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Operations and Services

Marine And Coastal Weather Services, NWSPD 10-3

OFFSHORE, NAVTEX, HIGH SEAS, AND MARINE FORECAST SERVICES

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SUMMARY OF REVISIONS: This directive supersedes NWSI 10-311, dated July 5, 2006. This directive includes the following changes:

1. Addition of an Offshore example in Appendix A with a tropical storm warning and hurricane conditions expected.

signed

August 8, 2008

David B. Caldwell

Date

Director, Office of Climate,
Water, and Weather Services

OFFSHORE, NAVTEX, AND HIGH SEAS MARINE FORECAST SERVICES

<u>Table of Contents:</u>	<u>Page</u>
1. Introduction.....	5
2. Offshore Waters Forecast (OFF)	5
2.1 Mission Connection	5
2.2 Issuance Guidelines	5
2.2.1 Creation Software	5
2.2.2 Issuance Criteria	5
2.2.3 Issuance Time	5
2.2.4 Valid Time	6
2.2.5 Product Expiration Time	6
2.3 Technical Description	6
2.3.1 MND Broadcast Line.....	6
2.3.2 MND Header.....	7
2.3.3 Content	7
2.3.4 Synopsis	7
2.3.5 Headlines	7
2.3.6 1-3 Day Forecast Periods.....	8
2.3.7 4-5 Day Forecast Periods.....	8
2.3.8 OFF - Forecast Parameters	9
2.4 Format	10
2.4.1 OFF - Unscheduled Forecasts.....	12
2.5 Graphic Products.....	12
2.6 Updates, Amendments and Corrections.....	12
3. Marine Weather Discussion (MIM).....	13
3.1 Mission Connection	13
3.2 Issuance Guidelines	13
3.2.1 Creation Software	13
3.2.2 Issuance Criteria	13
3.2.3 Issuance Time	13
3.2.4 Valid Time	13
3.2.5 Product Expiration Time	13
3.3 Technical Description	13
3.3.1 Universal Geographic Code (UGC) Type	13
3.3.2 MND Header.....	13
3.3.3 Content	13
3.4 Format	13
3.5 Updates, Amendments and Corrections.....	14
4. NAVTEX Forecasts	14
4.1 Mission Connection	14

4.2	Issuance Guidelines	14
4.2.1	Creation Software	14
4.2.2	Issuance Criteria	14
4.2.3	Issuance Time	14
4.2.4	Valid Time	14
4.2.5	Product Expiration Time	14
4.3	Technical Description	14
4.3.1	MND Broadcast Line.....	14
4.3.2	MND Header.....	15
4.3.3	Content	15
4.3.4	Synopsis	15
4.3.6	1-2 Day Forecast Periods.....	15
4.3.7	3-5 Day Forecast Periods.....	15
4.3.8	NAVTEX Forecast Parameters.....	15
4.4	Format	16
4.4.1	NAVTEX - Unscheduled Forecasts.....	16
4.5	Updates, Amendments and Corrections.....	17
5	High Seas Forecast (HSF).....	17
5.1	Mission Connection	17
5.2	Issuance Guidelines	17
5.2.1	Creation Software	17
5.2.2	Issuance Criteria	17
5.2.3	Issuance Time	17
5.2.4	Valid Time	17
5.2.5	Product Expiration Time	18
5.3	Technical Description	18
5.3.1	MND Broadcast Line.....	18
5.3.2	MND Header.....	18
5.3.3	Content	18
5.3.4	Synopsis and Forecast.....	20
5.3.5	HSF Forecast Parameters.....	20
5.4	Format	21
5.4.1	HSF - Unscheduled Forecasts.....	22
5.5	Graphic Products.....	22
5.6	Updates, Amendments and Corrections.....	22

Appendix

A.	Examples of NWS Forecasts and Products.....	A-1
1.	Graphics Products	A-1
2.	Offshore Waters Forecasts.....	A-7
3.	Marine Forecast Discussion	A-11
4.	NAVTEX Forecasts	A-13
5.	High Seas Forecast	A-15

1. Introduction. This procedural instruction provides product specifications for the main alphanumeric and graphical offshore, and high seas weather products issued by three 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 Tropical Prediction Center (TPC). The WFOs which prepare the text offshore forecast are: WFO Honolulu, HI (HFO), WFO Anchorage, AK (AFC), 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. and its territorial coastal waters. The OFF, produced in both graphic and alphanumeric format, serve users who operate from the coastal waters out several hundred nautical miles from shore.

2.2 Issuance Guidelines.

2.2.1 Creation Software. WFOs and National Center offices should produce the OFF using software formatters requiring little or no post editing. They may use text editors to create the OFF where automated software formatters are not yet available. In the Alaska Region, 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 OFF will be issued at least twice a day with updates as necessary. NCEP, Alaska Region, or Pacific Region, as dictated by user requirements, may require scheduled updates.

2.2.3 Issuance Time. Offshore Waters Forecasts 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 Offshore Waters Forecasts based on the following:

<u>Responsible Office</u>	<u>Issuance Times (UTC)</u>	
	<u>Scheduled Issuance</u>	<u>Scheduled Issuance</u>
OPC (Atlantic)	0230	
	0800	
	1430	
	2000	
OPC (Pacific)	0230	
	1630	
	2230	
	0430	
TPC/TAFB	0315	

	0915	
	1530	
	2130	
WFOs Anchorage, Juneau	1200 (DST*)	1300 (standard time)
	0000 (DST*)	0100 (standard time)
WFO Honolulu	0400	1600
	1000	2200

* DST means Daylight Savings Time

In all forecasts, include forecast periods as shown below. Use the day of the week to describe forecast periods beyond the current day. For example, in a forecast issued Sunday evening, include: TONIGHT, MON, MON NIGHT, etc.

The early morning forecasts will cover:

Today	(Issuance time to 6PM)	1 st Period
Tonight	(6PM to 6AM)	2 nd Period
Day 2	(6AM to 6PM)	3 rd Period
Day 2 Night	(6PM to 6AM)	4 th Period
Day 3	(6AM to 6AM)	5 th Period
Day 4	(6AM to 6AM)	Day 4
Day 5	(6AM to 6AM)	Day 5

The late afternoon forecast will cover:

Tonight	(Issuance time to 6AM)	1 st Period
Tomorrow	(6AM to 6PM)	2 nd Period
Tomorrow Night	(6PM to 6AM)	3 rd Period
Day 2	(6AM to 6PM)	4 th Period
Day 2 Night	(6PM to 6AM)	5 th Period
Day 3	(6AM to 6AM)	6 th Period
Day 4	(6AM to 6AM)	Day 4
Day 5	(6AM to 6AM)	Day 5

2.2.4 Valid Time. Offshore Waters Forecasts 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. Offshore Waters Forecasts will follow the format and content described in this section.

2.3.1 Mass News Disseminator Broadcast Line. None.

2.3.2 Mass News Disseminator Header. The Offshore Waters Forecast 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), as noted in NWSI 10-302, in the appropriate OFF. These National Marine Sanctuary names should be included in the specific zone(s) and/or the general area description.

Similarly, forecasters may combine zones for which they are responsible if conditions are expected to be homogeneous. However, do 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 UGC codes.

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.

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 in the forecast area.

Marine synopses for the high seas and offshore forecasts and MIMs may use descriptive terms for winds and seas consistent with the Beaufort scale as shown in the NWS glossary (<http://www.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.

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 generally should 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). A warning is issued when wind conditions are expected to exceed 34 knots within a 24-hour period. Refer to NWSI 10-301 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 EXPECTED WED or GALE FORCE WINDS EXPECTED WED, especially for stronger storms in later forecast periods.

a. Non-Tropical Storm 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 for the third period when forecaster confidence is high. In addition, when forecaster confidence is high, marine offices may include a headline in the Offshore Waters Forecast such as “GALE FORCE(or GALE FORCE CONDITIONS or STORM FORCE or HURRICANE FORCE WINDS) EXPECTED 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. Ashfall Advisory or Volcanic Activity

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 NM, or ashfall from volcanoes or forest fires.

- b. Tropical Cyclone Related Headlines. Keep headlines of tropical cyclones expected to impact the forecast area consistent with those included in the appropriate tropical cyclone advisories.
- c. Volcano/Volcanic Ash Headlines. Forecasters should include either an Ashfall Advisory headline or a headline for a volcano (i.e. “VOLCANO” without the word “WARNING”) if a confirmed volcanic eruption could significantly impact marine operations in the given offshore zone. If the later headline is issued, include in the headline the name of the volcano, its location, the area affected, and how operations are impacted (if known). State Xxxxx Volcano erupted and the most recent eruption time (we can have several "burps" per day).

Examples: AUGUSTINE VOLCANO...171 NM SOUTHWEST OF ANCHORAGE (or the location could be stated in lat/long in the HSF, such as...59N 153W) ERUPTED AT 0850AM AST TUESDAY.

or

SHISHALDIN VOLCANO ON UNIMAK ISLAND ERUPTED AT 0850AM AST (or 1750 UTC) TUESDAY.

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.

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 TPC, CPHC, and/or HPC guidance, for the specific day(s) impacted. Because large positional and intensity errors are possible in these cases, do not use specific wind and sea values.

Example:

SUN...HURRICANE CONDITIONS EXPECTED.

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."

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 forecast unless they are expected to be at least 15 knots 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 break it down 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.

Do 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 1/4 NM or less, or thunderstorms). Based on forecaster discretion, and/or expected impact to users, forecasters may include obstructions to visibility ranging between 1 ½ NM to 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 10-503, and may include specific visibility distances. However, do not include sky cover.
- d. Icing. The forecaster should include freezing spray in the body of the forecast whenever ice accretion on exposed surfaces is likely. When freezing spray is forecast to meet warning thresholds, a headline should also be included (e.g., ...HEAVY FREEZING SPRAY WARNING...). An ice accretion rate of 2 CM/hour or greater is considered heavy freezing spray. See definitions in NWSI 10-301.

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 Hypertext Markup Language (ASCII, EML, WML, and HTML).

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

OFFSHORE WATERS FORECAST (PLUS OPTIONAL LOCATION)
NATIONAL WEATHER SERVICE (CITY)(STATE)
(VALID TIME) AM/PM (LOCAL TIME ZONE)(DAY)(DATE)

OFFSHORE WATERS FORECAST FOR (FORECAST AREA)

(STATEMENT EXPLAINING SEAS FORECAST)

(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

e 1. Offshore Waters Forecast (OFF) Format

2.4.1 OFF - Unscheduled Forecasts. As needed, 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. 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)-
 (FORECAST AREAL DESCRIPTION)

Figure 2. Unscheduled Offshore Waters Forecast (OFF) Format

3. Marine Weather Discussion (product category MIM).

3.1 Mission Connection. The Marine Weather Discussion (MIM) is a semi-technical product issued by the National Centers, analogous to the Area Forecast Discussion (AFD), primarily used as a means to explain the rationale behind a forecast and summarize warnings in effect. The MIM is used to convey forecast and warning information to Weather Forecast Offices (WFO's), federal agencies, weather sensitive officials, and the media.

3.2 Issuance Guidelines.

3.2.1 Creation Software. The MIM should be composed using text editors and/or available formatters.

3.2.2 Issuance Criteria. The MIM should be issued two to four times daily by the National Centers issuing the Offshore Waters Forecast; reference section 2.2.3. In lieu of a MIM, WFOs Honolulu (HFO) Anchorage (AFC) and Juneau (AJK) should include a discussion of their OFF in their Area Forecast Discussion (AFD).

3.2.3 Issuance Time. The MIM should be issued shortly before the scheduled Offshore Waters Forecast. Also, forecasters should issue a brief MIM to provide information of an impending OFF update.

3.2.4 Valid Time. MIMs are valid from time of release until the next complete update.

3.2.5 Product Expiration Time. MIMs do not contain a product expiration time.

3.3 Technical Description. The Marine Weather Discussion will follow the format and content described in this section.

3.3.1 Universal Geographic Code (UGC) Type. There is no UGC coding associated with the MIM product.

3.3.2 MND Header. The MND Header is "MARINE WEATHER DISCUSSION".

3.3.3 Content. The Marine Weather Discussion should describe synoptic and mesoscale features expected to affect areas in and adjacent to offshore waters in both the Atlantic and Pacific Oceans. This narrative describes weather, wind speeds, and seas through the next five days. The MIM should emphasize timing and issuance of warnings; include future trends of wind and sea conditions, effects of currents such as the Gulf Stream in the Atlantic Ocean, and how the latest computer model guidance is handling features of significance to the mariner. The MIM may include the degree of confidence for any forecast element which would benefit coastal WFOs and other users' decision making. MIMs may use descriptive terms for winds and seas consistent with the Beaufort scale as shown in the NWS glossary (<http://www.weather.gov/glossary/>).

3.4 Format. The MIM should be consistent with instructions for the AFD contained in NWSI 10-503. Examples of the MIM can be found in Appendix A. 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 HyperText Markup Language.

3.5 Updates, Amendments and Corrections. MIMs will be updated when the on-duty forecast team believes the current forecast is not representative, or when format or content errors are detected. Issuing offices will correct MIMs for format and grammatical errors when discovered.

4. NAVTEX Forecasts.

4.1.1 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). 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 to several hundred nautical miles from shore. The NAVTEX should include the highest winds and seas, and associated warnings for the respective broadcast area.

4.2 Issuance Guidelines.

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

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

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

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

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

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

4.3.1 Mass News Disseminator Broadcast Line. None.

4.3.2 Mass News Disseminator 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 10-1701 4.2.3:

Issuing Office

The 3rd line should be in accordance with 10-1701 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

4.3.3 Content. NAVTEX forecasts will follow the same content as the CWF and the OFF. Exceptions: Do not include Universal Generic Codes (UGCs).

In each NAVTEX forecast, match the broadcast areas of the appropriate USCG transmitters as listed in Section 4.3.2 above, and also 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 COASTAL WATERS FORECASTS (CWF) AVAILABLE THROUGH NOAA WEATHER RADIO AND OTHER MEANS FOR DETAILED COASTAL FORECASTS..." before the synopsis.

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

4.3.5 Headlines. List applicable headlines from both CWFs and OFFs, including those involving the extended portion of the forecast, in the NAVTEX forecast. Exception: Do 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.

4.3.6 1-2 Day Forecast Periods. Include conditions representing values found throughout the entire forecast area.

4.3.7 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.

4.3.8 NAVTEX - Forecast Parameters. In the NAVTEX forecast, include the same forecast parameters as forecast in the OFF and the CWF.

4.4 Format. This product is available in industry standard encoding and languages, and may include, but not limited to, American Standard Code for Information Interchange (ASCII), Extensible Markup Language(EML), Wireless Markup Language (WML) and HyperText Markup Language (HTML). To ensure proper dissemination of the NAVTEX forecast, follow the following format:

Figure 3. NAVTEX Forecast 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 COASTAL WATERS FORECASTS (CWF) AVAILABLE
THROUGH NOAA WEATHER RADIO AND OTHER MEANS FOR DETAILED
COASTAL FORECASTS...

.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 4)...
.(DAY 5)...

$$

FORECASTER NAME (Optional)
```

4.4.1 NAVTEX - Unscheduled Forecasts. Update NAVTEX forecasts only in the rarest of circumstances when a major modification is required.

4.5 Updates, Amendments and Corrections. As NAVTEX is a single frequency system, each NAVTEX station and content provider must take 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 must make scheduling 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.

5. High Seas Forecast (product category HSF).

5.1 Mission Connection. The High Seas Forecast (HSF) provides warning and forecast information to mariners who travel on the oceanic waters. The NWS provides forecasts in our AOR for mariners of the High Seas in both graphic and alphanumeric format.

5.2 Issuance Guidelines.

5.2.1 Creation Software. The National Centers for Environmental Predictions' Ocean Prediction Center (OPC), the Tropical Prediction Centers' (TPC) Tropical Analysis and Forecast Branch (TAFB), and WFO Honolulu (HFO) should produce the HSF using text editors where automated software formatters are not yet available.

5.2.2 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, High Seas Forecast Areas of Responsibility, for a description of the areas covered in these forecasts.

5.2.3 Issuance Time. High Seas Forecasts 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
TPC/Atlantic	0430	1030	1630	2230	0000	0600	1200	1800
TPC/Pac.(N. of Equator)	0430	1030	1630	2230	0000	0600	1200	1800
OPC/Pacific	0430	1030	1630	2230	0000	0600	1200	1800
OPC/TPC/HFO Pacific	0545	1145	1745	2345	0000	0600	1200	1800
HFO/Pac.(N. of Equator)	0500	1100	1700	2300	0000	0600	1200	1800
TPC/Pac.(S. of Equator)	0515	1115	1715	2315	0000	0600	1200	1800
HFO/Pac.(S. of Equator)	0530	1130	1730	2330	0000	0600	1200	1800

5.2.4 Valid Time. High Seas Forecasts are valid from the time of issuance until the expiration time.

5.2.5 Product Expiration Time. HSFs are superseded by the next forecast issuance in 6 hours.

5.3 Technical Description. High Seas Forecasts will follow the format and content described in this section.

5.3.1 Mass News Disseminator Broadcast Line. None.

5.3.2 Mass News Disseminator Header. The High Seas Forecast MND Header is “HIGH SEAS FORECAST”.

5.3.3 Content. To ensure understanding by users with diverse English language abilities, only use the abbreviations noted in NWSI 10-301. Also, include in the header the appropriate C Code (CCODE) and World Meteorological Organization (WMO) Meteorological Area (METAREA), as shown in NWSI 10-302 and 10-304. 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 knots or greater. The expected trends, movement and 24 hour, 48 hour forecast positions and conditions are described. The forecast has less detailed information than the Offshore Waters Forecast. 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, along with associated conditions, if appropriate.

- a. Securite/Pan Pan. 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. PAN PAN is an international communications code that indicates urgent information follows. Substitute the term PAN PAN instead of SECURITE whenever winds 64 knots or greater are in the forecast within 48 hours. The wind speed of 64 knots is the determining factor, not the phenomenon (i.e. a hurricane or non tropical storm) generating them.
- b. Warnings. Include individual paragraphs listed by category of warning (hurricane, tropical storm, hurricane force wind, storm, or gale). In each paragraph, include a synopsis taken from, as applicable, the latest synoptic surface analysis or the latest tropical cyclone forecast/advisory from the TPC/National Hurricane Center or CPHC showing the following:
 1. For tropical and subtropical cyclones, provide the appropriate warning headline (i.e., HURRICANE WARNING...), the cyclone’s strength (tropical storm, or hurricane), and its identifier (name). 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 and Hurricane status. The headline will be the highest tropical cyclone category for the 48 hour forecast.

2. For all extratropical cyclones,
 - a. the location of the center (in whole degrees of latitude and longitude);
 - b. the central pressure (in millibars);
 - c. for each quadrant, the areal coverage (in nautical miles from the center) of the various wind categories (storm, gale, etc.) and associated seas greater than 12 feet;
 - d. the direction (eight points of the compass), speed of movement (knots), and trend in movement and/or intensity.
3. The central pressure (in millibars); but expected at 24 hours; include the tropical cyclone name.
4. The central pressure (in millibars); but 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 Volcanoes or Volcanic Ash guidance. Forecasters should include a headline for a volcano (i.e. "VOLCANO" without the word "WARNING") if a volcanic eruption is known and may have a significant impact on marine operations. If issued, include in the paragraph the name of the volcano, its location, the area affected, and how operations are impacted (if known). State Xxxxx Volcano erupted and the most recent eruption time (we can have several "burps" per day).

Examples: AUGUSTINE VOLCANO...171 NM SOUTHWEST OF ANCHORAGE (or the location could be stated in lat/long in the HSF, such as...59N 153W) ERUPTED AT 0850AM AST TUESDAY.

or

SHISHALDIN VOLCANO ON UNIMAK ISLAND ERUPTED AT 0850AM AST (or 1750 UTC) TUESDAY.

Describe expected changes with reference to time in UTC and day (e.g., AT 0000 UTC APR 12 N OF 27N E OF 85W WIND W 30 TO 35 KT SEAS 10 TO 14 FT.) rather than specifying a forecast period (e.g., TONIGHT, FRI MORNING, etc.). If no warnings are expected, include 'NONE' in this section.

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. Volcano

If two or more storms have equal intensity categories, list the areas in descending order of importance or threat.

Do not include severe local storm watches and warnings, and do not include small craft advisories in HSFs.

5.3.4 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. Use the time of the last previous surface analysis 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 and MIMs may use descriptive terms for winds and seas consistent with the Beaufort scale as shown in the NWS glossary (<http://www.weather.gov/glossary/>).

5.3.5 HSF Forecast Parameters.

- a. Winds. Winds represent sustained conditions at 10 meters above the surface of the water. Describe forecast wind speeds with either one representative value or, when significant differences are expected, with a small (i.e. 5 to 10 KT) 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 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 20 KT or higher. They may use a statement such as WINDS LESS THAN 20 KT for conditions elsewhere in the forecast area. These thresholds may be adjusted to account for climatology.

- 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 ft 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, PAN PAN).

- c. Significant Weather/Visibility. Include significant weather such as obstructions to visibility, thunderstorms, squalls, and ship icing.

For those HSFs covering areas south of 30N, forecasters may include thunderstorm information associated with the Intertropical Convergence Zone (ITCZ).

Forecasters should emphasize visibilities expected to be less than 1 NM in the HSF. They should mention obstructions to vision below 1NM 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. When appropriate, include a headline for HEAVY FREEZING SPRAY in the HSF. An ice accretion rate of 2 CM/hour or greater is considered heavy freezing spray. See definitions in NWSI 10-301.

5.4 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, American Standard Code for Information Interchange,

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

[**CCODES**] {Refer to NWSI 10-304 for details on CCODES}

HIGH SEAS FORECAST [**FOR METAREA (XXX) {XXX = IV, XII, or XVI}**]

[**bold** terms used exclusively in the AT1, EPI, and EP3 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)

SUPERCEDED BY NEXT ISSUANCE IN 6 HOURS

SECURITE (OR PAN PAN)

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

SYNOPSIS VALID

24 HOUR FORECAST VALID (VALID TIME)UTC (DATE)

48 HOUR FORECAST VALID (END VALID TIME)UTC (DATE)

WARNINGS

TEXT...(INCLUDE EXTENDED OUTLOOK DURING HURRICANE SEASON)

SYNOPSIS AND FORECAST

Figure 4. High Seas Forecast Format

Extensible Markup Language, Wireless Markup Language and HyperText Markup Language. The following format will be used for the HSF.

5.4.1 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.

5.5 Graphic Products. Appendix A lists graphic high seas products. Ensure these products are consistent with information contained in neighboring offices' compatible text products. These products are available in industry standard encoding and languages, and may include, but not limited to, ".tif," ".gif," and ".jpeg."

5.6 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 - Examples of NWS Offshore, NAVTEX, and High Seas Forecasts

<u>Table of Contents:</u>	<u>Page</u>
1. Graphics Products	A-1
2. Offshore Waters Forecasts	A-7
3. Marine Weather Discussion.....	A-11
4. NAVTEX Forecasts	A-13
5. High Seas Forecasts	A-15

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

ISSUING OFFICE	AREA	TYPE OF PRODUCT	VALID TIME UTC
Ocean Prediction Center (OPC)	ATL	Preliminary Surface Analysis	00
		Surface Analysis	
		Sea State 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. Wv. Per., with Ice accretion (seasonal)	
		48 Hour Surface Forecast	
		48 Hour 500 mb Forecast	
		03	
Wind/Wave Analysis	06		
Preliminary Surface Analysis	09		
Surface Analysis			
Wind/Wave Analysis			
Wind/Wave Analysis			
OPC (cont)		ATL (cont.)	12
Preliminary Surface Analysis		12	
Surface Analysis			
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	
		48 Hour Surface Forecast	
		48 Hour 500 mb Forecast	
		96 Hour Surface Forecast	
		96 Hour 500 mb Forecast	
		96 Hour Wind/Wave Forecast	
		96 Hr. Wv. Per. with Ice accretion (seasonal)	15
		Wind/Wave Analysis	18
		Preliminary Surface Analysis	
		Surface Analysis	
		Wind/Wave Analysis	21
		Wind/Wave Analysis	00
	PAC	Surface Analysis	
		Wind/wave Analysis	
		500 mb Analysis	
		Sea State Analysis	
		24 Hour Wind/Wave Forecast	
		24 Hour Surface Forecast	
		48 Hour Wind/Wave Forecast	
		48 Hour Wave Period Forecast	
		48 Hour Surface Forecast	
OPC (cont.)	PAC (cont.)	48 Hour 500 mb Forecast	
		SST Chart (40N-53N, East of 136W)	00 (cont)
		SST Chart (23N-42N, East of 136W)	03
		Wind/Wave Analysis	06
		Surface Analysis	
		Wind/Wave Analysis	09
		Wind/Wave Analysis	12
		Surface Analysis	
		Wind/Wave Analysis	
		500 mb Analysis	
		24 Hour Wind/Wave Forecast	

		24 Hour Surface Forecast	
		48 Hour Wind/Wave Forecast	
		48 Hour Wave Period	
		48 Hour Surface Forecast	
		48 Hour 500 mb Forecast	
		96 Hour Surface Forecast	
		96 Hour 500 mb Forecast	
		96 Hour Wind/Wave Forecast	
		96 Hour Wave Period Forecast	
		Wind/Wave Analysis	15
		Surface Analysis	18
		Wind/Wave Analysis	
Tropical Prediction Center (TPC)	ATL		00
		Tropical Surface Analysis	
		00 Hr Sea State Analysis	
		24 Hour Surface Forecast	
		24 Hour Wind/Wave Forecast	
		48 Hour Surface Forecast	
		72 Hour Surface Forecast	
		48 Hour Wind/Wave Forecast	
		72 Hour Wind/Wave Forecast	
		48 Hour Peak Wave Period/Swell Direction	
		72 Hour Peak Wave Period/Swell Direction	
		High Wind and Associated Seas**	04
		Tropical Cyclone Danger Area*	06
		Tropical Surface Analysis	
		24 Hour Wind/Wave Forecast	
		High Wind and Associated Seas**	10
		Tropical Cyclone Danger Area*	12
TPC (cont.)	ATL (cont.)	Tropical Surface Analysis	
		00 Hr Sea State Analysis	
		24 Hour Surface Forecast	
		24 Hour Wind/Wave Forecast	
		48 Hour Surface Forecast	
		48 Hour Wind/Wave Forecast	
		48 Hour Wave Period/Swell Direction	
		72 Hour Surface Forecast	
		72 Hour Wind/Wave Forecast	

		High Wind and Associated Seas**	16
		Tropical Cyclone Danger Area*	18
		Tropical Surface Analysis	
		24 Hour Wind/Wave Forecast	
		High Wind and Associated Seas**	22
		Tropical Cyclone Danger Area*	00
	PAC	Tropical Surface Analysis	
		00 Hour Sea State Analysis	
		24 Hour Wind/Wave Forecast	
		48 Hour Wind/Wave Forecast	
		48 Hour Peak Wave Period/Swell Direction	
		72 Hour Wind/Wave Forecast	
		72 Hour Peak Wave Period/Swell Direction	
		High Wind and Associated Seas**	
		24 Hour Surface Forecast	
		48 Hour Surface Forecast	
		72 Hour Surface Forecast	04
		Tropical Cyclone Danger Area*	06
		24 Hour Wind/Wave Forecast	
TPC (cont)	PAC (cont)	Tropical Surface Analysis	
		High Wind and Associated Seas**	
		Tropical Cyclone Danger Area*	
		Tropical Surface Analysis	10
		00 Sea State Analysis	
		24 Hour Wind/Wave Forecast	12
		48 Hour Peak Wave Period/Swell Direction	
		48 Hour Wind/Wave Forecast	
		72 Hour Wind/Wave Forecast	
		High Wind and Associated Seas**	
		24 Hour Surface Forecast	
		48 Hour Surface Forecast	
		72 Hour Surface Forecast	
		Tropical Cyclone Danger Area*	16
		Tropical Surface Analysis	
		High Wind and Associated Seas**	
		24 Hour Wind/Wave Forecast	18

Tropical Cyclone Danger Area*

Weather Forecast	PAC		22
Office (WFO)		Sea Surface Temp. Analysis	
ANCHORAGE (ANC)		120 Hour Sea Ice Forecast	
		Sea State Analysis	00
		Surface Analysis	
		Surface Analysis	
		Sea Ice Analysis	
		Surface Analysis	
WFO HONOLULU			
(HFO)			00
		Pacific Streamline Analysis	
		North Pacific Surface Pressure 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	03
		Tropical Cyclone Danger Area	06
		Pacific Streamline Analysis	
		North Pacific Surface Pressure Analysis	
		Pacific Ocean Sea Surface Temps ***	0721
		(Latest analysis – updated twice weekly)til	
		June 20, 2006, then transmitted 1128Z	
		Tropical Cyclone Danger Area*	09
		After June 20, 2006 ***	1128
			12
		Pacific Streamline Analysis	
		North Pacific Surface Pressure 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	
	15
Significant Cloud Features	
Tropical Cyclone Danger Area*	
	18
Pacific Streamline Analysis	
North Pacific Surface Pressure Analysis	
48 Hour Surface Forecast	
	1918
Pacific Ocean Sea Surface Temps *** (Latest analysis – updated twice weekly) til June 20, 2006, then transmitted 2328Z	
	21
Tropical Cyclone Danger Area	
	2328
After June 20, 2006 ***	

* 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.

*** Effective June 20, 2006: 1128/2328 Pacific Ocean Sea Surface Temps (Latest analysis – updated twice wkly)

2. Offshore Waters Forecasts:

FZAK61 PAFC 071145

OFFAER

OFFSHORE WATERS FORECAST FOR GULF OF ALASKA WEST OF 144 WEST
NATIONAL WEATHER SERVICE ANCHORAGE ALASKA

400 AM ADT FRI MAY 7 2004

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. INDIVIDUAL
WAVES MAY BE TWICE AS HIGH.

PKZ399-080200-

400 AM ADT FRI MAY 7 2004

.SYNOPSIS FOR THE WESTERN GULF OF ALASKA...HIGH PRESSURE WILL BUILD
OVER THE GULF OF ALASKA THROUGH SUNDAY.

\$\$

PKZ350-080200-
400 AM ADT FRI MAY 7 2004

GULF OF ALASKA OFFSHORE...NORTH OF 55 DEGREES
NORTH AND WEST OF 144 DEGREES
WEST...OUTSIDE OF COASTAL WATERS.

FORECAST.
NORTH OF 57N.-

.TODAY...VARIABLE WIND 10 KT. SEAS 4 FT.
.TONIGHT...VARIABLE WIND 10 KT. SEAS 4 FT.
.SAT...W WIND 15 KT. SEAS 6 FT.
.SAT NIGHT...W WIND 25 KT. SEAS 7 FT.
.SUN...W WIND 30 KT. SEAS 10 FT.
.MON...W WIND 25 KT. SEAS 11 FT.
.TUE...SW WIND 20 KT. SEAS 5 FT.

SOUTH OF 57N.-

.TODAY...W WIND 15 KT. SEAS 5 FT.
.TONIGHT...W WIND 15 KT. SEAS 5 FT.
.SAT...W WIND 20 KT. SEAS 5 FT.
.SAT NIGHT...W WIND 20 KT. SEAS 6 FT.
.SUN...W WIND 25 KT. SEAS 8 FT.
.MON...W WIND 25 KT. SEAS 10 FT.
.TUE...SW WIND 25 KT. SEAS 6 FT.

\$\$

FZNT21 KWBC 091950
OFFNT1

OFFSHORE WATERS FORECAST
NWS OCEAN PREDICTION CENTER WASHINGTON DC
300 PM EST THU FEB 9 2006

NEW ENGLAND CONTINENTAL SHELF AND SLOPE WATERS FROM 25 NM
OFFSHORE TO THE HAGUE LINE...EXCEPT TO 1000 FMS S OF NEW ENGLAND

SEAS GIVEN IN 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.

ANZ080-100230-
300 PM EST THU FEB 9 2006

.SYNOPSIS...FOR NEW ENGLAND WATERS...WEAK LOW PRES WILL PASS JUST N OF THE AREA...WHILE AN ASSOCIATED COLD FRONT MOVES OFFSHORE TONIGHT. THE FRONT WILL SHIFT SE OF THE WATERS FRI. A HIGH PRES RIDGE WILL MOVE OFFSHORE FRI NIGHT AND SHIFT NE OF THE AREA LATE SAT. DEVELOPING LOW PRES WILL MOVE OFF THE MID ATLC COAST LATE SAT...INTENSIFY AND TRACK NE ACROSS THE WATERS SAT NIGHT AND SUN. THE STRONG LOW WILL APPROACH NOVA SCOTIA LATE SUN. A WEAK COLD FRONT WILL RAPIDLY CROSS THE AREA MON BEFORE A HIGH PRES RIDGE MOVES E ACROSS THE WATERS TUE.
\$\$

ANZ081-100230-
GULF OF MAINE TO THE HAGUE LINE
300 PM EST THU FEB 9 2006

...GALE FORCE WINDS EXPECTED SAT NIGHT...
...STORM FORCE WINDS EXPECTED SUN...

.TONIGHT...W TO NW WINDS 10 TO 15 KT INCREASING TO 20 TO 30 KT AFTER MIDNIGHT. SEAS 1 TO 3 FT EARLY BUILDING TO 5 TO 9 FT... HIGHEST SE. SCATTERED SNOW SHOWERS DEVELOPING.
.FRI...W TO NW WINDS 20 TO 30 KT...DIMINISHING TO 15 TO 20 KT LATE. SEAS 6 TO 10 FT...HIGHEST SE...EXCEPT SUBSIDING TO 3 TO 6 FT OVER NW PORTION LATE. SCATTERED SNOW SHOWERS ENDING.
.FRI NIGHT...WINDS BECOMING N 10 TO 15 KT. SEAS SUBSIDING TO 2 TO 5 FT...HIGHEST SE.
.SAT...NE WINDS 10 KT OR LESS EARLY...INCREASING TO 20 TO 30 KT LATE. SEAS 2 TO 4 FT BUILDING TO 4 TO 7 FT LATE. HIGHEST WINDS AND SEAS S. SCATTERED SNOW SHOWERS DEVELOPING.
.SAT NIGHT...NE WINDS 25 TO 35 KT INCREASING TO 35 TO 45 KT LATE. SEAS BUILDING TO 9 TO 16 FT LATE...HIGHEST S.
.SUN...NE WINDS 35 TO 50 KT...BECOMING NW...THEN DIMINISHING TO 25 TO 35 KT LATE. SEAS BUILDING TO 12 TO 18 FT...BECOMING HIGHEST SE.
.MON...NW WINDS 15 TO 25 KT EARLY...DIMINISHING TO W 10 TO 15 KT. SEAS SUBSIDING TO 4 TO 7 FT...HIGHEST SE.
.TUE...NW WINDS 10 TO 15 KT BECOMING W. SEAS SUBSIDING TO 2 TO 4 FT.
\$\$

ANZ082-100230-
GEORGES BANK...FROM THE NORTHEAST CHANNEL TO THE GREAT SOUTH

CHANNEL INCLUDING WATERS EAST OF CAPE COD...TO THE HAGUE LINE
300 PM EST THU FEB 9 2006

...GALE FORCE WINDS EXPECTED SAT NIGHT...
...STORM FORCE WINDS EXPECTED SUN...

.TONIGHT...NW WINDS 15 TO 20 KT INCREASING TO 20 TO 30 KT LATE.
SEAS 3 TO 5 FT BUILDING TO 6 TO 8 FT LATE.
.FRI...NW WINDS 25 TO 30 KT EARLY...THEN DIMINISHING TO 15 TO 25
KT LATE. SEAS BUILDING TO 7 TO 12 FT...HIGHEST E. ISOLATED SNOW
SHOWERS.
.FRI NIGHT...WINDS DIMINISHING TO VARIABLE 10 KT OR LESS. SEAS
SUBSIDING TO 4 TO 7 FT LATE...HIGHEST SE.
.SAT...WINDS BECOMING E 15 TO 20 KT...THEN INCREASING TO 20 TO
30 KT LATE. SEAS BUILDING TO 6 TO 9 FT LATE.
.SAT NIGHT...E WINDS 25 TO 35 KT INCREASING TO 35 TO 45 KT LATE.
SEAS BUILDING TO 7 TO 12 FT.
.SUN...SW WINDS 30 TO 40 KT INCREASING TO 40 TO 55 KT...THEN
BECOMING NW AND DIMINISHING TO 20 TO 30 KT LATE. SEAS BUILDING TO
17 TO 25 FT...HIGHEST SE.
.MON...W WINDS 20 TO 25 KT EARLY...BECOMING 15 TO 20 KT. SEAS
SUBSIDING TO 6 TO 10 FT...HIGHEST SE.
.TUE...NW WINDS 10 TO 15 KT BECOMING W. SEAS SUBSIDING TO 4 TO 6
FT.
\$\$

ANZ083-100230-
SOUTH OF NEW ENGLAND...FROM THE GREAT SOUTH CHANNEL TO HUDSON
CANYON INCLUDING THE WATERS SOUTH OF MARTHA VINEYARD AND
NANTUCKET ISLAND...OUT TO 1000 FMS
300 PM EST THU FEB 9 2006

...GALE FORCE WINDS EXPECTED SAT NIGHT...
...STORM FORCE WINDS EXPECTED SUN...

.TONIGHT...W TO NW WINDS 15 TO 20 KT EARLY INCREASING TO 20 TO
25 KT AFTER MIDNIGHT. SEAS 3 TO 6 FT BUILDING TO 5 TO 8 FT
LATE... HIGHEST SE.
.FRI...NW WINDS 20 TO 25 KT EARLY...BECOMING W 15 TO 20 KT LATE.
SEAS 5 TO 10 FT SUBSIDING TO 3 TO 8 FT...HIGHEST FAR SE.
.FRI NIGHT...WINDS DIMINISHING TO VARIABLE 10 KT OR LESS. SEAS
SUBSIDING TO 2 TO 5 FT...HIGHEST FAR SE.
.SAT...WINDS BECOMING E TO NE AND INCREASING TO 15 TO 25 KT.
SEAS BUILDING TO 5 TO 8 FT LATE.
.SAT NIGHT...E TO NE WINDS 30 TO 40 KT BECOMING SW AND
INCREASING TO 35 TO 45 KT. SEAS BUILDING TO 8 TO 14 FT.

.SUN...SW WINDS 35 TO 50 KT EARLY...BECOMING NW...THEN
DIMINSHING TO 20 TO 30 KT LATE. SEAS 9 TO 17 FT BUILDING TO 12
TO 22 FT... HIGHEST E.

.MON...NW WINDS 15 TO 25 KT BECOMING W 15 TO 20 KT. SEAS
SUBSIDING TO 4 TO 9 FT...HIGHEST E.

.TUE...NW WINDS DIMINISHING TO 10 TO 15 KT. SEAS SUBSIDING TO 2
TO 5 FT.

\$\$

.FORECASTER CLARK. OCEAN FORECAST BRANCH.

FZNT23 KNHC 052100

OFFNT3

OFFSHORE WATERS FORECAST FOR THE SOUTHWEST AND TROPICAL NORTH
ATLANTIC AND CARIBBEAN SEA

NWS TPC/NATIONAL HURRICANE CENTER MIAMI FL

530 PM EDT SAT JUL 05 2008

OFFSHORE WATERS FORECAST FOR THE CARIBBEAN SEA AND THE TROPICAL N
ATLC FROM 7N TO 22N BETWEEN 55W AND 65W

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.

AMZ089-060330-

SYNOPSIS FOR THE CARIBBEAN AND TROPICAL N ATLC FROM 7N TO 22N
BETWEEN 55W AND 65W

530 PM EDT SAT JUL 05 2008

.SYNOPSIS...TROPICAL STORM XAVIER NEAR 15.8N 58.0W 1005 MB AT 5 PM EDT
MOVING W AT 16 KT. MAXIMUM SUSTAINED WINDS 35 KT GUSTS 45 KT. XAVIER
WILL MOVE TO 16.0N 60.6W TONIGHT...16.7N 64.5W SUN...THEN BECOME A
HURRICANE NEAR THE MONA PASSAGE NEAR 17.7N 68.2W SUN NIGHT. XAVIER
WILL THEN MOVE ACROSS HISPANIOLA NEAR 19.5N 72.2W MON...NEAR THE N
COAST OF CUBA NEAR 23.7N 78.6W TUE...THEN MOVE ACROSS THE GULF OF
MEXICO WED AND THU.

\$\$

AMZ082-060330-

NW CARIBBEAN N OF 15N W OF 75W

530 PM EDT SAT JUL 05 2008

...TROPICAL STORM CONDITIONS EXPECTED N OF 19N E OF 84W MON NIGHT AND

TUE...

.TONIGHT THROUGH SUN NIGHT...NE TO E WINDS 10 TO 15 KT. SEAS 3 TO 5 FT.

.MON...NE TO E WINDS 15 TO 20 KT. SEAS 5 TO 7 FT.

.MON NIGHT AND TUE...N OF 19N E OF 84W N TO NE WINDS 20 TO 25 KT
INCREASING TO TROPICAL STORM FORCE. SEAS 8 TO 12 FT IN AREA OF TROPICAL
STORM FORCE WINDS. ELSEWHERE...NW TO N WINDS 15 TO 20 KT SHIFTING SW
TO W ON TUE. SEAS 5 TO 8 FT.

.WED...SE TO S WINDS 20 TO 25 KT DIMINISHING TO 15 TO 20 KT LATE. SEAS 6 TO 9
FT SUBSIDING TO 4 TO 6 FT LATE.

.THU...SE WINDS 10 TO 15 KT. SEAS 4 TO 6 FT.

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AMZ084-060330-

SW CARIBBEAN S OF 15N W OF 75W

530 PM EDT SAT JUL 05 2008

.TONIGHT...NE WINDS 15 TO 20 KT. SEAS 5 TO 7 FT.

.SUN...N TO NE WINDS 10 TO 15 KT. SEAS 3 TO 5 FT.

.SUN NIGHT...NW TO N WINDS 10 TO 15 KT. SEAS 2 TO 4 FT.

.MON...W TO NW WINDS 10 TO 15 KT. SEAS 2 TO 4 FT.

.MON NIGHT...SW TO W WINDS 10 TO 15 KT. SEAS 2 TO 4 FT.

.TUE...S TO SW WINDS 15 TO 20 KT. SEAS 4 TO 6 FT.

.WED...SE WINDS 15 TO 20 KT. SEAS 5 TO 7 FT.

.THU...E WINDS 10 TO 15 KT. SEAS 4 TO 6 FT.

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AMZ086-060330-

E CARIBBEAN E OF 75W TO LEEWARD AND WINDWARD ISLANDS

530 PM EDT SAT JUL 05 2008

...TROPICAL STORM WARNING N OF 15N E OF 68W...

...HURRICANE CONDITIONS EXPECTED N OF 15N W OF 64W SUN NIGHT THROUGH
MON NIGHT...

.TONIGHT AND SUN...TROPICAL STORM FORCE WINDS WITHIN 120 NM OF CENTER
OF XAVIER. HIGHEST WINDS 40 KT GUSTS 50 KT INCREASING TO 60 KT GUSTS 75
KT SUN. SEAS 12 FT OR GREATER IN AREA OF TROPICAL STORM FORCE WINDS.
HIGHEST SEAS 14 FT BUILDING TO 18 FT SUN. ELSEWHERE E OF 68W W TO NW
WINDS 20 TO 30 KT. SEAS 7 TO 11 FT. W OF 68W N TO NE WINDS 20 TO 25 KT. SEAS 6
TO 10 FT.

.SUN NIGHT THROUGH MON NIGHT...HURRICANE AND TROPICAL STORM FORCE
WINDS WITHIN 180 NM OF CENTER OF XAVIER. HIGHEST WINDS 75 KT GUSTS 90
KT. SEAS 12 FT OR GREATER IN AREA OF HURRICANE AND TROPICAL STORM
FORCE WINDS. HIGHEST SEAS 28 FT. ELSEWHERE N OF 15N SW TO W WINDS 20 TO
30 KT. SEAS 8 TO 12 FT. S OF 15N W WINDS 15 TO 20 KT. SEAS 6 TO 8 FT.

.TUE...SE TO S WINDS 20 TO 25 KT DIMINISHING TO 15 TO 20 KT LATE. SEAS 6 TO 9 FT SUBSIDING TO 5 TO 7 FT LATE.

.WED...E TO SE WINDS 15 TO 20 KT. SEAS 5 TO 7 FT.

.THU...NE TO E WINDS 10 TO 15 KT. SEAS 4 TO 6 FT.

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AMZ087-060330-

TROPICAL N ATLC FROM 7N TO 22N BETWEEN 55W AND 65W

530 PM EDT SAT JUL 05 2008

...TROPICAL STORM WARNING FROM 14N TO 19N W OF 57W...

.TONIGHT AND SUN...TROPICAL STORM FORCE WINDS WITHIN 90 NM OF CENTER OF XAVIER. HIGHEST WINDS 40 KT GUSTS 50 KT. SEAS 12 FT OR GREATER WITHIN AREA OF TROPICAL STORM FORCE WINDS. HIGHEST SEAS 14 FT. ELSEWHERE N OF 15N NE TO E WINDS 20 TO 30 KT. SEAS 7 TO 11 FT. ELSEWHERE S OF 15N W TO NW WINDS 20 TO 25 KT. SEAS 6 TO 9 FT.

.SUN NIGHT AND MON...N OF 15N SE WINDS 20 TO 25 KT. SEAS 7 TO 10 FT. S OF 15N S WINDS 15 TO 20 KT. SEAS 5 TO 7 FT.

.MON NIGHT...E TO SE WINDS 15 TO 20 KT. SEAS 6 TO 8 FT.

.TUE AND WED...E TO SE WINDS 10 TO 15 KT. SEAS 4 TO 6 FT.

.THU...NE TO E WINDS 10 KT. SEAS 3 TO 5 FT.

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AMZ088-060330-

SYNOPSIS FOR SW N ATLC INCLUDING THE BAHAMAS

530 PM EDT JUL 05 2008

.SYNOPSIS...TROPICAL STORM XAVIER E OF THE LEEWARD ISLANDS WILL MOVE ACROSS THE NE CARIBBEAN TONIGHT AND SUN WITH WINDS INCREASING TO TROPICAL STORM FORCE OVER THE SE PORTION OF THE AREA LATE SUN. XAVIER WILL STRENGTHEN TO A HURRICANE NEAR THE MONA PASSAGE NEAR 17.7N 68.2W SUN NIGHT...BE OVER HISPANIOLA NEAR 19.5N 72.2W MON...MOVE W OF THE BAHAMAS NEAR 23.7N 78.6W TUE...THEN MOVE W INTO THE GULF OF MEXICO TUE NIGHT AND WED.

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AMZ080-050330-

SW N ATLC S OF 31N W OF 65W INCLUDING THE BAHAMAS

530 PM EDT JUL 05 2008

...TROPICAL STORM WARNING S OF 20N E OF 68W...

...HURRICANE CONDITIONS EXPECTED S OF 29N SUN NIGHT THROUGH TUE...

.TONIGHT...S OF 25N NE TO E WINDS 15 TO 20 KT. SEAS 5 TO 8 FT EXCEPT 2 TO 4 FT W OF BAHAMAS. N OF 25N NE TO E WINDS 10 TO 15 KT. SEAS 3 TO 5 FT.

.SUN...S OF 20N E OF 68W NE WINDS 20 TO 25 KT INCREASING TO TROPICAL STORM FORCE LATE WITHIN 120 NM OF CENTER OF XAVIER. SEAS 8 TO 11 FT. ELSEWHERE N TO NE WINDS 15 TO 20 KT. SEAS 6 TO 8 FT.

.SUN NIGHT THROUGH MON NIGHT...HURRICANE AND TROPICAL STORM FORCE WINDS WITHIN 180 NM OF CENTER OF XAVIER. HIGHEST WINDS 70 KT GUSTS 85 KT. SEAS 12 FT OR GREATER IN AREA OF HURRICANE AND TROPICAL STORM FORCE WINDS. HIGHEST SEAS 26 FT. ELSEWHERE S OF 25N NE TO E WINDS 20 TO 30 KT. SEAS 8 TO 12 FT. N OF 25N NE TO E WINDS 15 TO 20 KT. SEAS 5 TO 7 FT.

.TUE...HURRICANE AND TROPICAL STORM FORCE WINDS WITHIN 240 NM OF CENTER OF XAVIER. HIGHEST WINDS 90 KT GUSTS 110 KT. SEAS 12 FT OR GREATER IN AREA OF HURRICANE AND TROPICAL STORM FORCE WINDS. HIGHEST SEAS 34 FT. ELSEWHERE W OF 72W E TO SE WINDS 20 TO 30 KT. SEAS 8 TO 12 FT. E OF 72W SE TO S WINDS 15 TO 20 KT. SEAS 5 TO 8 FT.

.WED...W OF 75W SE TO S WINDS 20 TO 25 KT. SEAS 8 TO 12 FT IN E TO SE SWELL. E OF 75W SE WINDS 15 TO 20 KT. SEAS 6 TO 8 FT.

.THU...W OF 75W SE WINDS 15 TO 20 KT. SEAS 6 TO 8 FT. E OF 75W E TO SE WINDS 10 TO 15 KT. SEAS 3 TO 5 FT.

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FORECASTER XX

3. Marine Weather Discussion:

AGNT40 KWNM 091830
MIMATN

MARINE WEATHER DISCUSSION
NWS OCEAN PREDICTION CENTER WASHINGTON DC
130 PM EST THU 9 FEB 2006

.FORECAST DISCUSSION: MAJOR FEATURES/WINDS/SEAS/SIGNIFICANT WEATHER FOR NORTH ATLANTIC OCEAN W OF 50W FROM 30N TO 50N.

12Z GFS MAY BE TOO SHARP WITH S/W TROF EXITING THE SE COAST THIS AFTERNOON...CAUSING ENHANCED NW FLOW OVR CAPE FEAR TO 31N WTRS EARLY TONIGHT. WILL CONTINUE WITH 30 KT MAX FCST OVR E PARTS OF TWO SRN NT2 ZONES. THESE 25 TO 30 KT WINDS WILL BE LIMITED TO E PARTS OFFSHORES AND WITH LESS EFFECT FOR CSTL ZONES. OF NOTE... THIS S/W AMPLIFIES SIGNIFICANTLY AS IT MOVES NE OF WTRS PRODUCING HURCN FORCE CYCLONE JUST W OF 50W.

WEEKEND CSTL LOW...THE MAJOR PLAYER FOR THIS FCST PERIOD CONTS TO BE THE STRONG CLOSED UPR LOW FCST TO SWING INTO THE ERN CONUS LATE SAT AND THEN LIFT NE ACRS NEW ENGLD SUN WHICH SUPPORTS THE DVLPMT OF A SFC LOW MOVG OFSHR. 12Z GUIDANCE AVAILABLE...

INCLUDING GFS/NAM/UKMET...HAVE ALL NUDGED SFC LOW TRACK WWRD IN COMPARISON TO THEIR RESPECTIVE PREV RUNS. THE 12Z CANADIAN AND THE 12Z NOGAPS REMAIN MUCH FURHTER OFFSHORE WITH LOW...AND ALSO MUCH WEAKER THAN GFS...AND FOR NOW WILL DISCOUNT THEM. WHEN SFC LOW TRACKS OF 06Z ENSEMBLE MEMBERS ARE PLOTTED...12Z OPERATIONAL GFS LIES ON LEFT SIDE OF SPREAD...WHICH WOULD BE EXPECTED GIVEN WWRD NUDGE FROM 06Z TO 12Z OP RUNS. 12Z GFS AND 12Z NAM CONTINUE TO BE MOST PROGRESSIVE SOLNS...YET THE 12Z UKMET IS INITIALLY SLOWER THAN GFS/NAM...BUT BY 72HRS IS ROUGHLY 100 NM W OF GFS 72HR PSN. AM FAVORING A 12Z GFS SOLN GIVEN RELATIVE CONSISTENCY PAST FEW RUNS...AND NOW WITH NAM/UKMET SUPPORT. WILL GAIN MORE CONFIDENCE IN FCST IF 12Z ECMWF ALSO SHIFTS W IN LINE WITH 12Z GFS.

WHAT DOES THIS MEAN FOR FCST...WILL BE FAVORING THE 12Z GFS SOLN WHICH IS JUST E OF LATEST NAM/UKMET. WITH THIS AFTERNOONS FCST PACKAGE...WILL BRING GALES/STORM WINDS UP SOONER THAT LAST FCST GIVEN 12Z UKMET TREND TWRD GFS/NAM TIMING. SO WILL BRING WINDS TO STORM FORCE FOR WTRS N OF BALT CYN EARLY SUN. WILL ALSO INCREASE W TO SW WINDS OVR SE GEORGES BANK AND E HUDSON TO BALT CYN WTRS TO 55 OR 60 KT MAX SUN AS SFC LOW EXITS TO NE. 12Z NAM WINDS ALSO IN EXCESS OF 50 KT AS IT MOVES LOW TWRD NOVA SCOTIA. STILL LOW CONFIDENCE IN EXACT DETAILS...MEANING EXACT TIMING OF WIND SHIFTS ETC...BUT AM GAINING CONFIDENCE THAT STORM FORCE WINDS WILL IMPACT ABOVE WTRS LATE SAT NIGHT/SUN PERIOD. MUST WATCH SUBTLE MODEL TRNDS OVR NEXT 24 HRS...AS HURCN FORCE WINDS ARE NOT TOTALLY OUT OF QUESTION FOR NEW ENGL WTRS. FROM MEMORY...HURCN FORCE SYSTEM WHICH OCCURRED OFFSHORE CAPE COD DEC 9/10 2005 HAD BEEN ANALYZED IN THE LOWER 980'S...WHICH IS CONSISTENT WITH GFS/NAM FCST CNTRL PRES FOR THIS WEEKENDS SYSTEM. HOWEVER... SYNOPTIC PATTERNS WERE QUITE DIFFERENT.

AT END OF FCST PERIOD...PREFERRING THE 12Z GFS TRND WHICH IS NO LONGER AGRESSIVELY AMPLIFYING MON/TUE S/W AND NOT BRINGING GALES BACK TO N MID ATLC WTRS.

WITH PREFERENCE FOR 12Z GFS...WILL BE FOLLOWING 12Z WNA WW3 CLOSELY.

WARNINGS...PRELIMINARY. ANY CHANGES WILL BE COORDINATED THROUGH AWIPS...12 PLANET CHAT OR BY TELEPHONE.

.NT1 NEW ENGLAND WATERS...
.GULF OF MAINE...GALE SAT. STORM SUN.
.GEORGES BANK...GALE SAT. STORM SUN.
.S OF NEW ENGLAND...GALE SAT. STORM SUN.

.NT2 MID ATLC WATERS...
.HUDSON TO BALT CNYN...GALE SAT. STORM EXPCTD SUN.
.BALT CNYN TO HAT CNYN...GALE SAT AND SUN.
.HATTERAS CNYN TO CAPE FEAR...GALE SAT INTO SUN.
.CAPE FEAR TO 31N...GALE SAT INTO SUN.

.FORECASTER CLARK. OCEAN FORECAST BRANCH.

4. NAVTEX Forecasts:

FZNT25 KNHC 130900
OFFN04
NAVTEX MARINE FORECAST
NWS TPC/NATIONAL HURRICANE CENTER MIAMI FL
1130 PM EDT MON MAY 12 2008

...PLEASE REFER TO THE COASTAL WATERS FORECAST AVAILABLE THROUGH NOAA WEATHER RADIO AND OTHER MEANS FOR A MORE DETAILED FORECAST WITHIN 60 NAUTICAL MILES OF THE COASTLINE...

SYNOPSIS FOR THE SW N ATLC INCLUDING THE BAHAMAS
.SYNOPSIS...COLD FRONT FROM 31N67W TO STRAITS OF FLORIDA WILL EXTEND FROM 28N65W TO W CUBA TUE...FROM 25N65W TO HAITI WED AND DISSIPATE THU. HIGH PRES WILL BUILD OVER THE AREA W OF THE FRONT. NEXT COLD FRONT IS EXPECTED TO MOVE OFF THE NE FL COAST LATE FRI...AND EXTEND FROM 31N72W TO 26N80W BY LATE SAT.

SW N ATLC S OF 31N W OF 65W INCLUDING BAHAMAS 1
.TONIGHT AND TUE...N OF 28N E OF 74W NW WINDS 20 TO 25 KT. SEAS 9 TO 14 FT IN NW SWELL. ELSEWHERE W OF FRONT NW TO N WINDS 15 TO 20 KT. SEAS 6 TO 8 FT. N OF 25N E OF FRONT SW WINDS 15 TO 20 KT. SEAS 8 TO 11 FT IN NW SWELL. S OF 25N E OF FRONT S TO SW WINDS 10 TO 15 KT. SEAS 3 TO 5 FT. SCATTERED SHOWERS AND TSTMS ALONG FRONT.
.TUE NIGHT AND WED...N OF 26N W OF 75W N TO NE WINDS 10 TO 15 KT ...INCREASING TO 15 TO 20 KT WED. SEAS 7 TO 9 FT IN NE SWELL. N OF 26N E OF 75W W TO NW WINDS 20 TO 25 KT. SEAS 9 TO 15 FT IN NW SWELL. S OF 26N W OF 70W NE TO E WINDS 10 KT TO 15 KT. SEAS 6 TO 8 FT IN N SWELL E OF BAHAMAS...AND 1 TO 2 FT W OF BAHAMAS. .WED NIGHT...N OF 25N W OF 75W NE WINDS 10 TO 15 KT. SEAS 7 TO 9 FT IN NE SWELL. N OF 25N E OF 75W N TO NW WINDS 15 TO 20 KT. SEAS 10 TO 14 FT IN NW SWELL. S OF 25N E OF 70W N TO NW WINDS 10 TO 15 KT. SEAS 7 TO 9 FT IN NW SWELL. S OF 25N W OF 70W N TO NE WINDS 10 TO 15 KT. SEAS 7 TO 9 FT IN

NW SWELL E OF BAHAMAS...AND 2 TO 4 FT W OF BAHAMAS.
.THU AND FRI ...N OF 27N W OF 70W S TO SW WINDS 15 TO 20 KT
BECOMING NW BEHIND FRONT FRI. SEAS 6 TO 8 FT NE SWELL. N OF 27N
E OF 70W N WINDS 10 TO 15 KT. SEAS 8 TO 12 FT IN N SWELL. S OF
27N E OF 70W N TO NE WINDS 10 TO 15 KT. SEAS 6 TO 8 FT. S OF
27N W OF 70W SE TO E WINDS 10 TO 15 KT. SEAS 7 TO 9 FT IN N
SWELL E OF BAHAMAS...AND 2 TO 3 FT W OF BAHAMAS.
.SAT...W OF FRONT W TO NW WINDS 20 TO 25 KT. SEAS 6 TO 8 FT. N
OF 28N E OF FRONT SW WINDS 20 TO 25 KT. SEAS 8 TO 10 FT. FROM
25N TO 28N E OF FRONT SW WINDS 15 TO 20 KT. SEAS 5 TO 7 FT. S
OF 25N S TO SW WINDS 10 TO 15 KT. SEAS 4 TO 6 FT E OF
BAHAMAS...AND 2 TO 3 FT E OF BAHAMAS.

SYNOPSIS FOR THE GULF OF MEXICO

.SYNOPSIS...COLD FRONT FROM SW FLORIDA TO S TEXAS WILL WEAKEN
OVER THE STRAITS OF FLORIDA LATE TONIGHT AND E OF THE AREA
ON TUE. ANOTHER COLD FRONT IS FORECAST TO MOVE OFF THE TEXAS
COAST LATE THU INTO FRI MORNING...AND REACH FROM THE FLORIDA
PANHANDLE TO NE MEXICO LATE FRI...AND FROM SW FLORIDA TO 22N96W
SAT.

MIDDLE GULF BETWEEN 85W AND 90W

.TONIGHT...N OF 25N VARIABLE WINDS 5 TO 10 KT. SEAS 2 FT. S OF
25N SE WINDS 10 TO 15 KT. SEAS 2 TO 4 FT.
.TUE AND TUE NIGHT...SE WINDS 10 TO 15 KT...INCREASING TO 15 TO
20 KT W OF 88W TUE NIGHT. SEAS 3 TO 5 FT.
.WED THROUGH THU...S TO SW WINDS 15 TO 20 KT. SEAS 5 TO 7 FT.
.FRI AND SAT...N OF FRONT N WINDS 15 TO 20 KT. SEAS 4 TO 6 FT.
S OF FRONT S WINDS 10 TO 15 KT. SEAS 3 TO 5 FT. SCATTERED
SHOWERS NEAR FRONT.

E GULF BETWEEN 81W AND 85W

.TONIGHT AND TUE...NE TO E WINDS 10 KT. SEAS 2 TO 3 FT.
.WED AND WED NIGHT...SE TO S WINDS 10 TO 15 KT. SEAS 2 TO 4 FT.
.THU AND FRI...S WINDS INCREASING TO 15 TO 20 K BECOMING NE
BEHIND FRONT. SEAS 2 TO 4 FT...BUILDING TO 4 TO 6 FT N OF
FRONT. SCATTERED SHOWERS NEAR FRONT.
.SAT...N OF FRONT NW WIND 10 TO 15 KT. SEAS 2 TO 4 FT. S OF
FRONT SW TO WINDS 10 KT. SEAS 1 TO 2 FT.

SYNOPSIS FOR CARIBBEAN SEA AND TROPICAL N ATLC FROM 07N TO 22N
BETWEEN 55W AND 65W

.SYNOPSIS...WEAK FRONT WILL MOVE INTO THE NORTHERN TROPICAL
ATLC AREA WED NIGHT INTO THU THEN DISSIPATE FRI. RIDGE WILL
SHIFT SE TO ALONG 22N BY SAT.
NW CARIBBEAN N OF 15N W OF 75W

.TONIGHT AND TUE...S OF 17N W OF 84W E TO SE WINDS 15 TO 20 KT.
SEAS 4 TO 7 FT. N OF 17N SE WINDS 10 TO 15 KT. SEAS 2 TO 4 FT.

.TUE NIGHT THROUGH FRI...S OF 17N W OF 84W SE WINDS 15 TO 20
KT. SEAS 4 TO 7 FT. S OF 17N E OF 84W E WINDS 10 TO 15 KT.
SEAS 4 TO 6 FT. REMAINDER OF AREA SE TO E WINDS 10 TO 15 KT.
SEAS 2 TO 4 FT.

.SAT....N OF 18N E TO SE WINDS 10 KT OR LESS. SEAS 2 FT. S OF
18N E WINDS 10 TO 15 KT. SEAS 3 TO 4 FT.

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5. High Seas Forecasts:

FZPN02 KWBC 291700
HSFEPI

HIGH SEAS FORECAST FOR METAREA XII
NWS OCEAN PREDICTION CENTER WASHINGTON DC
1745 UTC TUE JUL 29 2008

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.

PAN PAN

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

SYNOPSIS VALID 1200 UTC JUL 29.
24 HOUR FORECAST VALID 1200 UTC JUL 30.
48 HOUR FORECAST VALID 1200 UTC JUL 31.

.WARNINGS.

...HURRICANE FORCE WIND WARNING...
.LOW 57N147W 980 MB MOVING E 15 KT...WITH A FRONT FROM 59N146W
TO 58N138W TO 49N130W TO 43N132W TO 40N134W. WITHIN 240 NM S
AND SW QUADRANTS...WINDS 45 TO 65 KT. SEAS 18 TO 32 FT. ELSEWHERE
WITHIN 480 NM W AND 900 NM S QUADRANTS...WINDS 30 TO 45 KT. SEAS
14 TO 26 FT. WITHIN 120 NM E OF FRONT BETWEEN 47N AND
55N...WINDS 35 TO 50 KT. SEAS 14 TO 23 FT. ELSEWHERE WITHIN 180
NM N AND E OF FRONT...WINDS 25 TO 40 KT. SEAS 10 TO 18 FT. ALSO N
OF A LINE FROM 53N163W TO 39N140W TO 40N130W TO 47N124W...WINDS 20

TO 30 KT. SEAS 10 TO 18 FT.

.24 HOUR FORECAST LOW 58N138W 1000 MB. WITHIN 360 NM S QUADRANT...AND FROM 46N TO 52N BETWEEN 129W AND 137W...WINDS 25 TO 35 KT. SEAS 15 TO 28 FT. ELSEWHERE E OF A LINE FROM 57N147W TO 45N139W TO 43N125W...WINDS 20 TO 30 KT. SEAS 10 TO 18 FT.
.48 HOUR FORECAST LOW INLAND AND CONDITIONS DIMINISHED.

...STORM WARNING...

.LOW 43N177E 980 MB MOVING NE 30 KT. COLD FRONT EXTENDS FROM 46N176W TO 40N176W TO 31N172E. FROM 34N TO 39N BETWEEN 168E AND 180W...WINDS 35 TO 50 KT. SEAS 15 TO 28 FT. ELSEWHERE FROM 32N TO 41N BETWEEN 163E AND W OF 177W...WINDS 25 TO 40 KT. SEAS 10 TO 18 FT. WITHIN 120 NM N QUADRANT...AND WITHIN 120 NM N OF A FRONT FROM 44N177E TO 46N176W...ALSO WITHIN 240 NM E OF COLD FRONT N OF 39N...WINDS 35 TO 50 KT. SEAS 13 TO 22 FT. ELSEWHERE WITHIN 420 NM E OF FRONT AND WITHIN 420 NM E QUADRANT...ALSO WITHIN 240 NM N AND NW SEMICIRCLES...WINDS 25 TO 40 KT. SEAS 10 TO 18 FT.
.24 HOUR FORECAST LOW 51N167W 957 MB. FRONT EXTENDS FROM 52N170W TO 51N160W TO 48N155W TO 37N164W. FROM 42N TO 49N BETWEEN 160W AND 174E... WINDS 40 TO 60 KT. SEAS 18 TO 30 FT. ELSEWHERE WITHIN 600 NM SW AND 720 NM SE QUADRANTS W OF FRONT...WINDS 30 TO 45 KT. SEAS 14 TO 23 FT. WITHIN 180 NM N AND E OF FRONT N OF 41N...WINDS 40 TO 60 KT. SEAS 14 TO 25 FT. ELSEWHERE WITHIN 480 NM W AND N QUADRANTS...ALSO WITHIN 300 NM NE AND 480 NM E OF FRONT...WINDS 25 TO 40 KT. SEAS 10 TO 18 FT.
.48 HOUR FORECAST LOW 56N160W 962 MB. FROM 50N TO 55N BETWEEN 153W AND 170W...WINDS 40 TO 60 KT. SEAS 20 TO 35 FT. ELSEWHERE WITHIN 480 NM W...480 NM S AND 240 NM N QUADRANTS...ALSO N OF A LINE FROM 48N160W TO 39N138W TO 40N130W TO 44N127W...WINDS 30 TO 45 KT. SEAS 14 TO 23 FT.

...GALE WARNING...

.FROM 30N TO 37N BETWEEN 119W AND 125W...WINDS 25 TO 35 KT. SEAS 10 TO 18 FT.
.24 HOUR FORECAST FROM 30N TO 42N BETWEEN 120W AND 130W...WINDS 20 TO 30 KT. SEAS 9 TO 14 FT.
.48 HOUR FORECAST FROM 30N TO 38N BETWEEN 118W AND 125W...N TO NW WINDS 25 TO 35 KT. SEAS 10 TO 16 FT.

...GALE WARNING...

.LOW 59N179E 1002 MB MOVING NE 20 KT. FROM 53N TO 57N BETWEEN 171W AND 176W...WINDS 25 TO 35 KT. SEAS TO 12 FT.
.24 HOUR FORECAST LOW 63N172W 997 MB. N OF 60N E OF 170W...WINDS 20 TO 30 KT. SEAS TO 10 FT.
.48 HOUR FORECAST LOW MOVED OVER ICE WITH CONDITIONS DIMINISHED.

...GALE WARNING...

.24 HOUR FORECAST LOW 32N169E 1005 MB. S OF 34N W OF 173E...WINDS 25 TO 40 KT. SEAS 10 TO 16 FT.

.48 HOUR FORECAST LOW 42N168W 1001 MB. WITHIN 420 NM S AND SE QUADRANTS...WINDS 30 TO 45 KT. SEAS 12 TO 20 FT.

...GALE WARNING...

.24 HOUR FORECAST LOW 44N167E 1007 MB. FROM 38N TO 45N W OF 170E...WINDS 20 TO 30 KT. SEAS 8 TO 14 FT.

.48 HOUR FORECAST LOW 46N177E 997 MB. FROM 40N TO 46N BETWEEN 176E AND 174W...WINDS 25 TO 40 KT. SEAS 10 TO 17 FT. FROM 40N TO 48N W OF 173W...WINDS 20 TO 30 KT. SEAS 8 TO 13 FT.

...HEAVY FREEZING SPRAY WARNING...

.N OF 60N W OF ALASKA...AREA OF MODERATE TO HEAVY FREEZING SPRAY.

.24 HOUR FORECAST W AND NW OF A LINE FROM 55N177E TO 61N174W...AREA OF LIGHT TO MODERATE FREEZING SPRAY.

.48 HOUR FORECAST W AND NW OF A LINE FROM 51N166E TO 62N171W...AREA OF LIGHT TO MODERATE FREEZING SPRAY.

.SYNOPSIS AND FORECAST.

.HIGH 40N151W 1039 MB MOVING E 15 KT.

.24 HOUR FORECAST HIGH 38N139W 1039 MB.

.48 HOUR FORECAST HIGH 33N137W 1033 MB.

.FORECASTER SHAW. OCEAN PREDICTION CENTER.

NWS TPC/NATIONAL HURRICANE CENTER MIAMI FL
E PACIFIC FROM THE EQUATOR TO 30N E OF 140W

SYNOPSIS VALID 1200 UTC TUE JUL 29.

24 HOUR FORECAST VALID 1200 UTC WED JUL 30.

48 HOUR FORECAST VALID 1200 UTC THU JUL 31.

.WARNINGS.

.NONE.

.SYNOPSIS AND FORECAST.

.WITHIN 60 NM OF LINE 16N95W TO 14N95W TO 12N97W N TO NE WINDS 20 TO 25 KT. SEAS 8 TO 10 FT.

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

.FROM 09N TO 12N BETWEEN 86W AND 90W...INCLUDING GULF OF PAPAGAYO...NE TO E WINDS 20 TO 25 KT. SEAS TO 9 FT.

.24 HOUR FORECAST FROM 09N TO 12N BETWEEN 86W AND 90W...INCLUDING GULF OF PAPAGAYO...NE TO E WINDS 20 KT. SEAS TO 8 FT.

.48 HOUR FORECAST LITTLE CHANGE.

.W OF LINE 30N118W TO 09N125W NE WINDS 20 TO 25 KT. SEAS 10 TO 15 FT WITH NW SWELL N OF 20N AND 8 TO 12 FT WITH NW SWELL S OF 20N. ELSEWHERE S OF 15N W OF 110W WINDS LESS THAN 20 KT. SEAS 8 TO 10 FT IN NW SWELL.

.24 HOUR FORECAST N OF 10N W OF 120W NE TO E WINDS 20 TO 25 KT. SEAS 8 TO 14 FT WITH NW SWELL. S OF 10N W OF 125W WINDS LESS THAN 20 KT. SEAS 8 TO 10 FT IN MIXED SE AND NE SWELL.

.48 HOUR FORECAST NW OF LINE 28N114W TO 10N120W NE WINDS 20 TO 25 KT. SEAS 8 TO 14 FT WITH NW SWELL. S OF 10N W OF 122W WINDS LESS THAN 20 KT. SEAS 8 TO 10 FT IN MIXED SWELL.

.06 HOUR FORECAST GULF OF CALIFORNIA N OF 27N NW WINDS 20 TO 25 KT. SEAS TO 8 FT.

.24 HOUR FORECAST N OF 21N E OF 110W...INCLUDING GULF OF CALIFORNIA NW WINDS 20 KT. SEAS TO 8 FT.

.48 HOUR FORECAST GULF OF CALIFORNIA N OF 28N NW WINDS 20 KT. SEAS LESS THAN 8 FT.

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

CONVECTION VALID 1500 UTC TUE JUL 29.

.INTERTROPICAL CONVERGENCE ZONE 06N77W TO 05N90W TO 08N105W TO 10N120W

TO 07N140W. SCATTERED MODERATE WITHIN 60 NM OF 06N81.5W. SCATTERED MODERATE WITHIN 60 NM OF 14N106W. SCATTERED MODERATE TO STRONG WITHIN

150 NM OF 13.5N113W. SCATTERED MODERATE TO STRONG WITHIN 50 NM EITHER SIDE OF AXIS FROM 121W TO 129W.

.FORECASTER LAHIFF. TPC/NATIONAL HURRICANE CENTER.

NATIONAL WEATHER SERVICE HONOLULU HI
NORTH PACIFIC EQUATOR TO 30N BETWEEN 140W AND 160E

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

SYNOPSIS VALID 1200 UTC JUL 29 2008.

24 HOUR FORECAST VALID 1200 UTC JUL 30 2008.

48 HOUR FORECAST VALID 1200 UTC JUL 31 2008.

.WARNINGS.

...GALE WARNING...

.FRONT EXTENDS FROM 30N169E TO 28N160E NEARLY STATIONARY. ISOLATED MODERATE TSTMS WITHIN 90 NM N OF TROUGH.

.24 HOUR FRONT EXTENDS FROM 30N164E TO 28N160E. SW WINDS 25 TO 35 KT OVER FORECAST WATERS WITHIN 300 NM SE OF FRONT.

.48 HOUR FORECAST FRONT EXTENDS FROM 30N173E TO 25N160E. NE WINDS 20 TO 30 KT OVER FORECAST WATERS NW OF FRONT.

.SYNOPSIS AND FORECAST.

.RIDGE THROUGH 30N170W TO 25N175E TO 26N161E MOVING SE SLOWLY.

.E WINDS 25 TO 30 KT IN AREA BOUNDED BY 28N140W TO 08N140W TO 08N170E TO 15N170E TO 18N170W TO 25N160W TO 28N140W.

.24 HOUR FORECAST E WINDS 25 TO 30 KT IN AREA FROM 10N TO 25N E OF 165W.

.48 HOUR FORECAST E WINDS 25 TO 30 KT IN AREA FROM 10N TO 25N E OF 170W.

.SEAS 12 TO 14 FT OVER WATERS N OF 08N E OF 165E. SEAS 9 TO 12 FT ELSEWHERE OVER WATERS N OF 05N.

.24 HOUR FORECAST SEAS 12 TO 15 FT OVER WATERS N OF 08N E OF 165W. SEAS 12 TO 14 FT IN AREA N OF 28N W OF 177E. SEAS 9 TO 12 FT ELSEWHERE OVER WATERS N OF 04N.

.48 HOUR FORECAST SEAS 12 TO 15 FT OVER WATERS FROM 10N TO 28N E OF 170W. SEAS 12 TO 14 FT IN AREA N OF 26N W OF 168E. SEAS 9 TO 12 FT ELSEWHERE OVER WATERS N OF 04N.

.WINDS 20 KT OR LESS AND SEAS 9 FT OR LESS OVER REMAINDER OF FORECAST AREA.

.ITCZ THROUGH 08N140W TO 07N160W TO 06N180W TO 05N170E. ISOLATED MODERATE TSTMS WITHIN 90 NM OF ITCZ.

.HONOLULU HI.

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FZPN40 KWBC 291645
HSFNP

HIGH SEAS FORECAST
NATIONAL WEATHER SERVICE HONOLULU HI
1700 UTC TUE JUL 29 2008

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 1200 UTC JUL 29 2008.
24 HOUR FORECAST VALID 1200 UTC JUL 30 2008.
48 HOUR FORECAST VALID 1200 UTC JUL 31 2008.

.WARNINGS.

...GALE WARNING...
.FRONT EXTENDS FROM 30N169E TO 28N160E NEARLY STATIONARY. ISOLATED MODERATE TSTMS WITHIN 90 NM N OF TROUGH.
.24 HOUR FRONT EXTENDS FROM 30N164E TO 28N160E. SW WINDS 25 TO 35 KT OVER FORECAST WATERS WITHIN 300 NM SE OF FRONT.
.48 HOUR FORECAST FRONT EXTENDS FROM 30N173E TO 25N160E. NE WINDS 20 TO 30 KT OVER FORECAST WATERS NW OF FRONT.

.SYNOPSIS AND FORECAST.

.RIDGE THROUGH 30N170W TO 25N175E TO 26N161E MOVING SE SLOWLY.

.E WINDS 25 TO 30 KT IN AREA BOUNDED BY 28N140W TO 08N140W TO 08N170E TO 15N170E TO 18N170W TO 25N160W TO 28N140W.
.24 HOUR FORECAST E WINDS 25 TO 30 KT IN AREA FROM 10N TO 25N E OF 165W.
.48 HOUR FORECAST E WINDS 25 TO 30 KT IN AREA FROM 10N TO 25N E OF 170W.

.SEAS 12 TO 14 FT OVER WATERS N OF 08N E OF 165E. SEAS 9 TO 12 FT ELSEWHERE OVER WATERS N OF 05N.

.24 HOUR FORECAST SEAS 12 TO 15 FT OVER WATERS N OF 08N E OF 165W. SEAS 12 TO 14 FT IN AREA N OF 28N W OF 177E. SEAS 9 TO 12 FT ELSEWHERE OVER WATERS N OF 04N.

.48 HOUR FORECAST SEAS 12 TO 15 FT OVER WATERS FROM 10N TO 28N E OF 170W. SEAS 12 TO 14 FT IN AREA N OF 26N W OF 168E. SEAS 9 TO 12 FT ELSEWHERE OVER WATERS N OF 04N.

.WINDS 20 KT OR LESS AND SEAS 9 FT OR LESS OVER REMAINDER OF FORECAST AREA.

.ITCZ THROUGH 08N140W TO 07N160W TO 06N180W TO 05N170E. ISOLATED MODERATE TSTMS WITHIN 90 NM OF ITCZ.

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.HONOLULU HI.