

A Quick Reference Guide to Products Issued By the National Weather Service during Hurricane Season Prepared by NWS-Tallahassee, Florida



Purpose: The purpose of this guide is to allow you to become familiar with the products issued during hurricane season by the National Hurricane Center and the National Weather Service Forecast Office in Tallahassee, Florida.

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Basic Tropical Definitions

Tropical Depression: A tropical cyclone with maximum sustained winds between 25 mph and 38 mph.

Tropical Storm: A tropical cyclone with maximum sustained winds between 39 mph and 73 mph. A cyclone with sustained winds reaching 39 mph will be named.

Hurricane: A tropical cyclone with maximum sustained winds of 74 mph or greater.

Hurricane Watch: A hurricane watch means that hurricane conditions are possible within the watch area, generally within the next 36 hours.

Hurricane Warning: A hurricane warning means that hurricane conditions are expected within the warning area, generally within the next 24 hours.

Tropical Storm Watch: A tropical storm watch means that tropical storm conditions are possible within the watch area, generally within the next 36 hours.

Tropical Storm Warning: A tropical storm warning means that tropical storm conditions are expected within in the warning area, generally within the next 24 hours.

Hurricane Wind Watch: Issued for inland areas of coastal counties as well as inland counties when hurricane force winds are possible within the watch area, generally within the next 36 hours.

Hurricane Wind Warning: Issued for inland areas of coastal counties as well as inland counties when hurricane force winds are expected within the warning area, generally within the next 24 hours.

Tropical Storm Wind Watch: Issued for inland areas of coastal counties as well as inland counties when tropical storm force winds are possible within the watch area, generally within the next 36 hours.

Tropical Storm Wind Warning: Issued for inland areas of coastal counties as well as inland counties when tropical storm force winds are expected within the watch area, generally within the next 24 hours.

Saffir-Simpson Hurricane Scale: A rating scale with five categories that is based on the maximum sustained wind speed of a tropical cyclone.

Funnel Cloud: A rotating, funnel shaped cloud extending downward from a shower and thunderstorm base. A funnel cloud does not come in contact with the ground.

Tornado: A violently rotating column of air extending from the shower and thunderstorm base to the ground.

Storm Surge: The onshore rush of sea or lake water caused by the high winds associated with a landfalling cyclone and to a lesser extent by the low pressure of the storm.

Coastal Areas: Areas along the coast susceptible to the affects of storm surge.

National Hurricane Center Products

Tropical Weather Outlook

Beginning on June 1 and continuing through November 30, the National Hurricane Center produces a tropical weather outlook that discusses the potential for the development of tropical systems in the Atlantic. These outlooks are issued four times throughout the day.

An example of this outlook appears below:

ABNT20 KNHC 150000 TWOAT TROPICAL WEATHER OUTLOOK NWS TPC/NATIONAL HURRICANE CENTER MIAMI FL 800 PM EDT WED JUN 14 2008

FOR THE NORTH ATLANTIC...CARIBBEAN SEA AND THE GULF OF MEXICO...

THE REMNANT CIRCULATION OF FORMER TROPICAL DEPRESSION ALBERTO... WHICH HAS BECOME AN EXTRATROPICAL LOW PRESSURE SYSTEM... IS LOCATED OVER EXTREME NORTHEASTERN NORTH CAROLINA NEAR ELIZABETH CITY. THIS SYSTEM IS MOVING NORTHEASTWARD AT 20 TO 25 MPH... AND IT WILL MOVE ACROSS THE NORTH CAROLINA OUTER BANKS AND INTO THE ATLANTIC OCEAN LATER THIS EVENING. GALE WARNINGS REMAIN IN EFFECT FOR PORTIONS OF THE NORTH CAROLINA AND VIRGINIA COASTS AND ADJACENT COASTAL WATERS.

A WESTWARD-MOVING TROPICAL WAVE IS PRODUCING SCATTERED SHOWERS AND THUNDERSTORMS OVER THE CENTRAL CARIBBEAN SEA AND HISPANIOLA. UPPER-LEVEL WINDS ARE UNFAVORABLE TROPICAL CYCLONE DEVELOPMENT.

ELSEWHERE...TROPICAL STORM FORMATION IS NOT EXPECTED THROUGH THURSDAY.

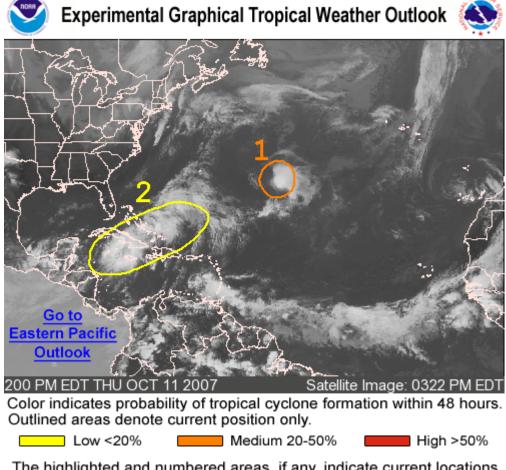
The product includes a brief discussion on any active tropical systems. If there are no active tropical systems are present, then discussions on any tropical waves that may develop is given.

This product can be found on the NHC home page at http://www.nhc.noaa.gov

This product is issued at 8 pm ET, 2 am ET, 8 am ET, 2 pm ET.

Graphical Tropical Weather Outlook:

This product complements the text version of the tropical weather outlook by showing graphically where areas of interest are located across the Atlantic. Moreover, this graphic also indicates, by the color of the circle around the disturbance, the likelihood it develops into a tropical depression or tropical storm. Finally, placing your mouse over a circle on the map will display important forecast information on the disturbance.



The highlighted and numbered areas, if any, indicate current locations of weather systems discussed in the Tropical Weather Outlook below.

Special Tropical Disturbance Statement

Special Tropical Disturbance Statements are used to furnish information on strong, non-depression systems. These are usually issued for systems strong enough to produce heavy rains and strong winds that do not yet meet the criteria

of tropical or subtropical cyclones. These products are transmitted only as needed and no structured issuance schedule exists.

You can see an example of this product at the following website:

http://www.nhc.noaa.gov/dsa example.shtml

The remaining products in this guide are only issued when there is an active tropical system in the Atlantic. When a tropical depression, tropical storm, or hurricane forms in the Atlantic, the National Hurricane Center issues numerous products on the current position and future movement of the tropical system.

These advisories on active tropical systems are issued routinely at 5 am EDT, 11 am EDT, 5 pm EDT, and 11 pm EDT. When systems are closer to land, intermediate advisories are issued half way between the routine advisory times.

Public Advisory

The Tropical Cyclone Public Advisory contains a list of all current watches and warnings on a tropical or subtropical cyclone. It also gives the cyclone position in terms of latitude and longitude coordinates and distance from a selected land point or island, as well as the current motion. The advisory includes the maximum sustained winds in miles per hour and the estimated or measured minimum central pressure in millibars and inches. The advisory may also include information on potential storm tides, rainfall or tornadoes associated with the cyclone, as well as any pertinent weather observations.

For an example of this product, visit the following website:

http://www.nhc.noaa.gov/help/tcp.shtml

Tropical Cyclone Forecast and Advisory (Marine Advisory)

The Tropical Cyclone Forecast/Advisory contains a list of all current watches and warnings on a tropical or subtropical cyclone, as well as the current latitude and longitude coordinates, intensity, and system motion. The advisory contains forecasts of the cyclone positions, intensities, and wind radii for 12, 24, 36, 48, and 72 hours from the current synoptic time. The advisory may also include

information on any pertinent storm tides associated with the cyclone. All wind speeds in the forecast advisory are given in knots (nautical miles per hour).

For an example of this product, visit the following website:

http://www.nhc.noaa.gov/help/tcm.shtml

Tropical Cyclone Discussion

The Tropical Cyclone Discussion explains the reasoning behind the forecast for a tropical or subtropical cyclone. It includes a table of the forecast track and intensity. These products are very similar to area forecast discussions issued by local weather offices. They may include meteorological terminology or discussion of available model data.

You can find an example of this product at the following website:

http://www.nhc.noaa.gov/tcd example.shtml

Tropical Cyclone Wind Speed Probabilities

The Tropical Cyclone Surface Wind Speed Probabilities text product provides probabilities, in percent, of sustained wind speeds equal to or exceeding 34-, 50-, and 64-knot wind speed thresholds. These wind speed probabilities are based on the track, intensity, and wind structure forecasts and uncertainties from the National Hurricane Center and are computed for coastal and inland cities as well as offshore locations (e.g., buoys). Two types of probability values are produced in this text product: cumulative probabilities of occurrence, and individual period probabilities of onset.

Cumulative probabilities are provided in the text product for the following time periods: 0-12 hours, 0-24 hours, 0-36 hours, 0-48 hours, 0-72 hours, 0-96 hours, and 0-120 hours (0-5 days). These cumulative probabilities indicate the overall chances that the stated wind speed will *occur* at each location during the period between hour 0 (the beginning of the forecast) and each listed forecast hour.

Individual period probabilities are provided for each of the following time intervals: 0-12 hours, 12-24 hours, 24-36 hours, 36-48 hours, 48-72 hours, 72-96 hours, and 96-120 hours. These individual period probabilities indicate the

chances that the stated wind speed will **start** during each individual period at each location. Cumulative probabilities through each forecast time period are also just the sum of the individual period probabilities up to that time.

In other words, cumulative probabilities tell decision-makers the chances that the event will happen at all. The individual period probabilities tell decision-makers when the event is most likely to start.

When reading this product you will see a description key that looks something like this:

```
II. WIND SPEED PROBABILITY TABLE FOR SPECIFIC LOCATIONS
CHANCES OF SUSTAINED (1-MINUTE AVERAGE) WIND SPEEDS OF AT LEAST
   ...34 KT (39 MPH... 63 KPH)...
   ...50 KT (58 MPH... 93 KPH)...
   ...64 KT (74 MPH...119 KPH)...
FOR LOCATIONS AND TIME PERIODS DURING THE NEXT 5 DAYS
PROBABILITIES FOR LOCATIONS ARE GIVEN AS IP(CP) WHERE
   IP IS THE PROBABILITY OF THE EVENT BEGINNING DURING
       AN INDIVIDUAL TIME PERIOD (INDIVIDUAL PROBABILITY)
   (CP) IS THE PROBABILITY OF THE EVENT OCCURRING BETWEEN
       18Z WED AND THE FORECAST HOUR (CUMULATIVE PROBABILITY)
PROBABILITIES ARE GIVEN IN PERCENT
X INDICATES PROBABILITIES LESS THAN 1 PERCENT
PROBABILITIES FOR 34 KT AND 50 KT ARE SHOWN AT A GIVEN LOCATION WHEN
THE 5-DAY CUMULATIVE PROBABILITY IS AT LEAST 3 PERCENT.
PROBABILITIES FOR 64 KT ARE SHOWN WHEN THE 5-DAY CUMULATIVE
```

This key is used to understand the probabilities given for various sites. On the next page, an example of this product is explained.

WIND	SPEED P	ROBABILIT	ries for	SELECTEI	LOCATI	IONS	
TIME PERIODS	FROM 18Z WED TO	FROM 06Z THU TO	FROM 18Z THU TO	FROM 06Z FRI TO	FROM 18Z FRI TO	FROM 18Z SAT TO	FROM 18Z SUN TO
	06Z THU			_	18Z SAT		18Z MON
FORECAST HOUR	(12) (24)	(36)	(48)	(72)	(96)	(120)
LOCATION TALLAHASSEE F	KT L 34 X	3(3)	4(7)	5(12)	3(15)	1(16)	x (16)
ST MARKS FL	34 X	3 (3)	5(8)	4(12)	2(14)	2(16)	X(16)
APALACHICOLA APALACHICOLA	34 2 50 X	7(9) X(X)	7(16) 1(1)	4(20) X(4)	2(22) 6(10)	1(23) 4(14)	X(23) 1(15)
APALACHICOLA	64 X	X(X)	1(1)	2(3)	4(7)	2(9)	X(9)

In this example given above, the probability that Tallahassee receives 34 knot winds in the next 5 days is 16% (red box). However, Tallahassee has a probability of 5% of receiving tropical storm force winds between 06z (2 am EDT) and 18z (2 pm EDT) Friday (green box). Similarly, the cumulative probability of tropical storm force winds at Apalachicola for the next five days is 23%. The probability that Apalachicola receives tropical storm force winds between 06z Friday (2 am EDT) to 18z Friday (2 pm EDT) is 4%.

Probabilities for a particular location and speed are provided only when the 120-hour (5-day) cumulative probability is at least 2.5% (rounded to 3%). Locations are listed in geographic order, and data for all wind speeds (with high enough probabilities) at one location are grouped together.

You can see an example of this product at the following link:

http://www.nhc.noaa.gov/pws example.shtml

Special Tropical Cyclone Update

Tropical Cyclone Updates are brief statements issued instead of or preceding special advisories to inform of significant changes in a tropical cyclone or to post or cancel watches or warnings. This product is issued on an as needed basis.

You can see an example of this product at the following link:

http://www.nhc.noaa.gov/tcu_example.shtml

Tropical Cyclone Position Estimate

Tropical Cyclone Position Estimates are issued between intermediate advisories whenever a tropical cyclone with a well-defined center is within 200 nautical miles of land-based radar in the United States. These estimates give the center location in map coordinates and distance and direction from a well-known point.

You can see an example of this product at the following link:

http://www.nhc.noaa.gov/tce_example.shtml

Tropical Cyclone Valid Time Event Code

The Tropical Cyclone Watch/Warning text product (TCV) is based upon the Valid Time Event Code (VTEC). It summarizes all new, continued, and canceled tropical cyclone watches and warnings issued by the National Hurricane Center (NHC) for the U.S. Atlantic and Gulf coasts, Puerto Rico, and U.S. Virgin Islands.

You can see an example of this product at the following link:

http://www.nhc.noaa.gov/tcv example.shtml

The following graphical products are found on the home page of the National Hurricane Center whenever advisories are being issued on a tropical cyclone.

Tropical Cyclone Track Forecast Cone and Watches/Warnings



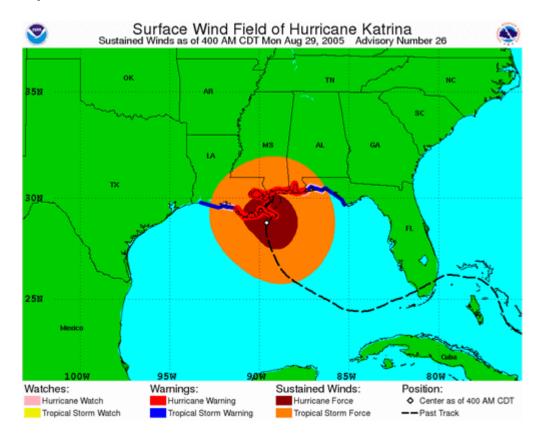
This graphic is created with each advisory issued by the National Hurricane Center. It includes the three day forecast cone (solid white area) and the four to five day forecast cone (dashed white area). Any watches or warnings that are in effect for a landmass are also included on this map. Remember, do not focus on the black line in the center of the cone. A tropical cyclone is not a point. Rather, the effects of a tropical cyclone can spread hundreds of miles from the center.

Tropical Cyclone Surface Wind Speed Probabilities



This image is the graphical counterpart to the Tropical Cyclone Wind Speed Probabilities Table. This example graphic above displays the probability that a point will receive tropical storm force winds. Three different graphics are created. This image, for tropical storm force winds, a second image for winds in excess of 50 knots (58 mph), and a third image for hurricane force winds in excess of 64 knots (74 mph).

Tropical Cyclone Surface Wind Field



This graphical product is a summary of the current conditions associated with a tropical cyclone. In this example, the current location of Hurricane Katrina is indicated with the white diamond. Winds of tropical storm and hurricane force are indicated by the shaded areas. Additionally, areas under tropical storm or hurricane watches and warnings are displayed.

Cumulative Wind History



This graphic shows how the size of the storm has changed, and the areas potentially affected so far by sustained winds of tropical storm force (in orange) and hurricane force (in red). Because the wind radii shown are based on the maximum extent of tropical storm or hurricane force winds, not all areas may have experienced these winds.

Maximum 1-minute Wind Speed Probability Table



Intensity (Maximum Wind Speed) Probability Table Tropical Storm Test Advisory Number 1 4:00 PM CDT Apr 16 2008



	Forecast Time							
Wind Dangs (mph)	12 hour	24 hour	36 hour	48 hour	72 hour	96 hour	120 hour	
Wind Range (mph)	1 AM Thu	1 PM Thu	1 AM Fri	1 PM Fri	1 PM Sat	1 PM Sun	1 PM Mon	
Dissipated	<1%	<1%	1%	3%	25%	54%	58%	
Tropical Depression (<39)	1%	2%	9%	12%	33%	26%	18%	
Tropical Storm (39-73)	86%	49%	53%	59%	34%	15%	15%	
Hurricane (all categories)	13%	50%	37%	27%	8%	5%	10%	
Category 1 (74-95)	12%	44%	31%	21%	6%	3%	7%	
Category 2 (96-110)	1%	5%	3%	4%	1%	1%	2%	
Category 3 (111-130)	<1%	1%	2%	2%	<1%	<1%	1%	
Category 4 (131-155)	<1%	<1%	<1%	<1%	<1%	<1%	<1%	
Category 5 (>155)	<1%	<1%	<1%	<1%	<1%	<1%	<1%	
Forecast Maximum Wind	65 mph	75 mph	75 mph	65 mph	40 mph	15 mph	5 mph	

The table shows the probability that the maximum sustained surface wind speed of the tropical cyclone will be within various intensity ranges as well as the five categories on the Saffir-Simpson Hurricane Scale during the next 120 hours. These probabilities apply to the maximum sustained surface wind associated with the cyclone, and not winds that could occur at specific locations.

National Weather Service in Tallahassee, Florida Products

Hurricane Local Statement

When a tropical storm or hurricane watch has been issued by the National Hurricane Center, NWS Tallahassee will begin issuing Tropical Storm or Hurricane Local Statements. This particular product is designed to inform local decision makers, the media, and public on the expected impacts from the approaching storm. This product is issued in a segmented format. This means that only portions of the product apply to certain counties. Within each segment are a series of section headers which explain preparedness actions that should be taken along with a detailed description of the impacts from the storm in your area. An example of the HLS appears below:

```
WTUS82 KTAE 192138
HLSTAE
```

URGENT - IMMEDIATE BROADCAST REQUESTED HURRICANE HERB LOCAL STATEMENT NATIONAL WEATHER SERVICE TALLAHASSEE FL 538 PM EDT MON MAY 19 2008

```
...THIS IS ONLY A TEST...
```

...MAJOR HURRICANE HERB MOVING TOWARD THE FLORIDA BIG BEND COASTLINE...

GAZ130-131-147-148-159>161-202145/O.NEW.KTAE.HI.W.0001.080520T1500Z-080521T0900Z/
BEN HILL-IRWIN-COOK-BERRIEN-BROOKS-LOWNDES-LANIER538 PM EDT MON MAY 19 2008

This segment of the HLS is for areas in South Central Georgia. In addition to the counties being named here, they will also be named in the areas affected section.

...HURRICANE WIND WARNING IN EFFECT FROM 11 AM TUESDAY TO 5 AM EDT WEDNESDAY...

```
...NEW INFORMATION...
...AREAS AFFECTED...
...WATCHES/WARNINGS...
...STORM INFORMATION...
...PRECAUTIONARY/PREPAREDNESS ACTIONS...
...WINDS...
...WINDS...
```

In this area of the HLS, each section header will be completed based on the expected impacts the areas included in the segment.

```
...NEXT UPDATE...
FLZ018-028-034-202145-
                                                      This second segment is focusing on
/O.NEW.KTAE.HI.W.0001.080520T1500Z-080521T0900Z/
                                                      the Southeast Florida Big Bend
JEFFERSON-TAYLOR-DIXIE-
538 PM EDT MON MAY 19 2008
... HURRICANE WARNING IN EFFECT...
...HURRICANE WIND WARNING IN EFFECT FROM 11 AM TUESDAY TO 5 AM
EDT WEDNESDAY...
...NEW INFORMATION...
...AREAS AFFECTED...
                                                      Important Warning information is
...WATCHES/WARNINGS...
                                                      headlined here in each segment.
...STORM INFORMATION...
... PRECAUTIONARY/PREPAREDNESS ACTIONS...
...STORM SURGE AND STORM TIDE...
...WINDS...
...INLAND FLOODING...
...TORNADOES...
...NEXT UPDATE...
```

Hurricane local statements include headlines for any tropical watches or warnings that may be in effect. These headlines are found right below the listing of counties as indicated in the above example. Remember, Hurricane or Tropical Storm wind watches or warnings are issued by NWS-Tallahassee and are in effect for areas away from the immediate coast. Tropical Storm or Hurricane watches and warnings are issued by the National Hurricane Center and are in effect right along the immediate coast.

Hurricane Local Statements are an excellent resource to gain information specific to your area. Hurricane Local Statements are issued at least every six hours when a tropical storm or hurricane watch or warning is in effect for the Tallahassee County Warning Area. These statements may be updated more frequently when the tropical system gets closer to land.

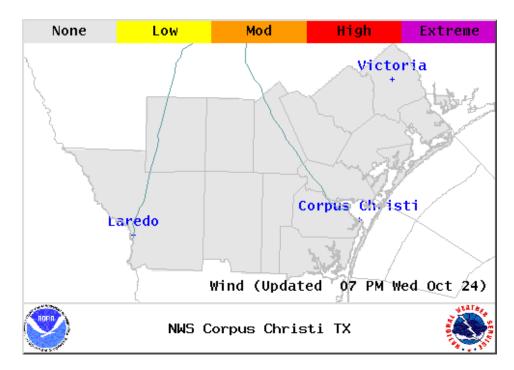
Graphical Hurricane Local Statement

Starting with the 2008 Hurricane Season, NWS-Tallahassee will issue a graphical version of the Hurricane Local Statement. This graphical version visually depicts the impact level to the Tallahassee County Warning Area from four specific threats. These are: Winds, Tornadoes, Inland Flood, and Coastal Flood. Impacts from each of these threats are ranked on the following scale: None, Low, Moderate, High, and Extreme. Each of these rankings has a specific description available that has been tailored to our local area.

The graphical hurricane local statement for Tallahassee can be found by going to:

http://www.weather.gov/os/tropical/intro.php?&key=TAE

Once installed on our system, likely by June 15, 2008, you will see four maps displayed. These maps are the impact graphics for Wind, Tornadoes, Inland Flood, and Coastal Flood. By clicking on each individual map, you can see a larger version complete with the associated impact description. For example, if you click on the map for wind, you will see the wind impact map for the Tallahassee County Warning Area. By clicking on the risk level bar across the top of the map, you will then see the associated impact description for each risk category. A sample of one of these images appears below from the NWS-Corpus Christi weather office.



Extreme Wind Warning

To alert the population to the onset of extremely dangerous winds associated with the core of a landfalling major hurricane, the National Weather Service will issue an extreme wind warning. This product is relatively new. It initially started as a strongly worded tornado warning as a way of alerting residents of Central Florida about the approach of the dangerous winds associated with the core of Hurricane Charley in 2004. Since that time, the National Weather Service has created the extreme wind warning product to serve exclusively for the notification of these destructive winds.

This warning is only issued under the following conditions:

- 1. The tropical cyclone is a category 3 or greater on the Saffir Simpson hurricane scale as designated by the National Hurricane Center.
- 2. Sustained tropical cyclone surface winds of 100 knots (115 mph) or greater are occurring or are expected to occur within one hour.

This product will generally be issued up to one hour before the onset of these winds, and may be valid for up to three hours. This product has priority dissemination on NOAA Weather Radio and across the EAS network.

An example of this product appears below.

Extreme Wind Warning Example:

WFUS52 KTAE 311604
EWWTAE
FLC008-FLC012-FLC014
/O.NEW.KTAE.EW.W.0001.070531T11604z-070531T1900z/

BULLETIN - EAS ACTIVATION REQUESTED EXTREME WIND WARNING NATIONAL WEATHER SERVICE TALLAHASSEE FL 1104 AM CDT THU MAY 31 2004

THE NATIONAL WEATHER SERVICE IN TALLAHASSEE HAS ISSUED AN

...TEST...TEST...THIS IS ONLY A TEST...

* EXTREME WIND WARNING FOR THE ONSET OF SUSTAINED WINDS OF 115 MPH OR GREATER FOR...

BAY COUNTY IN THE PANHANDLE OF FLORIDA
GULF COUNTY IN THE PANHANDLE OF FLORIDA
SOUTHEASTERN WALTON COUNTY IN THE PANHANDLE OF FLORIDA

- * UNTIL 200 PM CDT
- * AT 1100 AM CDT...NATIONAL WEATHER SERVICE DOPPLER RADAR INDICATED EXTREME WINDS...ASSOCIATED WITH THE EYEWALL OF HURRICANE AMY...WERE MOVING ONSHORE NEAR PANAMA CITY BEACH. SUSTAINED WINDS IN EXCESS OF 135 MPH...CAPABLE OF PRODUCING WIDESPREAD DESTRUCTION...CAN BE EXPECTED AS THE EYEWALL PASSES OVERHEAD. MOVEMENT WAS NORTH NORTHEAST AT 10 MPH.
- * THESE EXTREME WINDS WILL AFFECT...
 CENTRAL BAY COUNTY BY 1200 PM CDT...
 WESTERN GULF COUNTY BY 1200 PM CDT...

TAKE COVER NOW! TREAT THESE IMMINENT EXTREME WINDS AS IF A TORNADO WAS APPROACHING AND MOVE IMMEDIATELY TO THE SAFE ROOM IN YOUR SHELTER...OR INNERMOST ROOM AWAY FROM WINDOWS. TAKE ACTION NOW TO PROTECT YOUR LIFE!

LAT...LON 3044 8552 3036 8533 3057 8517 3067 8543

\$\$

38-GODSEY