Marine Fact Sheet

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This is a sample of the most frequent questions that I have been asked over the past 35+ years. I have gathered and consolidated information from numerous sources to address these questions thus creating a general reference guide for mariners. This reference guide was created primarily for distribution at boating, fishing and diving shows, and was last updated on October 17, 2016. Additional questions and updates are encouraged. Any reference to a commercial product or service does not imply an endorsement by me, or the National Weather Service as to function or suitability for your purpose or environment.

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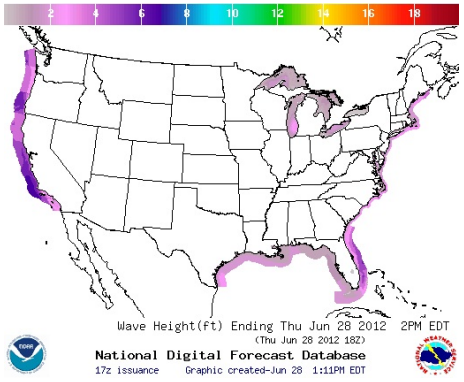
The Weather Report

Q. The marine weather forecast is frequently wrong. Why doesn't the National Weather Service forecast the exact conditions that I will experience on the water?

A. Remember that the marine forecast represents the predominant sea conditions that a meteorologist expects to occur in a large marine area for periods of 12 or more hours. The mariner must learn to interpolate the large scale marine forecast typically received via the VHF radio to the exact area where they plan to boat, and adapt the 12 hour forecast to their personal boating plans.

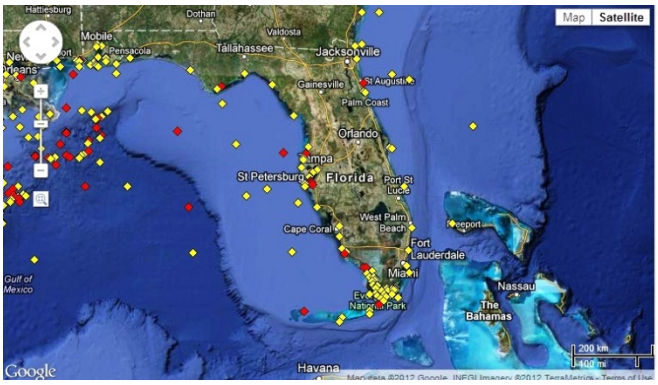
The National Weather Service now issues high resolution coastal marine forecast grids at 5 kilometer or less spatial resolution and 3 hourly time steps available through the National Digital Forecast Database (NDFD. For more information please visit http://www.digital.weather.gov/.



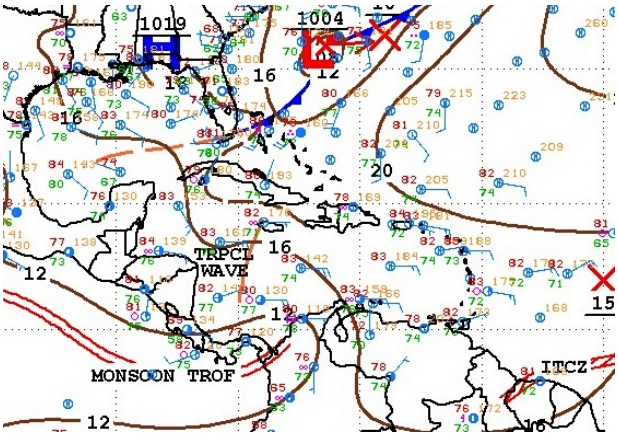
The interactive NDFD webpage for coastal wave height forecasts.

Q. Don't weather forecasters know what the actual wind and wave conditions are out in the coastal and offshore waters? What am I hearing on the weather radio?

A. Forecasters really don't receive very many reports of actual current weather conditions in the near shore coastal waters. For example, the Florida coastline is about 1000 nautical miles long with the Florida coastal waters encompassing about 45,000 square nautical miles with thousands of boaters simultaneously on these coastal waters. On a given day, the National Weather Service is lucky to get five reports from boaters and most of those reports are from commercial ships seaward of the near-shore waters. The forecaster does receive enough reports of barometric pressure from adjacent land stations, buoys, oilrigs, Coastal-Marine Automated Network (C-MAN) stations, military and commercial ships enabling him/her to construct a surface weather map and create an isobaric analysis. By measuring the pressure difference between two observed sites, he/she can interpolate an estimate of the surface wind speed. Using this estimated the wind speed, expected wind duration, and its associated wind fetch; the marine forecaster can determine the wind wave heights and create a sea-state analysis of combined sea heights.

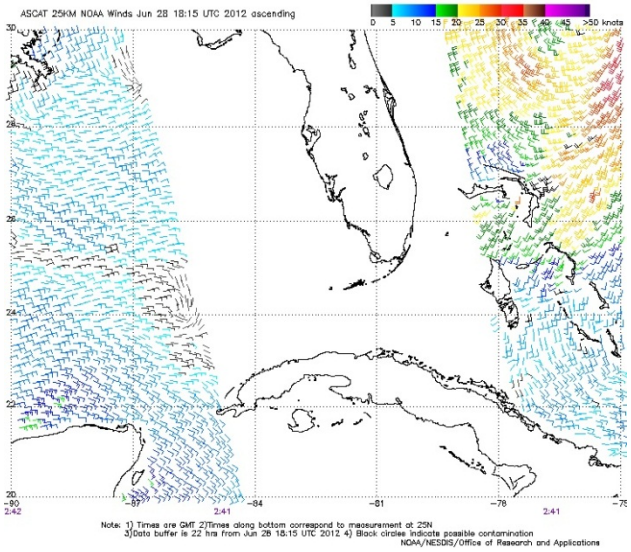


The National Data Buoy Center Observation Network for the Southeast United States
http://www.ndbc.noaa.gov/

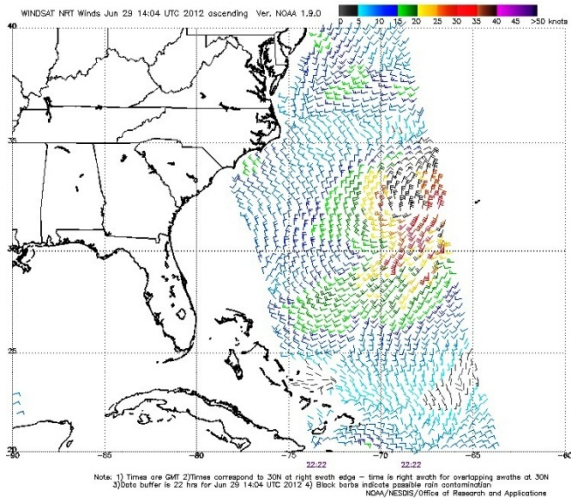


A surface analysis for the Gulf of Mexico, Caribbean and Southwest North Atlantic

The marine observation is extremely important as the forecaster checks the observed conditions against the initialization of the computer generated forecast models, and then tweaks the model guidance as he/she puts the forecast together. These surface observations are supplemented by ocean surface winds data measured by active (radar) and passive (radiometer) microwave sensors on spacecraft. Although this supplemental data is not very useful near the coast, it has greatly improved the offshore marine forecast.



Sample of Advanced Scatterometer Winds (ASCAT) at 10 meters.



Sample of Satellite Winds (Wind SAT) at 10 meters.

On NOAA Weather Radio, you will also hear a short term forecast often referred to as the "NOWCAST". This is issued most frequently during fast-breaking events and less frequently during non-hazardous conditions or longer term significant weather events. The "NOWCASTS" will describe the shower and thunderstorm activity that was detected by coastal dual-polarization radars and high resolution satellite imagery during the previous hour over the coastal waters. Mariners must be aware that both the wind and seas can be significantly higher in and near thunderstorm activity.

Sample of a short term forecast:

FPUS72 KMFL 230056
NOWMFL

SHORT TERM FORECAST
NATIONAL WEATHER SERVICE MIAMI FL
856 PM EDT FRI JUN 22 2012

AMZ610-650-670-FLZ063-066>068-168-230300-
LAKE OKEECHOBEE-
COASTAL WATERS FROM JUPITER INLET TO DEERFIELD BEACH, FL OUT 20 NM-
WATERS FROM JUPITER INLET TO DEERFIELD BEACH, FL EXTENDING FROM
20 NM TO 60 NM-GLADES-HENDRY-INLAND PALM BEACH-METRO PALM BEACH-
COASTAL PALM BEACH-
856 PM EDT FRI JUN 22 2012

.NOW...
WIDESPREAD SHOWERS WILL CONTINUE ACROSS THE NORTHERN PORTIONS OF
SOUTH FLORIDA AND ADJACENT ATLANTIC WATERS...INCLUDING LAKE
OKEECHOBEE. MOST OF THE SHOWER ACTIVITY IS CURRENTLY CONFINED TO THE
NORTHERN PORTION OF PALM BEACH COUNTY AND LAKE OKEECHOBEE. RAINFALL
ACCUMULATIONS IN THE HEAVIEST SHOWERS IS ABOUT ONE QUARTER TO ONE
HALF OF AN INCH,

$$

GMZ656-657-676-230300-
COASTAL WATERS FROM CHOKOLOSKEE TO BONITA BEACH, FL OUT 20 NM-
COASTAL WATERS FROM EAST CAPE SABLE TO CHOKOLOSKEE, FL OUT 20 NM-
GULF WATERS FROM CHOKOLOSKEE TO BONITA BEACH, FL EXTENDING FROM
20 TO 60 NM-
856 PM EDT FRI JUN 22 2012

.NOW...
SHOWERS AND THUNDERSTORMS WILL CONTINUE TO FORM ACROSS THE LOCAL
GULF WATERS. THESE STORMS WILL PRODUCE HEAVY SHOWERS...GUSTY WINDS
TO NEAR 30 KNOTS OR GREATER AND LIGHTNING STRIKES.

$$

AMZ630-651-671-FLZ069>075-172>174-230300-
BISCAYNE BAY-
COASTAL WATERS FROM DEERFIELD BEACH TO OCEAN REEF, FL OUT 20 NM-
WATERS FROM DEERFIELD BEACH TO OCEAN REEF, FL EXTENDING FROM 20 NM
TO THE TERRITORIAL WATERS OF THE BAHAMAS-COASTAL COLLIER-
INLAND COLLIER-INLAND BROWARD-METRO BROWARD-INLAND MIAMI DADE-
METRO MIAMI DADE-MAINLAND MONROE-COASTAL BROWARD-COASTAL MIAMI DADE-
FAR SOUTH MIAMI DADE-
856 PM EDT FRI JUN 22 2012

.NOW...
WIDESPREAD LIGHT TO MODERATE SHOWERS WILL CONTINUE ACROSS THE
SOUTHERN HALF OF SOUTH FLORIDA AND ADJACENT ATLANTIC WATERS.
RAINFALL ACCUMULATIONS IN THE HEAVIEST SHOWERS IS ABOUT ONE
TENTH TO ONE QUARTER OF AN INCH,

#

Q. It seems that the National Weather Service ignores weather reports that from boaters.

A. The meteorologist doesn't ignore timely reports from boaters or from any other observing platform and the forecaster must continuously monitor all observations. Weather observations are extremely important as sea surface roughness increases with wind speed. However, the marine forecaster must evaluate each report for its validity. Sometimes reports from the same area are conflicting. One report will be for 25 knots and 10-foot seas while another nearby observation is 15 knots and 3-foot seas. A common error for skippers is failing to correct the wind speed for the speed of the boat. Past research has shown that only 15% of the observers do the calculations correctly. Additionally, some mariners will report a combined sea height; which includes both the wind wave and swell(s). Other boaters will just report the wind generated waves.

Ships themselves actually disturb the environmental wind flow. There is an almost infinite variety in the size of shape of merchant class ships which account for nearly three quarters of the deep water weather reports received. The disturbance effects will even change for an individual ship as the degree of loading changes on each passage. Wind speed errors reported from mast-mounted anemometers is common. At the mainmast anemometer height the airflow is accelerated 5-10%, unless the winds are from astern. Wind speed is generally close to the undistorted (free stream) value for bow mounted anemometers headed into the wind, but overestimated if the wind is abeam, and underestimated 5-10% if wind is from aft. Anemometer heights are generally higher from ships in the trans-oceanic shipping lanes. Average anemometer heights continue to increase as taller ships are constructed.

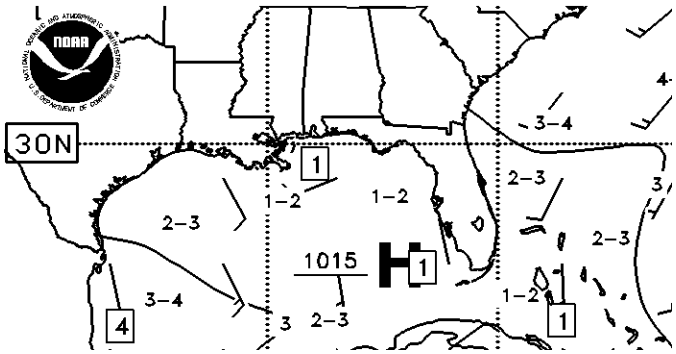
Obtaining accurate measurements of wind speed and direction requires considerable care. If your boat is pitching with the mast whipping through the air, the anemometer will reflect accelerations of the mast resulting in an erroneously high wind speed.

Interpreting the Marine Forecast

Q. What parameters does the National Weather Service use in the coastal waters forecast?

A. The meteorologist is forecasting the average or prevailing wind expected throughout 12 hour forecast periods. The sea height forecast is for the average one-third highest wave heights (trough to crest) generated by such winds. This is called the significant wave height. An experienced weather observer will report the highest 1/3rd of the waves observed.

All of this is smoothed in space and time. For example, the coastal waters from Jupiter Inlet to Key West Florida cover about 15,000 square nautical miles. It is just not feasible to give much detail. The Gulf Stream (and it's eddies) and each cove, cape, bay, jetty and inlet affects the wind and waves to some degree. Wave heights are affected by ocean floor topography and by strong tidal currents. Temperature differences between land and water, and between water and water, affect the winds so that boaters only a few miles apart may experience different winds and sea conditions.



A ridge axis commonly extends across the South Florida Coastal waters during the summer months. It's normal for this ridge axis to shift slightly north and south throughout a forecast period. Immediately north of the ridge axis the winds will be 6-10 knots from a southwest direction. Just to the south of the ridge, boaters should expect 6-10 knot southeast winds. Within the ridge axis itself, the winds would be light (5 knots or less and occasionally dead calm,) and from variable directions. But only a few miles from the ridge the winds will increase 10 to 15 knots with considerable difference in wind wave heights. All these weather situations could easily occur within a large forecast zone during a single forecast period.

Q. What is the difference between a wind wave, swell and a combined sea?

A. Wind wave is a wave generated by the wind stress on the surface of a body of water. A swell on the other hand, consists of wind-generated waves that have advanced into regions of weaker winds and are decreasing in height. A total sea, or a combined sea, is composed of wind waves and swell(s). A coastal marine forecaster usually doesn't forecast swells because their wave length is quite long and they are seldom a danger. Additionally, there are only a few buoys in the coastal waters to accurately measure swell height, direction and swell period. In the trade wind belt, swells are often 6 to 10 feet high on which wind waves of 2 to 4 feet are superimposed. Few recreational boaters would go sailing if 8 to 14 foot combined seas were mentioned in the forecast.

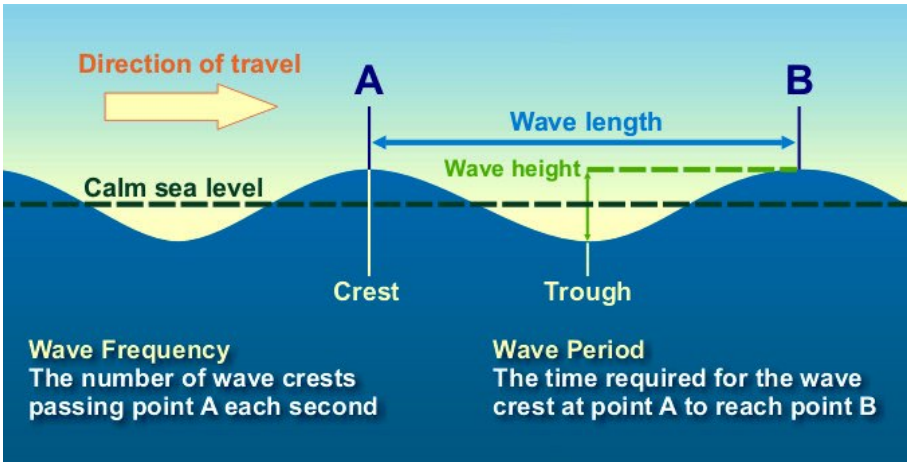
Q. Why is the forecast for the highest wave instead of the average wave?

A. ***Experienced mariners are aware that the sea is a very complex place. The distance between waves (called the wave period) and the height of the lower waves are usually underestimated, while the heights of big waves are generally overestimated. In fact, reliable observations of wave heights are so difficult that the reported values are considered to represent a crude estimate at best.***

Waves on the open sea have different heights, different wave lengths, and different periods. When waves are out of phase, they will tend to cancel each other. When the waves are in phase, they tend to reinforce each other and can produce a single mountain of water (commonly called a rogue wave) out of all proportion to the surrounding area. The skipper that experiences this will get a nerve shattering roller coaster ride to the bottom of the wave trough, no doubt swearing at the marine forecaster all the way down. Yet, at the same time, there may be a boater a mile away that will have an enjoyable day of sailing. It is common to experience a dangerous situation at the mouth of inlets where wind and currents combine to create large confused waves while actual sea conditions are much safer a half-mile outside the inlet.

In the book Oceanography and Seamanship, William G. Van Dorn provided an example of what the wave heights would be if a steady 33 mph (29 knots) wind blew for 24 hours over a fetch (uninterrupted distance) of 340 miles (295 nautical miles).

- ***10% of all waves will be less than 3.6 FT (1 M).***
- ***The most frequent wave height will be 8½ FT (2½ M).***
- ***The average wave height will be 11 FT (3 M).***
- ***The significant wave height will be 17 FT (5 M).***
- ***10% of all waves will be higher than 18 FT (5 m).***
- ***The average wave height of the highest 10% of all waves will be 22 FT (7 M).***
- ***A 5% chance of encountering a single wave higher than 35 FT (11 M) among every 200 waves that pass in about 30 minutes.***
- ***A 5% chance of encountering a single wave higher than 40 FT (12 M) among every 2,600 waves that pass in about five hours.***



Please visit NWS Anatomy of a Wave at
http://www.srh.noaa.gov/jetstream/ocean/wave_max.htm

Small Craft Advisories

Q. What is a small craft warning?

A. There is a lot of confusion about small craft advisories. The National Weather Service dropped the phrase "Small Craft Warning" and substituted "Small Craft Advisory" because there isn't a legal definition for a small craft. The United States Coast Guard informally designates "small craft" to boats with lengths of less than 10 meters (approximately 33 feet). The National Weather Service Marine forecaster doesn't know the experience level of each skipper. The small craft advisory is a notice to <u>all</u> skippers that potentially hazardous weather exists or is forecast to develop. It is the responsibility of <u>each</u> skipper to decide if his seamanship skills and the seaworthiness of his vessel are capable of coping with the expected wind and sea conditions. He/she alone makes the decision to go or not to go. Although forecasters are not aware of any yacht races that were canceled because of a small craft advisory, we are aware that skilled yachtsman with sturdy boats have been swamped during competition when a small craft advisory was in effect.

Q. Why do you issue small craft advisories when the weather is good for sailing?

A. The forecaster will put up a small craft advisory if he/she expects these conditions in any of the 12-hour time periods through 48 hours so that mariners can plan their trip with the thought that the weather will deteriorate. Mariners may wish to postpone their trip, sail in protected waters, or stay close to port. The forecast may also mention the possibility of a small craft advisory in the extended periods. The National Weather Service issues small craft advisories whenever a sustained one minute wind speed or frequent gusts from 22 to 33 knots and/or for sea/wave conditions of 10 feet or more is expected. In the Gulf of Mexico and east Florida coastal waters a small craft advisory is issued if sustained winds of 20 knot and/or seas of 7 feet or higher are expected. If the sea heights are solely due to long period swells, the forecaster may issue an advisory only for the near-shore waters. For the small, more weather sensitive boats, the statement "Small Craft Should Exercise Caution" is headlined in forecasts when the winds of 15 to 20 knots and/or seas to 6 feet are forecast.

When the timing of an event can be pinned down accurately during the first 48 hours, for example after a frontal passage, the forecaster may use the statement "small craft advisories may be necessary late today." A summary of small craft advisory durations for the Florida coastal waters from Jupiter Inlet to Key Largo for the period from 1986 to 1991 shows that a small craft advisory was in effect 14% of the time, with the winter months of February, March, and November averaging above 25% of the time for the same 5 year period.

Q. What is a special marine warning?

A. Special marine warnings are normally issued to advise of temporary weather hazards such as severe thunderstorms, squalls, or waterspouts. The special marine warning is usually in effect for two hours or less.

Weather Radio Broadcasts

Q. How can I receive weather information while I'm out on my boat?

A. It is recommended that boaters in the coastal waters have a VHF receiver capable of receiving the continuous NOAA Weather Radio (NWR) "Voice of the National Weather Service" broadcast. Commercial-free weather broadcasts are transmitted 24-hours daily with the recorded cycle typically repeating about every 6 minutes. The marine forecasts are routinely updated every 6 hours with watches and warnings transmitted immediately. Coastal transmitters also broadcast predicted tides and real time observations from buoys and coastal meteorological sensors. The National Weather Service operates more than 1000 of these transmitters throughout the 50 states and U.S territories, with many transmitters located near the coast. The locations and frequencies of the coastal NOAA Weather Radio Stations are listed at http://www.nws.noaa.gov/nwr/nwrbro.htm. They frequencies are also posted on many commercially produced charts. Some private entities provide online streaming audio of NOAA Weather Radio ALL Hazard broadcasts.

The NWR is an "All Hazards" radio network, making it your single source for comprehensive weather and emergency information such as earthquakes, avalanches, environmental spills, and chemical releases, public safety such as AMBER alerts or 911 telephone outages.

NWR broadcasts are found in the public service band on 7 megahertz frequencies ranging from 162.400 MHZ to 162.550 MHZ. The optimum range is 30-40 miles, but reception is possible at greater distances over water with sensitive radios and tall receiving antennas. An automated 1050 Hz tone is transmitted to automatically turn on compatible NOAA Weather Radio receivers when a severe weather situation exists within the transmitter coverage area. Mariners using receivers equipped with Specific Area Message Encoding (SAME) are advised to set their radios to the "All County Code Option" to avoid the necessity of continually reprogramming their unit while in transit along the coast.

Although most VHF marine radios have the ability to receive NOAA Weather Radio broadcasts, it is recommended that a separate NOAA Weather radio be carried aboard so that mariners may maintain a simultaneous watch on NOAA Weather Radio and marine VHF channels.

Additional NOAA Weather radio information can be found on the Internet at URL: http://www.nws.noaa.gov/nwr .

Q. What if I'm boating beyond the range of NOAA Weather Radio (NWR)?

A. ***Then you must depend on the scheduled weather broadcasts from several sources depending on where your vessel is located. Use your VHF radio when boating near shore. The United States Coast Guard (USCG) broadcasts urgent marine weather information on VHF/FM marine radio from over 200 coastal sites. These NWS coastal forecasts and storm warning broadcasts are made by on Ch. 22A (157.1 MHZ) after being initially announced over the distress, safety and calling channel VHF 16 (156.8 MHZ). In areas where NOAA Weather Radio broadcasts provide complete overlapping coverage the USCG may elect to broadcast only storm warnings and not routinely broadcast NWS marine forecasts. Many VHF radios are pre-programmed to receive NOAA Weather Radio broadcasts.***

Navigational information text (NAVTEX) is an international automated text broadcast made on medium frequency 518 KHZ. This service delivers navigational and meteorological warnings and forecasts, as well as urgent marine safety information to ships. Although NAVTEX is a major element

of the Global Marine and Distress Safety System (GMDSS), there are affordable NAVTEX receivers available for the recreational community. NAVTEX would be asset for mariners boating in the Bahamas, or fishermen operating several hundred miles from shore because it is a simple low-cost means to receive the meteorological forecasts which are updated 4 times daily and extend out to 5 days. The NAVTEX broadcasts cover most of the coastal areas of the United States, within approximately 200 nautical miles of the broadcast antenna, however reception up to 1000 miles is often reported at night. Along the United States East Coast the NAVTEX is broadcast from antennas at Boston, Portsmouth, Charleston, Miami, New Orleans and Puerto Rico. For additional information see URL: http://www.nws.noaa.gov/om/marine/navtex.htm.

In the offshore and high seas domain, we recommend listening to broadcasts on single side band (SSB). SSB radio is essential not only for receiving weather faxes and voice broadcasts (VOBRA), but for receiving email and essential ship to shore communication. The USCG voice broadcasts offshore and coastal forecasts, tropical weather outlooks and advisories on Medium Frequency (MF) 2670 KHZ. This follows an initial announcement on the distress, safety and calling frequency 2182 KHZ. The typical transmission range is 50-150 nautical miles during daylight, and 150-300 nautical miles at night. Transmission sites and schedules are dependent on the responsible USCG District. The mariner is encouraged to become familiar with the broadcast sites and schedules at URL: http://www.nws.noaa.gov/om/marine/mfvoice.htm.

Weather forecasts and warnings are broadcast over scheduled High Frequency (HF) radiotelephone channels using a computer-synthesized voice known as "Iron Mike". The USCG VOBRA broadcasts from six high seas communication stations in the upper sideband mode. Transmission range may up to thousands of miles and is dependent upon the chosen frequency, time of day, and atmospheric conditions. The HF voice broadcast from Chesapeake, Virginia is simulcast from New Orleans, Louisiana (NMG). The NMG broadcast includes 2 specially designed VOBRA products that reconfigure the 32 offshore forecast zones into a concise for voice broadcast, as well as the high seas forecast for the Atlantic, the Caribbean and the Gulf of Mexico. The offshore waters forecasts include New England, the Mid-Atlantic, with the 2 VOBRA products covering the SW North Atlantic, the Caribbean and Gulf of Mexico. Forecast advisories for North Atlantic are also broadcast when they are issued. The Tropical Weather Outlook is a seasonal product and is broadcast from Jun 1 through Nov 30th of each calendar year. Tsunami watch and warning messages are also broadcast for Canada, the Eastern and Gulf States, Puerto Rico and the U.S. Virgin Islands. It should be noted that these broadcasts are shared with the radio fax broadcast transmitters which have a higher broadcast priority such as navigational warnings and Search and Rescue (SAR) . More information is available at URL: http://www.nws.noaa.gov/om/marine/hfvoice.htm.

The USCG also makes automated SITOR (Simplex Teletype Over Radio) text broadcasts of high seas forecasts and advisories in mode B, FEC. SITOR is also known as Narrow Band Direct Printing (NDBP) and is similar to NAVTEX as it is an automated direct printing service but does not offer all the functionality. Offshore and coastal forecasts area available in some areas such as Alaska. The International Ice Patrol also broadcasts from Boston sharing the same frequencies. The Boston (NMF) frequencies are 6314, 8416.5, and 12579 kHz at 0140 UTC), and 8416.5, 12579 and 16806.5 kHz at 1630 UTC. See URL: http://www.nws.noaa.gov/om/marine/hfsitor.htm.

Weather charts and ice charts are also broadcast from 5 USCG HF Stations. Most vessels receive these charts on a computer connected to their single sideband radio. The 5 USCG stations are at Boston (NMF), New Orleans (NMG), Kodiak (NOJ), Pt. Reyes (NMC), and Honolulu (KVM70). Worldwide weather information is broadcast over the Inmarsat satellite system.

The Tropical Forecast and Analysis Branch (TAFB is physically located at the National Hurricane Center (NHC) in Miami, Florida. With tropical expertise the TAFB prepares marine weather analyses, marine warning text and graphic forecasts, and provides GOES-8 satellite imagery for High Frequency radio facsimile broadcasts from the USCG station NMG in New Orleans, Louisiana. All radiofax broadcasts of NWS products employ a radiofax signal of 120 lines per-minute (LPM) and an Index-of-Cooperation (IOC) of 576. These values must be entered into the users equipment or software program in order for the radiofax image to be displayed properly.

Simultaneous broadcast frequencies from the USCG station NMG New Orleans, Louisiana are 4317.9 kHz, 8503.9 kHz, 12789.9 kHz at 0000, 0600, 1200 and 1800 UTC and 12789.9 kHz from 1200-2045 UTC. Select a carrier frequency 1.9 kHz below those listed when using a single side band radio in the upper side band (USB) mode to receive these broadcasts.

TAFB also provides marine weather analyses and forecasts for the tropical East Pacific. These products are transmitted via HF radio facsimile from USCG NMC Point Reyes, California. All of TAFB products with the exception of the satellite imagery are also available on the Internet at URL: http://weather.noaa.gov/fax/marine.shtml. TAFB also posts all their text and graphics on the National Hurricane Center web site at URL: http://www.nhc.noaa.gov/forecast.html. For charts covering the West Atlantic and East Pacific north of 30N, see the Ocean Prediction Center Internet site at: http://www.opc.ncep.noaa.gov/. There is also a radio fax app for the iPhone/iPad available at http://www.blackcatsystems.com/ipad/iPad_HF_FAX_Weather_Fax_App.html. This app lets you receive marine weather radio facsimile transmissions using the audio from your HF radio.

Mariners are encouraged to become familiar with the Internet sites and visit the sites regularly to download the latest radio fax schedules. Included are copies of the schedules for NMF, NMG and NMC.

Q. Are here any other advantages to equipping my boat with a VHF radio?

A. *Yes! The Global Maritime Distress and Safety System is the international radio safety system implemented in 1999. This was accomplished through amendments to the Safety of Life At Sea (SOLAS) Convection mandated by the International Maritime Organization (IMO). The primary purpose of the GMDSS is to automate many marine radio functions especially related to distress and safety.*

The GMDSS has automated marine distress alerting through technology known as Digital Selective Calling (DSC). DSC uses data signals to automate transmission and reception calls on the dedicated channel 70 of the VHF marine radio. The stable narrow bandwidth digital burst automatically indicates the identity of the calling station and the priority of the call. Every DSC radio has a unique number which allow you to use the radio like a mobile phone. DSC also offers the ability to send and receive GPS positions via a connection to the Global Positioning System (GPS) receiver. Some VHF radios have a built in GPS antenna.

You must register your radio to obtain a nine digit maritime Mobile Service Identity (MMSI) number which is your radio's "telephone" number. To obtain your free MMSI number you need to enter information into a database. One source is online at www.boatus.com/MMSI/. Every DSC radio has an emergency button. When the button is pressed, all nearby vessels with DSC radios will receive a loud alert and display your vessel's position and MMSI number. The U.S.C.G. will copy your position and reference your MMSI number in its database to establish your identity and boat description.

Your distress call will be repeated until it's received and acknowledged. Once acknowledged, all radios within range monitoring VHF Channel 16 can listen to the details of your distress. As a mariner, you should only acknowledge another mariner's distress call if you are well offshore or, if it's apparent that a shore station isn't receiving the distress call. Of course you must copy the distressed vessels position and MMSI and relay it to search-and-rescue agencies, then standby on Channel 16. You should dial in the MMSI number and call the crew to determine if you can provide assistance. These actions are required, and ignoring a DSC call violates the basic laws of seafaring.

Another safety feature of the DSC radio is its Automatic Identity System (AIS) which will display other vessels MMSI numbers. This will allow you to call another vessel directly, perhaps to avoid a collision in a close cross situation. Since commercial vessels use VHF channel 13 for bridge-to-bridge communication that is often the best channel to call another vessel. Imagine the possibilities the MMSI number will provide to contact other boat club members during a tournament or nearby boats when at anchorage.

Marine Fax schedule for BOSTON, MASSACHUSETTS, U.S.A.

BOSTON, MASSACHUSETTS, U.S.A.

CALL SIGN	FREQUENCIES	TIMES (UTC)	EMISSION	POWER
NMF	4235 kHz	0230z-1039	F3C	4 KW
	6340.5 kHz	ALL BROADCAST TIMES	F3C	4 KW
	9110 kHz	ALL BROADCAST TIMES	F3C	4 KW
	12750 kHz	1400z-2239	F3C	4 KW

TRANS TIME	CONTENTS OF TRANSMISSION	RPM/IOC	VALID TIME	MAP AREA
0230/1400	TEST PATTERN	120/576		
0233/----	PRELIMINARY SURFACE ANALYSIS	120/576	0000	1
0243/1405	BROADCAST SCHEDULE (PART 1)	120/576		
0254/1420	BROADCAST SCHEDULE (PART 2)	120/576		
0305/1433	REQUEST FOR COMMENTS	120/576		
----/1443	PRODUCT NOTICE BULLETIN	120/576		
----/1453	PRELIMINARY SURFACE ANALYSIS	120/576	1200	1
----/1503	SATELLITE IMAGE	120/576	1200	5
0315/1515	WIND/WAVE ANALYSIS	120/576	00/12	8
0325/1525	SURFACE ANALYSIS (PART 1 NE ATLANTIC)	120/576	00/12	2
0338/1538	SURFACE ANALYSIS (PART 2 NW ATLANTIC)	120/576	00/12	3
0351/----	SATELLITE IMAGE	120/576	0000	5
----/1600	ICE CHART (REBROADCAST)	120/576	2100	
----/1720	TEST PATTERN	120/576		
0402/1723	(REBROADCAST OF 0325/1525 NE ATLANTIC)	120/576	00/12	2
0415/1736	(REBROADCAST OF 0338/1538 NW ATLANTIC)	120/576	00/12	3
0428/1749	500MB ANALYSIS	120/576	00/12	4
----/1759	SEA STATE ANALYSIS	120/576	1200	4
0438/----	ICE CHART (REBROADCAST)	120/576	2100	
----/1810	SPARE OR EXPERIMENTAL	120/576	????	?
0452/1824	CYCLONE DANGER AREA* or HIGH WIND/WAVES	120/576	03/15	7
0745/1900	TEST PATTERN	120/576		
0755/----	PRELIMINARY SURFACE ANALYSIS	120/576	0600	1
0805/1905	24HR SURFACE FORECAST	120/576	00/12	8
0815/1915	24HR WIND/WAVE FORECAST	120/576	00/12	8
0825/1925	24HR 500MB FORECAST	120/576	00/12	4
0835/1935	36HR 500MB FORECAST	120/576	12/00	4
0845/1945	48HR 500MB FORECAST	120/576	00/12	4
0855/1955	48HR SURFACE FORECAST	120/576	00/12	4
0905/2005	48HR WIND/WAVE FORECAST	120/576	00/12	4
0915/2015	48HR WAVE PERIOD FORECAST	120/576	00/12	4
----/2025	PRELIMINARY SURFACE ANALYSIS	120/576	1800	1
----/2035	96 HR 500MB FORECAST	120/576	1200	4
----/2045	96 HR SURFACE FORECAST	120/576	1200	4
----/2055	96 HR WIND/WAVE FORECAST	120/576	1200	4
----/2105	96 HR WAVE PERIOD FORECAST	120/576	1200	4
----/2115	(REBROADCAST OF 2045 96 HR SURFACE)	120/576	1200	4
0925/2125	SURFACE ANALYSIS (PART 1 NE ATLANTIC)	120/576	06/18	2
0938/2138	SURFACE ANALYSIS (PART 2 NW ATLANTIC)	120/576	06/18	3
0951/2151	SATELLITE IMAGE	120/576	06/18	6
1002/2202	(REBROADCAST OF 0925/2125 NE ATLANTIC)	120/576	06/18	2
1015/2215	(REBROADCAST OF 0938/2138 NW ATLANTIC)	120/576	06/18	3

1028/2228 CYCLONE DANGER AREA* or HIGH WIND/WAVES 120/576 09/21 7
1039/2239 REBROADCAST/N American Ice Service Chart 120/576 21/21

*** Tropical Cyclone Danger Area chart replaced by 48HR High Wind/Wave Warning chart Dec 01 - May 14 Valid times 00z,06z,12z and 18z, Map area 05N-40N, 35W-100W**

MAP AREAS 1. 28N-52N, 45W-85W 2. 18N-65N, 10E-45W
3. 18N-65N, 40W-95W 4. 18N-65N, 10E-95W
5. 20N-55N, 55W-95W 6. EQ-60N, 40W-130W
7. 05N-60N, 0W-100W 8. 22N-51N, 40W-98W

NOTES: 1. CARRIER FREQUENCY IS 1.9 kHz BELOW THE ASSIGNED FREQUENCY

Please send comments regarding the quality of these charts to:

NATIONAL WEATHER SERVICE/NOAA
MARINE FORECAST BRANCH W/NP41
5830 UNIVERSITY RESEARCH CT
COLLEGE PARK, MD 20740
PHONE: (301) 683-1497
FAX: (301) 683-1545
EMAIL: Anthony.Siebers@noaa.gov

Please send comments regarding the quality of this broadcast to:

COMMANDING OFFICER
USCG CAMSLANT
4720 DOUGLAS A. MUNRO RD.
CHESAPEAKE, VA 23322-2598
(800) 742-8519 (757)421-6240
CamslantCWO's@camslant.uscg.mil

Tropical cyclone charts also broadcast from New Orleans, LA

If you have access to the World Wide Web be certain to check out the following webpages. See these pages for further links.

http://www.nws.noaa.gov NWS Homepage
http://www.nws.noaa.gov/om/marine/home.htm NWS Marine Page
cell.weather.gov Cellphone page
mobile.weather.gov Mobile Page

(Schedule effective Feb 01, 2012 Information dated Aug 09, 2012)

Marine fax schedule for **NEW ORLEANS, LOUISIANA, U.S.A.**

NEW ORLEANS, LOUISIANA, U.S.A.

CALL SIGN	FREQUENCIES	TIMES (UTC)	EMISSION	POWER
NMG	4317.9 kHz	ALL BROADCAST TIMES	F3C	4 KW
	8503.9 kHz	ALL BROADCAST TIMES	F3C	4 KW
	12789.9 kHz	ALL BROADCAST TIMES	F3C	4 KW
	17146.4 kHz	1200-2045	F3C	4 KW

TRANS TIME	CONTENTS OF TRANSMISSION	RPM/IOC	VALID TIME	MAP AREA
0000/1200	TEST PATTERN	120/576		
0005/1205	U.S./TROPICAL SURFACE ANALYSIS (W HALF)	120/576	18/06	1
0020/1220	TROPICAL SURFACE ANALYSIS (E HALF)	120/576	18/06	2
0035/1235	REBROADCAST OF 1925/0725 (24 HR WIND/WAVE)	120/576	12/00	3
0045/1245	REBROADCAST OF 1950/0750 (48 HR WIND/WAVE)	120/576	12/00	3
0055/1255	REBROADCAST OF 2015/0815 (72 HR WIND/WAVE)	120/576	12/00	3
0105/1305	REBROADCAST OF 1855/0655 (24 HR SURFACE)	120/576	12/00	3
0115/1315	REBROADCAST OF 1905/0705 (48 HR SURFACE)	120/576	12/00	3
0125/1325	REBROADCAST OF 1915/0715 (72 HR SURFACE)	120/576	12/00	3
0135/1335	CYCLONE DANGER AREA* or HIGH WIND/WAVES	120/576	21/09	6
0150/----	REBROADCAST OF 0825 (72 HR WAVE PD/SWELL)	120/576	0000	3
----/1350	36 HR WIND/WAVE FORECAST	120/576	1200	3
0200/1400	GOES IR TROPICAL SATELLITE IMAGE	120/576	00/12	4
0215/1415	SEA STATE ANALYSIS	120/576	00/12	3
0225/1425	REQUEST FOR COMMENTS/PRODUCT NOTICE	120/576		
0245/1445	HIGH SEAS FORECAST (IN ENGLISH)	120/576	22/10	5
0600/1800	TEST PATTERN	120/576		
0605/1805	U.S./TROPICAL SURFACE ANALYSIS (W HALF)	120/576	00/12	1
0620/1820	TROPICAL SURFACE ANALYSIS (E HALF)	120/576	00/12	2
0635/1835	48 HR WAVE PERIOD/SWELL DIRECTION	120/576	00/12	3
0645/1845	REBROADCAST OF 0215/1415 (SEA STATE ANAL')	120/576	00/12	3
0655/1855	24 HR SURFACE FORECAST	120/576	00/12	3
0705/1905	48 HR SURFACE FORECAST	120/576	00/12	3
0715/1915	72 HR SURFACE FORECAST	120/576	00/12	3
0725/1925	24 HR WIND/WAVE FORECAST	120/576	00/12	3
0735/1935	CYCLONE DANGER AREA* or HIGH WIND/WAVES	120/576	03/15	6
0750/1950	48 HR WIND/WAVE FORECAST	120/576	00/12	3
0800/2000	GOES IR TROPICAL SATELLITE IMAGE	120/576	07/18	4
0815/2015	72 HR WIND/WAVE FORECAST	120/576	00/12	3
0825/----	72 HR WAVE PERIOD/SWELL DIRECTION	120/576	0000	3
0835/----	REBROADCAST OF 0215 (SEA STATE ANALYSIS)	120/576	0000	3
----/2025	BROADCAST SCHEDULE	120/576		
0845/2045	HIGH SEAS FORECAST (IN ENGLISH)	120/576	04/16	5

*** Tropical Cyclone Danger Area chart replaced by 48HR High Wind/Wave Warning chart Dec 01 - May 14 Valid times 00z,06z,12z and 18z, Map area 05N-40N, 35W-100W**

MAP AREAS:

1. 5S - 50N, 55W - 125W
2. 5S - 50N, 0W - 70W
3. 0N - 31N, 35W - 100W
4. 12S - 44N, 28W - 112W

5. 7N - 31N, 35W - 98W (AREA COVERED BY TEXT FORECAST)
6. 05N - 60N, 0W - 100W

NOTES: 1. CARRIER FREQUENCY IS 1.9 kHz BELOW THE ASSIGNED FREQUENCY

Please send comments regarding the quality of these charts to:

NATIONAL HURRICANE CENTER
ATTN: CHIEF TAFB
11691 SOUTHWEST 17TH STREET
MIAMI, FL 33165-2149
PHONE: (305) 229-4454
FAX: (305) 553-1264
EMAIL: Hugh.Cobb@noaa.gov

Please send comments regarding the quality of this broadcast to:

COMMANDING OFFICER
USCG CAMSLANT
4720 DOUGLAS A. MUNRO RD.
CHESAPEAKE, VA 23322-2598
(800) 742-8519 (757)421-6240
CamslantCWO's@camslant.uscg.mil

Tropical cyclone charts also broadcast from Boston, MA

If you have access to the World Wide Web be certain to check out the following webpages. See these pages for further links.

http://www.nws.noaa.gov	**NWS Homepage**
http://www.nws.noaa.gov/om/marine/home.htm	**NWS Marine Page**
cell.weather.gov	**Cellphone page**
mobile.weather.gov	**Mobile Page**

(Schedule effective Apr 03, 2012 Information dated Aug 01, 2012)

Marine fax schedule for PT. REYES, CALIFORNIA, U.S.A.

PT. REYES, CALIFORNIA, U.S.A.

CALL SIGN	FREQUENCIES	TIMES (UTC)	EMISSION	POWER
NMC	4346 kHz	0140-1608	F3C	4 KW
	8682 kHz	ALL BROADCAST TIMES	F3C	4 KW
	12786 kHz	ALL BROADCAST TIMES	F3C	4 KW
	17151.2 kHz	ALL BROADCAST TIMES	F3C	4 KW
	22527 kHz	1840-2356	F3C	4 KW

TRANS TIME AREA	CONTENTS OF TRANSMISSION	RPM/IOC	VALID TIME	MAP
0140/1400	TEST PATTERN	120/576		
0143/1403	NE PACIFIC GOES IR SATELLITE IMAGE	120/576	00/12	6
0154/1414	PACIFIC GOES IR SATELLITE IMAGE	120/576	00/12	5
0205/1425	TROPICAL SEA STATE ANALYSIS	120/576	00/12	4
0215/1435	TROPICAL 48HR SURFACE FORECAST	120/576	12/00	4
0225/----	TROPICAL 48HR WIND/WAVE FORECAST	120/576	1200	4
0235/----	TROPICAL 72HR WIND/WAVE FORECAST	120/576	1200	4
0245/1445	500MB ANALYSIS	120/576	00/12	1
0255/1455	SEA STATE ANALYSIS, WIND/WAVE ANALYSIS	120/576	00/12	1/8
0305/1505	PRELIM SURFACE ANALYSIS(PART 1 NE PAC)	120/576	00/12	2
0318/1518	PRELIM SURFACE ANALYSIS(PART 2 NW PAC)	120/576	00/12	3
0331/1531	FINAL SURFACE ANALYSIS(PART 1 NE PAC)	120/576	00/12	2
0344/1544	FINAL SURFACE ANALYSIS(PART 2 NW PAC)	120/576	00/12	3
0357/1557	CYCLONE DANGER AREA* or HIGH WIND/WAVES	120/576	03/15	10
0408/1608	TROPICAL SURFACE ANALYSIS	120/576	00/12	4
0655/1840	TEST PATTERN			
0657/----	2033Z REBROADCAST (96HR 500MB)	120/576	1200	1
0707/----	2043Z REBROADCAST (96HR SURFACE)	120/576	1200	1
0717/----	2053Z REBROADCAST (96HR WIND/WAVE)	120/576	1200	1
0727/----	2103Z REBROADCAST (96HR WAVE PERIOD)	120/576	1200	1
----/1842	SST ANALYSIS	120/576	LATEST	9
----/1852	SST ANALYSIS	120/576	LATEST	6
0737/1902	TROPICAL GOES IR SATELLITE IMAGE	120/576	06/18	7
0748/1913	WIND/WAVE ANALYSIS	120/576	06/18	8
0758/1923	24HR 500MB FORECAST	120/576	00/12	1
0808/1933	24HR SURFACE FORECAST	120/576	00/12	8
0818/1943	24HR WIND/WAVE FORECAST	120/576	00/12	8
0828/1953	48HR 500MB FORECAST	120/576	00/12	1
0838/2003	48HR SURFACE FORECAST	120/576	00/12	1
0848/2013	48HR WIND/WAVE FORECAST	120/576	00/12	1
0858/2023	48HR WAVE PERIOD/SWELL DIRECTION	120/576	00/12	1
----/2033	96HR 500MB FORECAST	120/576	1200	1
----/2043	96HR SURFACE FORECAST	120/576	1200	1
----/2053	96HR WIND/WAVE FORECAST	120/576	1200	1
----/2103	96HR WAVE PERIOD/SWELL DIRECTION	120/576	1200	1
0908/2113	PACIFIC GOES IR SATELLITE IMAGE	120/576	06/18	5
0919/2124	SURFACE ANALYSIS (PART 1 NE PACIFIC)	120/576	06/18	2
0932/2137	SURFACE ANALYSIS (PART 2 NW PACIFIC)	120/576	06/18	3
0945/2150	TROPICAL SURFACE ANALYSIS	120/576	06/18	4

0959/2204	TROPICAL 24HR WIND/WAVE FORECAST	120/576	00/12	4
1009/2214	CYCLONE DANGER AREA* or HIGH WIND/WAVES	120/576	09/21	10
1120/2320	TEST PATTERN	120/576		
1124/2324	BROADCAST SCHEDULE (PART 1)	120/576		
1135/2335	BROADCAST SCHEDULE (PART 2)	120/576		
1146/----	REQUEST FOR COMMENTS	120/576		
1157/----	PRODUCT NOTICE BULLETIN	120/576		
1208/----	TROPICAL 48HR WIND/WAVE FORECAST	120/576	0000	4
1218/----	TROPICAL 72HR WIND/WAVE FORECAST	120/576	0000	4
1228/2346	TROPICAL 48HR WAVE PERIOD/SWELL DIR	120/576	00/12	4
----/2356	TROPICAL 72HR WAVE PERIOD/SWELL DIR	120/576	0000	4

* Tropical Cyclone Danger Area chart replaced by 48HR High Wind/Wave Warning chart Dec 01 - May 14 Valid times 00z,06z,12z and 18z

MAP AREAS:	1. 20N - 70N, 115W - 135E	2. 20N - 70N, 115W - 175W
	3. 20N - 70N, 175W - 135E	4. 20S - 30N, EAST OF 145W
	5. 05N - 55N, EAST OF 180W	6. 23N - 42N, EAST OF 150W
	7. 05N - 32N, EAST OF 130W	8. 18N - 62N, EAST OF 157W
	9. 40N - 53N, EAST OF 136W	10. 0N - 40N, 80W - 180W

NOTES: 1. CARRIER FREQUENCY IS 1.9 kHz BELOW THE ASSIGNED FREQUENCY

Please send comments regarding the quality of these charts to:

NATIONAL WEATHER SERVICE/NOAA
MARINE FORECAST BRANCH W/NP41
5830 UNIVERSITY RESEARCH CT
COLLEGE PARK, MD 20740
PHONE: (301) 683-1497
FAX: (301) 683-1545
EMAIL: Anthony.Siebers@noaa.gov

Please send comments regarding the quality of this broadcast to:

COMMANDING OFFICER
USCG CAMSPAC
17000 SIR FRANCIS DRAKE BLVD.
P.O. Box 560
PT. REYES STATION, CA 94956-0560
(877) 662-4636 (415)669-2047
D11-PF-CAMSPACCWO@USCG.MIL

Many of these charts also broadcast from Kodiak, AK and Honolulu, HI

If you have access to the World Wide Web be certain to check out the following webpages. See these pages for further links.

http://www.nws.noaa.gov	NWS Homepage
http://www.nws.noaa.gov/om/marine/home.htm	NWS Marine Page
cell.weather.gov	Cellphone page
mobile.weather.gov	Mobile Page

(Schedule effective Nov 03, 2008 Information dated Aug 09, 2012)

NOAA, NWS, USCG and other Government web pages of interest to the mariner:

NOAA home page:	http://www.noaa.gov
NWS home page:	http://www.nws.noaa.gov
NWS marine dissemination:	http://www.nws.noaa.gov/om/marine/home.htm
Internet Weather Service:	http://weather.noaa.gov
NWS marine text products:	http://www.nws.noaa.gov/om/marine/forecast.html
NWS radio facsimile charts:	http://weather.noaa.gov/fax/marine.shtml
NWS publications:	http://www.nws.noaa.gov/om/brochures.shtml
NOAA Data Buoy Center:	http://www.ndbc.noaa.gov
NOAA Weather Radio:	http://www.nws.noaa.gov/nwr
National Ocean Service:	http://www.nos.noaa.gov/
NOS Tide data:	http://tidesonline.nos.noaa.gov/
Tide and current predictor:	http://tbone.biol.sc.edu/tide
NOAA Algal Blooms Forecasts:	http://tidesandcurrents.noaa.gov/hab/
USCG Navigation Center:	http://www.navcen.uscg.gov
National Hurricane Center:	http://www.nhc.noaa.gov/
Tropical Forecasts & Charts:	http://www.nhc.noaa.gov/marine_forecasts.shtml
Ocean Prediction Center:	http://www.opc.ncep.noaa.gov
Hurricane Preparedness:	http://www.fema.gov/fema/trop.htm
Time Zone Conversions:	http://tycho.usno.navy.mil/zones.html
NHC Gridded Forecasts:	http://www.nhc.noaa.gov/aboutgriddedmarine2.shtml
NHC Experimental Grids:	http://www.nhc.noaa.gov/tafb/gridded_marine/index.php
Gridded forecast description:	http://www.nhc.noaa.gov/aboutgriddedmarine.shtml

User feedback and comment form:
http://www.weather.gov/survey/nws-survey.php?code=tafb-egmf

Weather or Maritime "Nets"

The cruiser is encouraged to become familiar with the popular weather nets. These nets are on the Single Side Band (SSB) or "Ham" radios and allow voyagers to share weather data. Although open to all listeners, a license is required to participate. The nets provide information from various cruisers and on information obtained from the NWS and the NWS models. Although the weather reports are typically exchanged in voice operated transmit (VOX), the popularity of digital modes such as SITOR/AMTOR, radio teletype (RTTY), and PACTOR (I, II, III) is gaining popularity. These weather nets are amateur endeavors, and mariners are reminded that the discussions are based on amateur weather forecasts, with final decisions the responsibility of the recipient.

Some of the popular nets include Chris Parker's Marine Weather Center which provides weather forecasts and routing advice on several frequencies including 4045, 6221, 8104, 8137 and 12350 USB. See: http://www.mwxc.com.

The Bahamas Weather Net is on 3.696 kHz LSB at 0720 local Bahamian time from Carolyn C6AGG in Nassau. She gives the NOAA Florida Coastal report and Bahamas weather from Nassau. She also receives data from Ham operators in the out islands, and relays these observations to the National Weather Service via email, and through the MAROB program. Please see: http://capkool.tripod.com/weather.htm. The Bahamas Weather Net has close ties with the Bahamas Air Seas Rescue Association (BASRA). See: http://www.basra.org/index-2.html. Information on the MAROB can be found at http://www.nws.noaa.gov/om/marine/marob.htm.

Following the Bahamas Weather Net, at around 745 AM, most Hams switch to 7268 kHz LSB for the Waterway Radio and Cruising Net. The Waterway Net encourages amateur radio communications to and from boats with an emphasis on safety and weather information. Their position reports help keep live-a board's and cruising boats in touch with families and friends, and combined with float plans provide a strong measure of safety for off-shore passage makers. The Waterway Radio and Cruisers Club (WRCC) volunteer Weather Coordinator gathers weather forecasts early each morning and prepares a broadcast for the net. For more information see: http://www.waterwayradio.net.

Other popular weather nets are The Caribbean Maritime Mobile Net <http://users.isp.com/kv4jc>, the Italian Amateur radio maritime Service Net <http://www.qsl.net/ik6ijf/>, and the Manana Net < http://reocities.com/TheTropics/3989/>. There are also several other weather nets for those planning transit along the Baja California Peninsula, the Sea of Cortez (Gulf of California), and the Mexican mainland. The Pacific Maritime Net on 21.402 mHz at 2200 UTC, Seafarers Net on 14.313 mHz between 0200-0400 UTC, Pacific Maritime 20M Net on 14.313 mHz at 0400 UTC, Baja California Maritime Net on 7.238 mHz at 1530 UTC, Chubasco Net on 7.294 mHz at 1530 UTC during Standard time and at 1445 UTC during Daylight Saving Time, Papagayo Net on 4030 mHz at 1400 UTC and the Breakfast Club Cruisers Net on 7083 mHz at 1400 UTC.

Q. Are there any other weather radio broadcasts for the small boater?

A. Yes, many local DJ's at commercial AM/FM stations "rip and read" weather information from the NOAA Weather Wire Service via an almost instantaneous satellite link. This information includes hourly temperature and wind observations as well as the NOWCAST's and warnings.

Mariners can obtain the latest coastal and offshore weather observations through a telephone service called Dial-A-Buoy provided by NOAA's National Data Buoy Center. This service provides wind and wave measurements taken on the last hour at stations located in the Atlantic, Pacific, Gulf of Mexico and the Great Lakes. To access Dial-A-Buoy, dial (888) 701-8992 using a touch-tone or cellular phone. Dial-A-Buoy can also read the latest NWS marine forecast at most station locations. For additional information see URL: http://www.ndbc.noaa.gov/dial.shtml.

Q. How can I get access to the Internet while at sea?

A. Internet access is easily available if you boat within cellular telephone range of shore and many marinas offer wireless services but vary on maritime coverage. Satellite services are available, however costs are generally greater. A number of services offer only e-mail messaging and do not provide access to the World Wide Web. Several transmission and data compression schemes are available to make the Web more accessible to the mariner. Radio E-mail access at a reasonable cost is available offshore if you have a HF SSB radio. Refer to your cellular provider for details concerning "Internet-Ready" digital cellular phones. These devices may provide access to marine forecasts, tide data and near shore weather radar data. For more details see URL: http://wwwnws.noaa.gov/om/marine/internet.htm.

Several companies provide marine forecasts via satellite broadcasts. You will need a terminal and a small antenna, and there is a subscription fee.

Q. Are National Weather Service products available via E-Mail or FTPMAIL?

*A. Yes, many, but not all National Weather Service forecast products may be obtained using FTPMAIL if the World Meteorological Organization (WMO) or NWS Advanced Weather Interactive Processing System (AWIPS) header is known. National Weather Service radio facsimile charts, marine text products and buoy observations are available for mariners via e-mail (FTPMAIL). FTPMAIL allows Internet access for mariners who do not have direct access to the World Wide Web, but who are equipped with an e-mail system. FTPMAIL can acquire any file on the *.noaa.gov FTP server, with the turnaround time usually less than an hour. Please visit: http://weather.noaa.gov/pub/fax/ftpmail.txt.*

To get started in using the NWS FTPMAIL service, follow these simple directions to obtain the FTPMAIL "help" file (11 Kbytes). Send an e-mail to: NWS.FTPMail.OPS@noaa.gov. You may put anything in the subject line but type the word "help" in the body of the message.

The lists of charts and filenames are available at these web sites:
Western Atlantic: *http://ftpmail.nws.noaa.gov/pub/fax/rfaxatl.txt*
Eastern Pacific: *http://ftpmail.nws.noaa.gov/pub/fax/rfaxpac.txt*
Tropical waters *http://ftpmail.nws.noaa.gov/pub/fax/rfaxmex.txt*

Charts can also be retrieved using the Internet's FTP service. Downloaded charts from the Internet are not distorted like charts received on weather fax. This method is similar to the FTPMAIL service mentioned above. With direct FTP downloads, you retrieve charts immediately rather than waiting for an e-mail response. Most web browsers include the ability to perform single FTP downloads by typing in an address, such as ftp://ftpmail.nws.noaa.gov/fax/, which should give you a list of files you can select for download. Advanced Internet users can prepare batch files to perform FTP downloading. With a batch file you can download the latest version of the all the charts and text files you require at your convenience.

Additionally there are many text files available on the Internet that are not transmitted on weather fax. For example, there is a Marine Interpretation Message (NFDMIMATN or AGNT40 KWNM) produced by the forecasters at the Ocean Prediction Center in Washington DC, and (MIAMIMATS, AGXX40 KHNC) produced by the forecasters at the National Hurricane Center in Miami. These discussions are written by the High Seas and Offshore Waters forecaster for the local forecast offices responsible for preparing the VHF NOAA Weather Radio coastal waters forecasts.

While some of the discussion may be technical and written for the professional meteorologist, parts of the discussion may assist the mariner in route planning. The local forecasters in turn write a product called the Area Forecast Discussion (AFD), and the Hurricane Specialists write a Tropical Cyclone Discussion (TCD). Marine users are encouraged to read these discussions.

The National Hurricane Center email subscription service is managed through GOVDelivery.. Each text product is available as a separate subscription managed through an interface. For further information and subscription instructions refer to URL: http://www.nhc.noaa.gov/signup.shtml.

Marine weather data may also be obtained via the Internet using the Emergency Managers Weather Information Network (EMWIN). There are cooperative arrangements being established with private and public organizations as well as the Federal Emergency Management Agency (FEMA) to promote a nationwide EMWIN network. EMWIN will provide several methods of receiving basic text and graphic weather data. EMWIN's present methods in use, or under development for disseminating the basic EMWIN data stream include a limited number cooperative VHF/UHF stations, Internet <http://iwin.nws.noaa.gov/iwin/main.html>, FTP download, and via satellite.

EMWIN would be an asset at yacht clubs and marinas with Internet access. EMWIN systems can be programmed to sound an alarm in cases of severe weather. A directional antenna is required for ships to receive EMWIN via the current GOES satellite network. See URL: http:/www.nws.noaa.gov/om/marine/emwin.htm.

Tools for the Mariner

Q. What other tools are available for the mariner?

A. ***A feature available with some computer-based weather charts is the ability to geo-reference your position. By moving your pointing device (mouse) you can determine the distance to weather features and land using the latitude and longitude coordinates of two points on the chart.***

Some electronic charting programs allow the mariner to overlay weather GRIdded Binary (GRIB) files. Weather data is usually gridded forecasts depicting wind direction and speed, but other parameters such as pressure and sea heights may also be encoded. These gridded forecasts are created automatically by computer programs (model output). The mariner is advised to look at the synoptic (large) weather analysis and forecast as well as the mesoscale (small) that is displayed on their electronic charters.

In some cases the computer generated forecast is fine-tuned by experienced marine forecasters with the final product being a "man-machine" mix. The Tropical Analysis and Forecast Branch (TAFB), the Ocean Prediction Center (OPC) and the Honolulu Forecast Office of the National Weather Service (NWS) are synergizing a suite of forecaster value-added marine grids that will cover a large portion of the Central (CPAC) and East Pacific Ocean (EPAC) as well as the North Atlantic Ocean (ATLC). These products are currently issued twice daily on an experimental basis and contain 5 day forecasts of gridded Surface (10 meter) Winds, Significant Wave Heights, Primary Swell Height/Direction and Primary Wave Period. These products are posted at approximately 0600 UTC and 1800 UTC to the National Hurricane Center (NHC) website at http://www.nhc.noaa.gov/tafb/gridded_marine/.
A comprehensive description of the gridded marine forecast product is posted at http://www.nhc.noaa.gov/aboutgriddedmarine.shtml.

Mariners may access critical hurricane advisories, aircraft reconnaissance messages, marine forecasts and discussions as well as satellite imagery on their cell phones and Personal Digital Assistant (PDA's) that have compatibility for basic HTML and/or Wireless Application Protocol (WAP) . Information on the mobile National Hurricane Center home page can be found at www.nhc.noaa.gov/mobile. Weather Service mobile weather links can be at mobile.weather.gov.

Tides

Q. Why are there tides?

A. Tides are basically very long waves that move shoreward from the centers of oceans as a result of the daily gravitational attraction exerted by the sun and moon on the earth's surface. The peaks and troughs of these waves are so far apart that it typically takes about 6 hours from the time of high tide to the low tide along the coasts that face major oceans. There are usually two high and two low tides each tidal day, with a tidal day averaging about 24 hours and 50 minutes. Thus, these astronomical tides advance about a day every 29 days. However, there are three different types of tides due to the geometric relationship of the moon and sun to different locations on the earth. The Northern Gulf of Mexico experiences diurnal tides which have one high and one low tide per tidal day. A storm tide is the combination of astronomical tide and the rise in the level of water caused by weather related affects such as the storm surge.

An interesting tide phenomenon that the mariner should remember is that the tides that occur this year on a particular month's full moon will be about the same every year on that month's full moon. The accuracy of the tide tables may be affected by certain weather conditions. Strong persistent onshore or offshore winds will affect both low and high tides. High pressure will lower both tides, and low pressure will allow the water to rise higher on both tides. Changes in the bottom conditions due to dredging can change the accuracy of the tide tables. National Weather Service Forecast Offices (WFO's) post Tide Report products on their websites. These are forecasts of the deviation expected from the published tide tables due to meteorological situation.

Q. What is the best way to obtain tide reports?

A. The National Weather Service is no longer printing and distributing tide and tidal current tables. Tide and tidal current data continue to be updated, generated, and published by the NOAA National Ocean Service (NOS). However, the printing and distribution in book form is now done by private companies working from information provided by NOS.

Coastal National Weather Service offices transmit the next 2 high and low tides on NOAA Weather Radio. Most newspapers have tide tables. Local television stations add tide information to the marine forecast portion of their broadcast. Many electronic plotters and depth sounders are programmed with tide tables. There are numerous Internet sites with interactive tide programs.

The NOS now offers two vehicles for obtaining predictions. First, the complete set of tables as camera-ready page images are available on CD-ROM. The CD-ROM is not in a "user friendly" format, and is primarily intended for use by professional printers who wish to print in book form the full set of tables for distribution to resellers and the general public. Second, for domestic tide reference stations, limited predictions are available on the World Wide Web homepage of the NOS User Services Branch, via the Internet at URL: http://tidesonline.nos.noaa.gov.

Q. Where can I find tide tables just for my location?

A. Many chart plotters and GPS units are equipped with tide data. There are also many sources of tide information on the internet. NOAA's Tides Online at http://tidesonline.nos.noaa.gov and NOAA's Tides and Currents at http://tidesandcurrents.noaa.gov are both very informative, and mariners are encouraged to investigate these sources. There are links to Physical Oceanographic Real-Time System (PORTS) data. This data integrates real- time observations with forecasts and other geospatial

information in an effort to promote navigation safety, improve the efficiency of United States ports and harbors, while protecting the coastal marine resources. There is even the capability to customize your PORTS data page.

There are many websites with interactive tide and current predictors, and one of the best known is available from the Biological Sciences Department at the University of South Carolina at http://tbone.biol.sc.edu/tide . There is also a link provided for mobile devices.

Q. What is a Red Tide?

A. Red Tide is a common name for phenomena more correctly known as an algal bloom which is a large concentration of microorganisms usually in the coastal waters. If the algae concentration is high enough it results in a discoloration of the water. The most conspicuous effects of red tides are the associated wildlife mortalities of fish, birds, marine animals and other organisms. The NOAA Harmful Algal Bloom Operational Forecast System (HAB-OFS) can be found at http://tidesandcurrents.noaa.gov/hab/.

Q. What is a storm surge?

A. Storm surge is the excess rise in the level of water over the predicted or normal tide caused by strong winds blowing from one direction across the open ocean for an extended period. More than three-fourths of all loss of human lives in tropical cyclones has been caused by these inundations and not by the winds directly. It was reported that the storm surge on October 7, 1737 at the Hooghly Branch of the mouth of the Ganges River, on the Bay of Bengal, raised 40 feet, destroyed 20,000 crafts, and killed 300,000 people. In 1970, an estimated 300,000 people were killed in the Bay of Bengal due to storm surge and the after effects of typhoid fever.

Lightning

Q. What is lightning?

A. ***Lightning is the secondary effect of electrification within a thunderstorm cloud system. Lightning occurs when the difference between positive and negative charges (electrical potential) becomes great enough to overcome the resistance of the insulating air, and to force a conductive path for the current to flow between the charges. The Electrical Potential can be as much as 100 million volts with the air near the lightning strike heated to as much as 50,000 degrees Fahrenheit. It's the rapid heating and cooling of this air near the lightning that causes a shock wave resulting in thunder. The NWS estimates that there are about 100,000 thunderstorms per year in the United States accompanied by 30 million cloud-to-ground lightning flashes.***

There is lightning danger whenever you see lightning and hear thunder. Another indicator of immediate danger is a loud static on your AM radio, or if your radio antenna begins to buzz. Unprotected mariners should immediately move to shelter if their masthead begins to glow indicating an extreme buildup of electrical charge known as St. Elmo's fire. Lighting may strike within 5 minutes after the mast begins to glow. It is recommended to switch to your handheld VHF during thunderstorms as the fixed VHF with antenna becomes a lightning rod.

Q. Is lightning really that dangerous?

A. ***Yes, based on a Centers for Disease Control report for the 15 year period from 1980 to 1995, Lightning kills about 1,300 people in the United States, or an average of 93 deaths and 257 injuries per year. That is more than the deaths caused by tornadoes. Florida in particular is lightning country, experiencing on an average of 70-80 thunderstorm days, with some areas experiencing more than 100 thunderstorm days. About 70% of lightning strikes occur between noon and 6 p.m. The heaviest concentration of lightning in Florida occurs between Orlando and Ocala, and on the Gulf Coast from Tampa Bay to Florida Bay. The latter is one of the world's favorite boating areas, and each year lightning kills, injures, and causes considerable economic loss to boaters. About 8 percent of lightning incidents are water-related and another 1 percent are radio, transmitter and antenna-related.***

Q. Is lightning dangerous to small craft?

A. ***Yes. Marine vessels are usually the tallest objects on a body of water. Most small boats are constructed of wood or fiberglass. This does not afford the automatic grounding protection offered by steel or aluminum hulled craft. Damage to small craft is common and usually expensive. Small power boats with radio antennas are frequent targets of lightning, and sailboat masts are frequently struck, even though there are higher objects in the vicinity. Lightning seeks the highest point which is usually the top of the boat where typically the mast, antenna and Bimini top frames are mounted. The highest point may be the top of a vertically stored fishing rod or even the crew itself.***

Vessel lightning damage can be very noticeable with holes opened in hull where the voltage tried to seek ground, or in the worst case when a boat burns down to the waterline. But, there can also be hidden effects such as tiny cracks in the hull or electronic damage that may not be noticeable at first.

Q. What can a small boater do to protect himself/herself?

A. ***First, avoid lightning by keeping an eye out for developing thunderstorms. Remember that***

lightning travels at 60 million knots while the thunder only travels at 600 knots, or about 5 seconds per mile. Count the seconds from the lightning strike to the sound of the corresponding thunder clap, then divide the counted seconds by 5 for an estimate of the distance in miles to the thunderstorm cloud.

A good safety guide is the "30-30" rule. The first "30" represents 30 seconds or about 6 miles. So if the measured time is 30 seconds or less between the flash and the sound of thunder the lightning is close enough to strike you or your vessel. The second "30" is to remind the mariner to wait 30 minutes after the last lightning flash is observed before leaving their shelter. More than half of lightning deaths occur after a thunderstorm has passed. Lightning can spread out 60 ft after striking the earth's surface.

Take pre-cautions well in advance of lightning and don't wait for strikes to begin. Lower radio antennas, outriggers, sails and fishing rods. Drop anchors if possible. Go into your cabin if possible or keep a low profile below the freeboard. Avoid contact with the hull and metal fittings, especially those connected to the lightning conduction system. Avoid the seeking shelter in the head if the plumbing is conductive. Don't touch radio equipment or wiring. Depending on your particular situation you might disconnect the power cables from expensive equipment. Then separate the disconnected wires routed from the top as high as possible from the wires routed from the bottom. Steer with a wooden spoon, wooden fish bat or insulated rubber gloves. Remove metal jewelry. Always put on your life jackets in case you are struck by a side flash and rendered unconscious and fall overboard. Do not go into the water.

Q. What else can the mariner do for protection?

A. There is no such thing as 100% protection against lightning. But protected vessels suffer much less damage than unprotected vessels. Lightning protection systems do not attract lightning. There is not an increase in lightning strikes on properly grounded vessels. Boaters are encouraged to refer to lightning-protection codes provided by the American Boating & Yachting Council and the National Fire Protection Association.

Q. How do I protect my sailboat?

A. There are three common features in most lightning protection codes for protecting sailboats against lightning. Additional information can be found at URL: www.lightningsafety.noaa.gov.

1. Install a grounding system by creating a continuous conductive path from the mast head to a ground plate located below the waterline. This conductive path must have a conductance of less than non-breakage copper wire. It is suggested that you use 4-gauge copper or larger, and 3/8" copper rods because 8 gauge copper can melt. Use at least a 1 ft. square aluminum ground plate which will allow the current to dissipate into the water. An even better system would use an aluminum strip along the keel of the vessel. Remember that fresh water is not as conductive as salt water. Freshwater sailboats should install a larger grounding plate, or additional metallic strips to eliminate side flashes.

2. Attach a bonding system to the grounding system to prevent lethal voltage from developing between the large fittings. Use copper wire and avoid routing the bonding connectors close to the hull below the waterline unless they are connected to the underwater grounding plate.

3. Use harnessed twisted pair wire for protection of onboard electronics. Install transient or quick-disconnect protection devices at the power input of each piece of equipment. This allows the skipper to quickly disconnect the power supply to expensive electronics that are not necessary during the electrical storm. Enclose all equipment in metal boxes and connect the metal boxes to the bonding system. A microwave oven can be used as a Faraday cage to protect your electronics such as handheld VHF and GPS during the storm.

4. Remember that fuses protect equipment while breakers protect wires.

Q. What do I do if my boat takes a direct lightning strike?

A. Check for personal injuries first and administer CPR if necessary. Check bilges for waters as through hull fittings may be compromised or in rare cases lightning may puncture a hole in the hull. After the storm passes begin an engine and electronics check. Consider following up with a professional survey.

Rip Currents

Q. What is a rip tide?

A. ***A rip current, as it is correctly named is an ocean current caused by a buildup of water at the shore. The collected water returns to the sea through low areas in the sandbar by "ripping" an opening. The rip current is popularly, although incorrectly, called rip tide, run out, washout, or undertow. Rip currents occur at all beaches and in the Great Lakes. Some rip currents last a few minutes while those associated with jetties may last for days.***

Q. Is a rip current dangerous?

A. ***Yes. A rip current is a strong and narrow (30-60 feet wide) surface current of water flowing out past the surf zone that can pull even the strongest swimmer into the deeper water beyond the sandbar. The "necks" of strong rip currents have been measured at 4 knots or more. A ten year study from 1979 to 1988 in Broward and Miami Dade counties of Southeast Florida showed that 94 out of the 210 surf drowning's were associated with rip currents. According to a recent study, rip currents kill an average of 30 to 40 people a year in Florida, making it more deadly than hurricanes, tornadoes, and lightning combined.***

Q. How can one avoid a rip current?

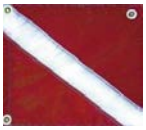
A. ***The rip current in the surf zone can usually be identified by a sandy brown discoloration of the water which extends seaward from the sandbar. A foam or seaweed line may extend offshore, and there may be a choppy and somewhat suppressed wave height. Lifeguards frequently post signs warning of rip current danger.***

The NOAA weather radio is the National Weather Service's principal method for providing rip current information directly to the public. Coastal water forecasters evaluate the local conditions and issue an advisory if rip currents are expected.

Q. What should I do if I'm caught in a rip current?

A. ***The best escape is to swim, walk, or tread water parallel to the shoreline until the pull stops. Then swim in, or tread water until a lifeguard can come to assist you. An alternative method is to ride the current offshore to the "head" region where the current rapidly weakens, then swim back to shore outside the effects of the narrow rip current. The width of the rip current can vary from a few yards to tens-of-yards. The distance between individual rip currents is often 100 to 200 yards.***

Diver's-down flags



Q. What does a diver's-down flag look like?

A. The diver's-down flag is square or rectangular with a diagonal white stripe on a red background. The flag must have a wire or other stiffener to hold it fully unfurled and extended in the absence of a wind or breeze. The minimum size for any diver's-down flag displayed on a buoy or float towed by the diver is 12 inches by 12 inches.

The minimum size for any diver's-down flag displayed from a vessel or structure is 20 inches by 24 inches. The flag must be displayed from the highest point of the vessel which provides that the visibility of the flag is not obstructed in any direction. The National Weather Service reminds boaters and divers that when weather conditions deteriorate the diver's-down flag will be even more difficult to see.

The diver's-down flag should not be confused with the International Alpha-flag, a blue and white flag. The Alpha flag is required on vessels while engaged in dive operations whether or not divers are deployed. When divers are actually in the water the diver's down flag should also be displayed.

Q. Do I have to use a flag when snorkeling or scuba diving?

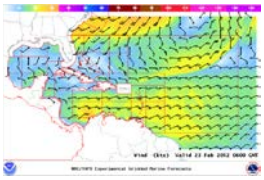
A. Effective October 1, 2000, Florida statue 327.331 requires skin and scuba divers to display a diver's-down flag when engaged in diving activities and places penalties on divers that interfere with navigation. Divers shall make reasonable effort to stay within 100 feet of their displayed flags in the inshore waters, and within 300 feet in the offshore waters. The diver's-down flag must be lowered once all divers are aboard or ashore. Vessels must not display the flag unless the vessel has one or more divers in the water.

Q. What precautions should a boater take when a divers-down flag is observed?

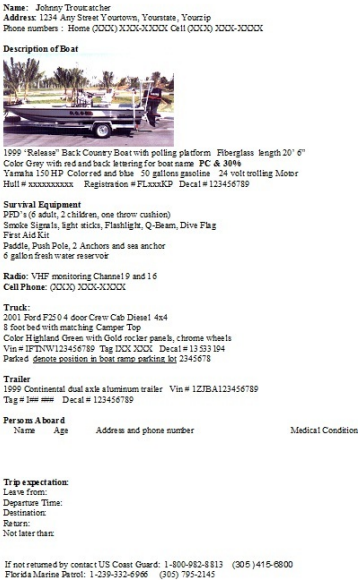
A. Boaters must make a reasonable effort to maintain a distance of 100 feet away from the diver's-down flag in the inshore waters, and a distance of 300 feet in the offshore waters. If your vessel must approach a diver's-down flag within 100 feet in the inshore waters or 300 feet in the offshore waters, you must proceed no faster than is necessary to maintain headway and steerageway.

Boating Safety

Normal safe boating practices include carrying the proper gear on the boat, checking the weather before leaving and monitoring the weather throughout the trip,



and notifying someone on shore where you are going and when you plan to return, for example leaving a float plan with someone you can trust.



Name: Johnny Trouncatcher
Address: 1234 Any Street Yourtown, Yourstate, Yourzip
Phone numbers : Home (XXX) XXX-XXXX Cell (XXX) XXX-XXXX

Description of Boat

1999 "Release" Back Country Boat with polling platform Fiberglass length 20' 6"
Color Grey with red and back lettering for boat name **PC & 30%**
Yamaha 150 HP Color red and blue 50 gallons gasoline 24 volt trolling Motor
Hull # xxxxxxxxxx Registration # FLxxxXP Decal # 123456789

Survival Equipment
PFD's 6 (6 adult, 2 children, one throw cushion)
Smoke Signals, light sticks, Flashlight, Q-Beam, Dive Flag
First Aid Kit
Paddle, Push Pole, 2 Anchors and sea anchor
6 gallon fresh water reservoir

Radio: VHF monitoring Channel 9 and 16
Cell Phone: (XXX) XXX-XXXX

Truck:
2001 Ford F250 4 door Crew Cab Diesel 4x4
8 foot bed with matching Camper Top
Color Highland Green with Gold rocker panels, chrome wheels
Vin # 1FTNW123456789 Tag IXX XXX Decal # 13 533 194
Parked denote position in boat ramp parking lot 2345678

Trailer
1999 Continental dual axle aluminum trailer Vin # 1ZJBA123456789
Tag #]== === Decal # 123456789

Persons Aboard

Name	Age	Address and phone number	Medical Condition

Trip expectation:
Leave from:
Departure Time:
Destination:
Return:
Not later than:

If not returned by contact US Coast Guard: 1-800-982-8813 (305)415-6800
Florida Marine Patrol: 1-239-332-6966 (305) 795-2145

The seasoned boater also takes the time to register their electronic safety equipment, such as the emergency position indicating radio beacons (EPIRB's)  ***and marine radios.*** 

Registration with the Federal Communications Commission, which is free, means less detective work and a quicker response when a device emits a distress signal.

Boaters are advised to sign up for a maritime mobile service identity number for their EPIRBs and digital selective calling radios at http://www.boatus.com/mmsi/instruct.htm.

STANDARD ABBREVIATIONS USED IN OFFSHORE AND HIGH SEAS FORECASTS

DAYS OF THE WEEK

MON	***MONDAY***
TUE	***TUESDAY***
WED	***WEDNESDAY***
THU	***THURSDAY***
FRI	***FRIDAY***
SAT	***SATURDAY***
SUN	***SUNDAY***

8 COMPASS DIRECTION'S

N	***NORTH***
NE	***NORTHEAST***
E	***EAST***
SE	***SOUTHEAST***
S	***SOUTH***
SW	***SOUTHWEST***
W	***WEST***
NW	***NORTHWEST***

MONTHS OF THE YEAR

JAN	***JANUARY***
FEB	***FEBRUARY***
MAR	***MARCH***
APR	***APRIL***
MAY	***MAY***
JUN	***JUNE***
JUL	***JULY***
AUG	***AUGUST***
SEP	***SEPTEMBER***
OCT	***OCTOBER***
NOV	***NOVEMBER***
DEC	***DECEMBER***

OTHER AUTHORIZED ABBREVIATIONS

ATLC	***ATLANTIC***
AVG	***AVERAGE***
DEG	***DEGREE***
FM	***FATHOM***
FT	***FEET***
KT	***KNOTS***
LAT	***LATITUDE***
LONG	***LONGITUDE***
MB	***MILLIBAR***
NM	***NAUTICAL MILE***
PAC	***PACIFIC***
PSN	***POSITION***
PRES	***PRESSURE***
TSTM	***THUNDERSTORM***
VSBY	***VISIBILITY***

ABBREVIATIONS PRIMARILY USED ON GRAPHICAL PRODUCTS

EQ	***EQUATOR***
G	***GUSTS***
HURCN	***HURRICANE***
ITCZ	***INTERTROPICAL CONVERGENCE ZONE***
MOVG	***MOVING***
PSBL	***POSSIBLE***
SUB T.S.	***SUBTROPICAL STORM***
SUB T.D.	***SUBTROPICAL DEPRESSION***
TRPCL	***TROPICAL***
TD	***TROPICAL DEPRESSION***
TS	***TROPICAL STORM***
WV	***WAVE***

MARINE WEATHER REPORTS

The World Meteorological Organization (WMO) uses the Voluntary Observing Ship (VOS) program for obtaining meteorological observations from vessels traveling all over the world in the normal course of their business. The program relies on volunteer observers and operates at no monetary cost to the vessel. Organized collection of ship observations began about 1853. Today the VOS Program lists at least 49 countries as participants. The U.S. program is the largest in the world, with approximately 900 vessels actively participating each quarter.

Trained deck officers take observations at 3 or 6-hour intervals. The observation is formatted into the WMO ships synoptic code, or "BBXX." The observations are then distributed via national and international circuits for use by the maritime public, as well as by professional meteorologists for marine forecasting. In the United States, the Port Meteorological Officers (PMO) is the National Weather Service (NWS) field representative who recruits vessels, train observers, and supply necessary equipment to take the observations. The National Data Buoy Center (NDBC) manages the VOS Program. See: http://www.vos.noaa.gov/. The e-mail address has changed for ships, participating in the U.S. Voluntary Observing Ship (VOS) Program, to send in their weather reports is shipobs@noaa.gov. Another method is to submit your observation through Automated Mutual Assistance Vessel Rescue (AMVER) system. Please visit: http://www.amver.com.

The VOS program aids the marine forecaster as it forms the basis for offshore and high seas forecasts. However, there is a severe shortage of meteorological observations in the coastal marine areas. MAREP is a program whereby any coastal mariners can report the current weather conditions in plain language to their local National Weather Service Office. The method and procedures to file a report vary between Forecast Offices. Cellular telephones, HF and VHF Marine Radio, Ham Radio and E-mail are some of the communication tools. If you frequent the coastal waters, and wish to participate, please contact your local national Weather Service Office to learn about the MAREP program in your area. See: http://www.nws.noaa.gov/om/marine/marepreport.pdf.

Mariners in the South Florida area can forward their marine weather observations to the National Weather Service through the MARITEL system. There is no cost to the mariner.

Instructions for sending a plain language observation to MARITEL:

1. ***Determine the local VHF marine channel (IE; 24, 25, 27, 28, 84, 86 or 87) for MARITEL in your local area. In Miami use channel 24 or 25. In Fort Lauderdale use channel 84 and Channel 28 in West Palm Beach. Channel 25 is used in Naples, Florida.***

2. ***Key the microphone for 5 seconds on the working MARITEL channel. You should get a recording telling you that you have reached the MARITEL system, and if you wish to place a call, key your mike for an addition 5 seconds. A MARITEL operator will then come on the frequency.***

3. ***Answer with your boat name or call sign. If your vessel does not have a call sign, provide the MARITEL operator with the boat name preceded by a AK@. The total length including the AK@ can be no longer than 9 characters. Another acceptable vessel name is AKSHIP@. Tell the operator you wish to pass a marine observation in plain language.***

4. ***The operator will request the following questions: Vessel call sign, latitude in minutes, longitude in minutes, wind direction in degrees, wind speed in knots, wave height in feet or meters, and visibility in nautical miles or yards.***

Samples of Meteorological Bulletin's or Text Products

The meteorological bulletin or text product is identified by the World Meteorological Organization (WMO) abbreviated header. For example in the following High Seas Forecast "FZNT01 KNHC" is the WMO header. The abbreviated WMO heading identifies the type of data found in the bulletin, includes a code that represents the data, the geographical region for which the data refers to, and possibly the distribution of the product.

The WMO Header is immediately followed by a four letter location indicator, assigned by the International Civil Aviation Organization (ICAO). In the following example "KNHC" identifies the National Hurricane Center. Following the location indicator is the issue time. For example, "170310" indicates the 17th day of the month at 0310 UTC. For more information refer to URL: http://www.nws.noaa.gov/oso/site.shtml.

The second line may contain the Advanced Weather Interactive Processing System (AWIPS) header. This header allows the exchange of national and international products within the National Weather Service computers. In the following example "HSFAT2" is the AWIPS header. When discussing meteorological bulletins with the National Weather Service employees you may use this header.

HIGH SEAS FORECASTS

High Seas Forecasts (HSF) are produced for ships making ocean transits. The focus is on major weather systems and seas states affecting oceangoing vessels within the next 48 hours. The HSF is prepared for professional and seasoned mariners using approved abbreviations to minimize transmission resources.

Mariners can receive the tropical cyclone forecast/advisory (TCM) on the Internet, through FTP mail, on HF and MF voice broadcasts, and on Inmarsat-C. Additionally, to further assist the mariner, detailed tropical cyclone information is mentioned for all storms in the corresponding HSF. The international communications code "SECURITE" identifying that safety information follows will be substituted by the term "PAN PAN" whenever tropical cyclone warnings (64 knots or greater), or hurricane force wind warnings generated by non-tropical cyclones, are included.

The detailed tropical cyclone information includes the category of the cyclone (hurricane, tropical storm or depression), location (in whole degrees of latitude and longitude), the direction of movement (to the sixteen points of the compass), speed of movement (in knots), the central pressure of the storm (in millibars), intensity of maximum sustained winds and gusts, and for each quadrant the radius (in nautical miles from storm center)of tropical storm force wind and seas greater than 12 ft.,

and highest seas expected. The forecast for intensity, position, maximum sustained winds, and radius of tropical storm force (34 KT) winds and seas 12 ft. or greater will be given for 24 and 48 hours. The outlook for 72, 96 and 120 hours will provide the category of the cyclone, forecast position and maximum winds and gusts, but no wind or seas radii.

Boaters that intend to cross oceans are encouraged to become familiar with the format of the HSF. The Tropical Analysis and Forecast Branch (TAFB) at the National Hurricane Center in Miami, Florida has primary responsibility for 3 tropical forecast areas. In the Tropical Northwest Atlantic, Southeast North Pacific and Northeast South Pacific the lower thresholds are winds of 20 to 25 knots and combined seas of 8 feet. Provided is a sample of text Atlantic HIGH SEAS FORECAST:

FZNT02 KNHC DDHHMM
HSFAT2

HIGH SEAS FORECAST
NWS NATIONAL HURRICANE CENTER MIAMI FL
1630 UTC WED SEP 25 2012

SUPERSEDED BY NEXT ISSUANCE IN 6 HOURS

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

SECURITE

ATLANTIC FROM 7N TO 31N W OF 35W INCLUDING CARIBBEAN SEA AND GULF OF MEXICO

SYNOPSIS VALID 1200 UTC WED SEP 25.
24 HOUR FORECAST VALID 1200 UTC THU SEP 26.
48 HOUR FORECAST VALID 1200 UTC FRI SEP 27.

.WARNINGS.

...GULF OF MEXICO TROPICAL STORM WARNING...
.TROPICAL DEPRESSION TWELVE NEAR 22.6N 85.2W 1010 MB AT 1500 UTC SEP 25 MOVING W NW OR 285 DEG AT 18 KT. MAXIMUM SUSTAINED WINDS 25 KT GUSTS 35 KT.
.24 HOUR FORECAST TROPICAL DEPRESSION TWELVE NEAR 24.0N 87.0W. MAXIMUM SUSTAINED WINDS 30 KT GUSTS 40 KT. SEAS 12 FT OR GREATER WITHIN 90 NM OF CENTER WITH SEAS TO 14 FT.
.48 HOUR FORECAST TROPICAL STORM NEAR 25.8N 88.7W. MAXIMUM SUSTAINED WINDS 40 KT GUSTS 50 KT. TROPICAL STORM FORCE WINDS WITHIN 90 NM OF CENTER. SEAS 12 FT OR GREATER WITHIN 120 NM N SEMICIRCLE AND 90 NM S SEMICIRCLE WITH SEAS TO 18 FT.
.72 HOUR FORECAST TROPICAL STORM NEAR 26.8N 90.7W. MAXIMUM SUSTAINED WINDS 40 KT GUSTS 50 KT.
EXTENDED OUTLOOK...USE FOR GUIDANCE ONLY...ERRORS MAY BE LARGE.
.96 HOUR FORECAST TROPICAL STORM NEAR 28.0N 91.5W. MAXIMUM SUSTAINED WINDS 40 KT GUSTS 50 KT.
.120 HOUR FORECAST TROPICAL STORM NEAR 29.5N 93.0W. MAXIMUM SUSTAINED WINDS 45 KT GUSTS 55 KT.

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

...CARIBBEAN ASHFALL ADVISORY…
MOUNT SOUFRIERE VOLCANO ON MONTSERRAT AT 16.7N 62.2W ERUPTED AT

1145 UTC 09 FEB 2011. VOLCANIC ASH MAY BE REACHING THE SURFACE N OF 13N E OF 68W. ASH HAS BEEN REPORTED ON THE SURFACE OF THE CARRIBEAN SEAS N OF 13N E OF 68W. MARINERS SHOULD EXERCISE CAUTION. IF MARINERS ENCOUNTER VOLCANIC ASH OR FLOATING VOLCANIC DEBRIS…YOU ARE ENCOURAGED TO REPORT THE OBSERVATION TO THE NATIONALWEATHER SERVICE BY CALLING ###-###-####.
.12 HOUR FORECAST CONDITIONS IMPROVE.

(second example for Ashfall advisory)
MOUNT SOUFRIERE VOLCANO ON MONTSERRAT AT 16.7N 62.2W IS CURRENTLY IN A STATE OF UNREST AND COULD ERUPT WITH LITTLE NOTICE. MARINERS TRAVELING IN THE VICINITY OF MONTSERRAT ARE URGED TO EXERCISE CAUTION.
IF MARINERS ENCOUNTER VOLCANIC ASH OR FLOATING VOLCANIC DEBRIS…YOU ARE ENCOURAGED TO REPORT THE OBSERVATION TO THE NATIONAL WEATHER SERVICE BY CALLING ###-###-####.
.24 HOUR FORECAST LITTLE CHANGE.
.24 HOUR FORECAST LITTLE CHANGE.

SYNOPSIS AND FORECAST.

.ATLC TROPICAL DEPRESSION FIVE NEAR 16.9N 42.7W 1005 MB AT 1500 UTC SEP 25 MOVING W OR 275 DEG AT 10 KT. MAXIMUM SUSTAINED WINDS 30 KT GUSTS 40 KT. WITHIN 300 NM NW AND 240 NM SE SEMICIRCLES WINDS 20 TO 30 KT. SEAS 8 TO 11 FT.
.24 HOUR FORECAST TROPICAL DEPRESSION FIVE NEAR 17.0N 47.7W. MAXIMUM SUSTAINED WINDS 25 KT GUSTS 35 KT. WITHIN 300 NM SE AND 240 NM NW SEMICIRCLES WINDS 20 TO 25 KT. SEAS TO 10 FT.
.48 HOUR FORECAST REMNANT LOW NEAR 17.5N 52.0W. MAXIMUM SUSTAINED WINDS 20 KT GUSTS 25 KT. WITHIN 180 NM OF CENTER WINDS 20 KT. SEAS TO 8 FT.
.72 HOUR FORECAST REMNANT LOW NEAR 18.5N 55.0W. MAXIMUM SUSTAINED WINDS 20 KT GUSTS 25 KT.
.96 HOUR FORECAST REMNANT LOW NEAR 20.0N 60.0W. MAXIMUM SUSTAINED WINDS 20 KT GUSTS 25 KT.
.120 HOUR FORECAST DISSIPATED.

.ATLC S OF 29N W OF 75W WINDS 20 KT OR LESS. SEAS TO 8 FT.
.12 HOUR FORECAST S OF 29N W OF 77W SE WINDS 20 TO 25 KT. SEAS TO 8 FT.
.24 HOUR FORECAST LITTLE CHANGE.
.48 HOUR FORECAST WINDS 20 KT OR LESS. SEAS LESS THAN 8 FT.

.CARIBBEAN N OF 20N W OF 80W SE WINDS 20 TO 25 KT. SEAS 8 FT.
.12 HOUR FORECAST WINDS 20 KT OR LESS. SEAS LESS THAN 8 FT.

.CARIBBEAN E OF 75W E TO SE WINDS 20 TO 25 KT. SEAS TO 8 FT.
.24 HOUR FORECAST LITTLE CHANGE.
.30 HOUR FORECAST E OF 78W WINDS 20 KT OR LESS. SEAS TO 8 FT.
.48 HOUR FORECAST LITTLE CHANGE.

GULF OF MEXICO…EXCEPT AS NOTED IN WARNINGS SECTION…S OF 26N E OF 88W WINDS 20 TO 25 KT. SEAS TO 9 FT.
.24 HOUR FORECAST…EXCEPT AS NOTED IN WARNINGS SECTION…N OF 22N E OF 90W WINDS 20 TO 30 KT. SEAS 8 TO 12 FT.
.48 HOUR FORECAST…EXCEPT AS NOTED IN WARNINGS SECTION…N OF 22N BETWEEN 85W AND 93W WINDS 20 TO 33 KT. SEAS 8 TO 12 FT.

GULF OF MEXICO…EXCEPT AS NOTED IN WARNINGS SECTION…S OF 26N E OF 88W WINDS 20 TO 25 KT. SEAS TO 9 FT.
.24 HOUR FORECAST…EXCEPT AS NOTED IN WARNINGS SECTION…N OF 22N E OF 90W WINDS 20 TO 30 KT. SEAS 8 TO 12 FT.
.48 HOUR FORECAST…EXCEPT AS NOTED IN WARNINGS SECTION…N OF 22N BETWEEN 85W AND 93W WINDS 20 TO 33 KT. SEAS 8 TO 12 FT.

.GULF OF MEXICO TROUGH ALONG 96W MOVING W 10 KT. N OF 22N W OF 90W SE WINDS 20 TO 25

KT. SEAS LESS THAN 8 FT. SCATTERED TSTMS ALONG TROUGH.
.24 HOUR FORECST TROUGH W OF AREA. N OF 25N W OF 94W SE WINDS 20 TO 25 KT. SEAS LESS THAN 8 FT.
.48 HOUR FORECAST LITTLE CHANGE.

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

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FORECASTER NELSON. NATIONAL HURRICANE CENTER.

OFFSHORE WATERS FORECAST

Offshore Waters Forecasts (OFF) are designed to serve users who operate in the oceanic areas adjacent to the United States and in the international waters for which the United States has assumed forecast and warning responsibility. The offshore waters can be far from shore requiring more than a day of sailing between ports. These users are mainly commercial fishermen, merchant shippers and large recreational and oilrig support craft. The focus is on large scale weather systems that these vessels cannot outrun. These users require a longer warning lead time to aid in planning their voyage and for changing course while at seas. The forecasts are in a 12 hour period format (6AM to 6PM) covering the next 48 hours, and a 24 hour period format (6AM to 6PM) covering the following 3 to 5 days.

The Tropical Analysis and Forecast Branch (TAFB) at the National Hurricane Center in Miami Florida has primary responsibility for OFF forecasts for the Southwest North Atlantic, the Caribbean Sea (MIAOFFNT3, FZNT23 KNHC) and Gulf of Mexico (MIAOFFNT4, FZNT24 KNHC). TAFB issues these two offshore forecasts at 0315 UTC, 0915 UTC, 1530 UTC, and 2130 UTC year round.

Offshore Zones

http://www.nhc.noaa.gov/abouttafbprod.shtml#OWF

You will notice that the OFF bulletins contain Universal Generic Codes (UGC) which corresponds to the forecast zones denoted in the graphic above. In the following example the "AMZ011-042030-" is the UGC. This code is a specific site identifier used for site specific (zone) distribution of warnings, watches, forecasts, and any other products. The "$$" sign is a code for the end of zone.

Samples of text Offshore Waters Forecast:

000
FZNT23 KNHC 040931
OFFNT3

OFFSHORE WATERS FORECAST FOR THE SW AND TROPICAL N ATLANTIC AND CARIBBEAN SEA
NWS NATIONAL HURRICANE CENTER MIAMI FL
531 AM EDT TUE SEP 4 2012

OFFSHORE WATERS FORECAST FOR THE TROPICAL N ATLANTIC FROM 07N TO 22N BETWEEN 55W AND 64W...THE SW N ATLANTIC S OF 31N W OF 65W INCLUDING BAHAMAS...AND THE CARIBBEAN SEA.

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.

AMZ001-042030-
SYNOPSIS FOR CARIBBEAN SEA AND TROPICAL N ATLANTIC FROM 07N TO 19N BETWEEN 55W AND 64W
531 AM EDT TUE SEP 4 2012

.SYNOPSIS...TROPICAL STORM LESLIE WAS CENTERED NEAR 24.7N 62.5W AT 5 AM EDT. MAXIMUM SUSTAINED WINDS 55 KT WITH GUSTS TO 65 KT MOVING N AT 4 KT WITH MINIMUM PRESSURE 994 MB. LESLIE IS FORECAST TO MOVE FURTHER N OF AREA OVER THE NEXT SEVERAL DAYS. NE SWELL GENERATED BY LESLIE WILL CONTINUE TO SUBSIDE ON THE ATLC EXPOSURES FROM THE LEEWARD ISLANDS TO DOMINICAN REPUBLIC...ALTHOUGH ANOTHER ROUND OF NORTHERLY SWELL TO 8 FT WILL REACH THE ISLANDS BY SAT. ELSEWHERE WEAK HIGH PRES ACROSS THE SW N ATLC WILL MAINTAIN FRESH TRADE WINDS ACROSS MAINLY THE SOUTH CENTRAL CARIBBEAN WATERS.

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AMZ011-042030-
CARIBBEAN N OF 18N W OF 85W INCLUDING YUCATAN BASIN-
531 AM EDT TUE SEP 4 2012

.TODAY...E TO SE WINDS 5 TO 10 KT. SEAS 2 TO 3 FT.
.TONIGHT...E TO SE WINDS 5 TO 10 KT. SEAS 2 TO 3 FT.
.WED...E TO SE WINDS 5 TO 10 KT. SEAS 2 TO 3 FT.
.WED NIGHT...E TO SE WINDS 10 TO 15 KT. SEAS 2 TO 4 FT.
.THU...E TO SE WINDS 10 TO 15 KT...DIMINISHING TO 5 TO 10 KT LATE. SEAS 2 TO 4 FT.
.THU NIGHT...E TO SE WINDS 10 TO 15 KT. SEAS 3 TO 5 FT.
.FRI...E TO SE WINDS 10 TO 15 KT...BECOMING SE 5 TO 10 KT LATE. SEAS 3 TO 5 FT.
.FRI NIGHT...E TO SE WINDS 10 TO 15 KT. SEAS 3 TO 5 FT.
.SAT...SE WINDS 10 TO 15 KT...DIMINISHING TO 5 TO 10 KT LATE. SEAS 3 TO 5 FT.

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AMZ013-042030-
CARIBBEAN N OF 18N BETWEEN 76W AND 85W INCLUDING CAYMAN BASIN-
531 AM EDT TUE SEP 4 2012

.TODAY...E TO SE WINDS 10 TO 15 KT. SEAS 2 TO 3 FT.
.TONIGHT...E WINDS 10 TO 15 KT...DIMINISHING TO 5 TO 10 KT LATE. SEAS 2 TO 4 FT.
.WED...E WINDS 10 TO 15 KT. SEAS 2 TO 4 FT.
.WED NIGHT...E WINDS 10 TO 15 KT. SEAS 3 TO 5 FT.
.THU...E WINDS 10 TO 15 KT. SEAS 3 TO 5 FT.
.THU NIGHT...E WINDS 10 TO 15 KT. SEAS 3 TO 5 FT.
.FRI...E WINDS 5 TO 10 KT. SEAS 3 TO 5 FT.
.FRI NIGHT...E TO SE 10 TO 15 KT. SEAS 3 TO 5 FT.
.SAT...E TO SE WINDS 5 TO 10 KT. SEAS 2 TO 4 FT.

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AMZ015-042030-

CARIBBEAN APPROACHES TO THE WINDWARD PASSAGE-
531 AM EDT TUE SEP 4 2012

.TODAY...E WINDS 10 TO 15 KT...BECOMING NE TO E 5 TO 10 KT LATE. SEAS 2 TO 4 FT.
.TONIGHT...NE TO E WINDS 5 TO 10 KT. SEAS 2 TO 4 FT.
.WED...NE TO E WINDS 5 TO 10 KT. SEAS 2 TO 4 FT.
.WED NIGHT...NE TO E WINDS 10 TO 15 KT...DIMINISHING TO 5 TO 10 KT LATE. SEAS 3 TO 5 FT.
.THU...NE TO E WINDS 5 TO 10 KT. SEAS 3 TO 5 FT.
.THU NIGHT...NE TO E WINDS 10 TO 15 KT...BECOMING NE 5 TO 10 KT LATE. SEAS 3 TO 5 FT.
.FRI...NE TO E WINDS 5 TO 10 KT. SEAS 3 TO 5 FT.
.FRI NIGHT...NE TO E WINDS 5 TO 10 KT. SEAS 2 TO 4 FT.
.SAT...E TO SE WINDS 5 TO 10 KT. SEAS 2 TO 4 FT.

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AMZ017-042030-
GULF OF HONDURAS-
531 AM EDT TUE SEP 4 2012

.TODAY...E WINDS 10 TO 15 KT...DIMINISHING TO 5 TO 10 KT LATE. SEAS 2 TO 3 FT.
.TONIGHT...E WINDS 10 TO 15 KT. SEAS 2 TO 3 FT.
.WED...E TO SE WINDS 10 TO 15 KT...BECOMING E 5 TO 10 KT LATE. SEAS 2 TO 4 FT.
.WED NIGHT...E WINDS 15 TO 20 KT. SEAS 3 TO 5 FT.
.THU...E TO SE WINDS 15 TO 20 KT...BECOMING E 10 TO 15 KT LATE. SEAS 3 TO 5 FT.
.THU NIGHT...E WINDS 15 TO 20 KT. SEAS 3 TO 5 FT.
.FRI...E TO SE WINDS 15 TO 20 KT...BECOMING E 10 TO 15 KT LATE. SEAS 3 TO 5 FT.
.FRI NIGHT...E WINDS 15 TO 20 KT. SEAS 3 TO 5 FT.
.SAT...E TO SE WINDS 10 TO 15 KT. SEAS 3 TO 5 FT.

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AMZ019-042030-
CARIBBEAN FROM 15N TO 18N BETWEEN 80W AND 85W-
531 AM EDT TUE SEP 4 2012

.TODAY...E WINDS 10 TO 15 KT...BECOMING NE TO E 15 TO 20 KT LATE. SEAS 4 TO 6 FT.
.TONIGHT...NE TO E WINDS 10 TO 15 KT. SEAS 4 TO 6 FT.
.WED...E WINDS 15 TO 20 KT. SEAS 5 TO 7 FT.
.WED NIGHT...E WINDS 15 TO 20 KT...DIMINISHING TO 10 TO 15 KT LATE. SEAS 5 TO 7 FT.
.THU...E WINDS 15 TO 20 KT...DIMINISHING TO 10 TO 15 KT LATE. SEAS 5 TO 7 FT.
.THU NIGHT...E WINDS 10 TO 15 KT. SEAS 5 TO 7 FT.
.FRI...E WINDS 10 TO 15 KT. SEAS 5 TO 7 FT.
.FRI NIGHT...E WINDS 10 TO 15 KT. SEAS 4 TO 6 FT.
.SAT...E WINDS 10 TO 15 KT. SEAS 4 TO 6 FT.

$$

AMZ021-042030-
CARIBBEAN FROM 15N TO 18N BETWEEN 72W AND 80W-
531 AM EDT TUE SEP 4 2012

.TODAY...E WINDS 15 TO 20 KT. SEAS 5 TO 7 FT.
.TONIGHT...E WINDS 15 TO 20 KT. SEAS 5 TO 7 FT.
.WED...E WINDS 15 TO 20 KT. SEAS 5 TO 7 FT.
.WED NIGHT...E WINDS 15 TO 20 KT. SEAS 6 TO 9 FT.
.THU...E WINDS 15 TO 20 KT. SEAS 6 TO 8 FT.
.THU NIGHT...E WINDS 15 TO 20 KT...BECOMING NE TO E 10 TO 15 KT LATE. SEAS 5 TO 7 FT.
.FRI...E WINDS 15 TO 20 KT...DIMINISHING TO 10 TO 15 KT LATE. SEAS 5 TO 7 FT.
.FRI NIGHT...E WINDS 10 TO 15 KT. SEAS 4 TO 6 FT.
.SAT...E WINDS 15 TO 20 KT...BECOMING E TO SE 10 TO 15 KT LATE. SEAS 4 TO 6 FT.

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AMZ023-042030-
CARIBBEAN N OF 15N BETWEEN 64W AND 72W-
531 AM EDT TUE SEP 4 2012

.TODAY...SE WINDS 10 TO 15 KT...BECOMING E TO SE 15 TO 20 KT LATE. SEAS 4 TO 6 FT.
.TONIGHT...E WINDS 15 TO 20 KT. SEAS 4 TO 6 FT.
.WED...E TO SE WINDS 15 TO 20 KT. SEAS 4 TO 6 FT.
.WED NIGHT...E WINDS 15 TO 20 KT. SEAS 4 TO 6 FT.
.THU...E TO SE WINDS 15 TO 20 KT...DIMINISHING TO 10 TO 15 KT LATE. SEAS 4 TO 6 FT.
.THU NIGHT...E WINDS 10 TO 15 KT. SEAS 4 TO 6 FT.
.FRI...E TO SE WINDS 10 TO 15 KT. SEAS 4 TO 6 FT.
.FRI NIGHT...E TO SE WINDS 10 TO 15 KT. SEAS 4 TO 6 FT.
.SAT...E TO SE WINDS 10 TO 15 KT. SEAS 5 TO 7 FT.

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AMZ025-042030-
OFFSHORE WATERS LEEWARD ISLANDS-
531 AM EDT TUE SEP 4 2012

.TODAY...SE TO S WINDS 10 TO 15 KT...BECOMING SE 5 TO 10 KT LATE. SEAS 3 TO 5 FT.
.TONIGHT...E TO SE WINDS 5 TO 10 KT...BECOMING SE 10 TO 15 KT LATE. SEAS 3 TO 5 FT.
.WED...SE TO S WINDS 5 TO 10 KT. SEAS 3 TO 5 FT.
.WED NIGHT...SE WINDS 5 TO 10 KT. SEAS 4 TO 6 FT.
.THU...SE TO S WINDS 5 TO 10 KT. SEAS 5 TO 7 FT.
.THU NIGHT...SE TO S WINDS 5 TO 10 KT. SEAS 5 TO 7 FT.
.FRI...S WINDS 5 TO 10 KT. SEAS 6 TO 8 FT.
.FRI NIGHT...SE TO S WINDS 5 TO 10 KT. SEAS 7 TO 10 FT.
.SAT...SE WINDS 10 TO 15 KT...DIMINISHING TO 5 TO 10 KT LATE. SEAS 7 TO 10 FT.

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AMZ027-042030-
TROPICAL N ATLANTIC FROM 15N TO 19N BETWEEN 55W AND 60W-
531 AM EDT TUE SEP 4 2012

.TODAY...E TO SE WINDS 10 TO 15 KT. SEAS 4 TO 6 FT.
.TONIGHT...E TO SE WINDS 5 TO 10 KT. SEAS 4 TO 6 FT.
.WED...SE WINDS 5 TO 10 KT. SEAS 3 TO 5 FT.
.WED NIGHT...SE WINDS 5 TO 10 KT. SEAS 3 TO 5 FT.
.THU...SE TO S WINDS 5 TO 10 KT. SEAS 4 TO 6 FT.
.THU NIGHT...SE WINDS 5 TO 10 KT. SEAS 5 TO 7 FT.
.FRI...SE WINDS 5 TO 10 KT. SEAS 5 TO 7 FT.
.FRI NIGHT...E TO SE WINDS 5 TO 10 KT. SEAS 6 TO 9 FT.
.SAT...E TO SE WINDS 5 TO 10 KT. SEAS 7 TO 10 FT.

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AMZ029-042030-
W CENTRAL CARIBBEAN FROM 11N TO 15N W OF 80W-
531 AM EDT TUE SEP 4 2012

.TODAY...NE TO E WINDS 10 TO 15 KT...BECOMING NE 15 TO 20 KT LATE. SEAS 2 TO 4 FT WITHIN 60 NM OF COAST OF NICARAGUA...AND 5 TO 7 FT ELSEWHERE. SCATTERED SHOWERS AND ISOLATED TSTMS.
.TONIGHT...NE TO E WINDS 10 TO 15 KT...INCREASING TO 15 TO 20 KT LATE. SEAS 5 TO 7 FT. SCATTERED SHOWERS AND ISOLATED TSTMS.
.WED...E WINDS 15 TO 20 KT. SEAS 3 TO 5 FT WITHIN 60 NM OF COAST OF NICARAGUA...AND 6 TO 8 FT ELSEWHERE. SCATTERED SHOWERS AND ISOLATED TSTMS.
.WED NIGHT...NE TO E WINDS 15 TO 20 KT...DIMINISHING TO 10 TO 15 KT LATE. SEAS 3 TO 5 FT WITHIN 60 NM OF COAST OF NICARAGUA...AND 6 TO 8 FT ELSEWHERE.
.THU...E WINDS 15 TO 20 KT...BECOMING E TO SE 10 TO 15 KT LATE. SEAS 5 TO 7 FT.
.THU NIGHT...NE TO E WINDS 10 TO 15 KT. SEAS 3 TO 5 FT WITHIN 60 NM OF COAST OF NICARAGUA...AND 5 TO 7 FT ELSEWHERE.
.FRI...E TO SE WINDS 10 TO 15 KT. SEAS 2 TO 4 FT WITHIN 60 NM OF COAST OF NICARAGUA...AND 5 TO 7 FT ELSEWHERE.
.FRI NIGHT...E WINDS 10 TO 15 KT. SEAS 4 TO 6 FT.
.SAT...SE WINDS 10 TO 15 KT. SEAS 3 TO 5 FT.

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AMZ031-042030-

CARIBBEAN FROM 11N TO 15N BETWEEN 72W AND 80W INCLUDING COLOMBIA BASIN-
531 AM EDT TUE SEP 4 2012

.TODAY...NE TO E WINDS 15 TO 20 KT...BECOMING E 20 TO 25 KT LATE. SEAS 6 TO 9 FT.
.TONIGHT...NE TO E WINDS 20 TO 25 KT. SEAS 6 TO 9 FT.
.WED...E WINDS 20 TO 25 KT...DIMINISHING TO 15 TO 20 KT LATE. SEAS 6 TO 9 FT.
.WED NIGHT...NE TO E WINDS 20 TO 25 KT...DIMINISHING TO 15 TO 20 KT LATE. SEAS 6 TO 9 FT.
.THU...E WINDS 15 TO 20 KT. SEAS 6 TO 9 FT IN SE SWELL.
.THU NIGHT...NE TO E WINDS 15 TO 20 KT. SEAS 6 TO 8 FT.
.FRI...E WINDS 15 TO 20 KT...BECOMING E TO SE 10 TO 15 KT LATE. SEAS 5 TO 7 FT.
.FRI NIGHT...NE TO E WINDS 15 TO 20 KT. SEAS 4 TO 6 FT.
.SAT...E WINDS 15 TO 20 KT. SEAS 4 TO 6 FT.

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AMZ033-042030-
CARIBBEAN S OF 15N BETWEEN 64W AND 72W INCLUDING VENEZUELA BASIN-
531 AM EDT TUE SEP 4 2012

.TODAY...E TO SE WINDS 15 TO 20 KT...INCREASING TO 20 TO 25 KT LATE. SEAS 5 TO 7 FT.
.TONIGHT...E WINDS 20 TO 25 KT. SEAS 6 TO 8 FT.
.WED...E TO SE WINDS 20 TO 25 KT...DIMINISHING TO 15 TO 20 KT LATE. SEAS 6 TO 9 FT.
.WED NIGHT...E WINDS 20 TO 25 KT...BECOMING E TO SE 15 TO 20 KT LATE. SEAS 6 TO 8 FT.
.THU...E TO SE WINDS 15 TO 20 KT. SEAS 6 TO 8 FT.
.THU NIGHT...E WINDS 15 TO 20 KT. SEAS 5 TO 7 FT.
.FRI...E TO SE WINDS 15 TO 20 KT...DIMINISHING TO 10 TO 15 KT LATE. SEAS 5 TO 7 FT.
.FRI NIGHT...E WINDS 15 TO 20 KT. SEAS 5 TO 7 FT.
.SAT...E TO SE WINDS 15 TO 20 KT. SEAS 5 TO 7 FT.

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AMZ035-042030-
OFFSHORE WATERS WINDWARD ISLANDS INCLUDING TRINIDAD AND TOBAGO-
531 AM EDT TUE SEP 4 2012

.TODAY...E TO SE WINDS 10 TO 15 KT. SEAS 3 TO 5 FT.
.TONIGHT...E WINDS 10 TO 15 KT. SEAS 3 TO 5 FT.
.WED...E TO SE WINDS 10 TO 15 KT. SEAS 3 TO 5 FT.
.WED NIGHT...E TO SE WINDS 10 TO 15 KT. SEAS 3 TO 5 FT.
.THU...E TO SE WINDS 10 TO 15 KT. SEAS 3 TO 5 FT.
.THU NIGHT...E TO SE WINDS 10 TO 15 KT. SEAS 3 TO 5 FT.
.FRI...E TO SE WINDS 10 TO 15 KT. SEAS 3 TO 5 FT.
.FRI NIGHT...E WINDS 15 TO 20 KT...BECOMING E TO SE 10 TO 15 KT LATE. SEAS 3 TO 5 FT.
.SAT...E TO SE WINDS 10 TO 15 KT. SEAS 4 TO 6 FT.

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AMZ037-042030-
TROPICAL N ATLANTIC FROM 07N TO 15N BETWEEN 55W AND 60W-
531 AM EDT TUE SEP 4 2012

.TODAY...E WINDS 10 TO 15 KT. SEAS 4 TO 6 FT.
.TONIGHT...E TO SE WINDS 10 TO 15 KT. SEAS 4 TO 6 FT.
.WED...E TO SE WINDS 15 TO 20 KT...DIMINISHING TO 10 TO 15 KT LATE. SEAS 4 TO 6 FT.
.WED NIGHT...E TO SE WINDS 15 TO 20 KT...DIMINISHING TO 10 TO 15 KT LATE. SEAS 4 TO 6 FT.
.THU...E TO SE WINDS 10 TO 15 KT. SEAS 4 TO 6 FT.
.THU NIGHT...E WINDS 10 TO 15 KT. SEAS 4 TO 6 FT.
.FRI...E WINDS 10 TO 15 KT. SEAS 4 TO 6 FT.
.FRI NIGHT...E WINDS 10 TO 15 KT. SEAS 4 TO 6 FT.
.SAT...E WINDS 10 TO 15 KT. SEAS 5 TO 7 FT.

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AMZ039-042030-
SW CARIBBEAN S OF 11N INCLUDING APPROACHES TO PANAMA CANAL-
531 AM EDT TUE SEP 4 2012

.TODAY...NW WINDS 10 TO 15 KT. SEAS 3 TO 5 FT. SCATTERED SHOWERS AND ISOLATED TSTMS.
.TONIGHT...NW WINDS 10 TO 15 KT...DIMINISHING TO 5 TO 10 KT LATE. SEAS 3 TO 5 FT. SCATTERED SHOWERS AND ISOLATED TSTMS.
.WED...SW WINDS 5 TO 10 KT. SEAS 3 TO 5 FT. SCATTERED SHOWERS AND ISOLATED TSTMS.
.WED NIGHT...NW TO N WINDS 5 TO 10 KT. SEAS 3 TO 5 FT.
.THU...S TO SW WINDS 5 TO 10 KT. SEAS 3 TO 5 FT.
.THU NIGHT...NW TO N WINDS 5 TO 10 KT. SEAS 3 TO 5 FT.
.FRI...N TO NE WINDS 5 TO 10 KT...BECOMING SW TO W LATE. SEAS 3 TO 5 FT.
.FRI NIGHT...N WINDS 5 TO 10 KT. SEAS 2 TO 4 FT.
.SAT...N TO NE WINDS 5 TO 10 KT. SEAS 2 TO 4 FT.

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AMZ101-042030-
SYNOPSIS FOR THE SW N ATLANTIC INCLUDING THE BAHAMAS
531 AM EDT TUE SEP 4 2012

.SYNOPSIS...TROPICAL STORM LESLIE WAS CENTERED NEAR 24.7N 62.5W AT 5AM EDT. MAXIMUM SUSTAINED WINDS 55 KT WITH GUSTS TO 65 KT MOVING N AT 4 KT WITH MINIMUM PRESSURE 994 MB. LESLIE IS FORECAST TO CONTINUE ON A NORTHWARD TRACK TO NEAR 25.3N 62.5W THIS AFTERNOON...NEAR 25.9N 62.6W TONIGHT...NEAR 26.4N 62.6W WED AFTERNOON...AND NEAR 26.7N 62.6W WED NIGHT. LESLIE WILL REACH HURRICANE INTENSITY AND BE CENTERED NEAR 27.6N 63.1W THU NIGHT...NEAR 29.1N 64.1W FRI NIGHT...AND NEAR 32.0N 65.3W SAT NIGHT. SWELL IN EXCESS OF 8 FT GENERATED FROM LESLIE WILL SPREAD ACROSS THE REGION THROUGH SAT.

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AMZ111-042030-
ATLANTIC FROM 27N TO 31N W OF 77W-
531 AM EDT TUE SEP 4 2012

.TODAY...SE TO S WINDS 5 TO 10 KT. SEAS 5 TO 7 FT IN E TO SE SWELL.
.TONIGHT...S WINDS 10 TO 15 KT. SEAS 6 TO 9 FT IN E TO SE SWELL.
.WED...S TO SW WINDS 5 TO 10 KT. SEAS 6 TO 8 FT IN E TO SE SWELL.
.WED NIGHT...S TO SW WINDS 10 TO 15 KT. SEAS 5 TO 7 FT IN E TO SE SWELL.
.THU...SW TO W WINDS 5 TO 10 KT. SEAS 5 TO 7 FT IN E SWELL.
.THU NIGHT...SW WINDS 10 TO 15 KT. SEAS 6 TO 8 FT IN E SWELL.
.FRI...SW TO W WINDS 5 TO 10 KT. SEAS 6 TO 9 FT IN E SWELL.
.FRI NIGHT...S TO SW WINDS 10 TO 15 KT. SEAS 7 TO 10 FT IN E SWELL.
.SAT...S TO SW WINDS 5 TO 10 KT. SEAS 8 TO 11 FT IN E SWELL.

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AMZ113-042030-
ATLANTIC FROM 27N TO 31N BETWEEN 70W AND 77W-
531 AM EDT TUE SEP 4 2012

.TODAY...NE TO E WINDS 5 TO 10 KT...BECOMING W TO NW LATE. SEAS 8 TO 11 FT IN SE SWELL.
.TONIGHT...NE TO E WINDS 5 TO 10 KT. SEAS 7 TO 10 FT IN SE SWELL.
.WED...NW TO N WINDS 5 TO 10 KT. SEAS 7 TO 10 FT IN SE SWELL.
.WED NIGHT...N WINDS 10 TO 15 KT...BECOMING NE TO E 5 TO 10 KT LATE. SEAS 7 TO 10 FT IN SE SWELL.
.THU...W TO NW WINDS 5 TO 10 KT...INCREASING TO 10 TO 15 KT LATE. SEAS 8 TO 11 FT.
.THU NIGHT...W TO NW WINDS 5 TO 10 KT. SEAS 8 TO 13 FT IN E SWELL.
.FRI...W TO NW WINDS 10 TO 15 KT. SEAS 10 TO 15 FT IN E SWELL.
.FRI NIGHT...W TO NW WINDS 10 TO 15 KT. SEAS 12 TO 17 FT IN E SWELL.
.SAT...TROPICAL STORM CONDITIONS POSSIBLE. W TO NW WINDS 10 TO 15 KT. SEAS 13 TO 18 FT IN E SWELL.

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AMZ115-042030-
ATLANTIC FROM 27N TO 31N BETWEEN 65W AND 70W-
531 AM EDT TUE SEP 4 2012

.TODAY...S OF 29N E OF 62W N TO NE WINDS 25 TO 30 KT. SEAS 12 TO 15 FT. ELSEWHERE NE TO E 15 TO 20 KT. SEAS 9 TO 12 FT IN E SWELL.
.TONIGHT...N TO NE WINDS 25 TO 30 KT. SEAS 14 FT...BUILDING TO 17 FT LATE IN E SWELL.

.WED...N TO NE WINDS 25 TO 30 KT. SEAS 17 FT...SUBSIDING TO 15 FT LATE IN E SWELL. SCATTERED SHOWERS AND ISOLATED TSTMS.
.WED NIGHT...TROPICAL STORM CONDITIONS POSSIBLE. N TO NE WINDS 25 TO 30 KT...INCREASING TO 30 TO 35 KT LATE. SEAS 14 TO 19 FT IN SE SWELL.
.THU...TROPICAL STORM CONDITIONS POSSIBLE. S OF 29N...N WINDS 35 TO 40 KT. SEAS 19 FT...BUILDING TO 22 FT IN SE SWELL LATE. N OF 29N...N TO NE WINDS 25 TO 30 KT...BECOMING N 30 TO 35 KT LATE. SEAS 16 FT...BUILDING TO 19 FT IN SE SWELL LATE.
.THU NIGHT...TROPICAL STORM CONDITIONS POSSIBLE.
.FRI...TROPICAL STORM CONDITIONS POSSIBLE.
.FRI NIGHT...HURRICANE CONDITIONS POSSIBLE.
.SAT...HURRICANE CONDITIONS POSSIBLE.

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AMZ117-042030-
BAHAMAS INCLUDING CAY SAL BANK-
531 AM EDT TUE SEP 4 2012

.TODAY...E TO SE WINDS 5 TO 10 KT. SEAS 6 TO 9 FT ATLC EXPOSURES...AND 2 TO 4 FT ELSEWHERE. SCATTERED SHOWERS.
.TONIGHT...E WINDS 5 TO 10 KT. SEAS 6 TO 9 FT ATLC EXPOSURES...AND 2 TO 4 FT ELSEWHERE.
.WED...E TO SE WINDS 5 TO 10 KT. SEAS 5 TO 7 FT ATLC EXPOSURES...AND 2 TO 3 FT ELSEWHERE.
.WED NIGHT...E WINDS 5 TO 10 KT. SEAS 5 TO 7 FT ATLC EXPOSURES...AND 2 TO 3 FT ELSEWHERE.
.THU...NE TO E WINDS 5 TO 10 KT. SEAS 5 TO 7 FT ATLC EXPOSURES...AND 2 TO 3 FT ELSEWHERE.
.THU NIGHT...E WINDS 5 TO 10 KT. SEAS 6 TO 8 FT ATLC EXPOSURES...AND 2 TO 4 FT ELSEWHERE.
.FRI...SW TO W WINDS 5 TO 10 KT. SEAS 6 TO 9 FT ATLC EXPOSURES...AND 3 TO 5 FT ELSEWHERE.
.FRI NIGHT...NW TO N WINDS 5 TO 10 KT...BECOMING SE TO S LATE. SEAS 7 TO 10 FT ATLC EXPOSURES...AND 3 TO 5 FT ELSEWHERE.
.SAT...S TO SW WINDS 5 TO 10 KT...BECOMING SW 10 TO 15 KT LATE. SEAS 8 TO 11 FT ATLC EXPOSURES...AND 4 TO 6 FT ELSEWHERE.

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AMZ119-042030-
ATLANTIC FROM 22N TO 27N E OF BAHAMAS TO 70W-
531 AM EDT TUE SEP 4 2012

.TODAY...NE WINDS 5 TO 10 KT...BECOMING N 10 TO 15 KT LATE. SEAS 8 TO 11 FT.
.TONIGHT...N TO NE WINDS 10 TO 15 KT...DIMINISHING TO 5 TO 10 KT LATE. SEAS 6 TO 9 FT.
.WED...N WINDS 5 TO 10 KT. SEAS 6 TO 9 FT.
.WED NIGHT...N WINDS 10 TO 15 KT...DIMINISHING TO 5 TO 10 KT LATE. SEAS 6 TO 9 FT.
.THU...NW TO N WINDS 5 TO 10 KT...BECOMING NW 10 TO 15 KT LATE. SEAS 7 TO 10 FT.
.THU NIGHT...NW TO N WINDS 5 TO 10 KT. SEAS 8 TO 11 FT.
.FRI...NW WINDS 5 TO 10 KT...INCREASING TO 10 TO 15 KT LATE. SEAS 9 TO 14 FT.
.FRI NIGHT...W TO NW WINDS 5 TO 10 KT. SEAS 10 TO 15 FT.
.SAT...W WINDS 5 TO 10 KT...INCREASING TO 10 TO 15 KT LATE. SEAS 11 TO 16 FT.

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AMZ121-042030-
ATLANTIC FROM 22N TO 27N BETWEEN 65W AND 70W-
531 AM EDT TUE SEP 4 2012

.TODAY...N WINDS 25 TO 30 KT. S OF 25N...SEAS 10 FT...SUBSIDING TO 8 FT LATE. N OF 25N...SEAS 10 TO 15 FT.
.TONIGHT...S OF 25N...NW TO N WINDS 20 TO 25 KT...BECOMING NW 15 TO 20 KT LATE. SEAS 9 FT...BUILDING TO 13 FT LATE. N OF 25N...NW TO N WINDS 25 TO 30 KT. SEAS
12 FT...BUILDING TO 16 FT LATE.
.WED...NW WINDS 25 TO 30 KT. S OF 25N...SEAS 13 FT...SUBSIDING TO 10 FT LATE. N OF 25N...SEAS 16 FT...SUBSIDING TO 14 FT LATE.
.WED NIGHT...TROPICAL STORM CONDITIONS POSSIBLE. S OF 25N...NW WINDS 20 TO 25 KT...BECOMING W TO NW 15 TO 20 KT LATE. N OF 25N...NW TO N WINDS 25 TO 30 KT...INCREASING TO 30 TO 35 KT LATE. SEAS 9 TO 14 FT S OF 25N...AND 13 TO
18 FT N OF 25N.
.THU...TROPICAL STORM CONDITIONS POSSIBLE. S OF 25N...W TO NW WINDS 20 TO 25 KT. SEAS 11 TO 16 FT. N OF 25N...NW TO N WINDS 35 TO 40 KT...DIMINISHING TO 30 TO 35 KT LATE. SEAS 17 FT...BUILDING TO 20 FT LATE.
.THU NIGHT...TROPICAL STORM CONDITIONS POSSIBLE.
.FRI...TROPICAL STORM CONDITIONS POSSIBLE.

.FRI NIGHT...TROPICAL STORM CONDITIONS POSSIBLE.
.SAT...TROPICAL STORM CONDITIONS POSSIBLE.

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AMZ123-042030-
ATLANTIC S OF 22N W OF 70W INCLUDING APPROACHES TO THE WINDWARD PASSAGE-
531 AM EDT TUE SEP 4 2012

.TODAY...NE TO E WINDS 10 TO 15 KT...BECOMING NE 5 TO 10 KT LATE. SEAS 4 TO 6 FT.
.TONIGHT...NE TO E WINDS 5 TO 10 KT. SEAS 4 TO 6 FT.
.WED...NE TO E WINDS 5 TO 10 KT. SEAS 4 TO 6 FT.
.WED NIGHT...NE TO E WINDS 5 TO 10 KT. SEAS 4 TO 6 FT IN NE SWELL.
.THU...N TO NE WINDS 5 TO 10 KT. SEAS 6 TO 8 FT IN NE SWELL.
.THU NIGHT...N TO NE WINDS 5 TO 10 KT. SEAS 6 TO 9 FT IN NE SWELL.
.FRI...N WINDS 5 TO 10 KT. SEAS 6 TO 9 FT IN NE SWELL.
.FRI NIGHT...NE TO E WINDS 5 TO 10 KT. SEAS 7 TO 10 FT IN NE SWELL.
.SAT...S WINDS 5 KT...BECOMING E LATE. SEAS 8 TO 11 FT IN NE SWELL.

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AMZ125-042030-
ATLANTIC S OF 22N BETWEEN 65W AND 70W INCLUDING PUERTO RICO TRENCH-
531 AM EDT TUE SEP 4 2012

.TODAY...NW WINDS 15 TO 20 KT...BECOMING W 10 TO 15 KT LATE. SEAS 6 TO 8 FT.
.TONIGHT...W TO NW WINDS 10 TO 15 KT. SEAS 5 TO 7 FT.
.WED...W WINDS 10 TO 15 KT. SEAS 6 TO 8 FT.
.WED NIGHT...W WINDS 5 TO 10 KT. SEAS 6 TO 9 FT.
.THU...W WINDS 5 TO 10 KT...INCREASING TO 10 TO 15 KT LATE. SEAS 7 TO 10 FT.
.THU NIGHT...W TO NW WINDS 5 TO 10 KT. SEAS 8 TO 11 FT IN NE SWELL.
.FRI...W WINDS 5 TO 10 KT. SEAS 9 FT...BUILDING TO 11 FT LATE IN NE SWELL.
.FRI NIGHT...SW TO W WINDS 5 TO 10 KT. SEAS 9 TO 14 FT IN N SWELL.
.SAT...S TO SW WINDS 5 TO 10 KT. SEAS 9 TO 14 FT IN N SWELL.

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AMZ127-042030-
ATLANTIC FROM 19N TO 22N BETWEEN 55W AND 65W-
531 AM EDT TUE SEP 4 2012

.TODAY...S WINDS 20 TO 25 KT...DIMINISHING TO 15 TO 20 KT LATE. SEAS 7 TO 10 FT W OF 60W...AND 5 TO 7 FT E OF 60W.
.TONIGHT...S TO SW WINDS 15 TO 20 KT. SEAS 6 TO 8 FT.
.WED...S TO SW WINDS 10 TO 15 KT...INCREASING TO 15 TO 20 KT LATE. SEAS 6 TO 9 FT.
.WED NIGHT...SW WINDS 15 TO 20 KT. SEAS 6 TO 9 FT.
.THU...SW WINDS 10 TO 15 KT. SEAS 8 TO 11 FT.
.THU NIGHT...SW TO W WINDS 10 TO 15 KT. SEAS 8 TO 13 FT.
.FRI...SW WINDS 10 TO 15 KT. SEAS 9 TO 14 FT W OF 60W...AND 8 TO 11 FT IN NW TO NW SWELL E OF 60W.
.FRI NIGHT...SW WINDS 5 TO 10 KT. SEAS 9 TO 14 FT IN NW TO N SWELL.
.SAT...S TO SW WINDS 5 TO 10 KT. SEAS 9 TO 14 FT IN NW TO N SWELL.

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FORECASTER NELSON

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FZNT24 KNHC 052122
OFFNT4

OFFSHORE WATERS FORECAST FOR THE GULF OF MEXICO
NWS NATIONAL HURRICANE CENTER MIAMI FL
522 PM EDT SUN AUG 5 2012

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.

GMZ001-060815-
SYNOPSIS FOR THE GULF OF MEXICO
522 PM EDT SUN AUG 5 2012

.SYNOPSIS....A SURFACE TROUGH EXTENDING FROM 30N84W TO NEAR KEY WEST FLORIDA WILL DISSIPATE TONIGHT. A WEAK RIDGE WILL THEN EXTEND FROM THE NE GULF TO THE W CENTRAL GULF MON...GRADUALLY LIFTING N THROUGH TUE. TROPICAL STORM ERNESTO NEAR 15.3N 78.6W AT 5 PM EDT MOVING W AT 17 KT WITH MAXIMUM SUSTAINED WINDS 45 KT GUSTS 55 KT IS FORECAST TO MOVE ACROSS THE YUCATAN PENINSULA WED...EMERGING IN THE SW GULF NEAR 20.5N 94.5W THU AFTERNOON. ERNESTO IS THEN FORECAST TO INTENSIFY TO A HURRICANE AS IT MOVES TO 21.5N 97.5W FRI AFTERNOON.

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GMZ011-060815-
NW GULF INCLUDING STETSON BANK-
522 PM EDT SUN AUG 5 2012

.TONIGHT...E TO SE WINDS 5 TO 10 KT. SEAS 2 TO 4 FT IN SE SWELL.
.MON...SE WINDS 5 KT...SHIFTING TO N TO NE IN THE AFTERNOON. SEAS 2 TO 3 FT. SCATTERED SHOWERS AND ISOLATED TSTMS.
.MON NIGHT...N WINDS 5 KT...SHIFTING TO S AFTER MIDNIGHT. SEAS 2 TO 3 FT.
.TUE...NW WINDS 5 TO 10 KT. SEAS 1 TO 2 FT.
.TUE NIGHT...NW TO N WINDS 5 KT...SHIFTING TO SE TO S AFTER MIDNIGHT. SEAS 1 TO 2 FT.
.WED...SW TO W WINDS 5 KT. SEAS 1 TO 2 FT.
.WED NIGHT...SE WINDS 5 TO 10 KT. SEAS 1 TO 2 FT.
.THU...SE TO S WINDS 5 TO 10 KT...SHIFTING TO N TO NE IN THE AFTERNOON. SEAS 2 TO 3 FT. SCATTERED SHOWERS AND ISOLATED TSTMS.
.THU NIGHT...E TO SE WINDS 10 TO 15 KT. SEAS 2 TO 3 FT.
.FRI...E WINDS 5 TO 10 KT. SEAS 2 TO 4 FT. SCATTERED SHOWERS AND TSTMS.

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GMZ013-060815-
N CENTRAL GULF INCLUDING FLOWER GARDEN BANKS MARINE SANCTUARY-
522 PM EDT SUN AUG 5 2012

.TONIGHT...E TO SE WINDS 5 TO 10 KT. SEAS 2 TO 3 FT.
.MON...N WINDS 5 TO 10 KT. SEAS 2 TO 3 FT.
.MON NIGHT...NW TO N WINDS 5 TO 10 KT...SHIFTING TO S AFTER MIDNIGHT. SEAS 1 TO 2 FT.
.TUE...W TO NW WINDS 5 TO 10 KT. SEAS 1 TO 2 FT. SCATTERED SHOWERS AND TSTMS.
.TUE NIGHT...W TO NW WINDS 5 TO 10 KT...BECOMING S 10 TO 15 KT AFTER MIDNIGHT. SEAS 1 TO 2 FT. SCATTERED SHOWERS AND ISOLATED TSTMS.
.WED...S TO SW WINDS 5 TO 10 KT...BECOMING SW TO W 10 TO 15 KT IN THE AFTERNOON. SEAS 2 TO 3 FT. SCATTERED SHOWERS AND ISOLATED TSTMS.
.WED NIGHT...SE TO S WINDS 10 TO 15 KT. SEAS 3 TO 5 FT. SCATTERED SHOWERS AND ISOLATED TSTMS.
.THU...SE TO S WINDS 10 TO 15 KT. SEAS 3 TO 5 FT. SCATTERED SHOWERS AND TSTMS.
.THU NIGHT...SE TO S WINDS 10 TO 15 KT. SEAS 3 TO 5 FT. SCATTERED SHOWERS AND ISOLATED TSTMS.
.FRI...SE TO S WINDS 10 TO 15 KT...DIMINISHING TO 5 TO 10 KT IN THE AFTERNOON. SEAS 3 TO 5 FT. SCATTERED SHOWERS AND ISOLATED TSTMS.

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GMZ015-060815-

NE GULF N OF 25N E OF 87W-
522 PM EDT SUN AUG 5 2012

.TONIGHT...NE TO E WINDS 5 TO 10 KT...BECOMING E 10 TO 15 KT AFTER MIDNIGHT. SEAS 1 TO 2 FT.
.MON...E WINDS 10 TO 15 KT. SEAS 2 TO 3 FT. SCATTERED SHOWERS AND TSTMS.
.MON NIGHT...N OF 27N...E TO SE WINDS 5 KT...INCREASING TO 10 TO 15 KT AFTER MIDNIGHT. S OF 27N...E WINDS 10 TO 15 KT. SEAS 2 TO 3 FT. SCATTERED SHOWERS AND ISOLATED TSTMS.
.TUE...SE TO S WINDS 10 TO 15 KT. SEAS 2 TO 4 FT. SCATTERED SHOWERS AND TSTMS.
.TUE NIGHT...SE TO S WINDS 10 TO 15 KT. SEAS 3 TO 5 FT. SCATTERED SHOWERS AND ISOLATED TSTMS.
.WED...SE TO S WINDS 10 TO 15 KT. SEAS 3 TO 5 FT. SCATTERED SHOWERS AND TSTMS.
.WED NIGHT...SE TO S WINDS 10 TO 15 KT. SEAS 3 TO 5 FT. SCATTERED SHOWERS AND ISOLATED TSTMS.
.THU...SE TO S WINDS 10 TO 15 KT. SEAS 3 TO 5 FT. SCATTERED SHOWERS AND TSTMS.
.THU NIGHT...SE WINDS 10 TO 15 KT. SEAS 3 TO 5 FT. SCATTERED SHOWERS AND TSTMS.
.FRI...SE WINDS 5 TO 10 KT. SEAS 2 TO 4 FT. SCATTERED SHOWERS AND TSTMS.

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GMZ017-060815-
W CENTRAL GULF FROM 22N TO 26N W OF 94W-
522 PM EDT SUN AUG 5 2012

.TONIGHT...E TO SE WINDS 10 TO 15 KT...DIMINISHING TO 5 TO 10 KT AFTER MIDNIGHT. SEAS 3 TO 5 FT.
.MON...NE WINDS 5 TO 10 KT. SEAS 2 TO 3 FT. SCATTERED SHOWERS AND TSTMS.
.MON NIGHT...E WINDS 5 TO 10 KT. SEAS 2 TO 3 FT. SCATTERED SHOWERS AND TSTMS.
.TUE...SW WINDS 5 KT...SHIFTING TO N TO NE IN THE AFTERNOON. SEAS 2 TO 3 FT.
.TUE NIGHT...E TO SE WINDS 5 TO 10 KT. SEAS 2 TO 3 FT.
.WED...E OF 96W...E WINDS 5 TO 10 KT...BECOMING NE 10 TO 15 KT
IN THE AFTERNOON. W OF 96W...E TO SE WINDS 5 TO 10 KT. SEAS 1 TO 2 FT.
.WED NIGHT...E WINDS 10 TO 15 KT. SEAS 2 TO 3 FT.
.THU...E OF 96W...E WINDS 15 TO 20 KT...BECOMING NE 25 TO 30 KT IN THE AFTERNOON. W OF 96W...SE WINDS 5 TO 10 KT...BECOMING N TO NE 15 TO 20 KT IN THE AFTERNOON. SEAS 2 TO 3 FT. SCATTERED SHOWERS AND TSTMS.
.THU NIGHT...TROPICAL STORM CONDITIONS POSSIBLE. SCATTERED SHOWERS AND TSTMS.
.FRI...TROPICAL STORM CONDITIONS POSSIBLE. SCATTERED SHOWERS AND ISOLATED TSTMS.

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GMZ019-060815-
CENTRAL GULF FROM 22N TO 26N BETWEEN 87W AND 94W-
522 PM EDT SUN AUG 5 2012

.TONIGHT...E WINDS 10 TO 15 KT. SEAS 2 TO 4 FT.
.MON...NE TO E WINDS 5 TO 10 KT...BECOMING NE 10 TO 15 KT IN THE AFTERNOON. SEAS 2 TO 3 FT. SCATTERED SHOWERS AND ISOLATED TSTMS.
.MON NIGHT...NE TO E WINDS 10 TO 15 KT. SEAS 2 TO 4 FT. SCATTERED SHOWERS AND ISOLATED TSTMS.
.TUE...NE WINDS 10 TO 15 KT. SEAS 2 TO 4 FT. SCATTERED SHOWERS AND TSTMS.
.TUE NIGHT...E WINDS 15 TO 20 KT. SEAS 3 TO 5 FT. SCATTERED SHOWERS AND TSTMS.
.WED...SE WINDS 10 TO 15 KT...BECOMING E 15 TO 20 KT IN THE AFTERNOON. SEAS 4 TO 6 FT. SCATTERED SHOWERS AND ISOLATED TSTMS.
.WED NIGHT...E TO SE WINDS 15 TO 20 KT. SEAS 5 TO 7 FT. SCATTERED SHOWERS AND ISOLATED TSTMS.
.THU...N OF 24N...SE WINDS 15 TO 20 KT. S OF 24N...E TO SE WINDS 20 TO 25 KT...INCREASING TO 25 TO 30 KT IN THE AFTERNOON. SEAS 5 TO 7 FT. SCATTERED SHOWERS AND ISOLATED TSTMS.
.THU NIGHT...N OF 24N...E TO SE WINDS 10 TO 15 KT...INCREASING TO 15 TO 20 KT AFTER MIDNIGHT. S OF 24N...E TO SE WINDS 20 TO 25 KT. SEAS 5 TO 7 FT. SCATTERED SHOWERS AND ISOLATED TSTMS.
.FRI...SE WINDS 15 TO 20 KT...DIMINISHING TO 10 TO 15 KT IN THE AFTERNOON. SEAS 5 TO 7 FT.

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GMZ021-060815-
E GULF FROM 22N TO 25N E OF 87W INCLUDING STRAITS OF FLORIDA-
522 PM EDT SUN AUG 5 2012

.TONIGHT...NE TO E WINDS 10 TO 15 KT...INCREASING TO 15 TO 20 KT AFTER MIDNIGHT. SEAS 2 TO 3 FT.
.MON...NE TO E WINDS 10 TO 15 KT. SEAS 2 TO 4 FT. SCATTERED SHOWERS AND TSTMS.
.MON NIGHT...E WINDS 15 TO 20 KT...BECOMING SE 10 TO 15 KT AFTER MIDNIGHT. SEAS 2 TO 4 FT. SCATTERED SHOWERS AND ISOLATED TSTMS.
.TUE...SE WINDS 10 TO 15 KT...BECOMING E TO SE 15 TO 20 KT IN THE AFTERNOON. SEAS 3 TO 5 FT. SCATTERED SHOWERS AND ISOLATED TSTMS.

.TUE NIGHT...E TO SE WINDS 15 TO 20 KT. SEAS 5 TO 7 FT. SCATTERED SHOWERS AND ISOLATED TSTMS.
.WED...E TO SE WINDS 10 TO 15 KT...INCREASING TO 15 TO 20 KT IN THE AFTERNOON. SEAS 6 TO 8 FT IN E SWELL.
.WED NIGHT...E TO SE WINDS 15 TO 20 KT. SEAS 6 TO 8 FT.
.THU...E TO SE WINDS 15 TO 20 KT...DIMINISHING TO 10 TO 15 KT IN THE AFTERNOON. SEAS 5 TO 7 FT.
.THU NIGHT...E TO SE WINDS 10 TO 15 KT. SEAS 5 TO 7 FT. SCATTERED SHOWERS AND ISOLATED TSTMS.
.FRI...E TO SE WINDS 10 TO 15 KT. SEAS 3 TO 5 FT. SCATTERED SHOWERS AND TSTMS.

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GMZ023-060815-
SW GULF S OF 22N W OF 94W-
522 PM EDT SUN AUG 5 2012

.TONIGHT...NE TO E WINDS 10 TO 15 KT. SEAS 3 TO 5 FT. SCATTERED SHOWERS AND TSTMS.
.MON...N WINDS 5 TO 10 KT. SEAS 2 TO 3 FT. SCATTERED SHOWERS AND TSTMS.
.MON NIGHT...NE WINDS 10 TO 15 KT. SEAS 2 TO 3 FT. SCATTERED SHOWERS AND TSTMS.
.TUE...N WINDS 5 TO 10 KT. SEAS 2 TO 3 FT. SCATTERED SHOWERS AND TSTMS.
.TUE NIGHT...NE TO E WINDS 10 TO 15 KT. SEAS 1 TO 2 FT. SCATTERED SHOWERS AND ISOLATED TSTMS.
.WED...NE TO E WINDS 15 TO 20 KT...BECOMING N 10 TO 15 KT IN THE AFTERNOON. SEAS 2 TO 3 FT. SCATTERED SHOWERS AND ISOLATED TSTMS.
.WED NIGHT...N TO NE WINDS 15 TO 20 KT...BECOMING NE 20 TO 25 KT AFTER MIDNIGHT. SEAS 2 TO 3 FT. SCATTERED SHOWERS AND TSTMS.
.THU...TROPICAL STORM CONDITIONS POSSIBLE. SCATTERED SHOWERS AND TSTMS.
.THU NIGHT...HURRICANE CONDITIONS POSSIBLE. SCATTERED SHOWERS AND TSTMS.
.FRI...HURRICANE CONDITIONS POSSIBLE. SCATTERED SHOWERS AND ISOLATED TSTMS.

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GMZ025-060815-
E BAY OF CAMPECHE INCLUDING CAMPECHE BANK-
522 PM EDT SUN AUG 5 2012

.TONIGHT...NE TO E WINDS 15 TO 20 KT. SEAS 3 TO 5 FT.
.MON...NE TO E WINDS 10 TO 15 KT...BECOMING NE 5 TO 10 KT IN THE AFTERNOON. SEAS 2 TO 4 FT. SCATTERED SHOWERS AND ISOLATED TSTMS.
.MON NIGHT...NE WINDS 10 TO 15 KT. SEAS 2 TO 3 FT. SCATTERED SHOWERS AND TSTMS.
.TUE...E TO SE WINDS 10 TO 15 KT. SEAS 2 TO 3 FT. SCATTERED SHOWERS AND TSTMS.
.TUE NIGHT...NE WINDS 15 TO 20 KT. SEAS 2 TO 4 FT. SCATTERED SHOWERS AND TSTMS.
.WED...TROPICAL STORM CONDITIONS POSSIBLE. SCATTERED SHOWERS AND TSTMS.
.WED NIGHT...TROPICAL STORM CONDITIONS POSSIBLE. SCATTERED SHOWERS AND TSTMS.
.THU...TROPICAL STORM CONDITIONS POSSIBLE. SCATTERED SHOWERS AND TSTMS.
.THU NIGHT...WITHIN 60 NM OF COAST OF CAMPECHE...SE WINDS 10 TO 15 KT...BECOMING E TO SE 15 TO 20 KT AFTER MIDNIGHT. ELSEWHERE...SE TO S WINDS 25 TO 30 KT...BECOMING SE 20 TO 25 KT AFTER MIDNIGHT. SEAS 3 TO 5 FT WITHIN 60 NM OF COAST OF CAMPECHE...AND 8 TO 11 FT ELSEWHERE. SCATTERED SHOWERS AND ISOLATED TSTMS.
.FRI...SE WINDS 15 TO 20 KT...BECOMING E TO SE 10 TO 15 KT IN THE AFTERNOON. SEAS 5 TO 7 FT. SCATTERED SHOWERS AND ISOLATED TSTMS.

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FORECASTER NELSON

COASTAL WATERS FORECASTS

Coastal Waters Forecasts (CWF) are designed to serve the needs of a large variety of maritime activities. Coastal water traffic ranges from numerous small and weather sensitive craft, many of which remain close to shore, to large oceangoing vessels. The offshore range of the United States National Weather Service CWF's is dependent upon the optimum warning distance that the adjacent coastal Doppler radar can provide for severe weather, usually 40 to 60 nautical miles. Forecasts and warnings are also provided for large inland bodies of water.

Sample of Coastal Waters Forecast:

057
FZUS52 KMFL 031952
CWFMFL

COASTAL WATERS FORECAST FOR SOUTH FLORIDA
NATIONAL WEATHER SERVICE MIAMI FL
352 PM EDT WED OCT 3 2012

ATLANTIC COASTAL WATERS FROM JUPITER INLET TO OCEAN REEF OUT TO 60 NM AND GULF COASTAL WATERS FROM EAST CAPE SABLE TO CHOKOLOSKEE OUT 20 NM AND CHOKOLOSKEE TO BONITA BEACH OUT 60 NM...INCLUDING THE WATERS OF BISCAYNE BAY AND LAKE OKEECHOBEE.

SEAS ARE PROVIDED AS A RANGE OF SIGNIFICANT WAVE HEIGHTS...WHICH IS THE AVERAGE HEIGHT OF THE HIGHEST 1/3 OF THE WAVES...ALONG WITH THE OCCASIONAL HEIGHT OF THE AVERAGE HIGHEST 10 PERCENT OF THE WAVES.

AMZ600-GMZ606-040815-
SYNOPSIS FOR JUPITER INLET TO OCEAN REEF FL OUT TO 60 NM AND FOR EAST CAPE SABLE TO BONITA BEACH FL OUT TO 60 NM-
352 PM EDT WED OCT 3 2012

.SYNOPSIS...HIGH PRESSURE OVER THE WESTERN ATLANTIC WATERS WILL BUILD INTO SOUTH FLORIDA THROUGH FRIDAY...BEFORE A WEAK COLD FRONT MOVES THROUGH THE AREA LATE THIS WEEKEND.

.GULF STREAM HAZARDS...NONE.

THE APPROXIMATE LOCATION OF THE WEST WALL OF THE GULF STREAM AS OF OCT 03, 2012 AT 1200 UTC...

7 NAUTICAL MILES SOUTHEAST OF FOWEY ROCKS.
9 NAUTICAL MILES EAST NORTHEAST OF PORT EVERGLADES.
6 NAUTICAL MILES NORTHEAST OF LAKE WORTH.
13 NAUTICAL MILES SOUTH SOUTHEAST OF JUPITER INLET.

THIS DATA COURTESY OF THE NAVAL OCEANOGRAPHIC OFFICE.

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AMZ650-670-040815-
COASTAL WATERS FROM JUPITER INLET TO DEERFIELD BEACH, FL OUT 20 NM- WATERS FROM JUPITER INLET TO DEERFIELD BEACH, FL EXTENDING FROM 20 NM TO 60 NM-
352 PM EDT WED OCT 3 2012

.TONIGHT...EAST SOUTHEAST WINDS 9 TO 14 KNOTS. SEAS 2 TO 3 FEET. DOMINANT PERIOD 4 SECONDS. INTRACOASTAL WATERS A MODERATE CHOP. SLIGHT CHANCE OF SHOWERS.
.THURSDAY...EAST WINDS 8 TO 13 KNOTS. SEAS 2 TO 3 FEET. DOMINANT PERIOD 4 SECONDS. INTRACOASTAL WATERS A MODERATE CHOP. CHANCE OF SHOWERS AND SLIGHT CHANCE OF THUNDERSTORMS IN THE AFTERNOON.

.THURSDAY NIGHT...EAST WINDS 8 TO 13 KNOTS. SEAS 2 TO 3 FEET. DOMINANT PERIOD 4 SECONDS. INTRACOASTAL WATERS A MODERATE CHOP. SLIGHT CHANCE OF SHOWERS AND THUNDERSTORMS.
.FRIDAY...EAST WINDS 8 TO 13 KNOTS. SEAS 2 TO 3 FEET. DOMINANT PERIOD 4 SECONDS. INTRACOASTAL WATERS A MODERATE CHOP. SLIGHT CHANCE OF SHOWERS AND THUNDERSTORMS.
.FRIDAY NIGHT AND SATURDAY...EAST NORTHEAST WINDS 8 TO 13 KNOTS. SEAS 2 TO 3 FEET. INTRACOASTAL WATERS A MODERATE CHOP. SLIGHT CHANCE OF SHOWERS AND THUNDERSTORMS.
.SATURDAY NIGHT AND SUNDAY...EAST WINDS 6 TO 11 KNOTS. SEAS AROUND 2 FEET. INTRACOASTAL WATERS A LIGHT CHOP. SLIGHT CHANCE OF SHOWERS AND THUNDERSTORMS.
.SUNDAY NIGHT...EAST WINDS 5 TO 7 KNOTS. SEAS AROUND 2 FEET. INTRACOASTAL WATERS SMOOTH. SLIGHT CHANCE OF SHOWERS AND THUNDERSTORMS.
.MONDAY...NORTHEAST WINDS 5 TO 7 KNOTS. SEAS 2 TO 3 FEET. INTRACOASTAL WATERS SMOOTH. SLIGHT CHANCE OF SHOWERS AND THUNDERSTORMS.

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AMZ651-671-040815-
COASTAL WATERS FROM DEERFIELD BEACH TO OCEAN REEF, FL OUT 20 NM-
WATERS FROM DEERFIELD BEACH TO OCEAN REEF, FL EXTENDING FROM 20 NM TO THE TERRITORIAL WATERS OF THE BAHAMAS-
352 PM EDT WED OCT 3 2012

.TONIGHT...EAST WINDS 10 TO 14 KNOTS. SEAS 2 TO 3 FEET. DOMINANT PERIOD 4 SECONDS. INTRACOASTAL WATERS A MODERATE CHOP. SLIGHT CHANCE OF SHOWERS.
.THURSDAY...EAST WINDS 9 TO 14 KNOTS. SEAS 2 TO 3 FEET. DOMINANT PERIOD 4 SECONDS. INTRACOASTAL WATERS A MODERATE CHOP. CHANCE OF SHOWERS AND SLIGHT CHANCE OF THUNDERSTORMS IN THE AFTERNOON.
.THURSDAY NIGHT...EAST NORTHEAST WINDS 10 TO 15 KNOTS. SEAS 2 TO 3 FEET. DOMINANT PERIOD 4 SECONDS. INTRACOASTAL WATERS A MODERATE CHOP. SLIGHT CHANCE OF SHOWERS AND THUNDERSTORMS.
.FRIDAY...EAST WINDS 9 TO 13 KNOTS. SEAS 2 TO 3 FEET. DOMINANT PERIOD 4 SECONDS. INTRACOASTAL WATERS A MODERATE CHOP. SLIGHT CHANCE OF SHOWERS AND THUNDERSTORMS.
.FRIDAY NIGHT THROUGH SATURDAY NIGHT...EAST WINDS 9 TO 14 KNOTS. SEAS 2 TO 3 FEET. INTRACOASTAL WATERS A MODERATE CHOP. SLIGHT CHANCE OF SHOWERS AND THUNDERSTORMS.
.SUNDAY AND SUNDAY NIGHT...EAST WINDS 5 TO 9 KNOTS. SEAS AROUND 2 FEET. INTRACOASTAL WATERS A LIGHT CHOP. SLIGHT CHANCE OF SHOWERS AND THUNDERSTORMS.
.MONDAY...EAST NORTHEAST WINDS 5 TO 8 KNOTS. SEAS AROUND 2 FEET. INTRACOASTAL WATERS A LIGHT CHOP. SLIGHT CHANCE OF SHOWERS AND THUNDERSTORMS.

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AMZ630-040815-
BISCAYNE BAY-
352 PM EDT WED OCT 3 2012

.TONIGHT...EAST WINDS 8 TO 12 KNOTS. BAY WATERS A LIGHT CHOP. SLIGHT CHANCE OF SHOWERS.
.THURSDAY...EAST SOUTHEAST WINDS 9 TO 12 KNOTS. BAY WATERS A LIGHT CHOP. CHANCE OF SHOWERS. SLIGHT CHANCE OF THUNDERSTORMS IN THE AFTERNOON.
.THURSDAY NIGHT...EAST NORTHEAST WINDS 9 TO 12 KNOTS. BAY WATERS A LIGHT CHOP. SLIGHT CHANCE OF SHOWERS AND THUNDERSTORMS.
.FRIDAY...EAST WINDS 8 TO 13 KNOTS. BAY WATERS A MODERATE CHOP. SLIGHT CHANCE OF SHOWERS AND THUNDERSTORMS.
.FRIDAY NIGHT THROUGH SATURDAY NIGHT...EAST WINDS 8 TO 13 KNOTS. BAY WATERS A MODERATE CHOP. SLIGHT CHANCE OF SHOWERS AND THUNDERSTORMS.
.SUNDAY...EAST WINDS 5 TO 8 KNOTS. BAY WATERS A LIGHT CHOP. SLIGHT CHANCE OF SHOWERS AND THUNDERSTORMS.
.SUNDAY NIGHT AND MONDAY...EAST NORTHEAST WINDS 5 TO 7 KNOTS. BAY WATERS SMOOTH. SLIGHT CHANCE OF SHOWERS AND THUNDERSTORMS.

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GMZ656-657-040815-
COASTAL WATERS FROM CHOKOLOSKEE TO BONITA BEACH, FL OUT 20 NM-
COASTAL WATERS FROM EAST CAPE SABLE TO CHOKOLOSKEE, FL OUT 20 NM-
352 PM EDT WED OCT 3 2012

.TONIGHT...EAST WINDS 8 TO 13 KNOTS. SEAS AROUND 2 FEET. DOMINANT PERIOD

6 SECONDS. BAY AND INLAND WATERS A LIGHT CHOP. SLIGHT CHANCE OF SHOWERS THROUGH THE NIGHT.
.THURSDAY...EAST SOUTHEAST WINDS 7 TO 12 KNOTS. SEAS AROUND 2 FEET.
DOMINANT PERIOD 5 SECONDS. BAY AND INLAND WATERS A LIGHT CHOP. CHANCE OF SHOWERS. SLIGHT CHANCE OF THUNDERSTORMS IN THE AFTERNOON.
.THURSDAY NIGHT...EAST NORTHEAST WINDS 9 TO 14 KNOTS. SEAS AROUND 2 FEET. DOMINANT PERIOD 3 SECONDS. BAY AND INLAND WATERS A LIGHT CHOP. SLIGHT CHANCE OF SHOWERS AND THUNDERSTORMS THROUGH THE NIGHT.
.FRIDAY...NEARSHORE...EAST WINDS 7 TO 12 KNOTS. OFFSHORE...EAST WINDS 8 TO 13 KNOTS BECOMING EAST NORTHEAST AROUND 5 KNOTS IN THE AFTERNOON. SEAS AROUND 2 FEET. DOMINANT PERIOD 3 SECONDS. BAY AND INLAND WATERS A LIGHT CHOP. SLIGHT CHANCE OF SHOWERS AND THUNDERSTORMS.
.FRIDAY NIGHT THROUGH SATURDAY NIGHT...EAST WINDS 7 TO 12 KNOTS. SEAS LESS THAN 2 FEET. BAY AND INLAND WATERS A LIGHT CHOP. SLIGHT CHANCE OF SHOWERS AND THUNDERSTORMS.
.SUNDAY...EAST SOUTHEAST WINDS 5 TO 8 KNOTS. SEAS LESS THAN 2 FEET. BAY AND INLAND WATERS SMOOTH. SLIGHT CHANCE OF SHOWERS AND THUNDERSTORMS.
.SUNDAY NIGHT...EAST WINDS 5 TO 7 KNOTS. SEAS LESS THAN 2 FEET. BAY AND INLAND WATERS SMOOTH. SLIGHT CHANCE OF SHOWERS AND THUNDERSTORMS.
.MONDAY...NORTHEAST WINDS 5 TO 7 KNOTS BECOMING NORTH IN THE AFTERNOON. SEAS LESS THAN 2 FEET. BAY AND INLAND WATERS SMOOTH. SLIGHT CHANCE OF SHOWERS AND THUNDERSTORMS.

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GMZ676-040815-
GULF WATERS FROM CHOKOLOSKEE TO BONITA BEACH, FL EXTENDING FROM 20 TO 60 NM-
352 PM EDT WED OCT 3 2012

.TONIGHT...SOUTHEAST WINDS 5 TO 9 KNOTS BECOMING EAST 9 TO 13 KNOTS. SEAS AROUND 2 FEET. DOMINANT PERIOD 6 SECONDS. SLIGHT CHANCE OF SHOWERS.
.THURSDAY...EAST WINDS 7 TO 12 KNOTS. SEAS 2 TO 3 FEET. DOMINANT PERIOD 4 SECONDS. CHANCE OF SHOWERS AND SLIGHT CHANCE OF THUNDERSTORMS IN THE AFTERNOON.
.THURSDAY NIGHT...NORTHEAST WINDS 5 TO 10 KNOTS BECOMING EAST 11 TO 14 KNOTS. SEAS AROUND 2 FEET. DOMINANT PERIOD 3 SECONDS. SLIGHT CHANCE OF SHOWERS AND THUNDERSTORMS.
.FRIDAY...EAST NORTHEAST WINDS 8 TO 13 KNOTS. SEAS AROUND 2 FEET. DOMINANT PERIOD 4 SECONDS. SLIGHT CHANCE OF SHOWERS AND THUNDERSTORMS.
.FRIDAY NIGHT...NORTHEAST WINDS 7 TO 11 KNOTS BECOMING EAST 9 TO 12 KNOTS. SEAS AROUND 2 FEET. SLIGHT CHANCE OF SHOWERS AND THUNDERSTORMS.
.SATURDAY...NORTHEAST WINDS 7 TO 11 KNOTS. SEAS AROUND 2 FEET. SLIGHT CHANCE OF SHOWERS AND THUNDERSTORMS.
.SATURDAY NIGHT AND SUNDAY...EAST WINDS 6 TO 11 KNOTS. SEAS AROUND 2 FEET. SLIGHT CHANCE OF SHOWERS AND THUNDERSTORMS.
.SUNDAY NIGHT...EAST WINDS 5 TO 7 KNOTS. SEAS LESS THAN 2 FEET. SLIGHT CHANCE OF SHOWERS AND THUNDERSTORMS.
.MONDAY...NORTH NORTHEAST WINDS 5 TO 7 KNOTS. SEAS LESS THAN 2 FEET. SLIGHT CHANCE OF SHOWERS AND THUNDERSTORMS.

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AMZ610-040815-
LAKE OKEECHOBEE-
352 PM EDT WED OCT 3 2012

.TONIGHT...EAST WINDS 6 TO 11 KNOTS. LAKE WATERS A LIGHT CHOP. SLIGHT CHANCE OF SHOWERS AND THUNDERSTORMS IN THE EVENING.
.THURSDAY...EAST WINDS 6 TO 11 KNOTS. LAKE WATERS A LIGHT CHOP. CHANCE OF SHOWERS AND THUNDERSTORMS IN THE AFTERNOON.
.THURSDAY NIGHT...EAST NORTHEAST WINDS 7 TO 12 KNOTS. LAKE WATERS A LIGHT CHOP. SLIGHT CHANCE OF SHOWERS AND THUNDERSTORMS IN THE EVENING.
.FRIDAY...EAST WINDS 7 TO 12 KNOTS. LAKE WATERS A LIGHT CHOP. CHANCE OF SHOWERS AND THUNDERSTORMS IN THE AFTERNOON.
.FRIDAY NIGHT AND SATURDAY...EAST NORTHEAST WINDS 7 TO 12 KNOTS.

LAKE WATERS A LIGHT CHOP. CHANCE OF SHOWERS AND THUNDERSTORMS.
.SATURDAY NIGHT AND SUNDAY...EAST WINDS 5 TO 10 KNOTS. LAKE WATERS A LIGHT CHOP. CHANCE OF SHOWERS AND THUNDERSTORMS.
.SUNDAY NIGHT...EAST SOUTHEAST WINDS AROUND 5 KNOTS. LAKE WATERS SMOOTH. SLIGHT CHANCE OF SHOWERS AND THUNDERSTORMS.
.MONDAY...EAST NORTHEAST WINDS 5 TO 7 KNOTS BECOMING NORTH NORTHEAST IN THE AFTERNOON. LAKE WATERS SMOOTH. SLIGHT CHANCE OF SHOWERS AND THUNDERSTORMS.

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NAVTEX FORECASTS

NAVigational Text (*NAVTEX) is an international frequency for delivery of navigational and meteorological warnings and forecasts, as well as urgent coastal marine safety information to ships. It is an automated means of receiving this information aboard ships at sea within approximately 200 nautical miles of shore based transmitters. The broadcast is 32 character-wide text shared 100 baud rate on 518 kHz MF. In the United States, NAVTEX receivers are required on all vessels above 300 tons and certain vessels carrying passengers. The NWS prepares 9 NAVTEX bulletins for transmitters at Boston, MA, Chesapeake, VA, Charleston, SC, Miami, FL, San Juan, PR, New Orleans, LA, Cambria, Ca, Pt. Reyes, CA, and Astoria, OR. NAVTEX transmission stations in the U.S. are operated by the U.S. Coast Guard when received from the NWS. There are no user fees associated with receiving NAVTEX broadcasts.*

For the current schedule see: http://www.nws.noaa.gov/om/marine/navtex.htm.

Station	Identifier	WX Broadcast Schedule (UTC)
Adak	X	(Broadcast terminated Dec '96)
Kodiak	J X	0130, 0530, 0930, 1330, 1730, 2130 0350, 0750, 1150, 1550, 1950, 2350
Astoria	W	0340, 0740, 1140, 1540, 1940, 2340
San Francisco	C	0020, 0420, 0820, 1220, 1620, 2020
Cambria	Q	0240, 0640, 1040, 1440, 1840, 2240
Marianas	V	0330, 0730, 1130, 1530, 1930, 2330
Honolulu	O	0220, 0620, 1020, 1420, 1820, 2220
Boston	F	0050, 0450, 0850, 1250, 1650, 2050
Portsmouth	N	0210, 0610, 1010, 1410, 1810, 2210
Charleston	E	0040, 0440, 0840, 1240, 1640, 2040
Miami	A	0000, 0400, 0800, 1200, 1600, 2000
San Juan	R	0250, 0650, 1050, 1450, 1850, 2250
New Orleans	G	0100, 0500, 0900, 1300, 1700, 2100

Sample of NAVTEX FORECAST:

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FZNT25 KNHC 050317
OFFN04

NAVTEX MARINE FORECAST
NWS NATIONAL HURRICANE CENTER MIAMI FL
1117 PM EDT SAT AUG 4 2012

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

SOUTHEAST GULF OF MEXICO

.SYNOPSIS...A WEAK RIDGE EXTENDING FROM THE NE GULF TO THE SW GULF WILL SLOWLY LIFT N INTO EARLY NEXT WEEK. A SURFACE TROUGH CURRENTLY E OF FLORIDA ALONG 80W WILL DRIFT W ACROSS FLORIDA AND THEN INTO THE E GULF LATE TONIGHT INTO SUN...THEN TOWARD THE CENTRAL GULF THROUGH WED. TROPICAL STORM ERNESTO CURRENTLY IN THE E CARIBBEAN IS FORECAST TO INTENSIFY INTO A HURRICANE BEFORE IT MOVES ACROSS THE YUCATAN PENINSULA LATE TUE THROUGH WED. ERNESTO EMERGES INTO THE GULF WED NIGHT AND THU AS A TROPICAL STORM. ATLC HIGH PRES WILL BUILD WESTWARD ACROSS THE GULF BEHIND THE TROUGH AND N OF ERNESTO.

.TONIGHT...E WINDS 5 TO 10 KT. SEAS 1 FT OR LESS. SCATTERED SHOWERS AND ISOLATED TSTMS.
.SUN...NE TO E WINDS 5 TO 10 KT. SEAS 1 FT OR LESS. SCATTERED SHOWERS.
.SUN NIGHT...E WINDS 10 TO 15 KT. SEAS 1 TO 2 FT. SCATTERED SHOWERS AND TSTMS.
.MON...E WINDS 10 TO 15 KT...DIMINISHING TO 5 TO 10 KT IN THE AFTERNOON. SEAS 2 TO 3 FT. SCATTERED SHOWERS AND TSTMS.
.MON NIGHT...E TO SE WINDS 10 TO 15 KT. SEAS 2 TO 3 FT.
.TUE...SE WINDS 10 TO 15 KT. SEAS 2 TO 4 FT.
.WED...SE WINDS 10 TO 15 KT. SEAS 3 TO 5 FT.
.THU...E TO SE WINDS 10 TO 15 KT. SEAS 3 TO 5 FT.

WITHIN 200 NM EAST OF THE COAST OF FLORIDA

.SYNOPSIS...A SURFACE TROUGH ALONG 80W IS FORECAST TO SLOWLY TRACK WESTWARD ACROSS FLORIDA TONIGHT AND SUN. IT WILL BE ATTENDANT BY SCATTERED TO NUMEROUS TSTMS. OTHERWISE HIGH PRES OVER THE FAR NE WATERS WILL LIFT N THROUGH TUE. ANOTHER SURFACE TROUGH WILL APPROACH FROM THE E LATE MON...AND SLOWLY DRIFTING W TOWARD THE BAHAMAS TUE AND WED.

.TONIGHT...E TO SE WINDS 10 TO 15 KT. SEAS 2 TO 3 FT S OF 27N...AND 4 TO 6 FT N OF 27N. SCATTERED SHOWERS AND ISOLATED TSTMS.
.SUN...E TO SE WINDS 10 TO 15 KT. SEAS 3 TO 5 FT. SCATTERED TSTMS AND SHOWERS.
.SUN NIGHT...E TO SE WINDS 15 TO 20 KT S OF 27N...AND E TO SE 10 TO 15 KT N OF 27N. SEAS 3 TO 5 FT. SCATTERED SHOWERS AND TSTMS.
.MON...E TO SE WINDS 10 TO 15 KT S OF 27N...AND SE 5 TO 10 KT N OF 27N. SEAS 3 TO 5 FT. SCATTERED SHOWERS AND TSTMS.
.MON NIGHT...S OF 27N...SE WINDS 10 TO 15 KT. N OF 27N...SE WINDS 5 TO 10 KT...BECOMING SE TO S 10 TO 15 KT AFTER MIDNIGHT. SEAS 2 TO 4 FT.
.TUE...SE WINDS 10 TO 15 KT. SEAS 2 TO 4 FT.
.WED...E TO SE WINDS 10 TO 15 KT. SEAS 2 TO 3 FT.
.THU...E TO SE WINDS 10 TO 15 KT. SEAS 2 TO 3 FT.

MARINE WEATHER DISCUSSION

This product discusses the expected warnings and forecast reasoning for the Gulf of Mexico, Caribbean Sea, and the Atlantic south of 31N west of 35W. Although this text product is primarily for National Weather Service coastal water forecasters, marine users may find this product helpful as well. The forecaster may discuss the initialization of the models compared to analyzed ship and buoy observations and other satellite derived surface data. The discussion often includes wind speeds and wave heights in relation to model guidance.

Sample of Marine Weather Discussion:

AGXX40 KNHC 280709
MIMATS

MARINE WEATHER DISCUSSION
NWS NATIONAL HURRICANE CENTER MIAMI FL
330 AM EDT TUE MAY 28 YYYY

MARINE WEATHER DISCUSSION FOR GULF OF MEXICO...CARIBBEAN SEA AND SOUTHWEST NORTH ATLC S OF 31N W OF 55W.

SYNOPSIS AND FORECAST DISCUSSION...
HI PRES NW GULF OF MEXICO 1016 MB AND E TO W ATLC RIDGE E OF 75W IS SPLIT BY PERSISTANT N TO S ORIENTATED BROAD TROF BETWEEN 75W-85W. ON 00Z ANALYSIS... TROF AXIS IS ALG 30N76W 20N81W TO QUASI-STATIONARY LOW PRES 16N83W 1007 MB...WITH TROF W ACROSS CENTRAL AMERICA INTO E PACIFIC ALONG 13N CONTINUING TO NEAR 13N96W. A LOW PRES SPUN OFF THE E PACIFIC EXTENSION OF TROF LATE MON AND IS CURRENTLY ANALYZED NEAR 11N96W MOVING W WITH TIME...AND BEING MONITORED FOR SIGNS OF TROPICAL DEVELOPMENT.

NETHERLAND SHIP ARCHAGELGRACHT CALL SIGN PCTG AT 29.7N 74.8W REPORTING WINDS 090 DEGREES AT 38 KT AT 06Z. SHIP RPTG METRIC WIND EQUIPMENT CODE BUT NO LISTING FOR ITS EQUIPMENT IN INTERNATIONAL SHIP DIRECTORY. I ASSUME METRIC CODING CORRECT AS IT USED SAME CODE AT 00Z. SHIP REPORTED NE 20 KT AT 00Z AND VERIFIED BY Q-SCAT PASS AT 00Z. IN ANY EVENT…WILL INTRODUCE SURFACE LOW PRESSURE CENTER ABOUT 1013 MB ON O6Z SFC ANALYSIS. NOTE TSTMS NEAR SHIP AND SHIP MOVG ENE INTO HEAD WIND. PLAN TO KICK UP WIND SPEED A TAD OVER N SEMICIRCLE OF LOW PRES.

EXTENDED OUTLOOK...GFS MODEL WEAKENS CARIBBEAN LOW PRESS BUT NEVER SEEMS TO DISSIPATE IT COMPLETELY. GFS CONTINUES FORECAST SURFACE LOW ALONG N-S TROF NEAR 28N WED AND DRIFTS IT N OF AREA THU BECOMING PROBLEM FOR COASTAL WATERS ZONES ALONG AND N OF 30N. ASSOCIATED 15-20 KT LOCALLY 20-25 KT ELY WINDS OVER N SEMICIRCLE OF LOW PRESSURE...WILL SHSFT N OF FORECAST AREA LATE WED. BY FRI HIGH PRES CENTERED NEAR 29N87W AND ATLC RIDGE AXIS ALONG 29N55W 23N76W. RESULT IS LIGHT AND VARIABLE WNDS ENTIRE AREA W OF 75W. WEAK BAROCLINIC TROF SHIFTS SE ACROSS TX COASTAL PLAINS THU AND FRI SLIPPING INTO NW GULF OF MEXICO AND STALLING SAT WITH LITTLE CHANGE IN WINDS AND SEAS. E OF ATLC TROF AND LOW PRES 15-20 KT LOCALLY 20-25 KT ELY WINDS THRU PERIOD.

PRIMARY UNCERTAINTY IS GFS MODEL DEVELOPS SECOND LOW PRES 1011 MB N OF ATLC RIDGE THU NEAR 30N70W…THEN DRIFTS IT N OF FORECAST AREA TO NEAR 32N67W FRI. NWW3 GUIDANCE BUILDS SEAS TO 11 FT ALONG 30N ON THU AROUND LOW CENTER AND THEN MOVES THOSE ASSOCIATED SEAS N OF AREA FRI. DON'T COMPLETELY BUY THIS REPEATING DEVELOPMENT SCENERIO...AND DECIDED TO POST E-SE 15-20 KT WINDS AND SEAS TO 7 FT ON 48 AND 72 HR WIND/WAVE CHARTS ON THIS FORECAST PACKAGE.

WARNINGS...
ATLC...
NONE. (sample of warning: GALE WRNG AMZ080)

CARIBBEAN...
NONE.

GULF OF MEXICO...
NONE.

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FORECASTER NELSON

TROPICAL WEATHER DISCUSSION

This text product is written for meteorologists and individuals with an active interest in the current and near term weather conditions throughout the tropical and sub-tropical North Atlantic Ocean including the Caribbean Sea and the Gulf of Mexico. The discussion includes tropical cyclones and other surface features such as highs, lows, fronts, troughs and tropical waves. The forecaster uses satellite water vapor imagery, cloud motion vectors and aircraft pilot reports to analyze and describe mid and upper level features. It is recommended that you refer to this discussion to identify weather features on water vapor imagery. The Tropical Analysis and Forecast Branch uses this product to disseminate information about the positions and tracking of tropical waves which simply put...is far from an exact science.

Sample of Atlantic Tropical Weather Discussion:

AXNT20 KNHC 172338
TWDAT

TROPICAL WEATHER DISCUSSION
NWS TPC/NATIONAL HURRICANE CENTER MIAMI FL
805 PM EDT SAT 17 JUL YYYY

TROPICAL WEATHER DISCUSSION FOR NORTH AMERICA...CENTRAL AMERICA...GULF OF MEXICO...CARIBBEAN SEA...NORTHERN SECTIONS OF SOUTH AMERICA...AND ATLANTIC OCEAN TO THE AFRICAN COAST FROM THE EQUATOR TO 32N. THE FOLLOWING INFORMATION IS BASED ON SATELLITE IMAGERY...WEATHER OBSERVATIONS...RADAR...AND METEOROLOGICAL ANALYSIS.

BASED ON 1800 UTC SURFACE ANALYSIS AND SATELLITE IMAGERY THROUGH 2315 UTC.

...TROPICAL WAVES...

TROPICAL WAVE ALONG 38W ABOUT MIDWAY BETWEEN AFRICA AND THE LESSER ANTILLES S OF 15N MOVING W 15-20 KT. WAVE HAS CLASSIC INVERTED V SIGNATURE WITH BROAD CYCLONIC ROTATION NOTED IN THE LOW/MID LEVELS. WIDELY SCATTERED MODERATE CONVECTION NOTED FROM 6N-11N BETWEEN 37W-42W. SYSTEM IS ON TRACK TO MOVE THROUGH LESSER ANTILLES ON TUE.

TROPICAL WAVE LOCATED ALONG A MEAN AXIS AT 56W IS MOVING W 15-20 KT. WAVE IS TILTED FROM NE-SE FROM 16N54W TO 6N58W. HEAVY RAIN ALONG THE ITCZ HAS BEEN AFFECTING TRINIDAD/TOBAGO PAST FEW HOURS AND WILL BEGIN TO SPREAD ACROSS THE REMAINDER OF THE LEEWARD/WINDWARD ISLANDS S OF 16N ON SUN AND MON. ISOLATED MODERATE CONVECTION NOTED FROM 8N-15N BETWEEN 53W-58W.

W-CENTRAL CARIBBEAN TROPICAL WAVE ALONG 77W/78W S OF 21N MOVING W 15 KT. LONG-TERM SATELLITE LOOPS INDICATE A PERSISTENT LOW CLOUD SIGNATURE... HOWEVER DRY AIR IN THE MID/UPPER LEVELS IN ADDITION TO AN UPPER TROUGH LOCATED JUST E OF THE WAVE ALL SEEM TO HAVE TAKEN ITS TOLL AS ASSOCIATED CONVECTION IS CURRENTLY SUPPRESSED EXCEPT VICINITY OF JAMAICA WHERE ORAGRAPHICALLY ENHANCED CONVECTIVE BURSTS OBSERVED THIS AFTERNOON.

TROPICAL WAVE LOCATED OVER THE ISTHMUS OF TEHUANTEPEC ALONG 94W S OF 19N MOVING W 15-20 KT. BROAD CIRCULATION NOTED IN THE E-PAC ASSISTING IN WAVE AXIS PLACEMENT AT 1800 UTC.

...ITCZ...

ITCZ AXIS IS ALONG 19N13W 10N19W 8N26W 9N38W 7N47W 10N65W. WIDELY SCATTERED MODERATE FROM 6N-10N BETWEEN 40W-50W. ISOLATED SHOWERS ARE OVER THE WINDWARD ISLANDS S OF ST. LUCIA. ISOLATED MODERATE WITHIN 60 NM OF 9N20W.

...DISCUSSION...

GULF OF MEXICO...
SURFACE RIDGE LIES E TO W ACROSS STRAITS OF FLORIDA KEYS AND THE S-CENTRAL GULF OF MEXICO. POTENT MID/UPPER LOW IS OVER OHIO VALLEY WITH ENERGY W OF ASSOCAITED UPPER TROUGH SLIPPING S AND FORECAST TO DEEPEN THE EASTERN USA TROUGH FURTHER INTO THE DEEP SOUTH. IN FACT...THIS TROUGH WILL SWING A COLD FRONT THRU THE DEEP SOUTH INTO THE N GULF AND FLORIDA PANHANDLE OVER THE NEXT 48 HRS. WEAK SURFACE TROUGH ACROSS N FLORIDA AND MID/UPPER DISTURBANCES ARE SUPPORTING TSTMS OVER THE NE GULF WITH ISOLATED MODERATE FROM 27N-30N BETWEEN 80W-88W. ADDITIONAL SHOWERS AND TSTMS WILL DEVELOP FROM N TO S OVER THE E GULF TONIGHT THRU MON AS THE FRONT MOVES S. ELSEWHERE...A BROAD UPPER LEVEL ANTICYCLONE OVER CENTRAL TX HAS MOST OF THE GULF UNDER ANTICYCLONIC FLOW WITH CIRRIFORM CLOUDS NOTED E OF 92W.

CARIBBEAN...
TSTMS TONIGHT ARE LIMITED TO THE NE PORTION MAINLY W OF PUERTO RICO AND OVER INTERIOR CENTRAL AMERICA. RELATIVELY DRY AIR IN THE MID/UPPER LEVELS SUPPRESSING CONVECTION REMAINDER OF CARIBBEAN. TROPICAL WAVE BETWEEN THE CAYMANS AND JAMAICA IS ENHANCING TSTMS... EVEN THOUGH WAVE IS LOCATED IN THE UNFAVORABLE ENVIRONMENT W OF AN UPPER TROUGH POSITIONED ALONG JAMAICA. BROAD ELY UPPER FLOW IS ADVECTING SOME DEBRIS MOISTURE FROM INTERIOR S AMERICA...BUT MUCH DRIER AIR IS NOW FILTERING ACROSS THE LESSER ANTILLES INTO THE E CARIBBEAN WITH INCREASING SUBSIDENCE FROM S TO N.

SUBTROPICAL ATLC...
MOIST AND UNSTABLE SWLY LOW-LEVEL FLOW NOTED NE OF THE BAHAMA CHAIN. ISOLATED MODERATE CONVECTION NEAR AND N OF BAHAMAS FROM 24N-32N BETWEEN 71W-80W. WEAK UPPER TROUGHS ARE TRIGGERING THE TSTMS THOUGH THEY SEEM TO BE RATHER SHORT-LIVED. FARTHER E...A LARGE MID/UPPER LOW IS CENTERED SE OF BERMUDA NEAR 29N56W MOVING WNW 10 KT. EXTREMELY DRY AIR EXTENDS S AND E OF THE LOW AS FAR E AS THE COAST OF AFRICA. UPPER TROUGH FROM 32N22W IN THE E ATLC TO 30N31W...ASSOCIATED WITH A COLD FRONT ALONG 32N40W TO 31N48W. ONLY A BROKEN LINE OF SHOWERS IS NOTED ALONG THE FRONT.

TROPICAL ATLC...
UPPER LEVEL RIDGE AXIS EXTENDS OFF THE COAST OF AFRICA SW TO 16N32W THEN W INTO BARBADOS WITH DEEP ELY FLOW S OF THE RIDGE AXIS TO THE EQUATOR. WEAK INVERTED TROUGH ALONG 40W S OF 15N IS THE ONLY BREAK IN THE RIDGING. THE UPPER LEVELS CONTINUE TO BE MOSTLY DRY... ESPECIALLY N OF 11N E OF 50W...ALTHOUGH CONVECTION HAS INCREASED NEAR THE ITCZ W OF 35W.

NELSON
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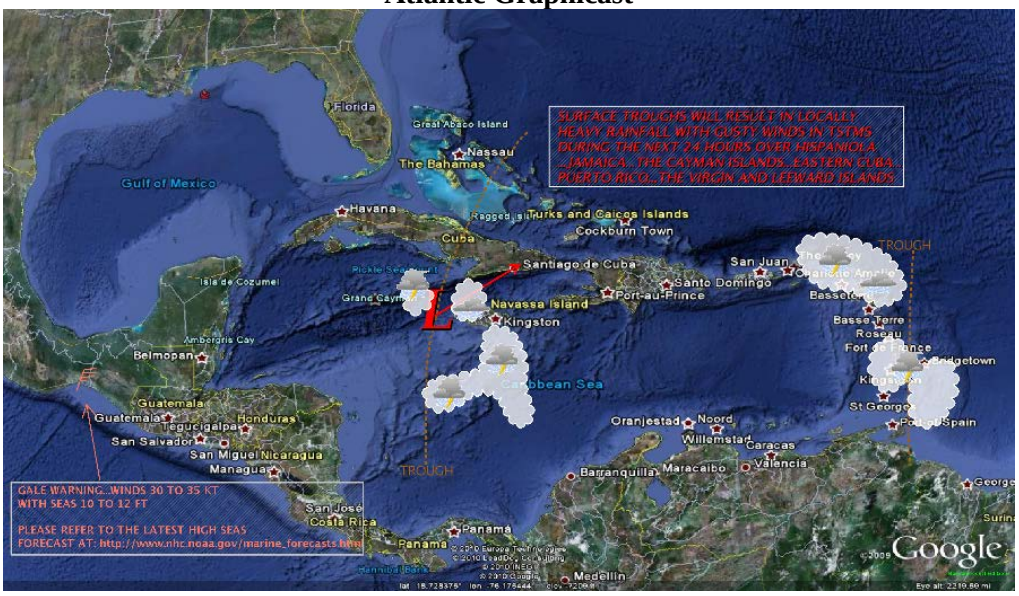
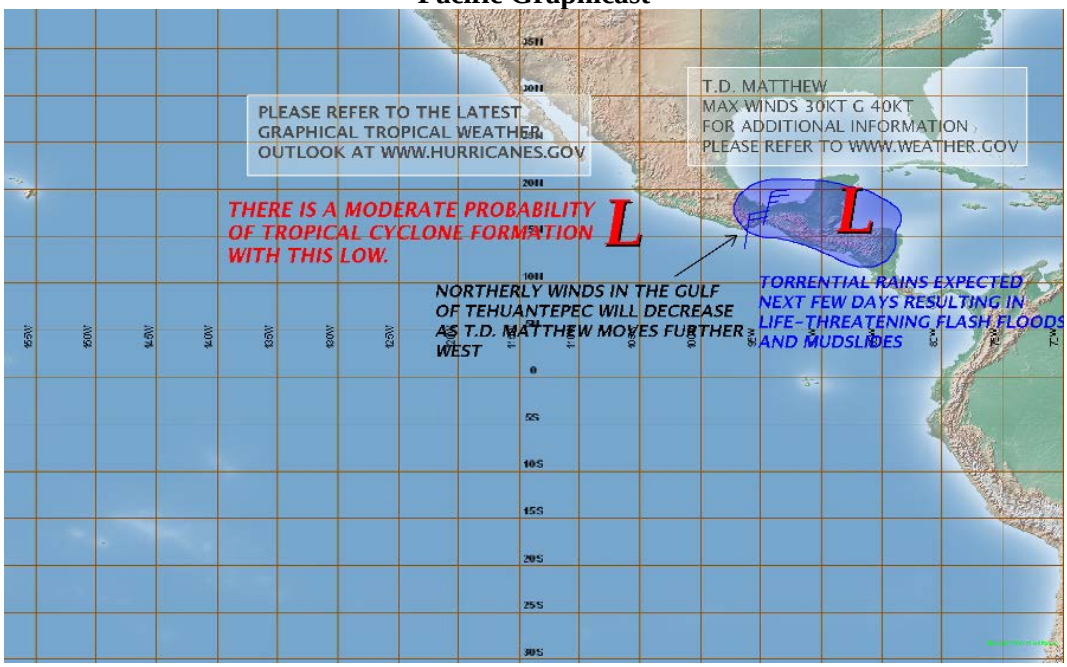
TAFB Graphicast

These are samples of the Graphical Forecast (Graphicast) produced by NHC's Tropical Analysis and Forecast Branch. It is a graphical weather depiction that will highlight primary weather features of interest. The image is experimental and updated once per day.
Please visit: http://www.nhc.noaa.gov/tafb/fxc/index.php?large&current_issuance=latest_a

Atlantic Graphicast



Pacific Graphicast

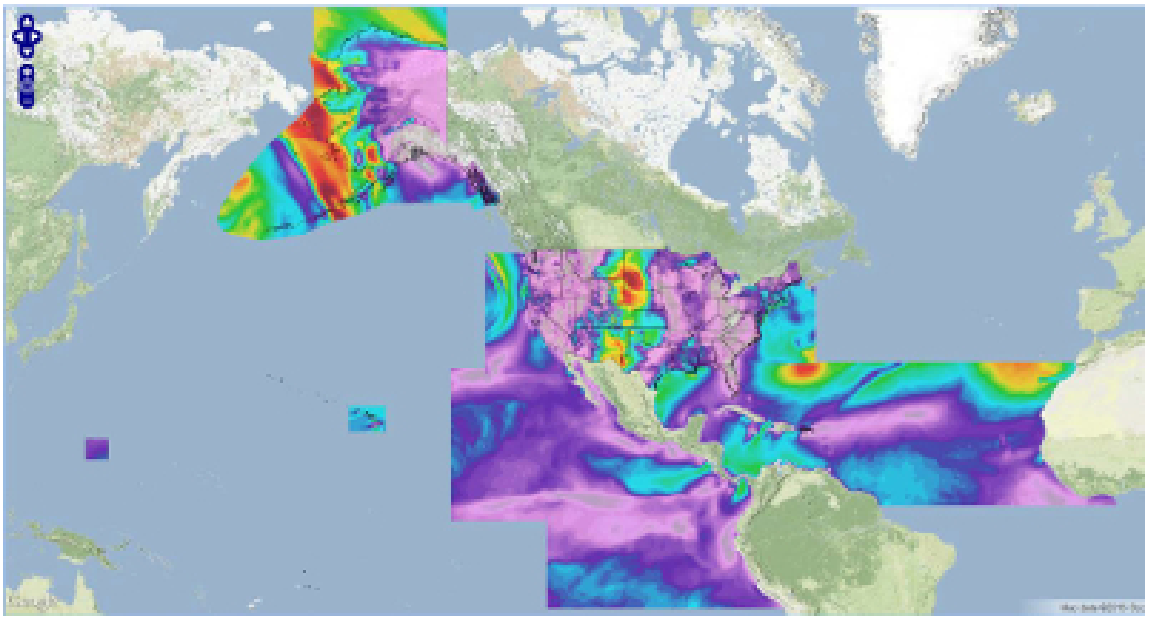


TAFB Experimental Gridded Marine Forecasts

The Tropical Analysis and Forecast Branch (TAFB) is providing on an experimental basis five (6) day forecasts of gridded Surface (10-m) Winds and Significant Wave Heights and Primary Swell Height/Direction and Primary Wave Period at a spatial resolution of 12.5 km with 6-hourly time steps. The experimental gridded marine weather elements are updated twice daily using the 0000 and 1200 UTC model cycles. Grids following the 0600 and 1800 UTC model cycles are updated as needed, but always updated with the latest NHC tropical cyclone forecast advisory information.

There are two grid domains (Atlantic and East Pacific) for the marine weather elements. The Atlantic grid encompasses the Atlantic Ocean, Caribbean Sea and the Gulf of Mexico with a lower left boundary of 03N103W, and an upper right boundary of 35N32W which covers the TAFB Atlantic Area of responsibility (AOR) from 07N to 31N between 35W and 100W. The East Pacific grid encompasses the northeast and southeast Pacific Ocean with a lower left boundary of 20S145W and an upper right boundary of 32N65W, which covers the TAFB East Pacific AOR.

TAFB grids are available as point-and-click marine forecasts over the open Atlantic and Pacific oceans through the NWS National Digital Forecast Database (NDFD) at http://www.weather.gov/ndfd/ with a graphical interface at http://digital.weather.gov/. Set the domain to "Oceanic".



Retrieving and Viewing Atmospheric and Oceanic Data using SAILDOCS and VIEWFAX

The long term plan is for all the gridded parameters to become available through the NDFD. In the interim, a solution has been created by SAILDOCS for retrieving and viewing the WIND and WAVE parameters of the forecaster value added grids.

Download and install VIEWFAX GRIB/FAX viewer version 5.0.056 from web page http://www.siriuscyber.net/wxfax/.

Send an email to query@saildocs.com. Leave the subject link blank and add this type of command to the body of the email: send NDFD:30N,19N,100W,080W|1,1|0,12,24,35,48,72,96|WIND,WAVES using the format grib:lat0,lat1,lon0,lon1|dlat,dlon|VTs|Params.

SAILDOCS instructions show that "lat0,lat1,lon0,lon1" are the lat-lon limits (in whole degrees followed by N/S or E/W)- this field is required, there is no default. "dlat,dlon" is the grid-spacing in degrees (e.g. "1,1" for a 1 degree by 1 degree grid or ".5,.5" for a ½ degree by ½ degree grid). The default is 2 degree by 2 degree if the grid-spacing is omitted.

"VTs" is a comma-separated list of valid-times (forecast-times, e.g. "24,48,72") . If omitted the default is "24,48,72".

"Params" is a comma-separated list of parameters, default is pressure and wind if omitted.

The "|" separator-character is the same vertical-bar character used with grib-requests, and is upper-case "\" (above the "Enter" key) on US-format keyboards, or AltGr and "-" on most international keyboards.

Alternately the "/" or "¦" characters can be used.

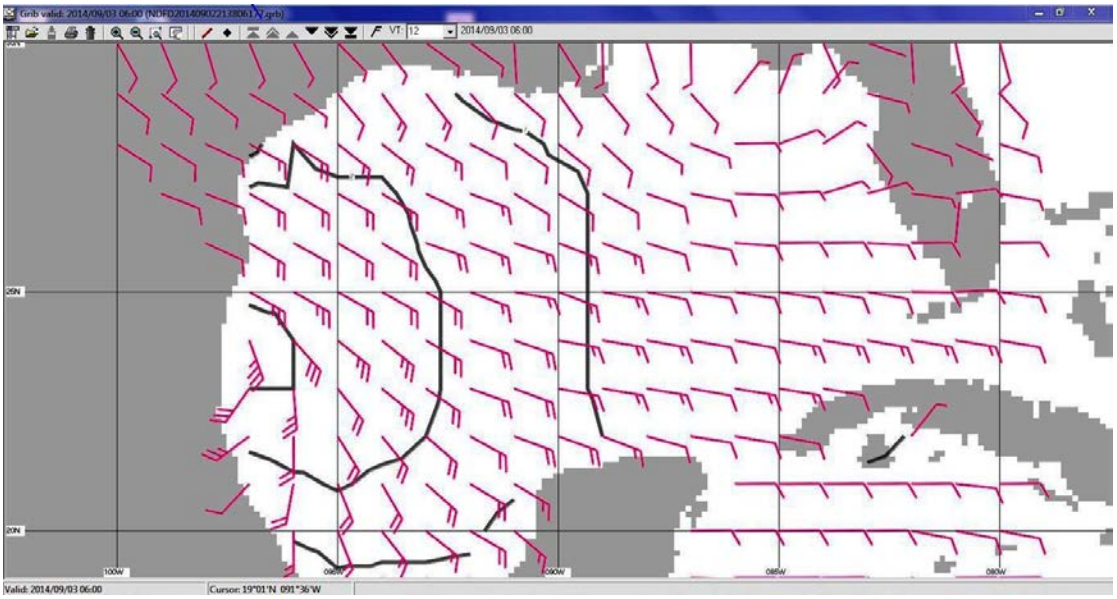
If the entire request does not fit on a single line then insert a "=" character and continue on the next line-see example below. Do not include any extra spaces before the "=".

An example: send GFS:45N,25N,075W,045W|1.5,1.5|6,12,18,24,30,36,42,48,60..192=
|WIND,PRMSL,RAIN,HGT500|7.0,080

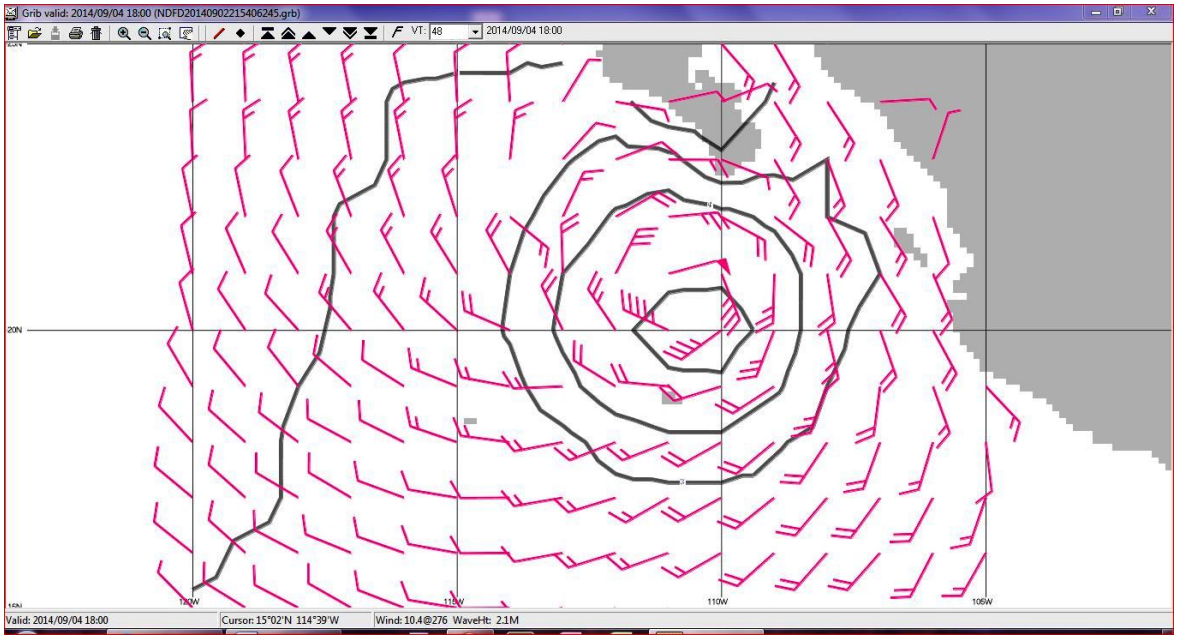
The final parameter advances the selected area for a vessel course of 7 KT at heading 080 degrees true.

Open the file with the VIEWFAX software. Thank you SAILDOCS!

Sample of NDFD grid for entire Gulf of Mexico
(Tropical Storm Dolly 12 hour forecast making landfall over Northeast Mexico 03 Sep 2014)



Sample of NDFD grid for East Pacific
(Tropical Storm Norbert 48 forecast to pass south of the Baja Peninsula on 04 Sep 2014)

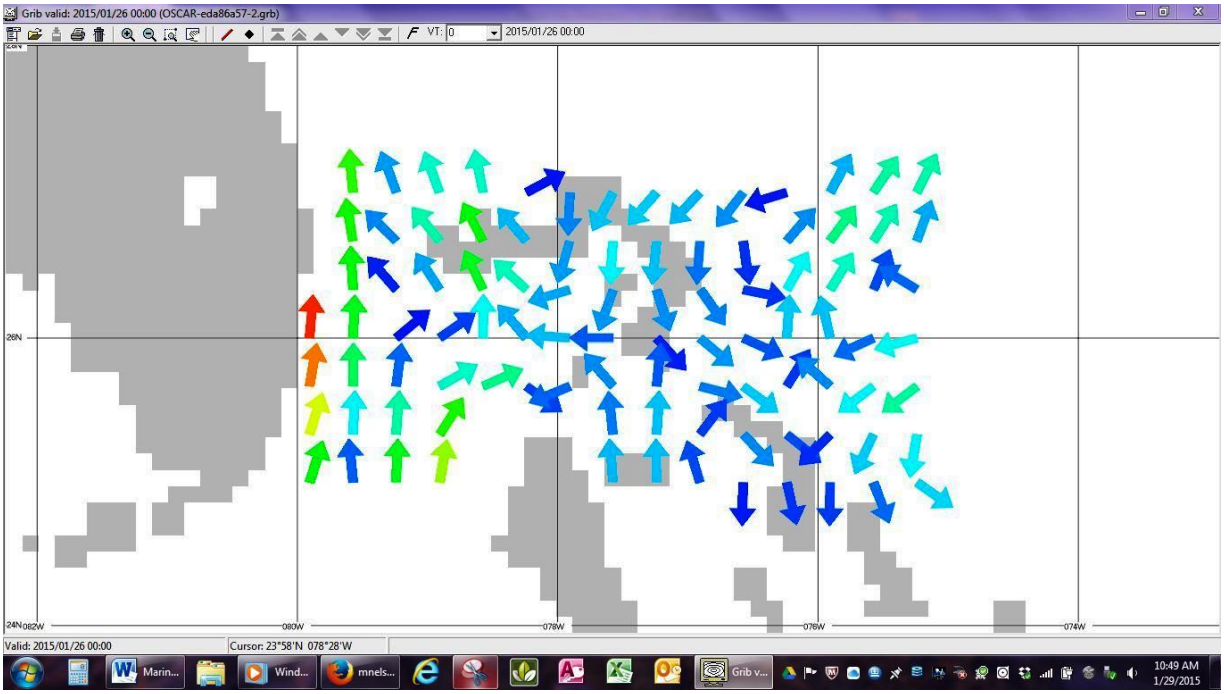


OSCAR Data

There are other data sources that can be retrieved using SAILDOCS and displayed with the VIEWFAX software. Ocean Surface Current in Real-Time (OSCAR) data is derived using various satellites and in-situ instruments, and has been available for about 20 years. Earth and Science Research (ESR) through NASA funding provides a world-wide simulation (from 80N-80S between 180W-180E) in 1/3 degree increments in 5 day resolution.

Send an email to query@svsarana.com in the format Oscar:lat1,lat2,long1,long2 and leave the subject line blank.

Sample of OSCAR data in the Bahama Channel and Northern Bahamas using the SAILDOCS retrieval command Oscar:27N,25N,80W,75W| Use the zoom feature on VIEWFAX for additional detail.

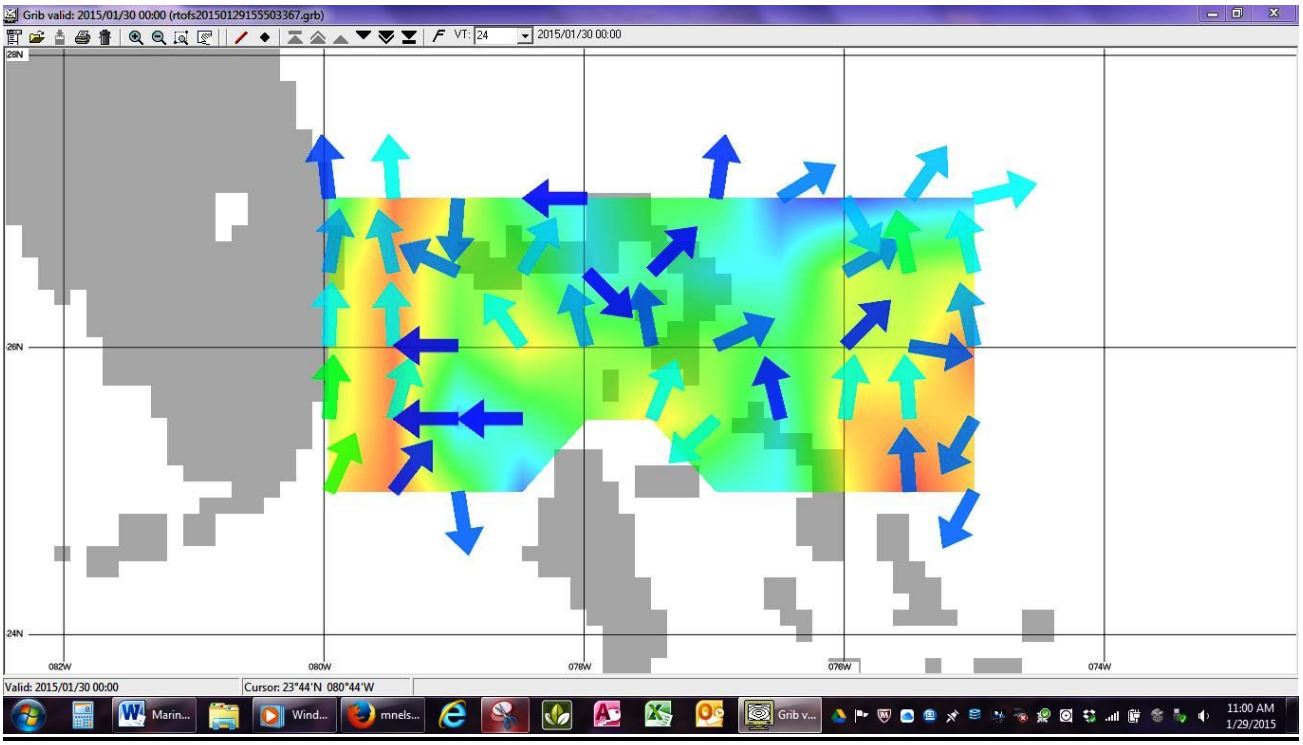


RTOFS DATA

Another source for ocean data is the Atlantic operational Real Time Ocean Forecasting System (RTOFS). This is a basin-scale ocean forecast system based on the Hybrid Coordinate Ocean Model (HYCOM) which is run once a day completing at about 1400Z. Each run starts with a 24 hour assimilation hind cast and produces ocean surface forecasts every hour and full volume forecasts every 24 hours from the 0000Z nowcast out to 120 hours.

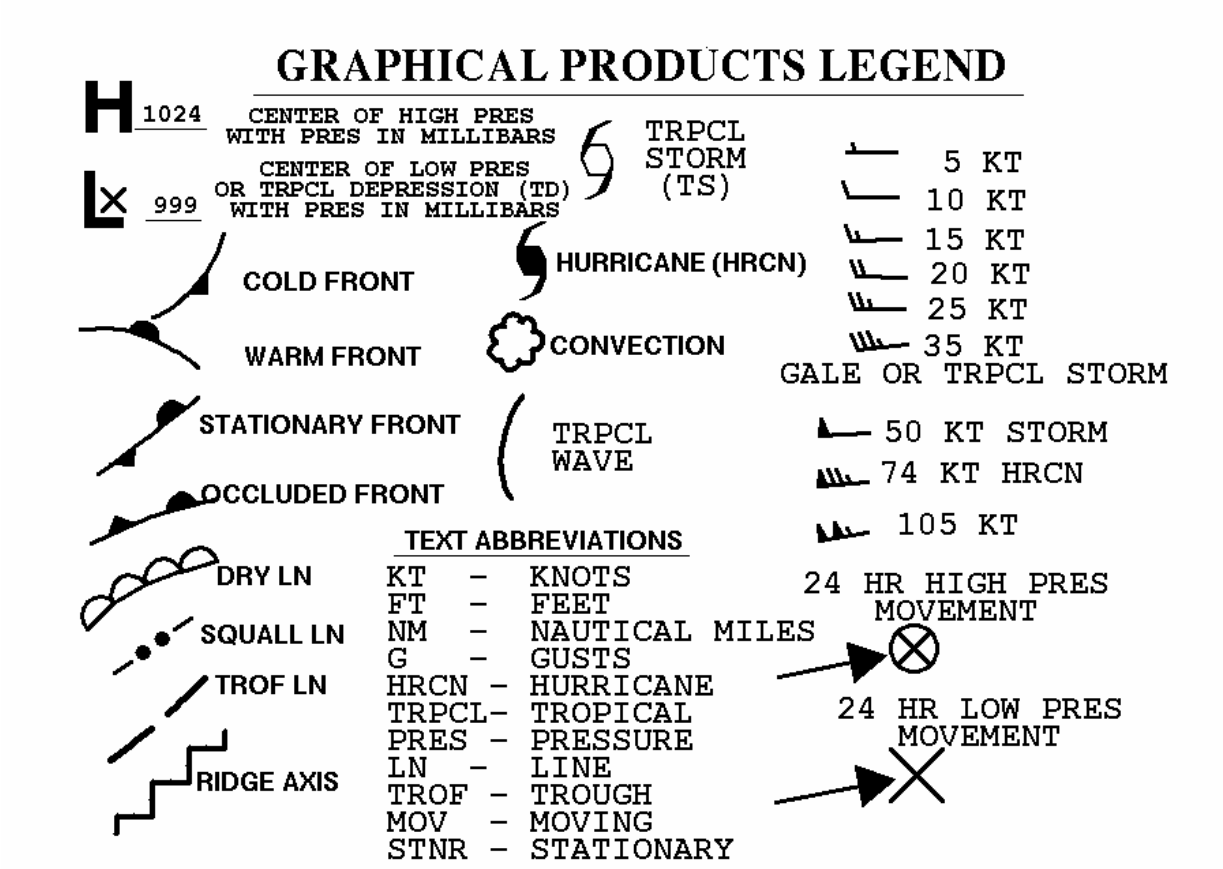
This NOAA model can also be retrieved via SALDOCS using the command format rtofs:lat1,lat2,lon1,lon2".

Sample of RTOFS data in the Bahama Channel and Northern Bahamas using retrieval command rtofs:27N,25N,80W,75W| Use the zoom feature on VIEWFAX for additional detail.

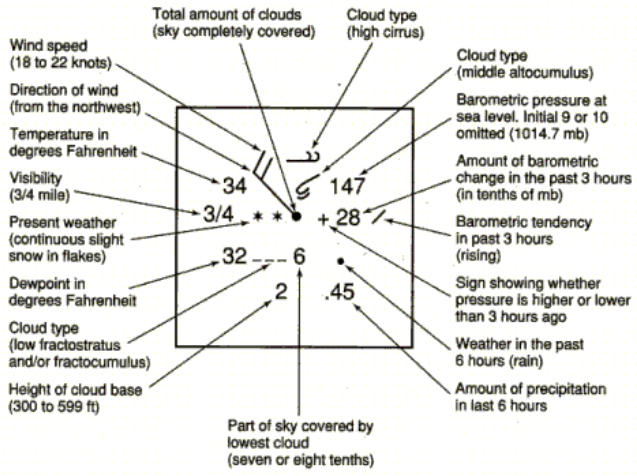


Legend used on graphical products produced at the National Hurricane Center

http://www.nhc.noaa.gov/tafb/LEGEND.gif

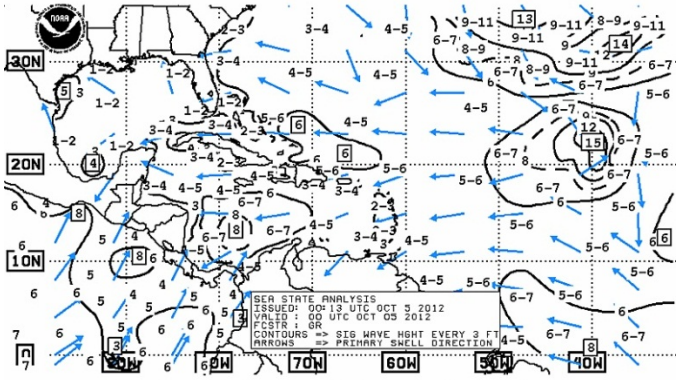


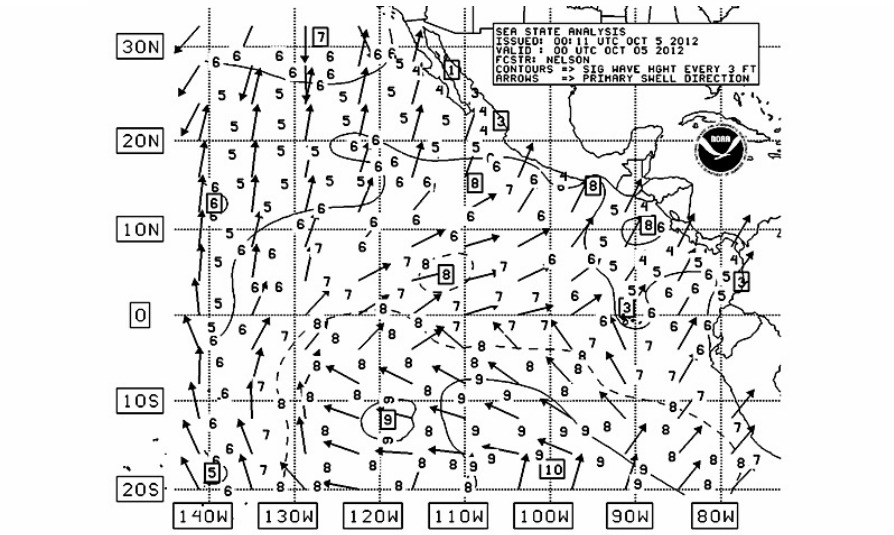
STATION MODEL LEGEND



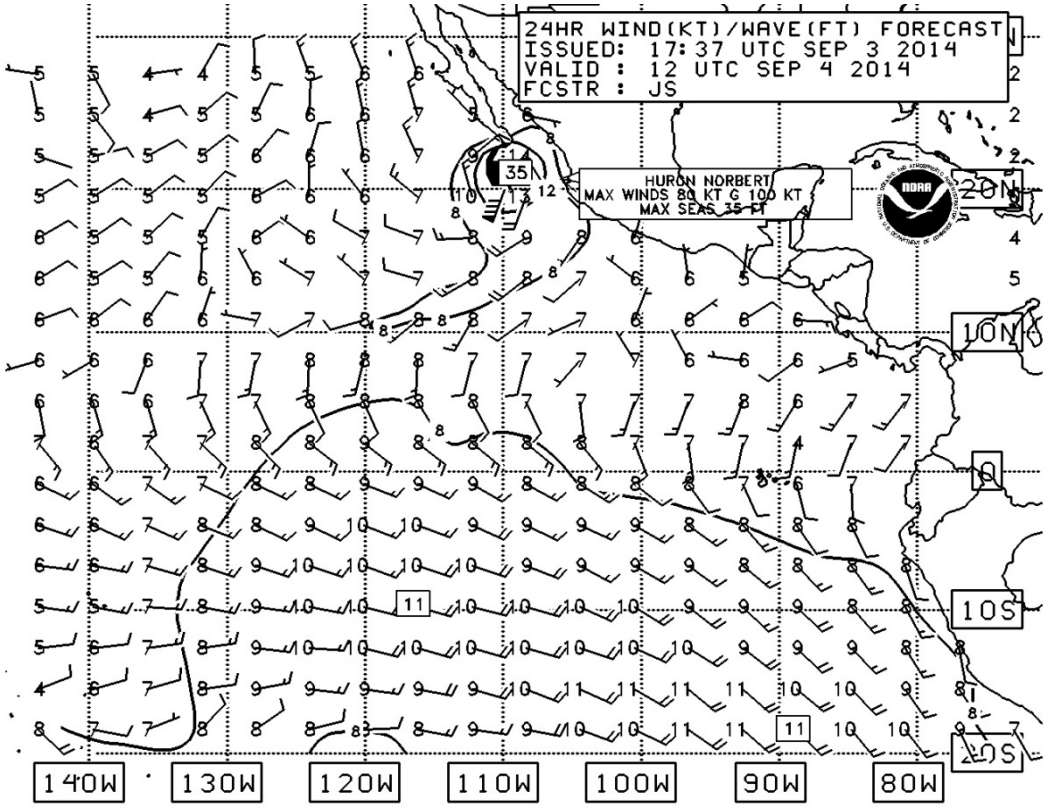
SAMPLES OF MARINE GRAPHICS

Atlantic AND E Pacific sea state charts are created 2 times daily within 1 1/2 hours of the synoptic hour at 0000 and 1200 UTC. The Atlantic charts are transmitted via the New Orleans, Louisiana (NMG) Radiofax and the Pacific charts are transmitted via the Point Reyes, California (NMC) Radiofax. All charts are also posted on the Internet at URL's: http://www.nhc.noaa.gov/forecast.shtml http://weather.noaa.gov/fax/gulf.shtml. The sea state chart depicts combined seas contoured every 3 feet. Combined seas is defined as the square root of the sum of the wind wave and the primary swell height squared, or approximately 1/3 of the wind wave added to the swell wave. The large direction arrows depict the primary (predominant) swell direction the NWS Global Forecast System (GFS) numerical model. Small arrows are the swell direction reported on current ship observations. These charts are converted to a grid format under WMO headers LJPN98 KWNM, LJNT98 KWNM and LJPZ98 KNHC. Users may also access these products at ftp://ftp.mpc.ncep.noaa.gov/grids.





Atlantic and E Pacific wind wave charts are created twice daily for the 24, 48 and 72 hour forecast period. The Atlantic charts are transmitted via the New Orleans, Louisiana (NMG) Radiofax and the E Pacific charts are transmitted via the Point Reyes, California (NMC) Radiofax. The 24 and 48 hour forecast charts are converted to a grid format under WMO headers LJPN98 KWNM, LJNT98 KWNM and LJPZ98 KNHC. Users may also access these products at ftp://ftp.mpc.ncep.noaa.gov/grids. All charts are posted on the TPC web site at URL: http://www.nhc.noaa.gov/forecast.shtml and at: http://weather.noaa.gov/fax/gulf.shtml.

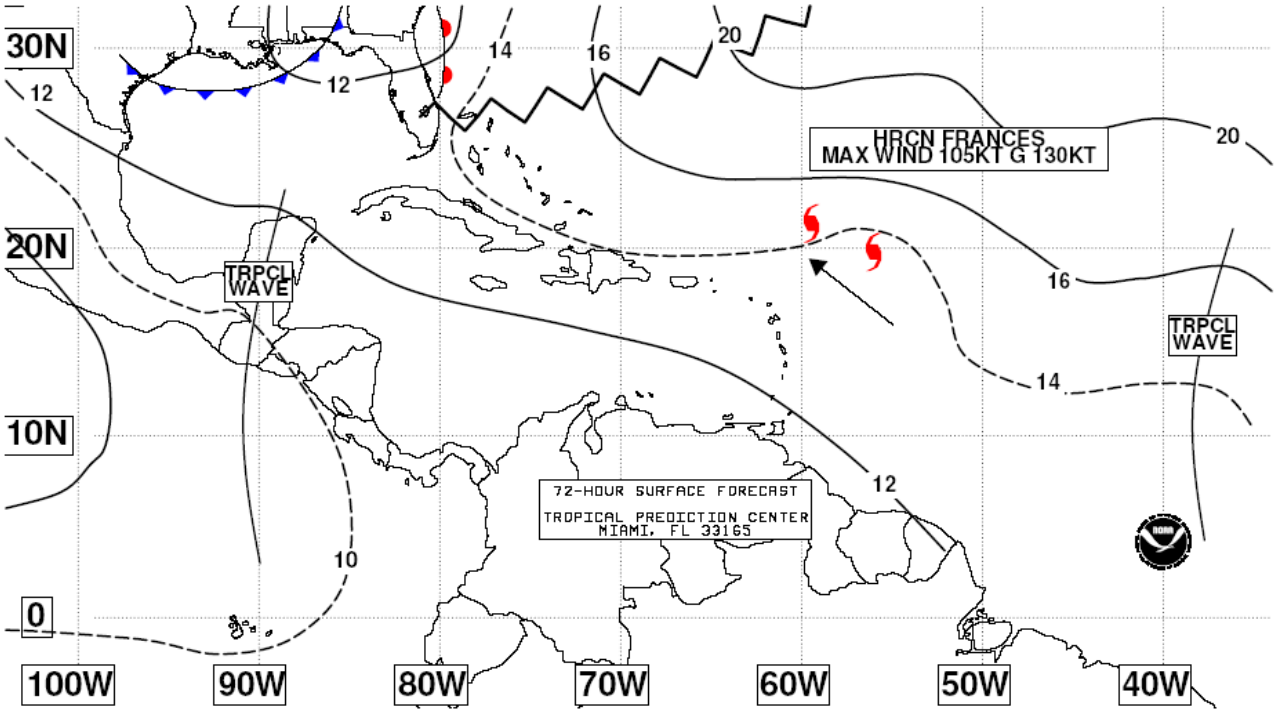


NWS/NHC/TROPICAL ANALYSIS AND FORECAST BRANCH
SIG WAVE HT IS SHOWN (THE AVG HT OF THE HIGHEST 1/3 OF THE WAVES)

Sample of Surface Analysis (compressed)

The surface analysis is produced 4 times daily at 0000, 0600, 1200 and 1800 UTC. The analysis is a combined effort from several branches of the National Centers for Environmental Prediction (NCEP). The Hydrological Prediction Center (HPC) is responsible for the analysis over the continental United States. The Ocean Prediction Center (OPC) analyzes the Atlantic Ocean north of 31N and the East Pacific Ocean north of 30N. The National Hurricane Center (NHC) is responsible for the tropical Atlantic south of 31N and the tropical East Pacific south of 30N and east of 140W. The Honolulu Forecast Office (HFO) analyzes the Central Pacific Ocean from approximately 30N to 25S between 160E and 140W. These charts are merged together and posted on the Internet in two parts, east and west: http://weather.noaa.gov/fax/gulf.shtml and at http://www.nhc.noaa.gov/forecast.shtml.

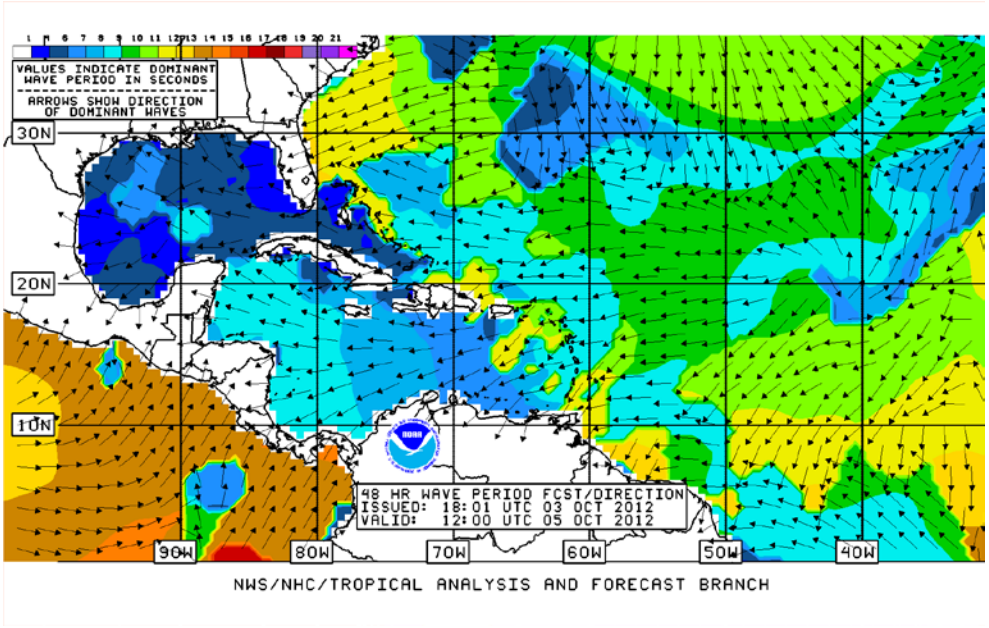
Surface forecast charts for 24, 48 and 72 hours are prepared twice daily for valid times of 0000 and 1200 UTC. The 96 hour position of highs, lows and tropical cyclones are depicted by an arrow from the 72 hour position. These charts are broadcast on Radiofax from New Orleans and Honolulu and are posted on the Internet at: http://weather.noaa.gov/fax/gulf.shtml and http://weather.noaa.gov/fax/hawaii.shtml and http://www.nhc.noaa.gov/forecast.shtml.

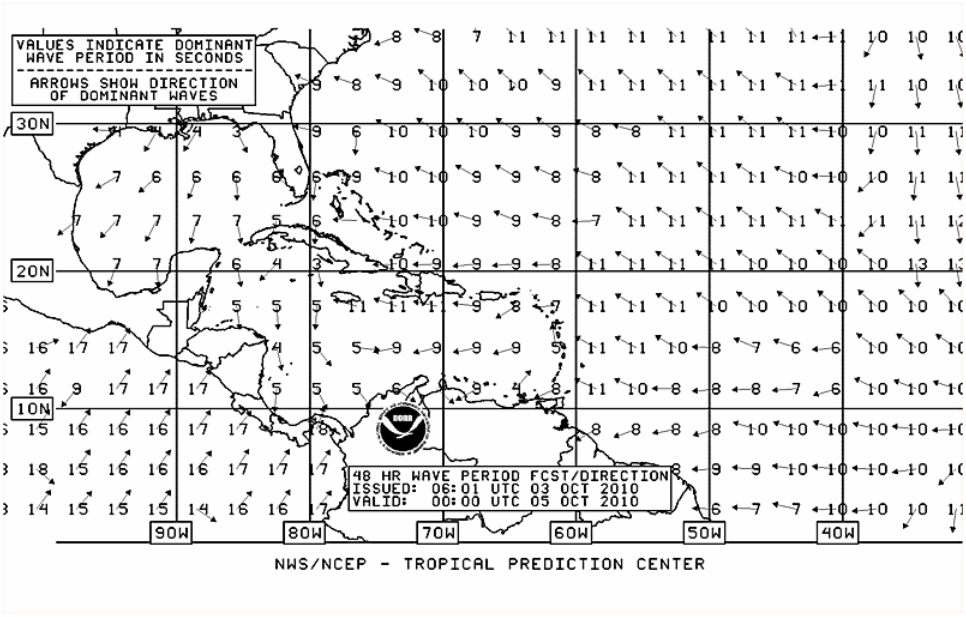


VALID: 00Z AUG 30 2004 – FCSTR: NELSON

Samples of Atlantic Peak Wave Period/Swell Direction Graphic

This chart depicts model generated peak wave period and the peak swell direction. TAFB creates 48 and 72 hour forecasts for both the Atlantic and Pacific basins. See: http://weather.noaa.gov/fax/gulf.shtml and http://www.nhc.noaa.gov/forecast.shtml.



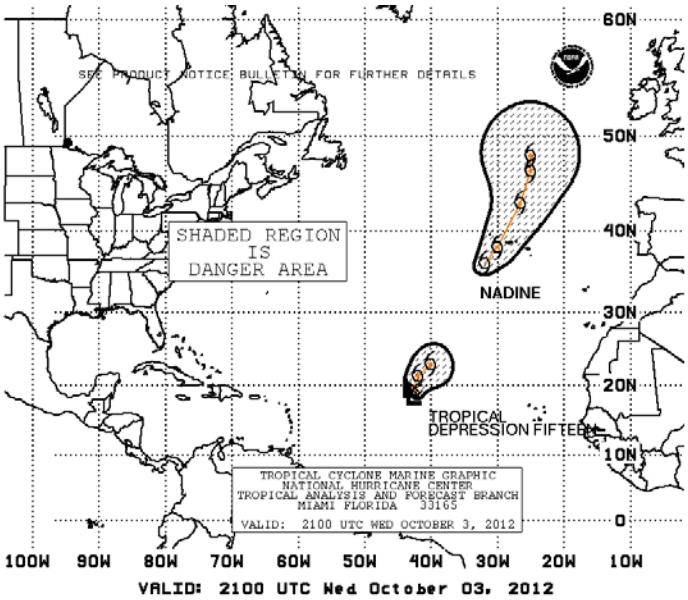


Sample of Tropical Cyclone Danger Area Graphic

The Tropical Cyclone Danger Area graphic based on the 34-kt wind speed probabilities through 72-hours from the latest tropical cyclone advisory for an active tropical cyclone. The graphic outlines avoidance areas using the 5% and 50% 34-kt wind speed probability contours from the latest tropical cyclone advisory. The avoidance area encompassed by the 5% 34-kt wind speed probability swath conveys a low to medium risk of experiencing tropical storm force winds within the area, and is denoted within a dashed line while the 50% 34-kt wind speed probability swath conveys a high risk of experiencing tropical storm force winds and is denoted within a solid line.

In the event there are no active tropical cyclones in either basin, the graphic will be blank with the following wording THERE IS NO TROPICAL CYCLONE ACTIVITY IN THE ATLANTIC for the Atlantic charts and THERE IS NO TROPICAL CYCLONE ACTIVITY IN THE EAST PACIFIC for the East pacific charts.

This product will be issued for both the Atlantic and Pacific basins during the Atlantic (June 1 through November 30) and Pacific (May 15 through November 30) hurricane seasons.



Wind Speed Probabilities-Based Tropical Cyclone Danger Graphic

Sample of East Pacific High Wind/Associated Seas Graphic

The graphic is created 4 times daily for the Atlantic and Pacific Oceans from December 1 to May 14. This graphic replaces the Tropical Cyclone Danger Area graphic outside of the hurricane season. The graphic depicts 48-hour forecast areas where gale, storm or hurricane force winds are expected to occur.