretion rate greater than or equal to 2 cm per hour. See definitions in 10-303.
7. For Volcanic Ashfall Advisories. Forecasters should include an Ashfall Advisory headline without the word "WARNING" if there is a confirmed volcanic eruption or a volcano is in a state of heightened unrest which could significantly impact marine operations. If issued, include in the paragraph the name of the volcano, its location (the latitude / longitude position, and / or mountain range, and / or a distance from a major population center). If there was an eruption, state, "Xxxxx Volcano erupted" (where "Xxxxx" is the name of the volcano) and the most recent eruption time. If volcanic ash or debris has been reported on the surface of the ocean, include this in the advisory text, as well as the appropriate office name and phone number for further reports. It is imperative that any high seas headlines and statements about volcanic activity are coordinated with the WFO responsible for overlapping coastal waters areas.

**Example:**

...ASHFALL ADVISORY...

OKMOK VOLCANO AT POSITION 53.4N 168.2W IN THE CENTRAL ALEUTIAN ISLANDS 70 NM SW OF DUTCH HARBOR HAS ERUPTED AT 1437 UTC 9 FEBRUARY 2009. VOLCANIC ASH MAY BE REACHING THE SURFACE NEAR/IN THE VICINITY OF UMNAK

ISLAND. ASH HAS BEEN REPORTED ON THE SURFACE OF THE OCEAN 30 NM S OF UMNAK ISLAND. MARINERS SHOULD EXERCISE CAUTION. IF MARINERS ENCOUNTER VOLCANIC ASH OR FLOATING VOLCANIC DEBRIS, YOU ARE ENCOURAGED TO REPORT THE OBSERVATION TO THE OCEAN PREDICTION CENTER BY CALLING 301-683-1520.

These paragraphs are hierarchical in order listing the most intense system first followed by other systems in descending order of intensity:

- a. Hurricane(s)
- b. Hurricane Force Wind
- c. Tropical Storm(s)
- d. Storm(s)
- e. Gale(s)
- f. Freezing Spray
- g. Volcano

If two or more storms have equal intensity categories, forecasters should list the areas in descending order of importance or threat, at their discretion. Do not include severe local storm watches and warnings, and do not include small craft advisories in HSFs. Tropical warnings associated with Potential Tropical Cyclones (TCs) should be ranked based on the severity of the event (i.e., a hurricane warning from a potential TC is ranked higher than a tropical storm warning for a tropical storm, etc.)

#### 4.3.4 Synopsis and Forecast

In this part of the HSF, provide a brief description of the most significant synoptic-scale features found in the forecast area for which warnings are not needed. The format is similar to that used in the warning areas. The most recent surface analysis should be used as the Synopsis Valid Time. Use 48 hours from that Synopsis Valid Time as the Forecast Valid Time. Marine synopses for the high seas and offshore forecasts may use descriptive terms for winds and seas consistent with the Beaufort scale as shown in the NWS glossary (<https://w1.weather.gov/glossary/>).

#### 4.3.5 HSF Forecast Parameters

- a. Winds.

Winds represent sustained conditions at 10 meters above the surface of the water. Forecasters should describe forecast wind speeds with either one representative value or, when significant differences are expected, with a range of values for the affected area. Forecasters may give these in terms of distances from the low pressure center, distances from the front or trough, or by a polygon-based description using latitude / longitude points. Differences in the radial extent of forecast winds around a low pressure center are usually distinguished by quadrant or semicircle. Forecasters need not include wind direction.

Forecasters should usually limit the description of winds to areas in which they are *greater than 20 KT*. They may use a statement such as *WINDS 20 KT OR LESS* for

conditions elsewhere in the forecast area. These thresholds may be adjusted to account for climatology. *The disclaimer for the remainder of the forecast reads:*

REMAINDER AREA WINDS 20 KT OR LESS. SEAS LESS THAN 8 FT.

For the High Seas forecasts, forecasters should NOT use the term “WIND” in the singular. They should use “WINDS” instead.

b. Seas.

1. Describe significant wave heights with either one representative value or, when a large variation is expected, with an appropriate range of values for the affected area. Forecasters may give these in terms of distances from the low pressure center, distances from the front or trough, or by latitude / longitude. Differences in the radial extent of forecast seas around a low pressure center are usually distinguished by quadrant or semicircle.
2. Forecasters should usually limit the description of seas to areas in which they are 8 feet or higher. They may use a statement such as SEAS LESS THAN 8 FT for conditions elsewhere in the forecast area. These thresholds may be adjusted to account for climatology.
3. HSF products will include a statement that explains the seas forecast as the significant wave height which is the average of the highest 1/3 of the waves, and that individual waves may be more than twice as high. This statement may be included after the forecast heading and before the safety message (ex., SECURITE).

c. Significant Weather / Visibility.

Forecasters should include significant weather such as obstructions to visibility, thunderstorms, squalls, and ship icing.

For those HSFs covering areas south of 30°N, forecasters may include thunderstorm information associated with the Inter-tropical Convergence Zone (ITCZ) and monsoon trough.

Forecasters should emphasize visibilities expected to be less than 1 NM in the HSF. They should mention obstructions to vision below 1 NM if the condition is widespread enough to affect a significant portion of the forecast area. They may include specific distances. However, do not include cloud conditions in the HSF.

d. Icing.

Icing. Forecasters should include a headline for a HEAVY FREEZING SPRAY WARNING in the High Seas Forecast (HSF) when there is an ice accretion rate greater than or equal to 2 cm per hour. See definitions in 10-303.

#### 4.4 Format

Formatting of the HSF will follow NWSI 10-1701, except as explicitly stated in NWSI 10-1704. This product is available in industry standard encoding and languages, and may include, but is not limited to, ASCII, XML, WML, and HTML. The following format will be used for the HSF.

<p>(WMO ID) (ISSUANCE DATE TIME) (AWIPS ID)</p> <p>HIGH SEAS FORECAST [<b>FOR METAREA (XXX) {XXX = IV, XII, or XVI}</b>] [<b>bold</b> terms used exclusively in the AT1 and EPI Meteorological Products] NATIONAL WEATHER SERVICE (CITY)(STATE) [National Centers should refer to NWSI 10-1701 for further guidance on headers.] (SCHEDULED ISSUANCE TIME)UTC (DATE)</p> <p>[<b>CCODES</b>] {Refer to NWSI 10-304 for details on CCODES} SUPERSEDED BY NEXT ISSUANCE IN 6 HOURS</p> <p>SECURITE</p> <p>ATLANTIC FROM 07N TO 31N W OF 35W INCLUDING CARIBBEAN SEA AND GULF OF MEXICO</p> <p>SYNOPSIS VALID 24 HOUR FORECAST VALID (VALID TIME)UTC (DATE) 48 HOUR FORECAST VALID (END VALID TIME)UTC (DATE)</p> <p>WARNINGS</p> <p>TEXT...(INCLUDE EXTENDED OUTLOOK DURING HURRICANE SEASON)</p> <p>SYNOPSIS AND FORECAST</p>
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**Figure 4:** High Seas Forecast (HSF) Format

##### 4.4.1 HSF - Unscheduled Forecasts

HSFs should be updated when a significant change in weather conditions, adversely impacting high seas mariners, is expected and not already forecast.

#### 4.5 Approved Satellite Systems for use in the GMDSS: SafetyNET Inmarsat-C and Iridium’s SafetyCast

SafetyNET (operated by Inmarsat-C) is an internationally approved, automated satellite system for disseminating weather forecasts and warnings, marine navigational warnings and other safety related information to all types of vessels. The NWS is responsible for sending information for broadcast in METAREAs IV and XII. Along with NAVTEX, it is part of the Global Maritime Distress and Safety System (GMDSS).

SafetyCast (Operated by Iridium) is an internationally-approved, automated satellite system for disseminating weather forecasts and warnings, marine navigational warnings and other safety related information to all types of vessels. The NWS is responsible for sending information for broadcast in METAREAs IV and XII. Along with NAVTEX, it is part of the Global Maritime Distress and Safety System (GMDSS). The NWS is not currently sending information for broadcast via SafetyCast operationally but is expected to begin in calendar year 2023.

#### 4.5.1 “C CODES”

To control product dissemination of high seas forecasts broadcast via SafetyNET, a system of “C codes” is used. It is vital this format be followed explicitly. C codes are not used for broadcast with SafetyCast. “C codes” take the following form and are located as in the following example:

FZNT01 KWBC 111613  
HSFAT1

HIGH SEAS FORECAST FOR METAREA IV  
NWS OCEAN PREDICTION CENTER WASHINGTON DC  
1630 UTC FRI JUL 11 2008

CCODE/C1:C2:C3:C4:C5/SAT/NWS/CCODE  
SUPERSEDED BY NEXT ISSUANCE IN 6 HOURS

(TEXT)

For routine HSFs:

HSFAT1 - CCODE/1:31:04:01:00/AOW/NWS/CCODE  
HSFEPI - CCODE/1:31:12:01:00/AOW+POR/NWS/CCODE

For HSFs containing extra-tropical hurricane force warnings:

HSFAT1 - CCODE/2:31:04:01:00/AOW/NWS/CCODE  
HSFEPI - CCODE/2:31:12:01:00/AOW+POR/NWS/CCODE

For HSFs containing hurricane/typhoon warnings within 48 hours of the synoptic time:

HSFAT1 - CCODE/2:31:04:11:00/AOW+AOE/NWS/CCODE  
HSFEPI - CCODE/2:31:12:11:00/AOW+POR+AOE/NWS/CCODE

HSFs: HSFSP, HSFNP, HSFEP1, HSFEP2, and HSFAT2 are not broadcast individually over SafetyNET and will not contain CCODES, or the notation of METAREA.

#### 4.5.2 Issuance Times

HSFs issued by OPC, are broadcast via SafetyNET as shown below:

<u>METAREA</u>	<u>Product ID</u>	<u>Satellite(s)</u>	<u>Broadcast Time (UTC)*</u>
IV (Atlantic)	HSFAT1	AOW	0430, 1030, 1630, 2230
XII (Pacific)	HSFEPI	AOW+POR	0545, 1145, 1745, 2345



\* For proper operation of the SafetyNET “HIGHSEAS” transmission and monitoring system within the NWS Telecommunications Gateway (TG), these products should be issued no earlier than 1 hour before the scheduled broadcast time or no later than the scheduled broadcast time.

When the NWS begins using Safetycast operationally, the HSFAT1 and HSFEP1 will be broadcast by Iridium’s satellites at the same broadcast times listed above.

#### **4.6 Graphic Products**

Appendix A lists graphic high seas products. Forecasters should ensure these products are consistent with information contained in neighboring offices’ compatible text and graphic products. These products are available in industry standard encoding and languages, and may include, but not limited to, “.tif,” “.gif,” and “.jpeg”.

#### **4.7 Updates, Amendments and Corrections**

HSFs will be updated or corrected when the forecaster believes the current forecast is not representative, or when, in the forecaster’s judgment, significant format or content errors are detected. If necessary, append either “...UPDATED” or “...CORRECTED” to the product header when disseminating a correction or amendment. Amendment codes (AAX) and update/correction codes (CCx) will be followed using NWSI 10-1701, section 4.1.

**Appendix A - NWS Official Graphic Products and Valid Times**

**Graphics Products:** The following are official NWS graphic products.

ISSUING OFFICE	AREA	TYPE OF PRODUCT	VALID TIME (UTC)
Ocean Prediction Center (OPC)	ATLANTIC (ATL)	Preliminary Surface Analysis	0
		Surface Analysis	
		Wind / Wave Analysis	
		500 mb Analysis	
		24 Hour Wind / Wave Forecast	
		24 Hour Surface Forecast	
		24 Hour 500 mb Forecast	
		36 Hour 500 mb Forecast	
		48 Hour Wind / Wave Forecast	
		48 Hr. Wave Period, with Ice accretion (seasonal)	
		48 Hour Surface Forecast	
		48 Hour 500 mb Forecast	
		Preliminary Surface Analysis	6
		Surface Analysis	
		Wind / Wave Analysis	
		Preliminary Surface Analysis	12
		Surface Analysis	
		Full Basin Sea State Analysis	
		Wind / Wave Analysis	
		500 mb Analysis	
		24 Hour Wind / Wave Forecast	
		24 Hour Surface Forecast	
		24 Hour 500 mb Forecast	
		36 Hour 500 mb Forecast	
		48 Hour Wind / Wave Forecast	
		48 Hour Wave Period	





		Tropical Surface Analysis	12
		00 Hour Sea State Analysis	
		24 Hour Wind / Wave Forecast	
		24 Hour Surface Forecast	
		48 Hour Wind / Wave Forecast	
		48 Hour Surface Forecast	
		72 Hour Wind / Wave Forecast	
		72 Hour Surface Forecast	
		48 Hour Wave Period / Swell Direction	
		High Wind and Associated Seas**	16
		Tropical Cyclone Danger Area*	16
		Tropical Surface Analysis	18
		High Wind and Associated Seas**	22
		Tropical Cyclone Danger Area*	22
NHC/TAFB	PAC	Tropical Surface Analysis	0
		00 Hour Sea State Analysis	
		24 Hour Wind / Wave Forecast	
		24 Hour Surface Forecast	
		48 Hour Wind / Wave Forecast	
		48 Hour Surface Forecast	
		72 Hour Wind / Wave Forecast	
		72 Hour Surface Forecast	
		48 Hour Peak Wave Period/Swell Direction	
		72 Hour Peak Wave Period / Swell Direction	
		High Wind and Associated Seas**	4
		Tropical Cyclone Danger Area*	4
		Tropical Surface Analysis	6
		High Wind and Associated Seas**	10
		Tropical Cyclone Danger Area*	10
		Tropical Surface Analysis	12
		00 Hour Sea State Analysis	
		24 Hour Wind / Wave Forecast	
		24 Hour Surface Forecast	
		48 Hour Wind / Wave Forecast	
		48 Hour Surface Forecast	

		72 Hour Wind / Wave Forecast 72 Hour Surface Forecast 48 Hour Peak Wave Period / Swell Direction	
		High Wind and Associated Seas**	16
		Tropical Cyclone Danger Area*	16
		Tropical Surface Analysis	18
		High Wind and Associated Seas**	22
		Tropical Cyclone Danger Area*	22
		Sea Surface Temperature Analysis	22
WFO Anchorage (AFC)	PAC	Sea Ice Analysis* 5-Day Sea Ice Forecast** Alaska Waters Sea Surface Temp Analysis* 3-Month Sea Ice Outlook*** *[this is a daily issued product] **[this is a Monday/Wednesday/Friday issued product] ***[this is a once monthly issued product on the 4th Thursday of the month]	0 0 0 0
WFO Honolulu (HFO)	PAC	North Pacific Surface Pressure Analysis  Pacific Streamline Analysis Wind/Wave Analysis 24 Hour Wind / Wave Forecast 48 Hour Wind / Wave Forecast 72 Hour Wind / Wave Forecast 24 Hour Surface Forecast 48 Hour Surface Forecast 72 Hour Surface Forecast Tropical Cyclone Danger Area*	0  0 0 0 0 0 0 0 0 3
		North Pacific Surface Pressure Analysis	6
		Pacific Streamline Analysis	6
		Tropical Cyclone Danger Area*	9
		North Pacific Surface Pressure Analysis	12
		Pacific Streamline Analysis	12
		Wind/Wave Analysis	12

	24 Hour Wind / Wave Forecast	12
	48 Hour Wind / Wave Forecast	12
	72 Hour Wind / Wave Forecast	12
	24 Hour Surface Forecast	12
	48 Hour Surface Forecast	12
	72 Hour Surface Forecast	12
	Tropical Cyclone Danger Area*	15
	North Pacific Surface Pressure Analysis	18
	Pacific Streamline Analysis	18
	Tropical Cyclone Danger Area*	21

\* Tropical Cyclone Danger Area chart is prepared from May 15 to November 30.

\*\* High Wind and Associated Seas chart is prepared from December 1 to May 14.

## Appendix B - Examples of NWS Offshore, NAVTEX, and High Seas Forecasts

### Offshore Waters Forecast (OFF)

Offshore Waters Forecast  
National Weather Service Anchorage AK  
328 AM AKDT Wed May 10 2023

Offshore waters forecast for the Gulf of Alaska West of 144W

Wind forecasts reflect the predominant speed and direction expected. Sea forecasts represent an average of the highest one-third of the combined wind wave and swell height.

PKZ399-110100-  
328 AM AKDT Wed May 10 2023  
.SYNOPSIS FOR THE WESTERN GULF OF ALASKA...

A series of fronts will move across the Gulf of Alaska this morning through Friday morning.

\$\$

PKZ351-110100-  
Gulf of Alaska Offshore North of 57N and West of 144W-  
328 AM AKDT Wed May 10 2023

...GALE WARNING THROUGH TONIGHT...

.TODAY...E wind 25 to 40 kt. Seas 14 to 17 ft. Rain.  
.TONIGHT...SE wind 20 to 35 kt diminishing to 15 to 25 kt after  
midnight. Seas 11 to 17 ft.  
.THU...E wind 10 to 20 kt. Seas 10 ft.  
.THU NIGHT...NE wind 15 to 25 kt. Seas 8 ft.  
.FRI THROUGH SUN...E wind 20 to 35 kt. Seas 8 to 13 ft.

\$\$

PKZ352-110100-  
Gulf of Alaska Offshore South of 57N North of 55N and West of  
144W-  
328 AM AKDT Wed May 10 2023

.TODAY...SE wind 15 to 30 kt. Seas 9 to 14 ft.  
.TONIGHT...SE wind 20 kt. Seas 9 to 12 ft.  
.THU...E wind 20 kt. Seas 10 ft.  
.THU NIGHT...NE wind 25 kt. Seas 7 to 10 ft.  
.FRI THROUGH SUN...E wind 15 to 30 kt. Seas 7 to 12 ft.

\$\$



FZNT21 KWBC 101433  
OFFNT1

Offshore Waters Forecast  
NWS Ocean Prediction Center Washington DC  
1033 AM EDT Wed May 10 2023

New England continental shelf and slope waters from 25 nm offshore to the Hague Line, except to 1000 fm south of New England.

Seas given as significant wave height, which is the average height of the highest 1/3 of the waves. Individual waves may be more than twice the significant wave height.

ANZ898-110230-  
1033 AM EDT Wed May 10 2023

.SYNOPSIS FOR NEW ENGLAND WATERS...Weak high pressure will shift S of the waters today, then continue drifting S of the region tonight through Fri. Another high will build W of the area today into Thu, then weaken Thu night through Fri night. A low pressure trough will move SE across the waters today and tonight. Another trough will develop along the coast Thu, then move offshore Thu night. A warm front will develop and lift N and NE over the region Thu night into Fri, before a cold front moves E and SE over the area Fri night and Sat. Another trough will move SE over the waters Sat night into Sun. A high pressure ridge will build SE across the region Sun and Sun night.

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ANZ800-110230-  
Gulf of Maine to the Hague Line-  
1033 AM EDT Wed May 10 2023

.TODAY...W winds 10 to 15 kt, becoming SW 10 to 20 kt. Seas 3 to 4 ft.  
.TONIGHT...SW winds 10 to 20 kt, becoming W 10 to 15 kt. Seas 3 to 5 ft.  
.THU...W winds 10 to 15 kt, becoming SW. Seas 3 to 4 ft.  
.THU NIGHT...W to SW winds 5 to 15 kt, becoming W. Seas 3 to 4 ft.  
.FRI...SW winds less than 10 kt, increasing to 10 to 15 kt. Seas 3 to 4 ft.  
.FRI NIGHT...SW winds 10 to 15 kt, becoming W. Seas 3 to 4 ft.  
.SAT...NW winds 5 to 15 kt, becoming W to SW. Seas 3 to 4 ft.  
.SAT NIGHT...W to NW winds 5 to 10 kt, becoming N 10 to 15 kt. Seas 3 to 4 ft.  
.SUN...N winds 5 to 15 kt, becoming W. Seas 3 to 4 ft.  
.SUN NIGHT...W winds 5 to 15 kt. Seas 3 to 4 ft.

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ANZ805-110230-

Georges Bank between Cape Cod and 68W north of 1000 FM-  
1033 AM EDT Wed May 10 2023

.TODAY...W winds 5 to 15 kt, becoming W to SW 10 to 20 kt. Seas  
3 to 4 ft.  
.TONIGHT...SW winds 10 to 20 kt, becoming W 15 to 20 kt. Seas  
3 to 5 ft.  
.THU...W winds 10 to 20 kt, becoming SW 10 to 15 kt. Seas 3 to  
4 ft.  
.THU NIGHT...W winds 10 to 15 kt. Seas 3 to 4 ft.  
.FRI...W to SW winds 10 to 15 kt. Seas 3 to 4 ft.  
.FRI NIGHT...W to SW winds 10 to 20 kt. Seas 3 to 6 ft.  
.SAT...W winds 10 to 20 kt, diminishing to 5 to 15 kt. Seas 3 to  
6 ft.  
.SAT NIGHT...W to SW winds 5 to 15 kt, becoming N to NE. Seas  
3 to 5 ft.  
.SUN...N winds 5 to 15 kt. Seas 3 to 4 ft.  
.SUN NIGHT...Variable winds less than 10 kt, becoming W to SW.  
Seas 3 to 4 ft.

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ANZ900-110230-

Georges Bank between 68W and the Hague Line-  
1033 AM EDT Wed May 10 2023

.TODAY...W winds 5 to 15 kt. Seas 3 to 4 ft.  
.TONIGHT...W to SW winds 10 to 20 kt. Seas 3 to 5 ft.  
.THU...W winds 15 to 20 kt, becoming W to SW 10 to 15 kt. Seas  
3 to 5 ft.  
.THU NIGHT...W to SW winds 10 to 15 kt. Seas 3 to 4 ft.  
.FRI...SW winds 10 to 15 kt. Seas 3 to 4 ft.  
.FRI NIGHT...SW winds 10 to 20 kt. Seas 3 to 5 ft.  
.SAT...W winds 10 to 20 kt, diminishing to 5 to 15 kt. Seas 4 to  
6 ft.  
.SAT NIGHT...W winds 5 to 10 kt, becoming N to NW. Seas 4 to  
5 ft.  
.SUN...N winds 10 to 15 kt. Seas 3 to 5 ft.  
.SUN NIGHT...N to NW winds less than 10 kt, becoming W. Seas  
3 to 4 ft.

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ANZ810-110230-

South of New England between the Great South Channel and Montauk  
Point to 1000 FM-  
1033 AM EDT Wed May 10 2023

.TODAY...W winds 5 to 10 kt, becoming W to SW 10 to 15 kt. Seas 3 to 4 ft.  
.TONIGHT...W to SW winds 10 to 20 kt. Seas 3 to 4 ft.  
.THU...W to SW winds 10 to 15 kt. Seas 3 to 4 ft.  
.THU NIGHT...W to SW winds 5 to 15 kt. Seas 3 to 4 ft.  
.FRI...W to SW winds 10 to 15 kt. Seas 3 to 4 ft.  
.FRI NIGHT...W to SW winds 15 to 20 kt. Seas 4 to 6 ft.  
.SAT...W winds 10 to 20 kt, becoming 10 to 15 kt. Seas 4 to 6 ft.  
.SAT NIGHT...W to SW winds 10 to 15 kt, becoming N to NE 5 to 15 kt. Seas 3 to 5 ft.  
.SUN...NE winds 5 to 15 kt. Seas 3 to 4 ft.  
.SUN NIGHT...E to SE winds less than 10 kt, becoming SW. Seas 3 to 4 ft.

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ANZ815-110230-

South of Long Island between Montauk Point and Sandy Hook to  
1000 FM-  
1033 AM EDT Wed May 10 2023

.TODAY...W winds less than 10 kt, becoming SW. Seas 3 to 4 ft.  
.TONIGHT...SW winds 10 to 20 kt, becoming W 10 to 15 kt. Seas 3 to 4 ft.  
.THU...W winds 5 to 15 kt, becoming SW 10 to 15 kt. Seas 3 to 4 ft.  
.THU NIGHT...SW winds 10 to 20 kt, becoming W 5 to 15 kt. Seas 3 to 4 ft.  
.FRI...W to SW winds 10 to 15 kt. Seas 3 to 4 ft.  
.FRI NIGHT...SW winds 10 to 20 kt. Seas 3 to 5 ft.  
.SAT...W winds 10 to 20 kt, becoming SW 5 to 15 kt. Seas 3 to 6 ft.  
.SAT NIGHT...W to SW winds 5 to 15 kt, becoming N to NE. Seas 3 to 4 ft.  
.SUN...E to NE winds 5 to 15 kt. Seas 3 to 4 ft.  
.SUN NIGHT...E to SE winds 5 to 10 kt, becoming S to SW. Seas 3 to 4 ft.

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.Forecaster Collins. Ocean Prediction Center.

### **Example of an OFF when there is an active Tropical Cyclone**

FZNT24 KNHC 261548  
OFFNT4

Offshore Waters Forecast for the Gulf of Mexico  
NWS National Hurricane Center Miami, FL

1148 AM EDT Mon Sep 26 2022

Offshore Waters Forecast for the Gulf of Mexico

Seas given as significant wave height, which is the average height of the highest 1/3 of the waves. Individual waves may be more than twice the significant wave height.

GMZ001-270400-  
Synopsis for the Gulf of Mexico  
1148 AM EDT Mon Sep 26 2022

.SYNOPSIS...Hurricane Ian is near 19.1N 82.7W 980 mb at 11 AM EDT moving NW at 11 kt. Maximum sustained winds are 70 kt with gusts to 85 kt. Ian is expected to intensify rapidly through the next 36 hours. Ian will move across W Cuba tonight and reach near 22.7N 84W Tue morning as a major hurricane, near 26.1N 83.8W Wed morning, near 27.2N 83.5W Thu morning and then inland across N Florida late Thu night to early Fri morning. Expect hazardous conditions in the southeastern Gulf and Straits of Florida beginning before midnight tonight, then spreading north and northwestward across the E and central Gulf Tue through early Fri.

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GMZ040-270400-  
NW Gulf including Stetson Bank-  
1148 AM EDT Mon Sep 26 2022

.TODAY...N to NE winds 10 to 15 kt. Seas 3 ft or less.  
.TONIGHT...S of 27N, NE winds 10 to 15 kt. N of 27N, NE winds 10 kt, increasing to 15 to 20 kt late. Seas 3 ft or less.  
.TUE...NE winds 15 to 20 kt. Seas 4 to 6 ft.  
.TUE NIGHT...NE winds 15 to 20 kt. Seas 5 to 7 ft.  
.WED...NE winds 20 to 25 kt. Seas 6 to 8 ft.  
.WED NIGHT...NE winds 20 to 25 kt. Seas 7 to 10 ft in E swell.  
.THU...N to NE winds 15 to 20 kt. Seas 7 to 10 ft in E swell.  
.THU NIGHT...NE winds 10 to 15 kt. Seas 7 to 10 ft in E swell.  
.FRI...N winds 10 to 15 kt. Seas 6 to 8 ft in E swell.

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GMZ041-270400-  
SW Louisiana Offshore Waters including Flower Garden Bank Marine Sanctuary-  
1148 AM EDT Mon Sep 26 2022

.TODAY...N to NE winds 10 to 15 kt. Seas 3 ft or less.  
.TONIGHT...N to NE winds 15 to 20 kt. Seas 2 to 4 ft.  
.TUE...NE winds 15 to 20 kt. Seas 4 to 6 ft.  
.TUE NIGHT...NE winds 20 to 25 kt. Seas 6 to 9 ft in NE to E

swell.

.WED...NE winds 20 to 25 kt. Seas 7 to 11 ft in E to SE swell.

.WED NIGHT...N to NE winds 20 to 25 kt. Seas 9 to 14 ft in E swell.

.THU...N to NE winds 15 to 20 kt. Seas 9 to 13 ft in E swell.

.THU NIGHT...N to NE winds 15 to 20 kt. Seas 7 to 11 ft in NE to E swell.

.FRI...N winds 10 to 15 kt. Seas 6 to 9 ft in NE to E swell.

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GMZ056-270400-

N Central Gulf Offshore Waters-

1148 AM EDT Mon Sep 26 2022

.TODAY...NE winds 10 to 15 kt. Seas 3 ft or less.

.TONIGHT...NE winds 15 to 20 kt. Seas 2 to 4 ft.

.TUE...NE winds 20 to 25 kt. Seas 3 to 5 ft, building to 6 to 8 ft in the afternoon.

.TUE NIGHT...TROPICAL STORM CONDITIONS POSSIBLE. N to NE winds 25 to 30 kt. Seas 8 to 12 ft in E to SE swell. Scattered showers and isolated tstms.

.WED...TROPICAL STORM CONDITIONS POSSIBLE. N to NE winds 25 to 30 kt. Seas 11 to 17 ft in E to SE swell.

.WED NIGHT...TROPICAL STORM CONDITIONS POSSIBLE.

.THU...TROPICAL STORM CONDITIONS POSSIBLE.

.THU NIGHT...TROPICAL STORM CONDITIONS POSSIBLE.

.FRI...N winds 10 to 15 kt W of 89W, and NW to N 20 to 25 kt E of 89W. Seas 9 to 13 ft in NE swell.

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GMZ057-270400-

NE Gulf N of 26N E of 87W-

1148 AM EDT Mon Sep 26 2022

...HURRICANE WARNING...

.TODAY...NE winds 10 to 15 kt. Seas 3 ft or less. Scattered showers and isolated tstms.

.TONIGHT...NE winds 10 to 15 kt. Seas 2 to 4 ft. Scattered showers and isolated tstms.

.TUE...TROPICAL STORM CONDITIONS POSSIBLE. NE winds 25 to 30 kt. Seas 3 to 5 ft, building to 6 to 8 ft in the afternoon. Scattered showers and isolated tstms.

.TUE NIGHT...TROPICAL STORM CONDITIONS EXPECTED. W of 85W, NE winds 25 to 30 kt, shifting to N to NE 30 to 40 kt late. E of 85W, NE to E winds 35 to 40 kt, increasing to 45 to 55 kt late. Seas 9 to 14 ft in SE swell, building to 14 to 22 ft in SE to S swell late. Scattered showers and isolated tstms.

.WED...HURRICANE CONDITIONS POSSIBLE. N winds 30 to 40 kt W of

85W, and N to NE 90 to 110 kt E of 85W. Seas 20 to 30 ft in E to SE swell. Numerous showers and scattered tstms.

.WED NIGHT...HURRICANE CONDITIONS POSSIBLE. Numerous showers and scattered tstms.

.THU...HURRICANE CONDITIONS POSSIBLE.

.THU NIGHT...HURRICANE CONDITIONS POSSIBLE.

.FRI...HURRICANE CONDITIONS POSSIBLE.

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GMZ058-270400-

W Central Gulf from 22N to 26N W of 94W-

1148 AM EDT Mon Sep 26 2022

.TODAY...N to NE winds 10 to 15 kt. Seas 3 ft or less. Scattered showers and isolated tstms.

.TONIGHT...NE winds 10 to 15 kt. Seas 2 to 4 ft. Scattered showers and isolated tstms.

.TUE...N to NE winds 15 to 20 kt. Seas 2 to 4 ft. Scattered showers and isolated tstms.

.TUE NIGHT...N to NE winds 15 to 20 kt. Seas 5 to 7 ft.

.WED...N to NE winds 15 to 20 kt. Seas 6 to 8 ft.

.WED NIGHT...N to NE winds 15 to 20 kt. Seas 7 to 10 ft in E swell.

.THU...N winds 15 to 20 kt. Seas 7 to 10 ft in NE to E swell.

.THU NIGHT...N winds 15 to 20 kt. Seas 7 to 10 ft in NE to E swell.

.FRI...N winds 10 to 15 kt. Seas 6 to 9 ft in NE to E swell.

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GMZ045-270400-

W Central Gulf from 22N to 26N between 91W and 94W-

1148 AM EDT Mon Sep 26 2022

.TODAY...NE winds 10 to 15 kt. Seas 3 ft or less. Scattered showers and isolated tstms.

.TONIGHT...NE winds 15 to 20 kt. Seas 3 to 5 ft.

.TUE...N to NE winds 15 to 20 kt. Seas 4 to 6 ft.

.TUE NIGHT...N to NE winds 15 to 20 kt. Seas 6 to 8 ft in NE to E swell. Scattered showers and isolated tstms.

.WED...N to NE winds 15 to 20 kt. Seas 7 to 10 ft in E swell.

.WED NIGHT...N to NE winds 20 to 25 kt. Seas 8 to 12 ft in NE to E swell.

.THU...N winds 15 to 20 kt. Seas 8 to 12 ft in NE to E swell.

.THU NIGHT...N winds 10 to 15 kt. Seas 7 to 11 ft in NE to E swell.

.FRI...NW to N winds 10 kt. Seas 6 to 9 ft in NE to E swell.

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GMZ046-270400-

Central Gulf from 22N to 26N between 87W and 91W-  
1148 AM EDT Mon Sep 26 2022

.TODAY...NE winds 10 to 15 kt. Seas 3 ft or less. Scattered showers and isolated tstms.  
.TONIGHT...NE winds 15 to 20 kt. Seas 4 to 6 ft. Scattered showers and isolated tstms.  
.TUE...N to NE winds 20 to 25 kt. Seas 6 to 9 ft in NE to E swell. Scattered showers and isolated tstms.  
.TUE NIGHT...TROPICAL STORM CONDITIONS POSSIBLE. N winds 25 to 30 kt. Seas 9 to 14 ft in E swell. Scattered showers and isolated tstms.  
.WED...TROPICAL STORM CONDITIONS POSSIBLE. N winds 20 to 25 kt S of 24N, and N 25 to 30 kt N of 24N. Seas 10 to 15 ft in NE to E swell.  
.WED NIGHT...N winds 15 to 20 kt S of 24N, and N 25 to 30 kt N of 24N. Seas 10 to 16 ft in NE swell.  
.THU...NW to N winds 20 to 25 kt. Seas 10 to 15 ft in NE swell.  
.THU NIGHT...NW to N winds 15 to 20 kt. Seas 9 to 14 ft in NE swell.  
.FRI...NW to N winds 15 to 20 kt. Seas 8 to 12 ft in NE swell.

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GMZ047-270400-  
SE Gulf from 22N to 26N E of 87W including Straits of Florida-  
1148 AM EDT Mon Sep 26 2022

...HURRICANE WARNING...

.TODAY...NE to E winds 15 to 20 kt. Seas 2 to 4 ft. Scattered showers and isolated tstms.  
.TONIGHT...TROPICAL STORM CONDITIONS EXPECTED. S of 24N, NE winds 20 to 25 kt, increasing to 35 to 40 kt late. N of 24N, NE to E winds 20 to 25 kt. Seas 3 to 5 ft, building to 7 to 10 ft in E swell late. Scattered showers and tstms.  
.TUE...HURRICANE CONDITIONS EXPECTED. S of 24N, N to NE winds 70 to 80 kt, shifting to NW 80 to 100 kt in the afternoon. N of 24N, NE to E winds 35 to 40 kt, becoming NE 60 to 70 kt in the afternoon. Seas 10 to 16 ft in E swell, building to 14 to 22 ft in E to SE swell in the afternoon. Numerous showers and scattered tstms.  
.TUE NIGHT...HURRICANE CONDITIONS EXPECTED. S of 24N, W to NW winds 45 to 55 kt, diminishing to 35 to 40 kt late. N of 24N, N winds 90 to 110 kt. Seas 18 to 27 ft in NE swell. Scattered showers and isolated tstms.  
.WED...HURRICANE CONDITIONS POSSIBLE. S of 24N, W to NW winds 20 to 25 kt. N of 24N, W to NW winds 90 to 110 kt, diminishing to 45 to 55 kt in the afternoon. Seas 16 to 25 ft in N to NE swell. Scattered showers and isolated tstms.  
.WED NIGHT...HURRICANE CONDITIONS POSSIBLE.  
.THU...TROPICAL STORM CONDITIONS POSSIBLE.

.THU NIGHT...TROPICAL STORM CONDITIONS POSSIBLE.  
.FRI...W to NW winds 15 to 20 kt. Seas 9 to 14 ft in N swell.

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GMZ048-270400-  
SW Gulf S of 22N W of 94W-  
1148 AM EDT Mon Sep 26 2022

.TODAY...N winds 15 to 20 kt. Seas 3 ft or less. Scattered  
showers and isolated tstms.  
.TONIGHT...NW to N winds 15 to 20 kt S of 21N W of 95W, and N  
10 to 15 kt elsewhere. Seas 3 ft or less. Scattered showers and  
isolated tstms.  
.TUE...NW to N winds 15 to 20 kt. Seas 3 to 5 ft. Scattered  
showers and isolated tstms.  
.TUE NIGHT...N winds 20 to 25 kt. Seas 3 to 5 ft. Scattered  
showers and isolated tstms.  
.WED...NW to N winds 20 to 25 kt. Seas 5 to 7 ft. Scattered  
showers and isolated tstms.  
.WED NIGHT...N winds 20 to 25 kt. Seas 6 to 8 ft. Scattered  
showers and isolated tstms.  
.THU...NW to N winds 20 to 25 kt. Seas 6 to 9 ft in NE swell.  
.THU NIGHT...NW to N winds 20 to 25 kt. Seas 6 to 9 ft in NE  
swell.  
.FRI...NW to N winds 15 to 20 kt. Seas 6 to 9 ft in NE swell.

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GMZ049-270400-  
Central Bay of Campeche-  
1148 AM EDT Mon Sep 26 2022

.TODAY...N to NE winds 10 kt. Seas 3 ft or less.  
.TONIGHT...N to NE winds 10 to 15 kt. Seas 3 ft or less.  
Scattered showers and isolated tstms.  
.TUE...N winds 10 to 15 kt. Seas 3 to 5 ft. Scattered showers and  
isolated tstms.  
.TUE NIGHT...N to NE winds 15 to 20 kt. Seas 4 to 6 ft. Scattered  
showers and isolated tstms.  
.WED...N winds 15 to 20 kt. Seas 5 to 7 ft. Scattered showers and  
isolated tstms.  
.WED NIGHT...N winds 15 to 20 kt. Seas 6 to 8 ft in N to NE  
swell. Scattered showers and isolated tstms.  
.THU...N winds 15 to 20 kt. Seas 6 to 9 ft in N to NE swell.  
.THU NIGHT...NW to N winds 15 to 20 kt. Seas 6 to 9 ft in N to NE  
swell.  
.FRI...NW to N winds 10 to 15 kt. Seas 6 to 9 ft in N to NE  
swell.

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GMZ050-270400-  
E Bay of Campeche including Campeche Bank-  
1148 AM EDT Mon Sep 26 2022

.TODAY...N to NE winds 10 to 15 kt. Seas 3 ft or less. Scattered showers and isolated tstms.  
.TONIGHT...N winds 15 to 20 kt. Seas 2 to 4 ft. Scattered showers and isolated tstms.  
.TUE...N winds 15 to 20 kt. Seas 4 to 6 ft. Scattered showers and isolated tstms.  
.TUE NIGHT...N winds 15 to 20 kt. Seas 5 to 7 ft. Scattered showers and isolated tstms.  
.WED...N winds 15 to 20 kt. Seas 6 to 8 ft in N to NE swell. Scattered showers and isolated tstms.  
.WED NIGHT...N winds 15 to 20 kt. Seas 6 to 9 ft in N to NE swell.  
.THU...NW to N winds 10 to 15 kt. Seas 6 to 9 ft in N swell.  
.THU NIGHT...NW to N winds 10 to 15 kt. Seas 6 to 9 ft in N swell.  
.FRI...NW winds 10 to 15 kt. Seas 6 to 8 ft in N swell.

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Forecaster Stripling

FZHW60 PHFO 061528  
OFFHFO

Offshore Waters Forecast for Hawaii  
National Weather Service Honolulu HI  
600 AM HST Thu Aug 6 2015

Hawaiian offshore waters beyond 40 nautical miles out to 240 nautical miles including the portion of the Papahānaumokuākea Marine National Monument east of French Frigate Shoals

Seas given as significant wave height, which is the average height of the highest 1/3 of the waves. Individual waves may be more than twice the significant wave height.

PHZ105-062200-  
600 AM HST Thu Aug 6 2015

.SYNOPSIS FOR HAWAIIAN OFFSHORE WATERS...  
At 500 AM HST, 1500 UTC, the center of Tropical Storm Guillermo was located near latitude 21.7 north, longitude 154.4 west. Guillermo was moving west at 10 kt. The center is forecast to be about 68 nm north northeast of Kahului Maui at 2 PM HST this afternoon, and near 35 nm northeast of the northeast corner of Kauai at 2 AM HST early Friday morning.

Guillermo forecast positions

200 PM HST Thursday 22.1N 156.1W Tropical Depression  
200 AM HST Friday 22.4N 158.7W Tropical Depression  
200 PM HST Friday 22.9N 161.5W Tropical Depression  
200 AM HST Saturday 23.4N 164.4W Remnant Low  
200 PM HST Sunday 24.5N 170.3W Remnant Low  
200 AM HST Monday Dissipated

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PHZ180-062200-  
Hawaiian Offshore Waters  
600 AM HST Thu Aug 6 2015

...TROPICAL STORM WARNING...

.TODAY...TROPICAL STORM CONDITIONS over waters N of 21N east of 157W. Elsewhere N of 21N, NE to N winds 20 to 30 kt. Rest of area, mainly e winds 10 to 20 kt. Seas 8 to 13 ft N of 21n. Seas 5 to 10 ft elsewhere.  
.TONIGHT...Winds 20 to 30 kt near the center. Elsewhere N of 22N, winds 15 to 20 kt. Rest of area S of 22N, E winds to 15 kt. Seas 8 to 12 ft N of 20N, and seas 4 to 7 ft elsewhere.  
.FRIDAY...N of 22N, variable winds 15 to 25 kt. Rest of area N of 21N W of 158W, variable winds to 15 kt. Rest area N of 21N, SE to E winds 15 to 20 kt. Remainder of area, E winds 10 to 15 kt. Seas N of 23N W of 156W, 8 TO 12 ft. Rest of area, seas 5 to 8 ft.  
.FRIDAY NIGHT...Area N of 23N W of 160W, SE winds 10 to 20 kt. Rest of area N of 20N, E winds 10 to 15 kt. Remainder of area, E winds 15 to 20 kt. Seas 5 to 8 ft.  
.SATURDAY AND SUNDAY...N of 20N, E winds 10 to 15 kt. Rest of Area, E winds 15 to 20 kt. Seas 5 to 8 ft.  
.MONDAY...NE to E winds 10 to 15 kt. Seas 5 to 7 ft.

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**NAVTEX Forecasts:**

FZNT25 KWNM 101512  
OFFN03

NAVTEX Marine Forecast for southeast U.S. waters  
NWS Ocean Prediction Center Washington DC  
1112 AM EDT Wed May 10 2023

Conditions given represent the highest within that period.

...Please refer to Coastal Waters Forecasts (CWF) available through NOAA Weather Radio and other means for detailed coastal

waters forecasts...

.SYNOPSIS...A cold front will move S across the waters today and tonight. Locally strong thunderstorms with gusty winds and rough seas will be possible, and mariners should use caution in and near the stronger thunderstorms. High pressure will build S across the area behind the cold front later tonight into Thu, then will maintain a ridge over the waters Thu night through Sun night.

Murrells Inlet to 31N

.TODAY...NE winds 15 to 25 kt. Seas 5 to 8 ft. Scattered showers and tstms.

.TONIGHT...E winds 10 to 20 kt. Seas 5 to 8 ft.  
.THU...E winds 10 to 20 kt. Seas 5 to 7 ft.  
.THU NIGHT...E winds 10 to 20 kt. Seas 4 to 7 ft.  
.FRI...E winds 5 to 15 kt. Seas 3 to 6 ft.  
.FRI NIGHT...SE winds 5 to 15 kt. Seas 3 to 5 ft.  
.SAT...S to SE winds 5 to 15 kt. Seas 3 to 5 ft.  
.SAT NIGHT...S winds 5 to 15 kt. Seas 3 to 4 ft.  
.SUN...S to SE winds 5 to 15 kt. Seas 3 to 4 ft.  
.SUN NIGHT...S winds 5 to 15 kt. Seas 3 to 4 ft.

South of 31N

.TODAY...N to NW winds 5 to 15 kt, becoming NE 10 to 20 kt. Seas 3 to 4 ft. Scattered showers and tstms.

.TONIGHT...E winds 10 to 20 kt. Seas 4 to 6 ft.  
.THU...E winds 10 to 20 kt. Seas 4 to 6 ft.  
.THU NIGHT...E winds 10 to 20 kt. Seas 4 to 7 ft.  
.FRI...E winds 10 to 20 kt. Seas 3 to 6 ft.  
.FRI NIGHT...E to SE winds 5 to 15 kt. Seas 3 to 5 ft.  
.SAT...E winds 5 to 15 kt. Seas 3 to 4 ft.  
.SAT NIGHT...SE winds 5 to 15 kt. Seas 3 to 4 ft.  
.SUN...E to SE winds 5 to 10 kt. Seas 3 to 4 ft.  
.SUN NIGHT...S to SE winds 5 to 15 kt. Seas 3 to 4 ft.

**High Seas Forecasts:**

FZPN02 KWBC 101725  
HSFEPI

HIGH SEAS FORECAST FOR METAREA XII  
NWS OCEAN PREDICTION CENTER WASHINGTON DC  
1745 UTC WED MAY 10 2023

CCODE/1:31:12:01:00/AOW+POR/NWS/CCODE SUPERSEDED BY NEXT ISSUANCE IN 6 HOURS

SEAS GIVEN AS SIGNIFICANT WAVE HEIGHT...WHICH IS THE AVERAGE HEIGHT OF THE HIGHEST 1/3 OF THE WAVES. INDIVIDUAL WAVES MAY BE MORE THAN TWICE THE SIGNIFICANT WAVE HEIGHT.

ONLY YOU KNOW THE WEATHER AT YOUR POSITION. REPORT IT TO THE NATIONAL WEATHER SERVICE. EMAIL US AT VOSOPS@NOAA.GOV (LOWERCASE).

FORECASTS OF HIGH PRESSURE SYSTEMS IN THE HIGH SEAS TEXT FORECASTS WILL BE DISCONTINUED EFFECTIVE MAY 17, 2023. FOR MORE INFORMATION SEE [HTTPS://WWW.WEATHER.GOV/MEDIA/NOTIFICATION/ PDF\\_2023\\_24/SCN23-51\\_DISCONTINUE\\_HIGH\\_PRESSURE\\_SYSTEM\\_FORECASTS\\_HI.PDF](https://www.weather.gov/media/notification/pdf_2023_24/scn23-51_discontinue_high_pressure_system_forecasts_hi.pdf) (ALL LOWERCASE).

SECURITE

PACIFIC N OF 30N AND S OF 67N E OF A LINE FROM BERING STRAIT TO 50N 160E

ALL FORECASTS VALID OVER ICE FREE FORECAST WATERS

SYNOPSIS VALID 1200 UTC MAY 10. 24 HOUR FORECAST VALID 1200 UTC MAY 11. 48 HOUR FORECAST VALID 1200 UTC MAY 12.

.WARNINGS.

GALE WARNING

.LOW 49N168W 997 MB MOVING SE 30 KT. FROM 37N TO 49N BETWEEN 160W AND 172W WINDS 25 TO 40 KT. SEAS 12 TO 24 FT. ALSO N OF 49N BETWEEN 168W AND 175E WINDS 20 TO 30 KT. SEAS 9 TO 18 FT. .24 HOUR FORECAST LOW 47N150W 977 MB. FROM 30N TO 50N BETWEEN 139W AND 175W WINDS 25 TO 40 KT. SEAS 9 TO 18 FT. ELSEWHERE WITHIN 900 NM E AND SE QUADRANTS WINDS 20 TO 30 KT. SEAS 8 TO 15 FT. .48 HOUR FORECAST LOW 48N151W 976 MB. FRONT TO EXTEND FROM LOW TO 54N145W TO 47N136W TO 30N148W. FROM 34N TO 51N BETWEEN 144W AND 170W...WITHIN 720 NM N QUADRANT...AND WITHIN 360 NM NE AND E OF FRONT WINDS 25 TO 40 KT. SEAS 9 TO 18 FT.

GALE WARNING

.COMPLEX LOW WITH FIRST CENTER 56N151W 990 MB MOVING SW 15 KT AND SECOND CENTER 51N153W 991 MB DRIFTING NE. FRONT EXTENDS FROM FIRST CENTER TO 51N142W TO 42N141W TO 36N150W. WITHIN 360 NM N QUADRANT...AND WITHIN 360 NM NE AND E OF FRONT WINDS 25 TO 40 KT. SEAS 8 TO 15 FT. ELSEWHERE FROM 38N TO 50N BETWEEN THE FRONT AND 160W WINDS 20 TO 30 KT. SEAS 8 TO 15 FT. .24 HOUR FORECAST COMBINED LOW 52N160W 986 MB. FRONT TO EXTEND FROM LOW TO 57N160W TO 58N150W TO 55N137W. WITHIN 180 NM N AND NE OF FRONT...AND N OF 50N BETWEEN 160W AND 176W WINDS 25 TO 40 KT. SEAS 9 TO 17 FT. .48 HOUR FORECAST LOW AND ASSOCIATED CONDITIONS ABSORBED BY LOW 48N151W DESCRIBED ABOVE.

GALE WARNING

.LOW W OF AREA 41N155E 1002 MB MOVING NE 20 KT. WITHIN 480 NM E QUADRANT WINDS 25 TO 35 KT. SEAS TO 11 FT. .24 HOUR FORECAST LOW 50N160E 1000 MB. W OF A LINE FROM 36N167E TO 49N176E TO 55N170E WINDS 25 TO 40 KT. SEAS 8 TO 13 FT. .48 HOUR FORECAST LOW JUST NW OF AREA 53N162E 999 MB. FRONT TO EXTEND FROM 56N172E TO 51N178E TO 43N180W. WITHIN 360 NM SE SEMICIRCLE...AND WITHIN 240 NM NE AND E OF FRONT WINDS 20 TO 30 KT. SEAS TO 11 FT.

.SYNOPSIS AND FORECAST.

.FROM 30N TO 35N E OF 121W AREA OF NW WINDS TO 25 KT. SEAS TO 8 FT. .24 HOUR FORECAST FROM 37N TO 37N E OF 123W AREA OF NW WINDS TO 25 KT. SEAS TO 9 FT. .48 HOUR FORECAST FROM 30N TO 40N BETWEEN 118W AND 125W AREA OF NW WINDS TO 25 KT. SEAS TO 10 FT.

.48 HOUR FORECAST LOW 36N161E 1010 MB. W OF A LINE FROM 30N164E TO 42N180W TO 46N180W WINDS 20 TO 30 KT. SEAS TO 10 FT.

.DENSE FOG. VSBY OCCASIONALLY LESS THAN 1 NM FROM 55N TO 59N BETWEEN 150W AND 159W...WITHIN 120 NM OF 49N171W AND 56N171W...AND FROM 45N TO 47N W OF 163E. .24 HOUR FORECAST DENSE FOG FROM 47N TO 53N BETWEEN 151W AND 164W...AND FROM 38N TO 53N W OF 172E.

48 HOUR FORECAST DENSE FOG N OF 45N BETWEEN 178W AND 175E AND WITHIN 240 NM NW AND W OF A LINE FROM 47N174E TO 34N160E.

.HIGH 48N128W 1020 MB MOVING SE 10 KT. .24 HOUR FORECAST HIGH 46N125W 1021 MB. .48 HOUR FORECAST HIGH 46N126W 1021 MB.

.HIGH 32N133W 1023 MB MOVING SE 10 KT. .24 HOUR FORECAST HIGH 31N131W 1022 MB. .48 HOUR FORECAST HIGH 31N130W 1022 MB.

.HIGH 37N176E 1033 MB MOVING NE 05 KT. .24 HOUR FORECAST HIGH 38N178E 1031 MB. .48 HOUR FORECAST HIGH 38N178W 1029 MB.

.HIGH 50N165E 1030 MB MOVING NE 20 KT. .24 HOUR FORECAST HIGH 53N178E 1029 MB. .48 HOUR FORECAST HIGH 54N173W 1021 MB.

.FORECASTER KELLS. OCEAN PREDICTION CENTER.

NATIONAL HURRICANE CENTER MIAMI FL

E PACIFIC FROM THE EQUATOR TO 30N E OF 140W AND 03.4S TO THE EQUATOR E OF 120W

SYNOPSIS VALID 1200 UTC WED MAY 10. 24 HOUR FORECAST VALID 1200 UTC THU MAY 11. 48 HOUR FORECAST VALID 1200 UTC FRI MAY 12.

.WARNINGS.

.NONE.

.SYNOPSIS AND FORECAST.

.WITHIN 19N112W TO 21N136W TO 05N140W TO 05N121W TO 03.4S110W TO 01S89W TO 19N112W WINDS 20 KT OR LESS. SEAS 8 TO 10 FT IN PRIMARILY S TO SW SWELL. .24 HOUR FORECAST WITHIN 30N116W TO 30N117W TO 29N117W TO 29N116W TO 29N115W TO 30N116W...INCLUDING SEBASTIAN VIZCAINO BAY...NW WINDS 20 TO 25 KT. SEAS 8 TO 9 FT IN NW SWELL. ELSEWHERE WITHIN 22N110W TO 30N118W TO 19N124W TO 18N134W TO 08N140W TO 05N123W TO 22N110W...INCLUDING WITHIN 60 NM OF SHORE...WINDS 20 KT OR LESS. SEAS 8 TO 10 FT IN MERGING NW AND S SWELL...EXCEPT S OF 20N SEAS 8 TO 9 FT IN S TO SW SWELL. WITHIN 02N118W TO 02N125W TO 00N131W TO 01S120W TO 03.4S120W TO 03.4S102W TO 02N118W WINDS 20 KT OR LESS. SEAS 8 TO 9 FT IN S TO SW SWELL. .48 HOUR FORECAST WITHIN 30N116W TO 30N120W TO 22N117W TO 18N113W TO 22N109W TO 23N111W TO 30N116W...INCLUDING WITHIN 60 NM OF SHORE...WINDS 20 KT OR LESS. SEAS 8 TO 9 FT IN NW SWELL. WITHIN 15N117W TO 15N140W TO 06N140W TO 00N127W TO 02S98W TO 07N117W TO 15N117W WINDS 20 KT OR LESS. SEAS 8 TO 9 FT IN MERGING NW AND S SWELL.

.GULF OF CALIFORNIA WITHIN 31N114W TO 32N115W TO 30N114W TO 30N113W TO 31N114W W TO NW WINDS 20 TO 30 KT. SEAS LESS THAN 8 FT. .09 HOUR FORECAST CONDITIONS IMPROVE. WINDS 20 KT OR LESS. SEAS LESS THAN 8 FT.

WITHIN 27N116W TO 26N116W TO 26N115W TO 27N115W TO 27N116W

INCLUDING WITHIN 60 NM OF SHORE...WINDS 20 KT OR LESS. SEAS 8 FT IN NW SWELL. .12 HOUR FORECAST CONDITIONS TO MERGE WITH AREA OF SWELL DESCRIBED ABOVE. .REMAINDER OF AREA WINDS 20 KT OR LESS. SEAS LESS THAN 8 FT.

CONVECTION VALID AT 1510 UTC WED MAY 10...

INTERTROPICAL CONVERGENCE ZONE/MONSOON TROUGH

MONSOON TROUGH FROM NEAR 10.5N75W TO 09N87W TO 05N95W. ITCZ FROM 05N95W TO 06N108W TO 04.5N135W TO BEYOND 03N140W. SCATTERED MODERATE TO STRONG CONVECTION 01N-07.5N E OF 86W TO COAST OF COLOMBIA. SCATTERED MODERATE TO STRONG CONVECTION 05N-09N BETWEEN 104W-138W.

.FORECASTER STRIPLING. NATIONAL HURRICANE CENTER.

NATIONAL WEATHER SERVICE HONOLULU HI

NORTH PACIFIC EQUATOR TO 30N BETWEEN 140W AND 160E

SYNOPSIS VALID 1200 UTC MAY 10 2023. 24 HOUR FORECAST VALID 1200 UTC MAY 11 2023. 48 HOUR FORECAST VALID 1200 UTC MAY 12 2023.

.WARNINGS.

.NONE.

.SYNOPSIS AND FORECAST.

.COLD FRONT N OF AREA MOVING SSE 10 KT. .24 HOUR FORECAST COLD FRONT FROM 30N153W TO 28N170W. .48 HOUR FORECAST FRONT FROM 30N149W TO 27N159W TO 26N168W. SW WINDS 20 TO 25 KT WITHIN 210 NM E OF FRONT N OF 28N.

.WEAKENING TROUGH FROM 28N173W TO 18N174W MOVING W SLOWLY. ISOLATED MODERATE TSTMS FROM 16N TO 20N BETWEEN 167W AND 176W. .24 HOUR FORECAST TROUGH DISSIPATED.

.TROUGH FROM 13N165E TO 02N164E MOVING W 10 KT. ISOLATED MODERATE TSTMS FROM 01N TO 14N W OF 168E. .24 HOUR FORECAST TROUGH FROM 11N160E TO 01N161E.

.48 HOUR FORECAST TROUGH MOVED W OF AREA.

.NE TO E WINDS 20 TO 25 KT FROM 09N TO 19N BETWEEN 150W AND 161W... AND FROM 20N TO 29N BETWEEN 170W AND 165E. .24 HOUR FORECAST NE TO E WINDS 20 TO 25 KT FROM 19N TO 28N BETWEEN 174W AND 1678E. .48 HOUR FORECAST E WINDS 20 TO 25 KT FROM 16N TO 23N BETWEEN 177W AND 172E.

.RIDGE FROM 30N143W TO 28N155W MOVING S SLOWLY.

.RIDGE FROM 30N166E TO 27N160E NEARLY STATIONARY.

OTHERWISE

WINDS 20 KT OR LESS OVER REMAINDER OF FORECAST AREA.

.SEAS 8 TO 9 FT FROM 21N TO 29N BETWEEN 175W AND 170E. .24 HOUR FORECAST SEAS 8 TO 9 FT FROM 18N TO 26N BETWEEN 174W AND 170E. .48 HOUR FORECAST SEAS 8 TO 12 FT N OF 27N BETWEEN 145W AND 173W. SEAS 8 TO 9 FT FROM 18N TO 22N BETWEEN 178W AND 173E.

OTHERWISE

SEAS 8 FT OR LOWER OVER REMAINDER OF FORECAST AREA.

ISOLATED MODERATE TSTMS FROM 10N TO 14N BETWEEN 158W AND 170W

FROM 05N TO 14N BETWEEN 172W AND 170E...AND FROM 15N TO 22N W OF 173E.

.ITCZ FROM 03N140W TO 02N148W TO 03N168E TO 02N175E. SCATTERED MODERATE TO STRONG TSTMS S OF 06N E OF 160W...AND S OF ITCZ W OF 177W. ISOLATED MODERATE TSTMS WITHIN 270 NM N OF...AND 120 NM S OF ITCZ BETWEEN 160W AND 173W...AND WITHIN 120 NM N OF ITCZ W OF 176W.

.FORECASTER HOUSTON. HONOLULU HI.

**Example of an Atlantic High Seas Forecast with Potential Tropical Cyclone Warnings.**

FZNT02 KNHC 301001  
HSFAT2

HIGH SEAS FORECAST  
NWS NATIONAL HURRICANE CENTER MIAMI FL  
1030 UTC THU JUN 30 2022

SUPERSEDED BY NEXT ISSUANCE IN 6 HOURS

SEAS GIVEN AS SIGNIFICANT WAVE HEIGHT...WHICH IS THE AVERAGE  
HEIGHT OF THE HIGHEST 1/3 OF THE WAVES. INDIVIDUAL WAVES MAY BE  
MORE THAN TWICE THE SIGNIFICANT WAVE HEIGHT.

SECURITE

ATLANTIC FROM 07N TO 31N W OF 35W INCLUDING CARIBBEAN SEA AND  
GULF OF MEXICO

SYNOPSIS VALID 0600 UTC THU JUN 30.  
24 HOUR FORECAST VALID 0600 UTC FRI JUL 1.  
48 HOUR FORECAST VALID 0600 UTC SAT JUL 2.

.WARNINGS.

...TROPICAL STORM WARNING...

.POTENTIAL TROPICAL CYCLONE TWO NEAR 12.0N 72.4W 1009 MB AT 0900  
UTC JUN 30 MOVING W OR 270 DEG AT 17 KT. MAXIMUM SUSTAINED WINDS  
35 KT GUSTS 45 KT. TROPICAL STORM FORCE WINDS WITHIN 0 NM S  
SEMICIRCLE...70 NM NE QUADRANT AND 60 NM NW QUADRANT. SEAS 12 FT  
OR GREATER WITHIN 0 NM OF CENTER EXCEPT 120 NM NE QUADRANT WITH  
SEAS TO 12 FT. ELSEWHERE WITHIN 12N64W TO 10N76W TO 16N75W TO  
18N67W TO 15N62W TO 12N64W...INCLUDING THE MONA PASSAGE...E WINDS  
20 TO 33 KT. SEAS 8 FT. REMAINDER OF AREA WITHIN 12N55W TO  
12N59W TO 20N65W TO 20N58W TO 17N55W TO 12N55W WINDS 20 KT OR  
LESS. SEAS 8 TO 10 FT IN E SWELL.

.24 HOUR FORECAST TROPICAL STORM TWO NEAR 11.5N 79.0W. MAXIMUM  
SUSTAINED WINDS 40 KT GUSTS 50 KT. LITTLE CHANGE. TROPICAL STORM  
FORCE WINDS AND SEAS 12 FT OR GREATER WITHIN 120 NM N SEMICIRCLE  
AND 0 NM S SEMICIRCLE WITH SEAS TO 15 FT. ELSEWHERE WITHIN  
13N68W TO 11N78W TO 15N82W TO 18N76W TO 18N71W TO

13N68W...INCLUDING

THE MONA PASSAGE...E WINDS 20 TO 33 KT. SEAS 8 TO 10 FT.

.48 HOUR FORECAST TROPICAL STORM TWO INLAND NEAR 11.1N 84.6W.  
MAXIMUM SUSTAINED WINDS 45 KT GUSTS 55 KT. TROPICAL STORM FORCE  
WINDS WITHIN 50 NM N SEMICIRCLE AND 0 NM S SEMICIRCLE. CONDITIONS  
IMPROVE OVER FORECAST WATERS. WINDS 20 KT OR LESS. SEAS LESS THAN  
8 FT.

.72 HOUR FORECAST TROPICAL STORM TWO NEAR 11.5N 89.6W. MAXIMUM  
SUSTAINED WINDS 45 KT GUSTS 55 KT.

EXTENDED OUTLOOK...USE FOR GUIDANCE ONLY...ERRORS MAY BE LARGE.

.96 HOUR FORECAST TROPICAL STORM TWO NEAR 12.8N 95.2W. MAXIMUM  
SUSTAINED WINDS 60 KT GUSTS 75 KT.



.120 HOUR FORECAST HURRICANE TWO NEAR 14.2N 100.9W. MAXIMUM SUSTAINED WINDS 65 KT GUSTS 80 KT.

FORECAST WINDS IN AND NEAR ACTIVE TROPICAL CYCLONES SHOULD BE USED WITH CAUTION DUE TO UNCERTAINTY IN FORECAST TRACK...SIZE AND INTENSITY.

.SYNOPSIS AND FORECAST.

.ATLC WITHIN 11N45W TO 11N54W TO 16N55W TO 18N46W TO 14N42W TO 11N45W NE TO E WINDS 20 TO 25 KT. SEAS 8 TO 10 FT.

.24 HOUR FORECAST WITHIN 12N52W TO 13N61W TO 19N62W TO 19N54W TO 17N51W TO 12N52W E WINDS 20 TO 25 KT. SEAS 8 TO 10 FT.

.48 HOUR FORECAST WITHIN 13N58W TO 13N60W TO 17N62W TO 20N64W TO 19N58W TO 13N58W E TO SE WINDS 20 TO 25 KT. SEAS 8 TO 10 FT. WITHIN 15N64W TO 16N68W TO 18N68W TO 19N64W TO 18N62W TO 15N64W...INCLUDING THE MONA PASSAGE...E WINDS 20 TO 25 KT. SEAS LESS THAN 8 FT.

.ATLC AND CARIBBEAN WITHIN 20N72W TO 20N73W TO 20N74W TO 21N73W TO 21N72W TO 20N72W...INCLUDING THE WINDWARD PASSAGE...E WINDS 20 TO 25 KT. SEAS LESS THAN 8 FT.

.24 HOUR FORECAST CONDITIONS IMPROVE. WINDS 20 KT OR LESS. SEAS LESS THAN 8 FT.

.36 HOUR FORECAST WITHIN 20N70W TO 20N72W TO 21N72W TO 21N70W TO 20N70W...INCLUDING THE WINDWARD PASSAGE...E WINDS 20 TO 25 KT. SEAS LESS THAN 8 FT.

.48 HOUR FORECAST CONDITIONS IMPROVE. WINDS 20 KT OR LESS. SEAS LESS THAN 8 FT.

.REMAINDER OF AREA WINDS 20 KT OR LESS. SEAS LESS THAN 8 FT.

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.FORECASTER RAMOS. NATIONAL HURRICANE CENTER.

### **Examples of Pacific High Seas Forecasts with a Potential Tropical Cyclone Warning:**

HIGH SEAS FORECAST  
NATIONAL WEATHER SERVICE HONOLULU HI  
1100 UTC SUN AUG 28 2022

SUPERSEDED BY NEXT ISSUANCE IN 6 HOURS

SEAS GIVEN AS SIGNIFICANT WAVE HEIGHT...WHICH IS THE AVERAGE HEIGHT OF THE HIGHEST 1/3 OF THE WAVES. INDIVIDUAL WAVES MAY BE MORE THAN TWICE THE SIGNIFICANT WAVE HEIGHT.

THIS HIGH SEAS FORECAST USES 1-MINUTE AVERAGE WINDS WHICH MAY BE HIGHER THAN 10-MINUTE AVERAGE WINDS.

SECURITE

NORTH PACIFIC EQUATOR TO 30N BETWEEN 140W AND 160E

SYNOPSIS VALID 0600 UTC AUG 28 2022.  
24 HOUR FORECAST VALID 0600 UTC AUG 29 2022.  
48 HOUR FORECAST VALID 0600 UTC AUG 30 2022.

.WARNINGS.

...HURRICANE WARNING...

.POTENTIAL TROPICAL CYCLONE TWO-E NEAR 16.1N 148.6W 998 MB MOVING  
NW 07 KT. MAXIMUM SUSTAINED WINDS 25 KT GUSTS 35 KT. WINDS 20 TO 25  
KT

WITHIN 60 NM N SEMICIRCLE AND WITHIN 30 NM S SEMICIRCLE. SEAS 12  
FT OR GREATER WITHIN 75 NM NW QUADRANT...60 NM NW QUADRANT AND 30  
NM S SEMICIRCLE. SEAS 8 TO 12 FT ELSEWHERE WITHIN 180 NM N SEMICIRCLE  
AND 120 NM S SEMICIRCLE. SCATTERED MODERATE TO STRONG TSTMS WITHIN  
180 NM OF CENTER.

.24 HOUR FORECAST POTENTIAL TROPICAL CYCLONE TWO-E 17.8N 151.0W.  
MAXIMUM

SUSTAINED WINDS 60 KT GUSTS 75 KT. WINDS 34 KT OR GREATER AND SEAS  
12 FT OR GREATER WITHIN 90 NM NE...60 NM SE...55 NM SW AND 80 NM  
NW QUADRANTS. WINDS 20 TO 33 KT AND SEAS 8 TO 12 FT ELSEWHERE  
WITHIN 180 NM N SEMICIRCLE AND 120 NM S SEMICIRCLE.

.48 HOUR FORECAST POTENTIAL TROPICAL CYCLONE TWO-E 19.4N 154.3W.  
MAXIMUM

SUSTAINED WINDS 65 KT GUSTS 80 KT. WINDS 34 KT OR GREATER AND SEAS  
12 FT OR GREATER WITHIN 100 NM N SEMICIRCLE AND 70 NM S SEMICIRCLE.  
WINDS 20 TO 33 KT AND SEAS 8 TO 12 FT ELSEWHERE WITHIN 180 NM N  
SEMICIRCLE AND 120 NM S SEMICIRCLE.

.72 HOUR FORECAST POTENTIAL TROPICAL CYCLONE TWO-E 19.6N 156.3W.  
MAXIMUM

SUSTAINED WINDS 55 KT GUSTS 65 KT.

EXTENDED OUTLOOK...USE FOR GUIDANCE ONLY...ERRORS MAY BE LARGE.

.96 HOUR FORECAST POTENTIAL TROPICAL CYCLONE TWO-E 19.0N 160.5W.  
MAXIMUM

SUSTAINED WINDS 50 KT GUSTS 60 KT.

.120 HOUR FORECAST POTENTIAL TROPICAL CYCLONE TWO-E 18.5N 165.0W.  
MAXIMUM

SUSTAINED WINDS 40 KT GUSTS 50 KT.

FORECAST WINDS IN AND NEAR ACTIVE TROPICAL CYCLONES SHOULD BE  
USED WITH CAUTION DUE TO UNCERTAINTY IN FORECAST TRACK...SIZE  
AND INTENSITY.

.SYNOPSIS AND FORECAST.

.LOW 13N160W 1011 MB NEARLY STATIONARY. ISOLATED MODERATE TSTMS  
WITHIN 120 NM OF CENTER.

.24 HOUR FORECAST LOW 13N160W 1010 MB.

.48 HOUR FORECAST LOW 14N161W 1011 MB.

.TROUGH 30N173W 25N180E 23N167E MOVING NW SLOWLY. ISOLATED MODERATE TSTMS WITHIN 120 NM OF LINE 28N173W 20N170E 16N164E.

.24 HOUR FORECAST TROUGH 27N177W 24N170E.

.48 HOUR FORECAST TROUGH 30N178W 28N172E.

.FRONT 30N162E 28N160E MOVING E 10 KT. WINDS 20 TO 25 KT N OF 28N W OF 166E. ISOLATED MODERATE TSTMS N OF 26N W OF 168E.

.24 HOUR FORECAST FRONT 30N166E 22N160E. WINDS 20 TO 25 KT N OF 28N BETWEEN 165E AND 175E.

.48 HOUR FORECAST FRONT 30N170E 23N160E. WINDS DIMINISHED TO 20 KT OR LESS.

.WINDS 20 KT OR LESS OVER REMAINDER OF FORECAST AREA.

.SEAS 8 TO 10 FT W OF LINE 30N164E 23N160E.

.24 HOUR FORECAST SEAS 8 TO 10 FT W OF LINE 30N170E 20N160E.

.48 HOUR FORECAST SEAS 8 TO 11 FT W OF LINE 30N168E 20N168E 18N160E.

.SEAS 8 FT OR LOWER OVER REMAINDER OF FORECAST AREA.

.MONSOON TROUGH 15N142W 12N150W 13N158W...AND FROM 12N161W TO 06N170W. ISOLATED MODERATE TSTMS WITHIN 180 NM OF MONSOON TROUGH.

.SCATTERED MODERATE TSTMS FROM 10N TO 15N BETWEEN 170E AND 177E. ISOLATED MODERATE TSTMS FROM 03N TO 09N W OF 172E.

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.FORECASTER ALMANZA. HONOLULU HI.

FZPN03 KNHC 281540  
HSFEP2

HIGH SEAS FORECAST  
NWS NATIONAL HURRICANE CENTER MIAMI FL  
1630 UTC SAT SEP 28 2019

SUPERSEDED BY NEXT ISSUANCE IN 6 HOURS

SEAS GIVEN AS SIGNIFICANT WAVE HEIGHT...WHICH IS THE AVERAGE HEIGHT OF THE HIGHEST 1/3 OF THE WAVES. INDIVIDUAL WAVES MAY BE MORE THAN TWICE THE SIGNIFICANT WAVE HEIGHT.

SECURITE

E PACIFIC FROM THE EQUATOR TO 30N E OF 140W AND 03.4S TO THE EQUATOR E OF 120W

SYNOPSIS VALID 1200 UTC SAT SEP 28.  
24 HOUR FORECAST VALID 1200 UTC SUN SEP 29.  
48 HOUR FORECAST VALID 1200 UTC MON SEP 30.

.WARNINGS.

...TROPICAL STORM WARNING...

.POTENTIAL TROPICAL CYCLONE SIXTEEN-E NEAR 14.9N 100.4W 1004 MB AT 1500 UTC SEP 28 MOVING NW OR 315 DEG AT 11 KT. MAXIMUM SUSTAINED WINDS 30 KT GUSTS 40 KT. WITHIN 08N98W TO 12N108W TO 16N98W TO 13N95W TO 08N98W WINDS 20 TO 30 KT. SEAS 11 TO 15 FT. ELSEWHERE WITHIN 05N96W TO 12N111W TO 16N107W TO 15N93W TO 11N88W TO 05N96W SW TO W WINDS 20 KT OR LESS. SEAS 8 TO 11 FT IN SW SWELL.

.12 HOUR FORECAST TROPICAL STORM SIXTEEN-E NEAR 16.0N 101.5W. MAXIMUM SUSTAINED WINDS 35 KT GUSTS 45 KT. TROPICAL STORM FORCE WINDS WITHIN 70 NM S SEMICIRCLE...50 NM NE QUADRANT AND 30 NM NW QUADRANT. SEAS 12 FT OR GREATER WITHIN 60 NM NE AND 300 NM SE QUADRANTS WITH SEAS TO 16 FT.

.24 HOUR FORECAST TROPICAL STORM SIXTEEN-E NEAR 17.5N 103.5W. MAXIMUM SUSTAINED WINDS 40 KT GUSTS 50 KT. TROPICAL STORM FORCE WINDS WITHIN 60 NM NE QUADRANT...100 NM SE QUADRANT...80 NM SW QUADRANT...AND 40 NM NW QUADRANT. SEAS 12 FT OR GREATER WITHIN 30 NM NE AND 240 NM SE QUADRANTS WITH SEAS TO 16 FT. ELSEWHERE WITHIN 12N100W TO 12N102W TO 11N107W TO 19N104W TO 18N101W TO 12N100W WINDS 20 TO 33 KT. SEAS 9 TO 12 FT. REMAINDER OF AREA WITHIN 08N91W TO 08N108W TO 13N108W TO 18N102W TO 13N90W TO 08N91W SW WINDS 20 KT OR LESS. SEAS 8 TO 11 FT IN SW SWELL.

.48 HOUR FORECAST TROPICAL STORM SIXTEEN-E NEAR 22.0N 107.5W. MAXIMUM SUSTAINED WINDS 40 KT GUSTS 50 KT. TROPICAL STORM FORCE WINDS WITHIN 0 NM E SEMICIRCLE...30 NM SW QUADRANT AND 20 NM NW QUADRANT. SEAS 12 FT OR GREATER WITHIN 45 NM OF CENTER WITH SEAS TO 15 FT. ELSEWHERE WITHIN 19N105W TO 18N106W TO 19N107W TO 22N109W TO 23N107W TO 19N105W WINDS 20 TO 33 KT. SEAS 8 TO 12 FT. REMAINDER OF AREA WITHIN 13N95W TO 08N108W TO 11N115W TO 13N107W TO 18N104W TO 13N95W WINDS 20 KT OR LESS. SEAS 8 TO 10 FT IN SW SWELL.

.72 HOUR FORECAST TROPICAL DEPRESSION SIXTEEN-E NEAR 26.0N 111.0W. MAXIMUM SUSTAINED WINDS 30 KT GUSTS 40 KT. EXTENDED OUTLOOK...USE FOR GUIDANCE ONLY...ERRORS MAY BE LARGE.

.96 HOUR FORECAST TROPICAL DEPRESSION SIXTEEN-E NEAR 27.0N 111.5W. MAXIMUM SUSTAINED WINDS 25 KT GUSTS 35 KT.

.120 HOUR FORECAST POST-TROPICAL REMNANT LOW SIXTEEN-E NEAR 29.0N 112.0W. MAXIMUM SUSTAINED WINDS 20 KT GUSTS 30 KT.

FORECAST WINDS IN AND NEAR ACTIVE TROPICAL CYCLONES SHOULD BE USED WITH CAUTION DUE TO UNCERTAINTY IN FORECAST TRACK...SIZE AND INTENSITY.

.SYNOPSIS AND FORECAST.

.WITHIN 27N138W TO 26N140W TO 30N140W TO 30N134W TO 29N134W TO

27N138W WINDS 20 KT OR LESS. SEAS 8 TO 10 FT IN MIXED SWELL.  
.24 HOUR FORECAST WITHIN 28N134W TO 28N140W TO 30N140W TO  
30N135W TO 28N134W WINDS 20 KT OR LESS. SEAS TO 8 FT IN S TO SW  
SWELL.

.36 HOUR FORECAST WINDS 20 KT OR LESS. SEAS LESS THAN 8 FT.

.48 HOUR FORECAST WITHIN 09N137W TO 11N139W TO 14N131W TO  
16N125W TO 14N123W TO 09N137W WINDS 20 KT OR LESS. SEAS 8 FT IN  
SE TO S SWELL.

.48 HOUR FORECAST WITHIN 29N115W TO 28N117W TO 30N118W TO  
30N116W TO 29N115W WINDS 20 KT OR LESS. SEAS 8 FT IN S TO SW  
SWELL AND NW WIND WAVES.

.REMAINDER OF AREA WINDS 20 KT OR LESS. SEAS LESS THAN 8 FT.

CONVECTION VALID AT 1500 UTC SAT SEP 28...

.INTERTROPICAL CONVERGENCE ZONE/MONSOON TROUGH...  
MONSOON TROUGH EXTENDS FROM 10N76W TO 10N82W TO 15N90W TO  
14.5N100W TO 15N125W TO 12N140W. NUMEROUS MODERATE SCATTERED  
STRONG FROM 17N TO 23N BETWEEN 105W AND 107W. SCATTERED STRONG  
WITHIN 120 NM OF MONSOON TROUGH BETWEEN 93W AND 107W. SCATTERED  
MODERATE ISOLATED STRONG FROM 03N TO 07N E OF 80W...AND WITHIN  
180 NM S OF MONSOON TROUGH W OF 122W.

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.FORECASTER REINHART. NATIONAL HURRICANE CENTER.