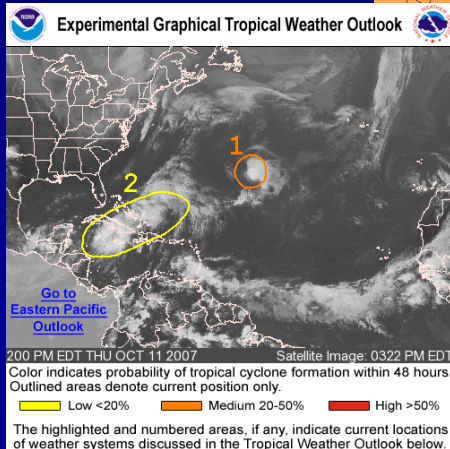
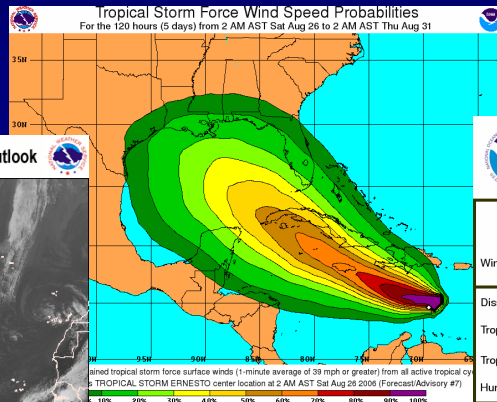




NATIONAL HURRICANE CENTER

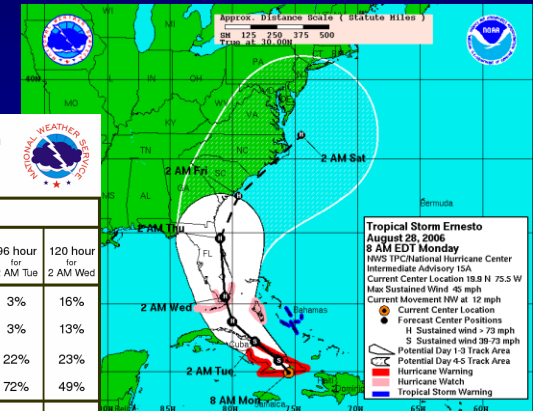


The National Hurricane Center Forecast Process and Products



Maximum 1-minute Wind Speed Probability Table for Dean
From NHC Advisory 16
5:00 AM EDT Aug 17 2007

| Wind Speed Interval (mph) | Forecast Time | | | | | | | |
|---------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|-----------------------|--|
| | 12 hour for 2 PM Fri | 24 hour for 2 AM Sat | 36 hour for 2 PM Sat | 48 hour for 2 AM Sun | 72 hour for 2 AM Mon | 96 hour for 2 AM Tue | 120 hour for 2 AM Wed | |
| Disipated | <2% | <2% | <2% | <2% | <2% | 3% | 16% | |
| Tropical Depression (<39) | <2% | <2% | <2% | <2% | <2% | 3% | 13% | |
| Tropical Storm (39-73) | <2% | <2% | 2% | <2% | 4% | 22% | 23% | |
| Hurricane (>=74) | 100% | 100% | 99% | 99% | 95% | 72% | 49% | |
| Category 1 (74-95) | <2% | 2% | 5% | 5% | 8% | 28% | 18% | |
| Category 2 (96-110) | 3% | 7% | 9% | 10% | 14% | 21% | 12% | |
| Category 3 (111-130) | 58% | 43% | 33% | 36% | 28% | 16% | 12% | |
| Category 4 (131-155) | 38% | 44% | 44% | 38% | 32% | 6% | 6% | |
| Category 5 (>=155) | <2% | 4% | 8% | 11% | 13% | <2% | <2% | |



Daniel P. Brown
NATIONAL HURRICANE CENTER



The National Hurricane Center issues

- 72-hour forecast of track positions, intensity, and wind speed radii
- 96- and 120-hour track positions and intensities.

Also included are

- watches and warnings
- brief storm surge, tornado, and rainfall statements

| Forecast Hour (Day) | Position and Intensity | 34 kt wind radii | 50 kt wind radii | 64 kt wind radii |
|---------------------|------------------------|------------------|------------------|------------------|
| 3 (adv time) | | | | |
| 12 | | | | |
| 24 (1) | | | | |
| 36 | | | | |
| 48 (2) | | | | |
| 72 (3) | | | | |
| 96 (4) | | | | |
| 120 (5) | | | | |

NHC Tropical Cyclone Forecast Cycle

| Time (UTC) | Task / Event |
|-------------------|---|
| H+00:00 | Synoptic time, cycle begins |
| H+00:45 | Receive satellite fix data |
| H+01:00 | Initialize models |
| H+01:20 | Receive model guidance, begin preparing forecast |
| H+02:00 | NWS/DOD hotline coordination call |
| H+03:00 | Advisory package deadline |
| H+03:15 | FEMA conference call |
| H+06:00 | Next cycle begins |



Forecast Process

1. Locate the cyclone center and determine the motion, intensity and size



Data to Determine TC Location and Intensity

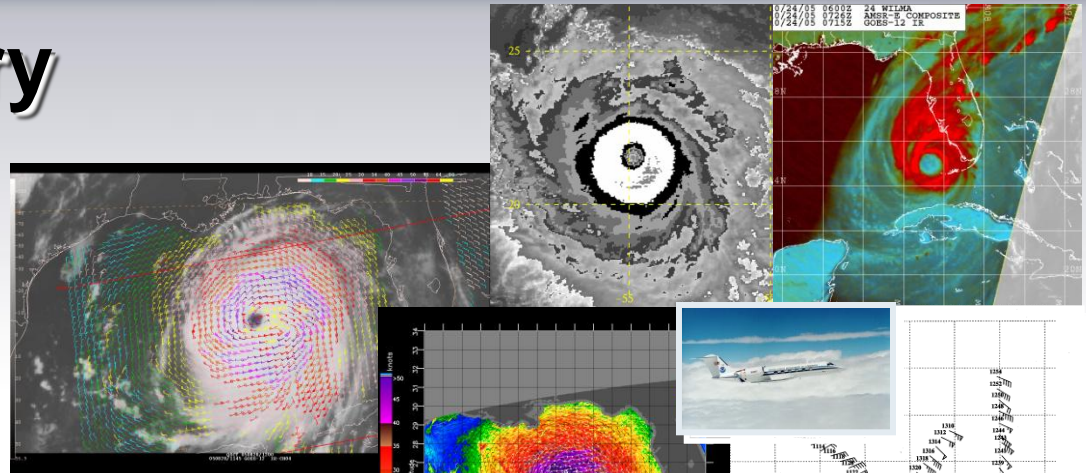
- **Satellite Imagery**

- **Geostationary**

- **Polar-Orbiting**

- **Microwave**

- **Scatterometer**



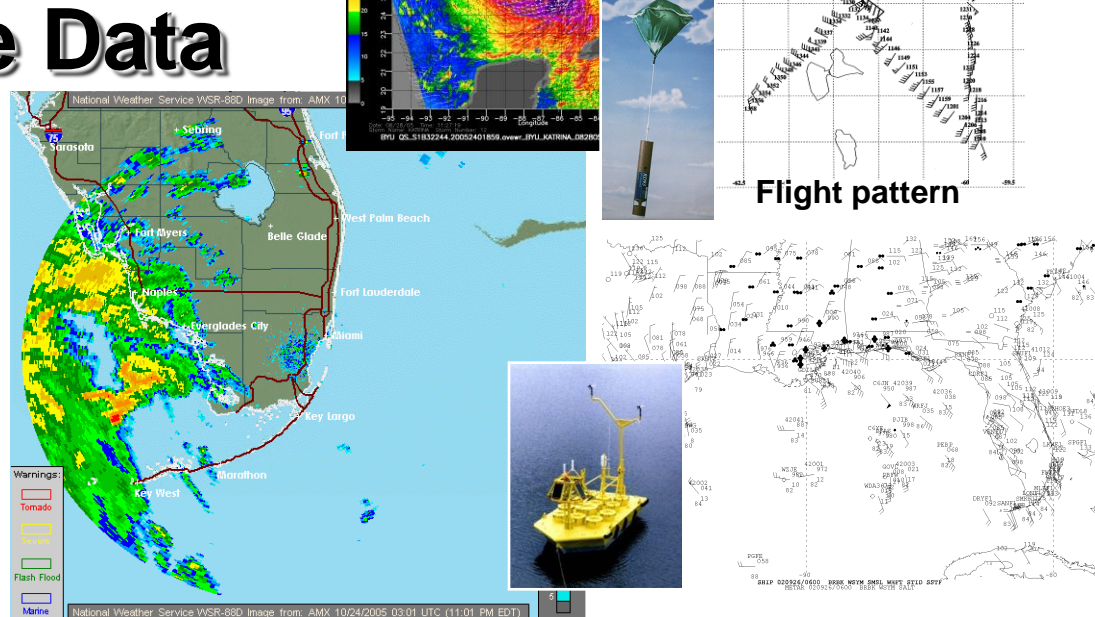
- **Reconnaissance Data**

- **Dropsondes**

- **SFMR**

- **Radar**

- **Surface Observations**

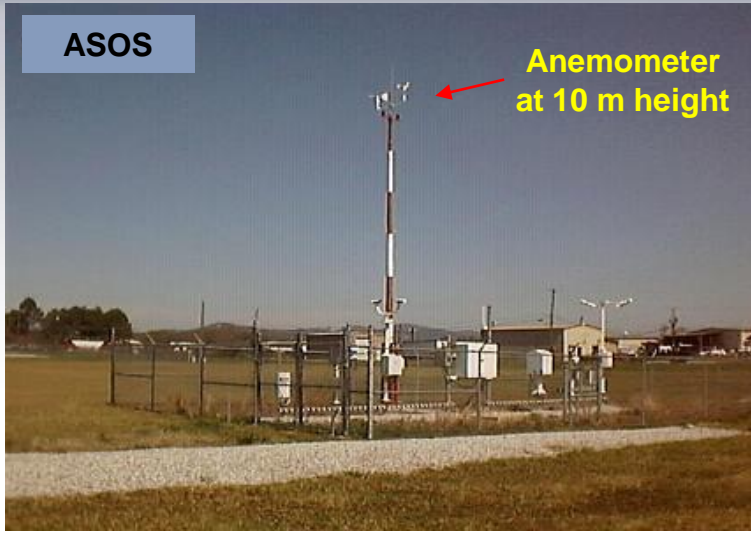


Tropical Cyclone Intensity

What do we mean by maximum sustained winds?

ASOS

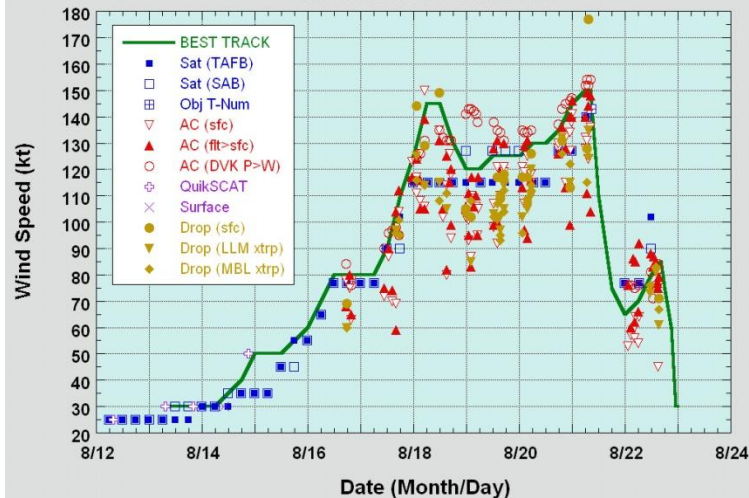
Anemometer
at 10 m height



Maximum sustained winds:

**strongest wind speed averaged
during a 1-minute period at an
altitude of 10 m (33 ft), associated
with the circulation of the tropical
cyclone at a given point in time**

Post-Storm Analysis (Intensity)
Hurricane Dean 2007

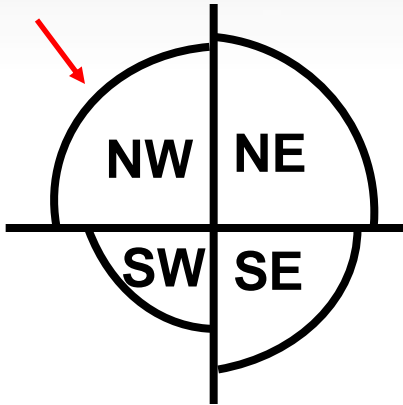


- Usually estimated, rarely directly measured
- Central pressure is correlated with intensity, but pressure-wind relationships has variability

Tropical Cyclone Wind Radii

How big is the storm?

radii represent the largest distance from center in particular quadrant

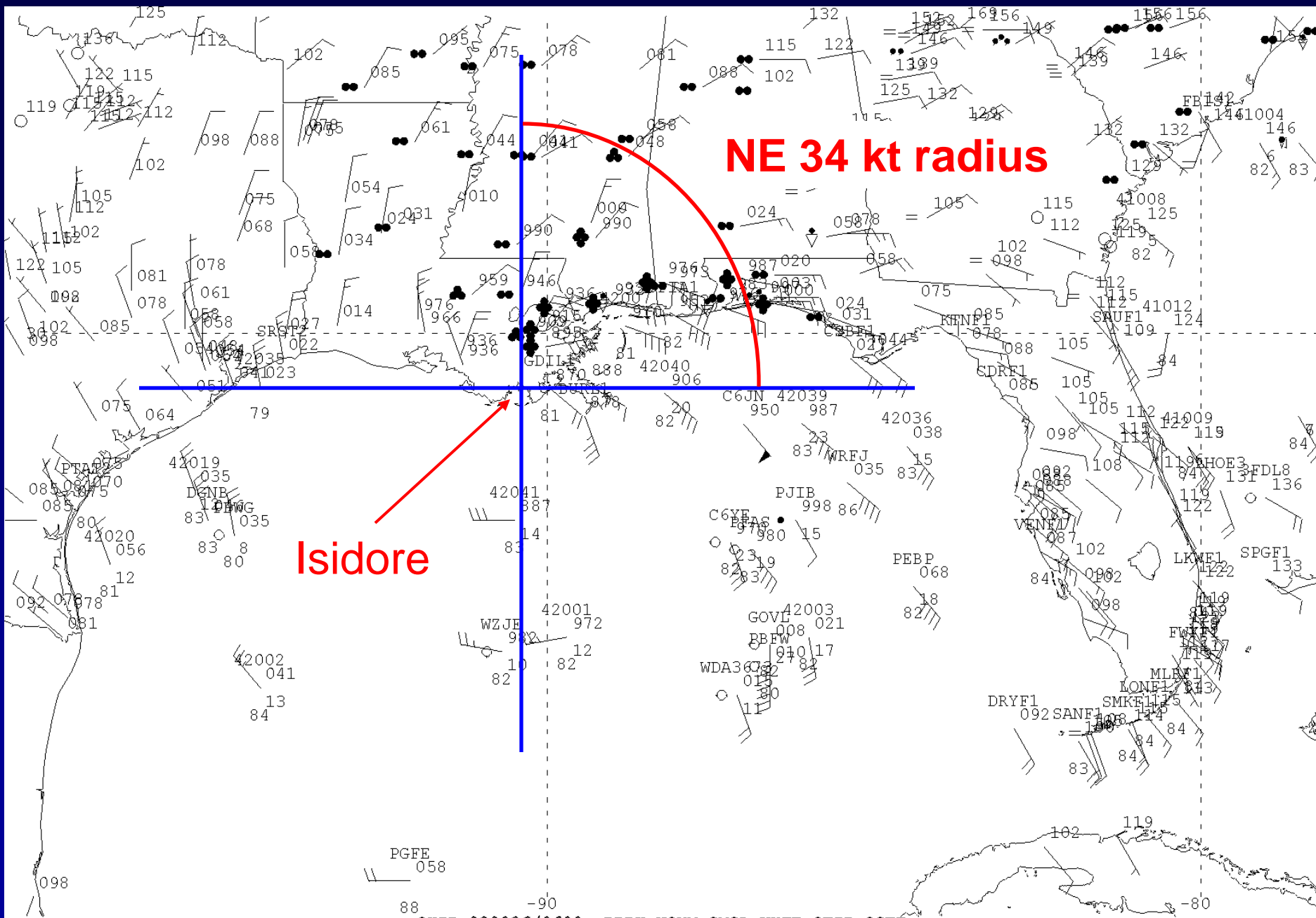


leads to an inherent over-estimate of radii, especially near land

-NHC estimates cyclone “size” via wind radii in four quadrants

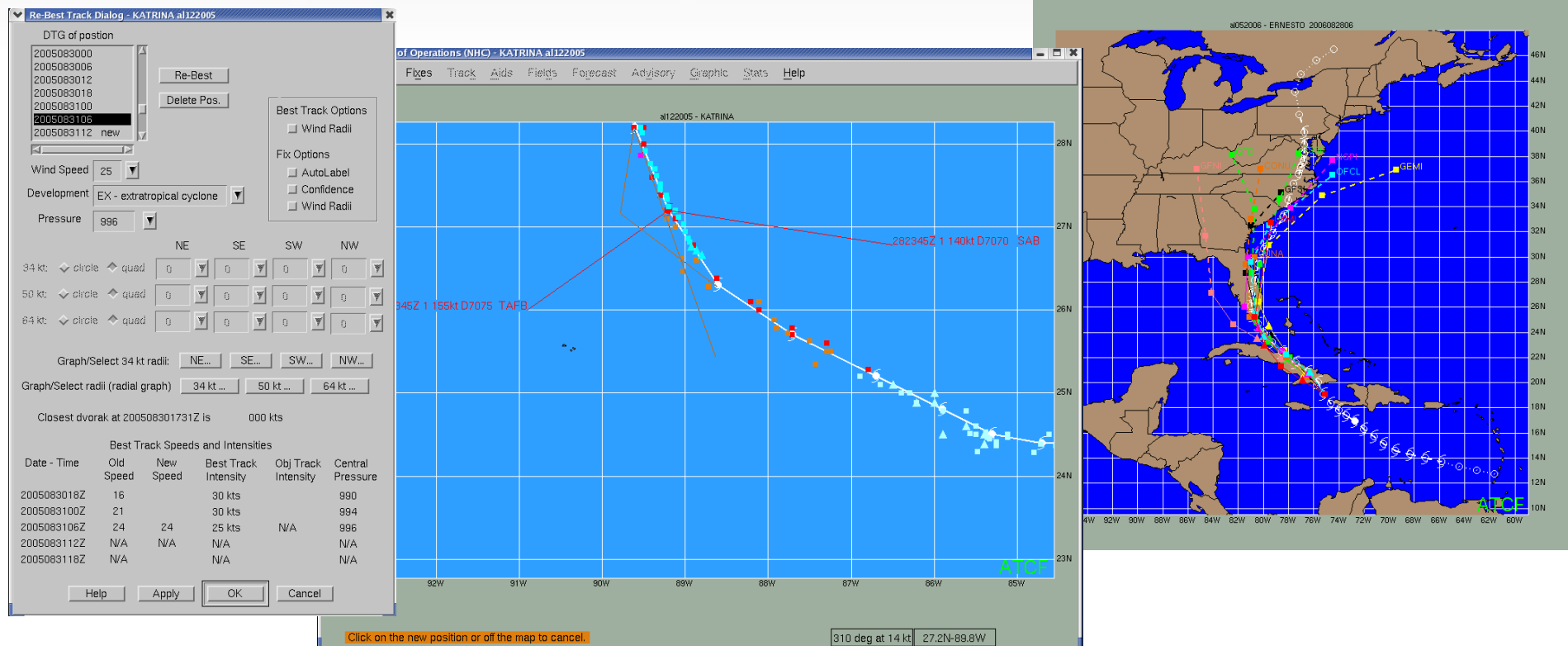
•Wind radius = Largest distance from the center of the tropical cyclone of a particular sustained surface wind speed threshold (e.g., 34, 50, 64 kt) somewhere in a particular quadrant (NE, SE, SW, NW) surrounding the center and associated with the circulation at a given point in time

Limitations of Four-Quadrant Radii



Forecast Process

1. Locate the cyclone center and determine the motion, intensity and size
2. Initialize and retrieve guidance models



Forecast Process

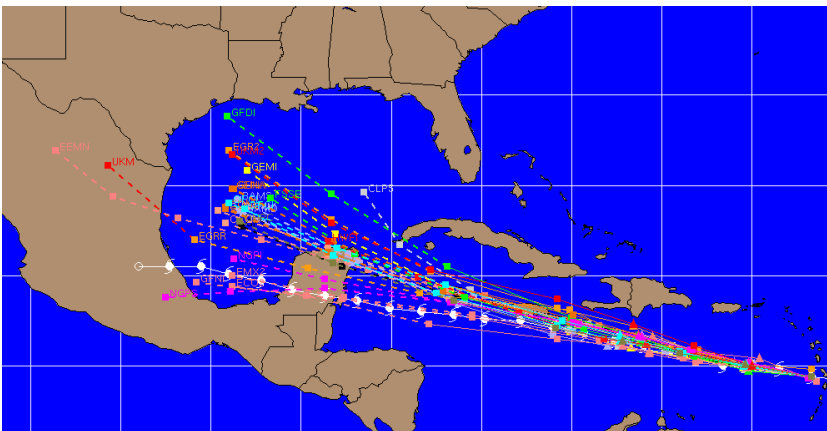
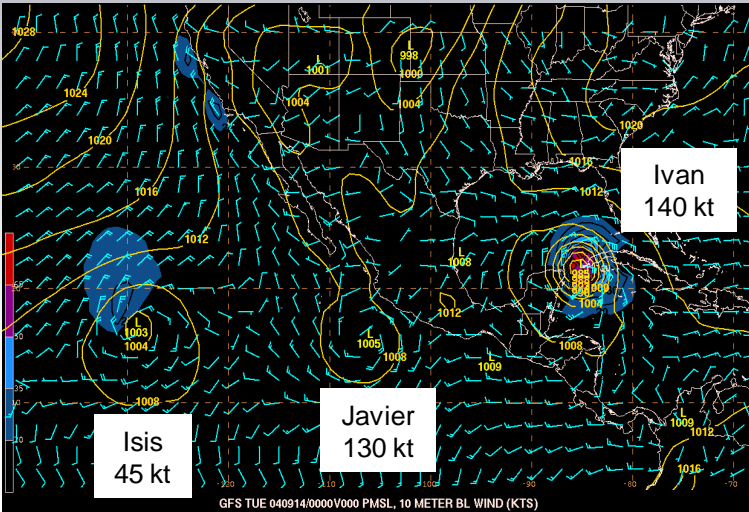
1. Locate the cyclone center and determine the motion, intensity and size
2. Initialize and retrieve guidance models
3. **Construct forecast of track, intensity, and wind radii**



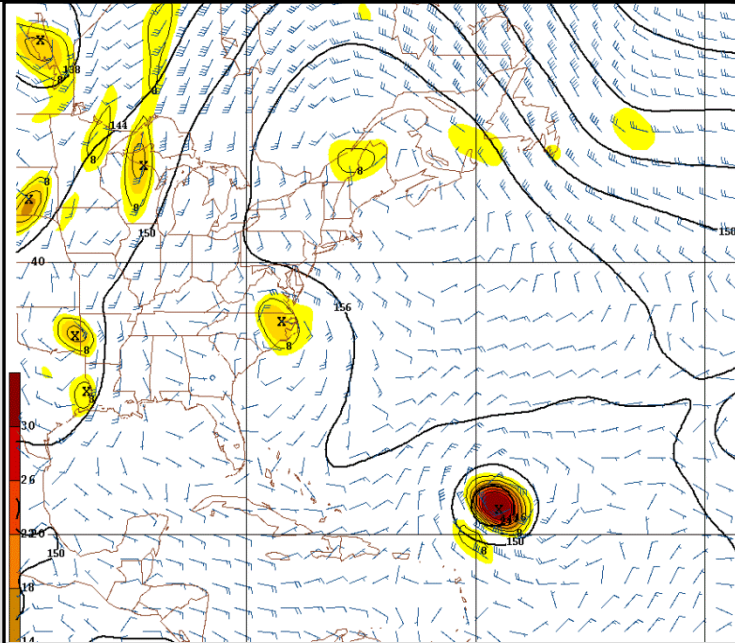
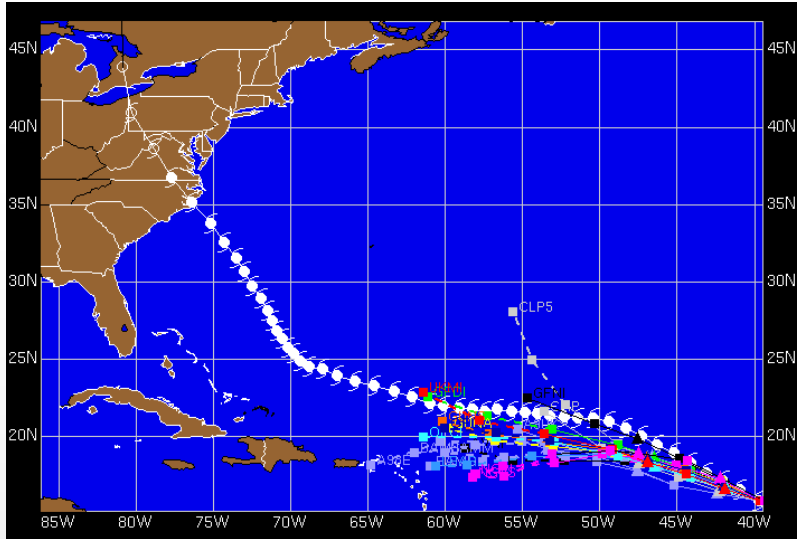
Steps in Preparing Forecast

- View and interpret latest model fields
- Review latest model tracks
- Consider previous forecast (continuity) and current trends (persistence)

- Changes in direction and speed along an individual forecast track are also made gradually
- Track forecast guidance has the greatest skill. Intensity guidance has less skill, while the skill of size guidance is still being evaluated.

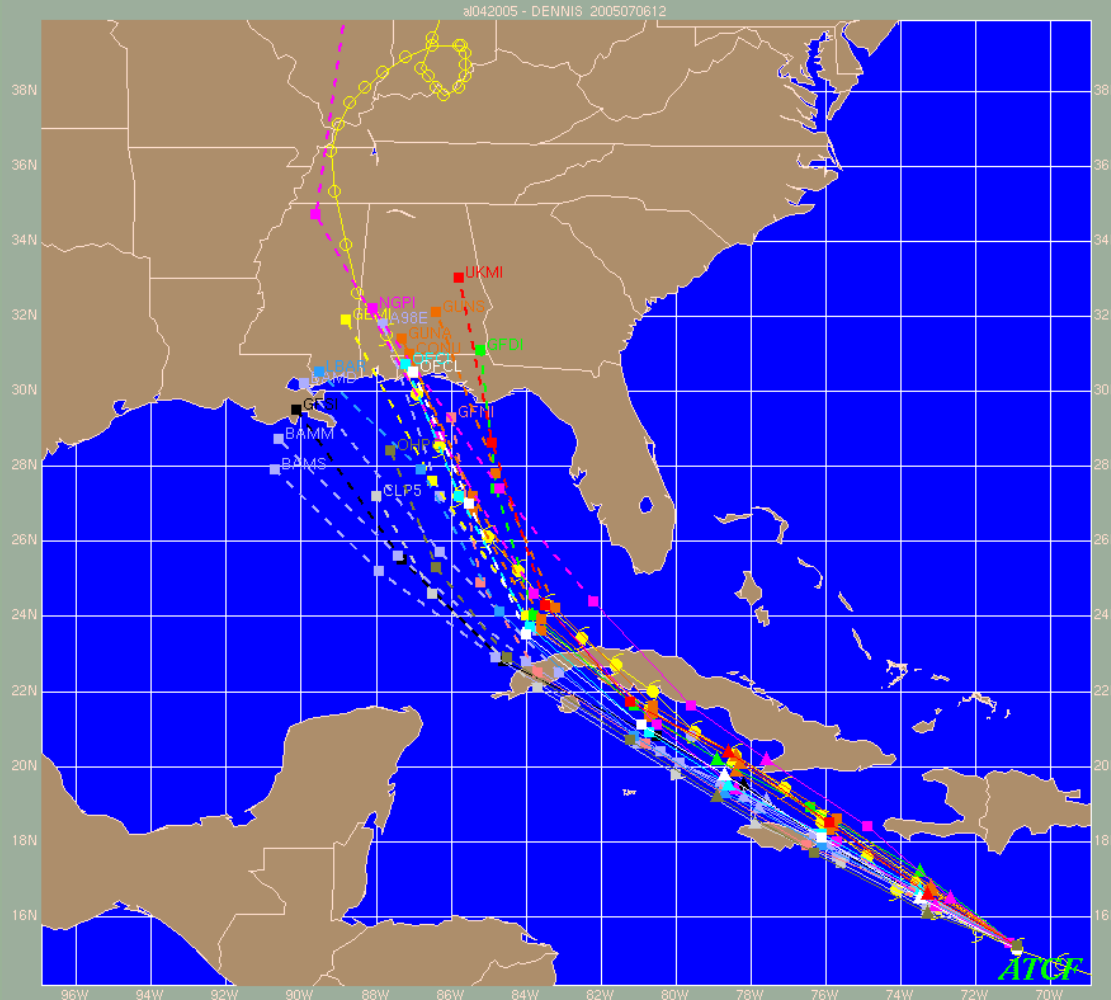


Types of track guidance



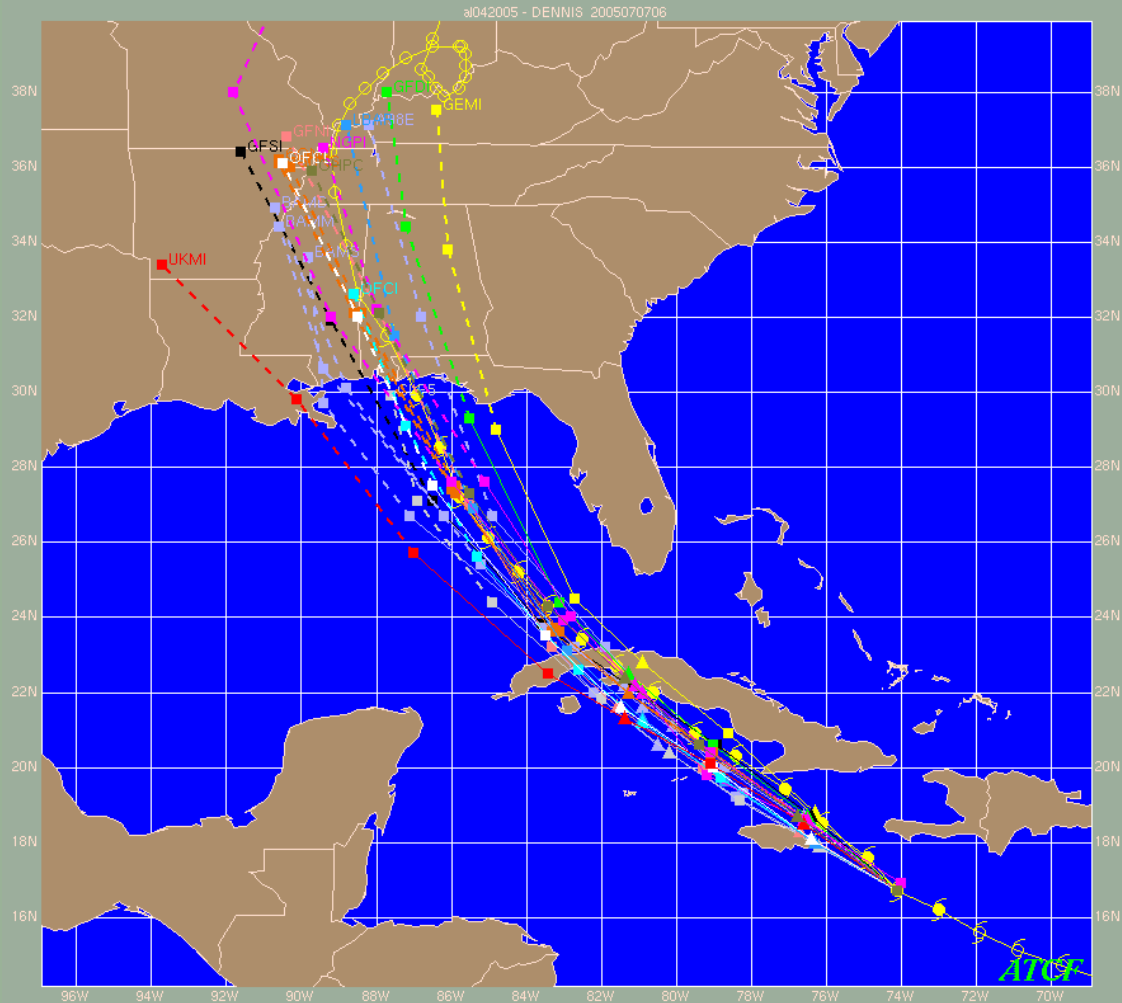
- “Simple” models
 - Persistence/extrapolation
 - Statistical (CLIPER = CLImatology and PERsistence)
 - Beta and advection steering models (BAM)
- Dynamical models
 - Global: GFS, NOGAPS, UKMET
 - Regional: GFDL (parent GFS), GFDN (parent NOGAPS), HWRF
- Consensus and ensembles
 - GFS ensemble mean
 - GUNA: Average of GFDL, UKMET, NOGAPS, GFS (AVN)
 - CONU: Average of GUNA models plus GFDN
 - FSU Superensemble

Dennis Guidance 6 July 1200 UTC

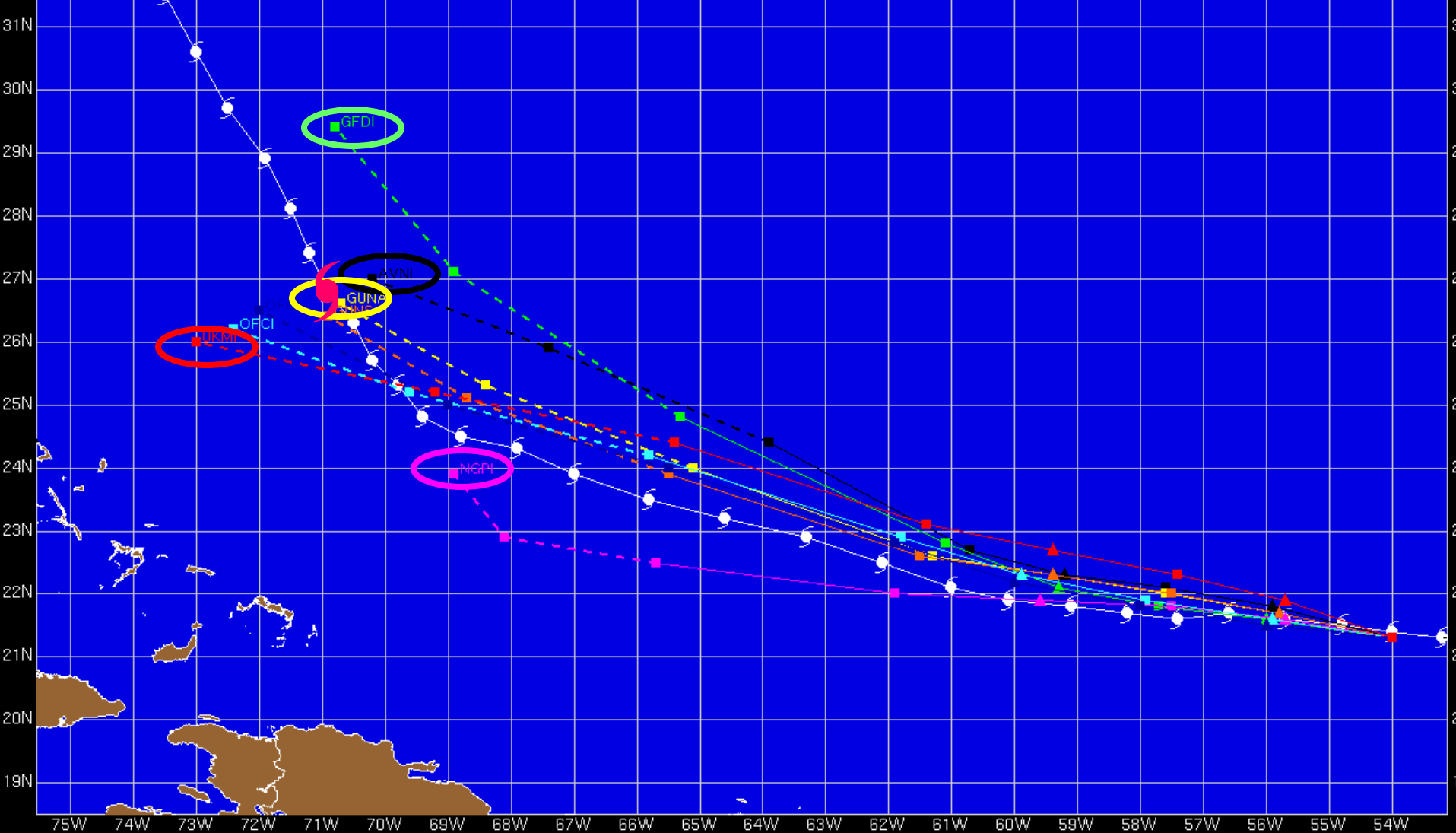


- Official forecast near model consensus in extreme western FL panhandle.

Dennis Guidance 7 July 0600 UTC



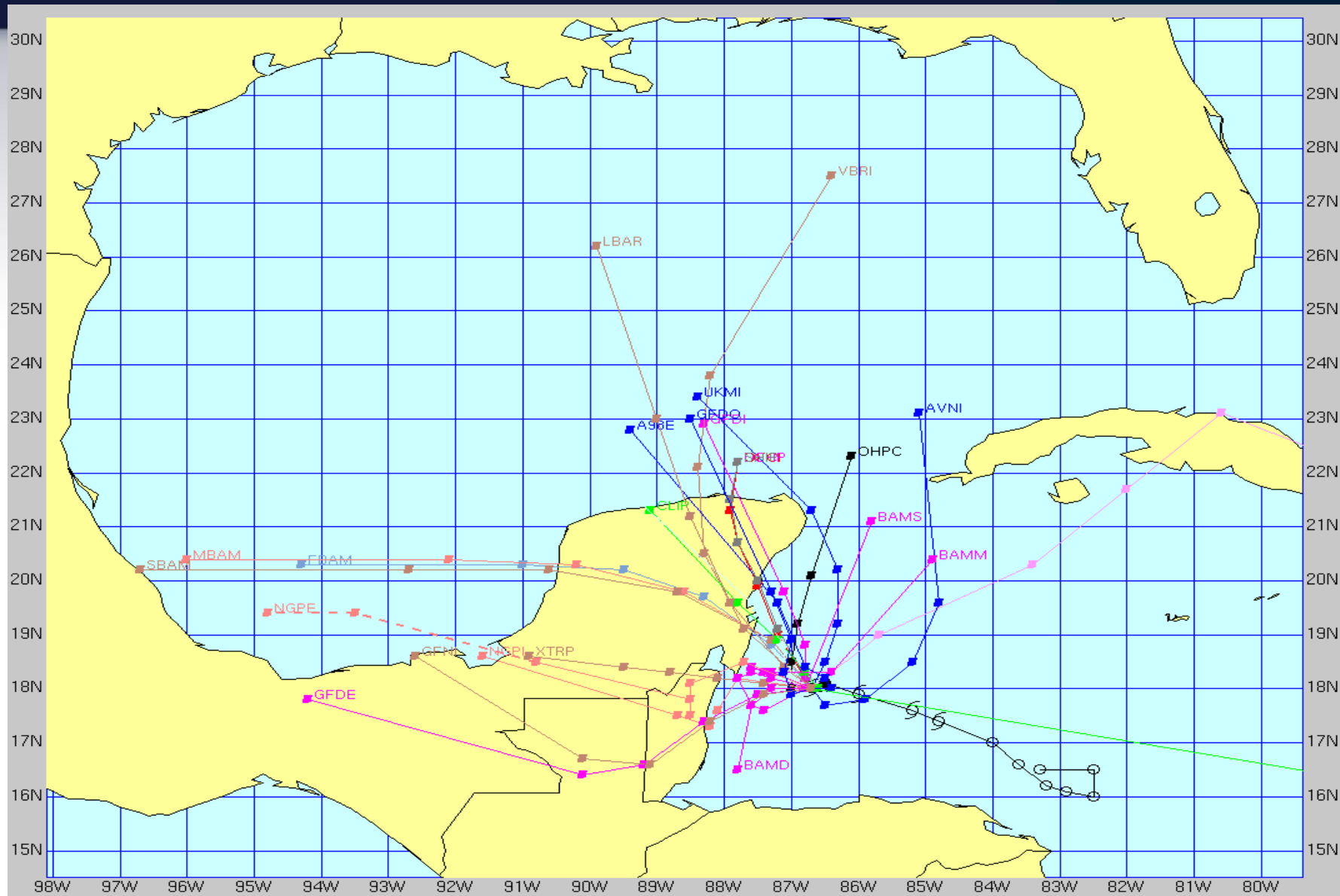
- Rest of the guidance shifts sharply eastward, leaving official forecast near the center of the guidance envelope (and very close to the actual track of Dennis).



**Excellent example of GUNA consensus:
HURRICANE ISABEL, 1200 UTC 11 SEP 2003**

The Dreaded Squashed Spider

Occurs when steering currents are weak

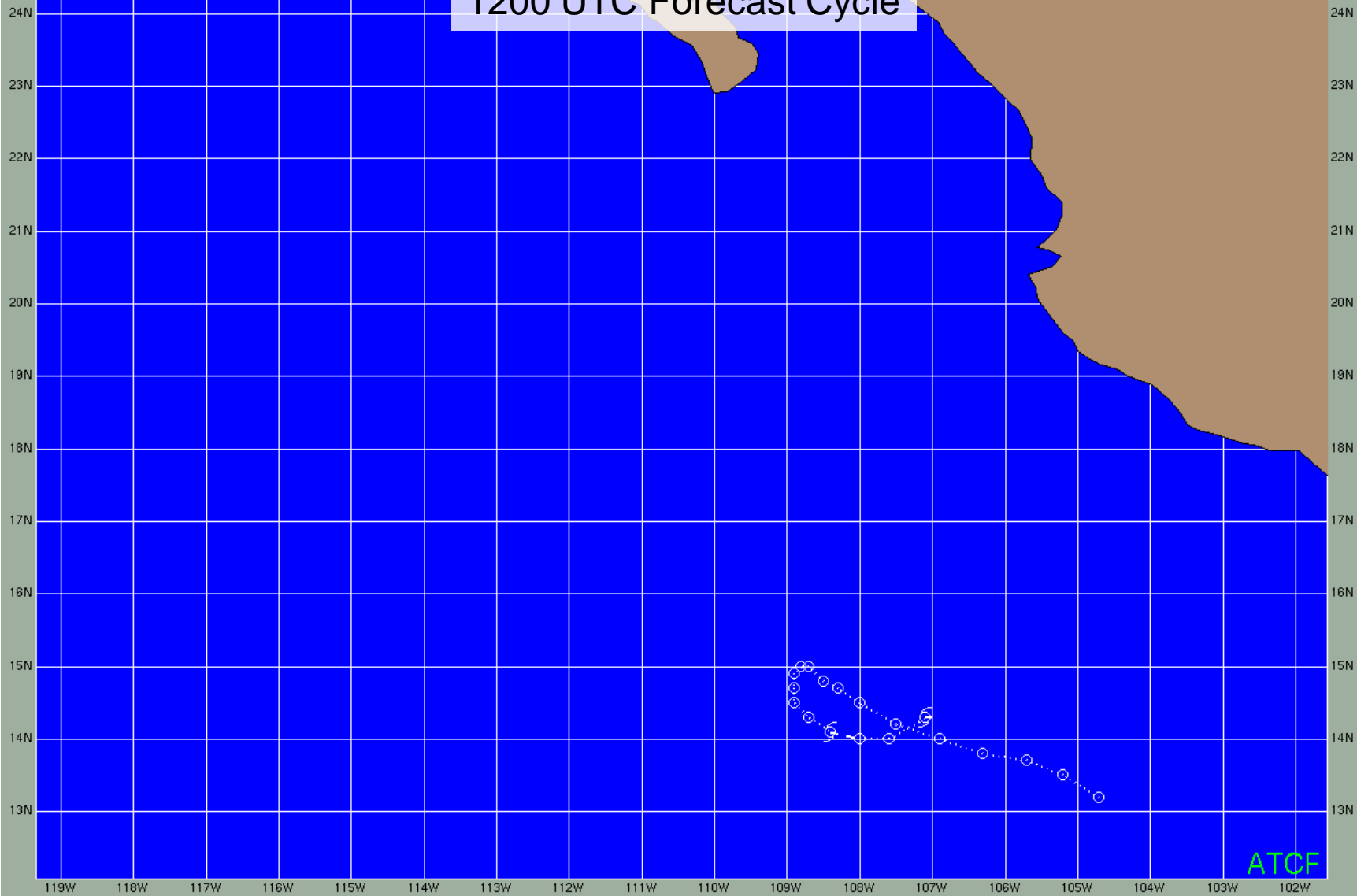


Kiko

ep152007 - KIKO

17 Oct 2007

1200 UTC Forecast Cycle



Kiko

ep152007 - KIKO 2007101712

17 Oct 2007

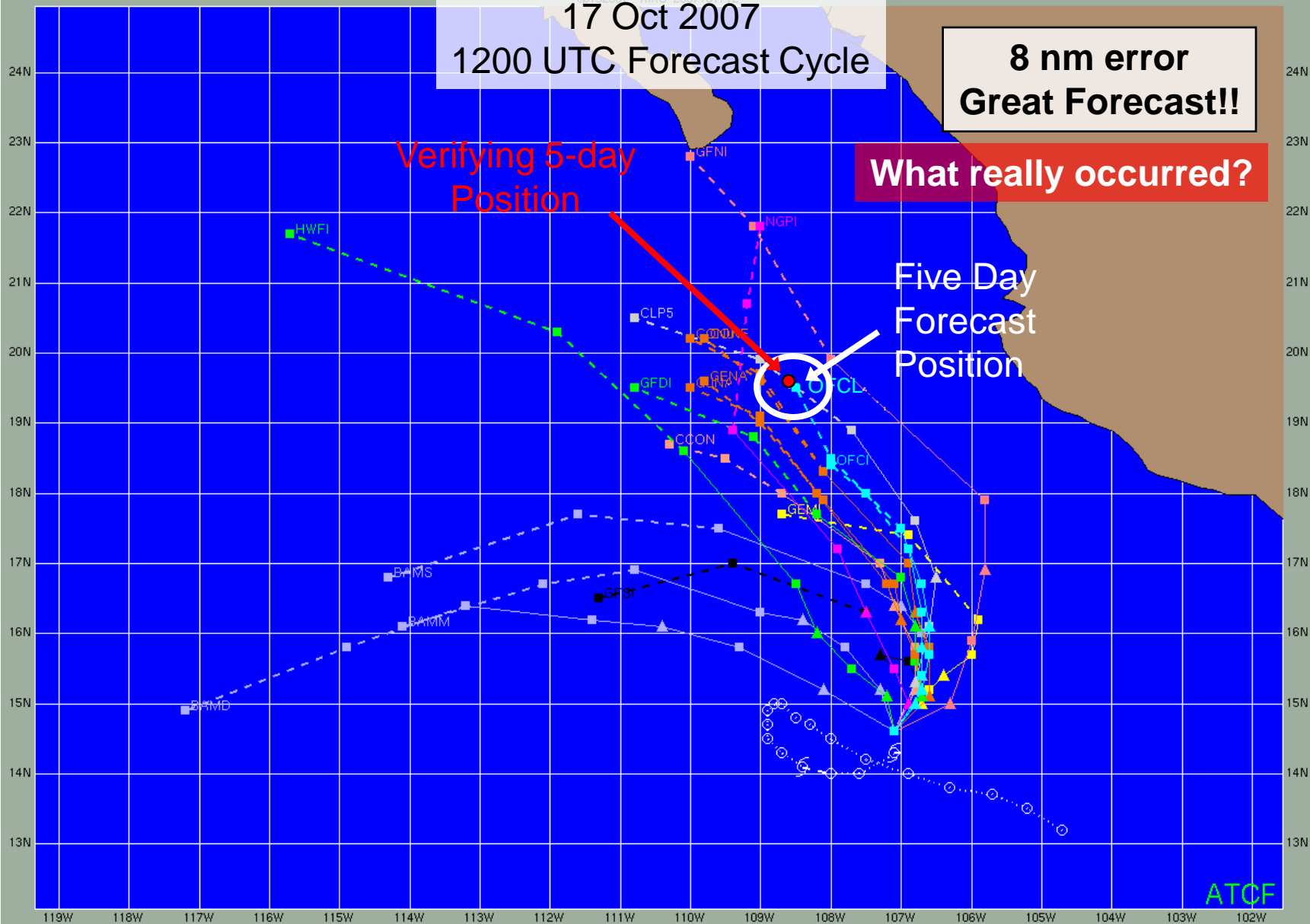
1200 UTC Forecast Cycle

8 nm error
Great Forecast!!

What really occurred?

Verifying 5-day
Position

Five Day
Forecast
Position



ATCF

Kiko

ep152007 - KIKO 2007101712

17 Oct 2007

1200 UTC Forecast Cycle

8 nm error
Great Forecast!!

Verifying 5-day
Position

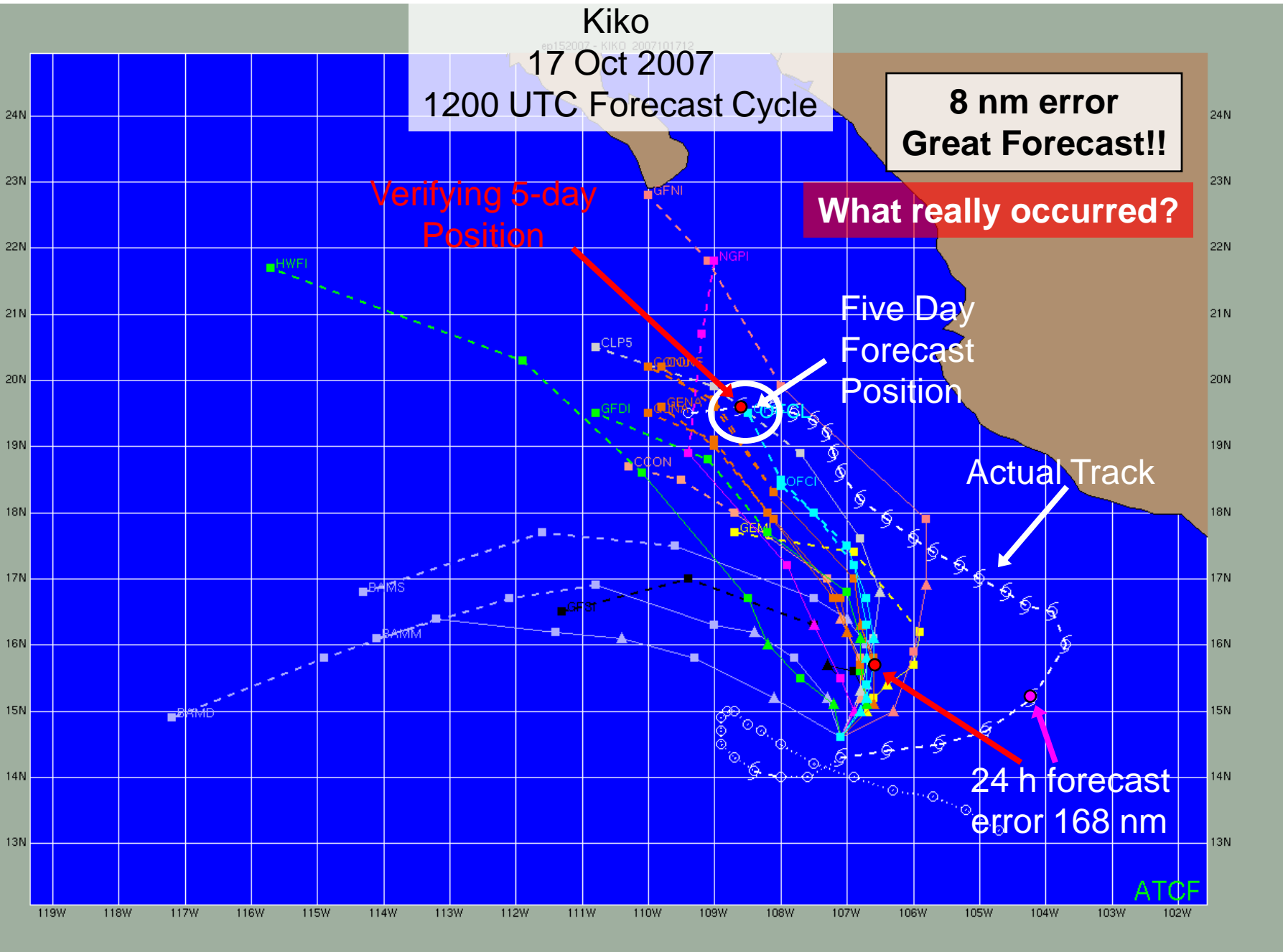
What really occurred?

Five Day
Forecast
Position

Actual Track

24 h forecast
error 168 nm

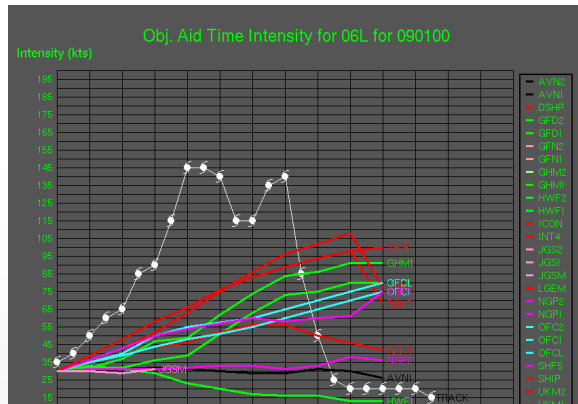
ATCF



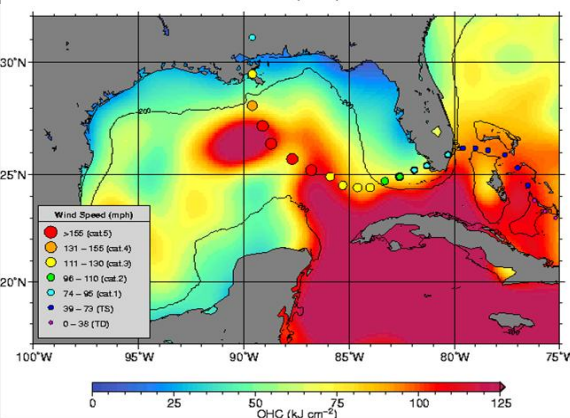
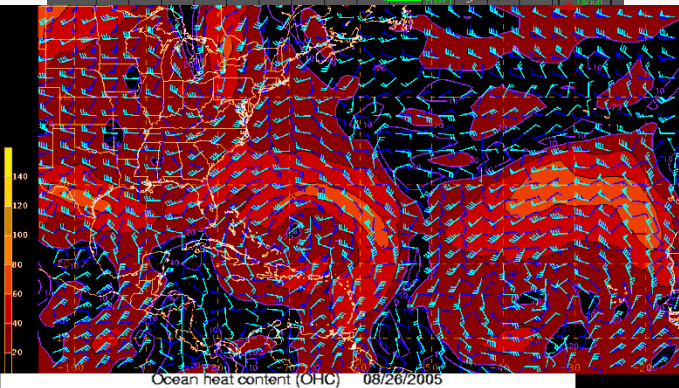
Wind Radii Forecast “Guidance”

- **Empirical ideas**
 - Is the storm strengthening or weakening?
 - Is persistence appropriate, or are conditions changing?
 - Is the storm becoming extratropical, causing wind field to expand?
 - Will all or part of the circulation be passing over land, such that radii could decrease?
 - Is the system accelerating, such that the storm could become more asymmetric?
- **Guidance is essentially limited to climatology and persistence (CLIPER) models**
- **Occasionally can use dynamical models (not yet fully tested and verified for radii)**

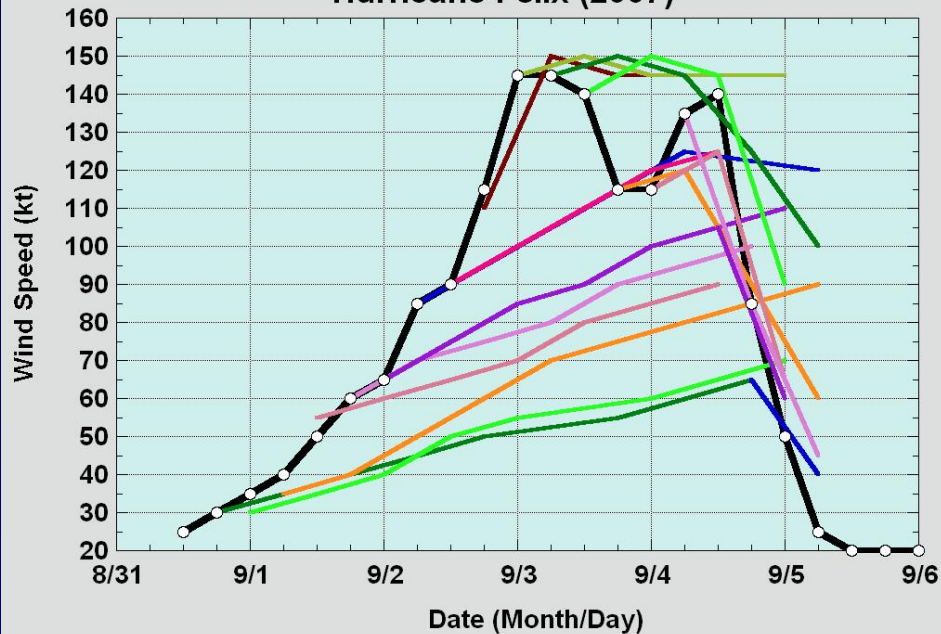
Intensity Forecasts



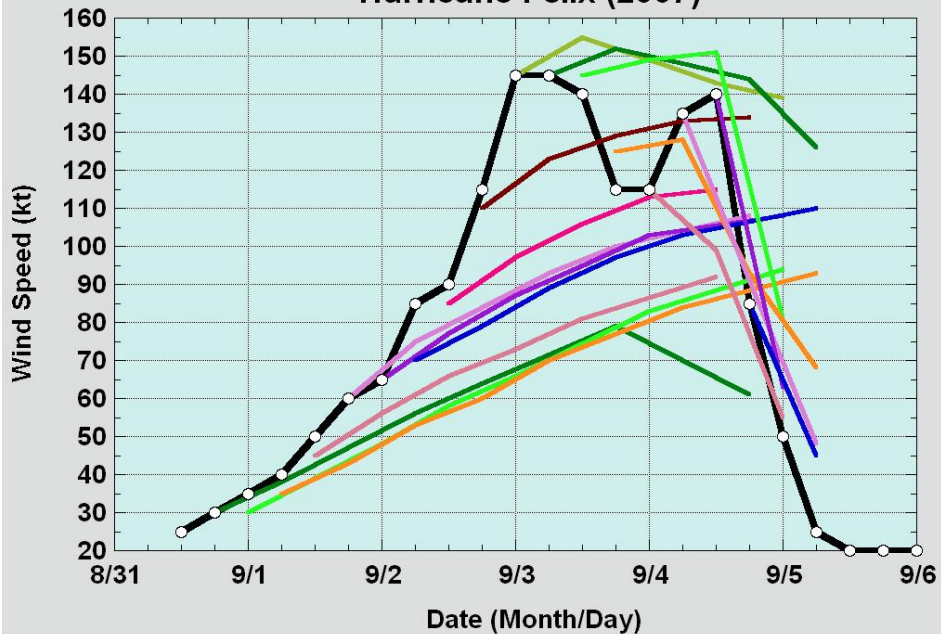
- **Types of Intensity Guidance**
 - Dynamical Models (GFDL & HWRF)
 - Consensus and Ensemble
 - Statistical/Dynamical
- **Similar considerations as for track apply with respect to continuity**
- **NHC intensity forecasts tend to be conservative; rapid intensity changes are rarely forecast**
- **Modest changes in track can result in significant differences in SST, vertical wind shear, land interaction, and other environmental factors that affect intensity**



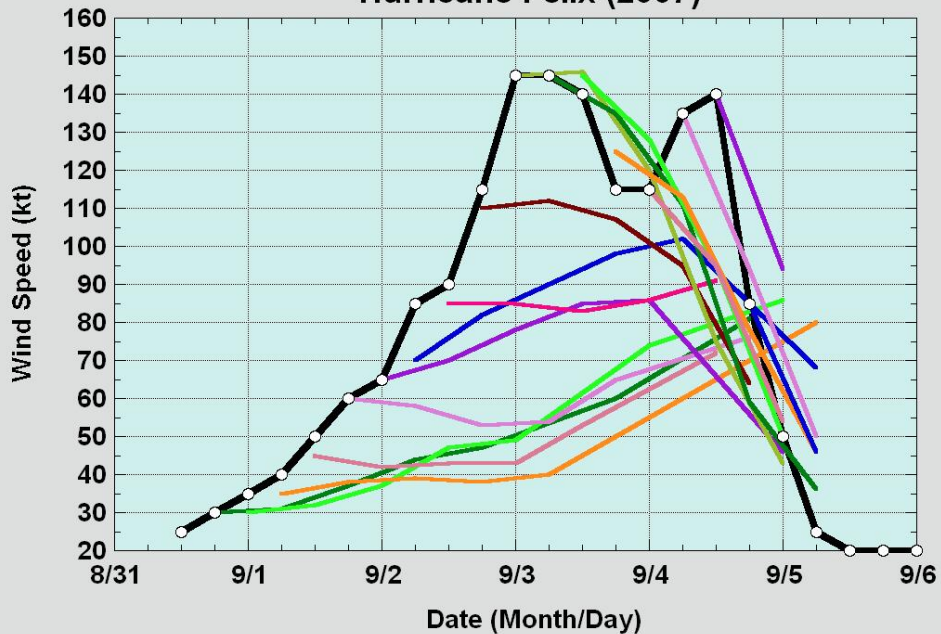
**NHC Official Forecasts
Hurricane Felix (2007)**



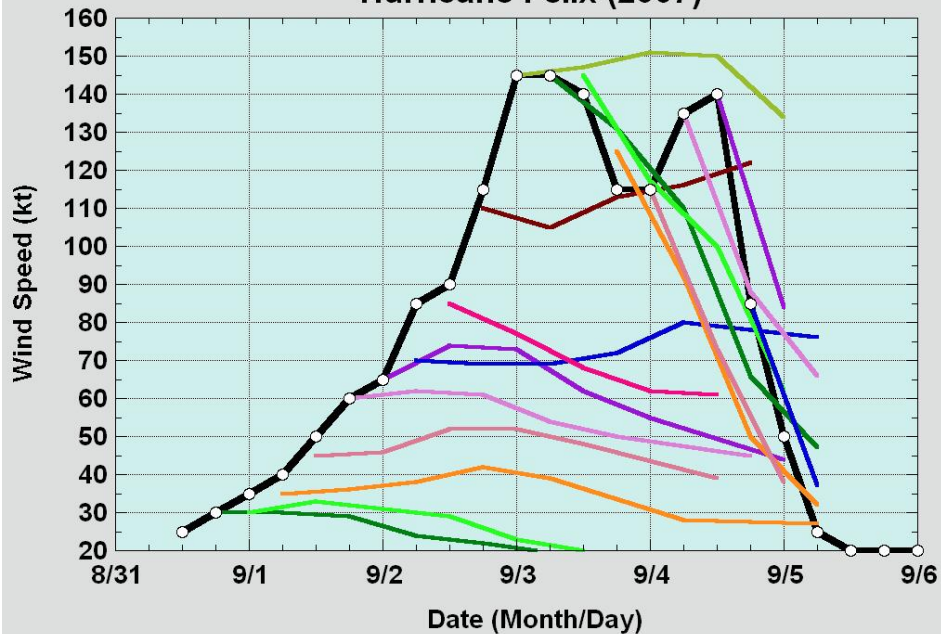
**DSHIP Forecasts
Hurricane Felix (2007)**



**GHMI Forecasts
Hurricane Felix (2007)**

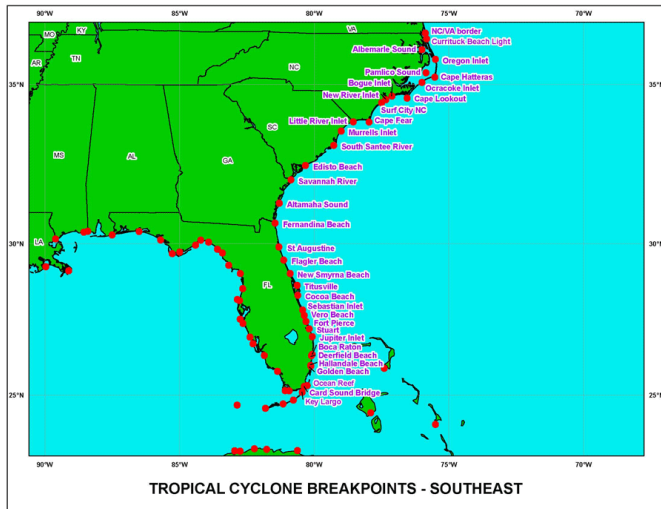


**HWFI Forecasts
Hurricane Felix (2007)**



Forecast Process

1. Locate the cyclone center and determine the motion, intensity and size
2. Initialize and retrieve guidance models
3. Construct forecast of track, intensity, and wind radii
4. Coordinate Forecasts and Warnings

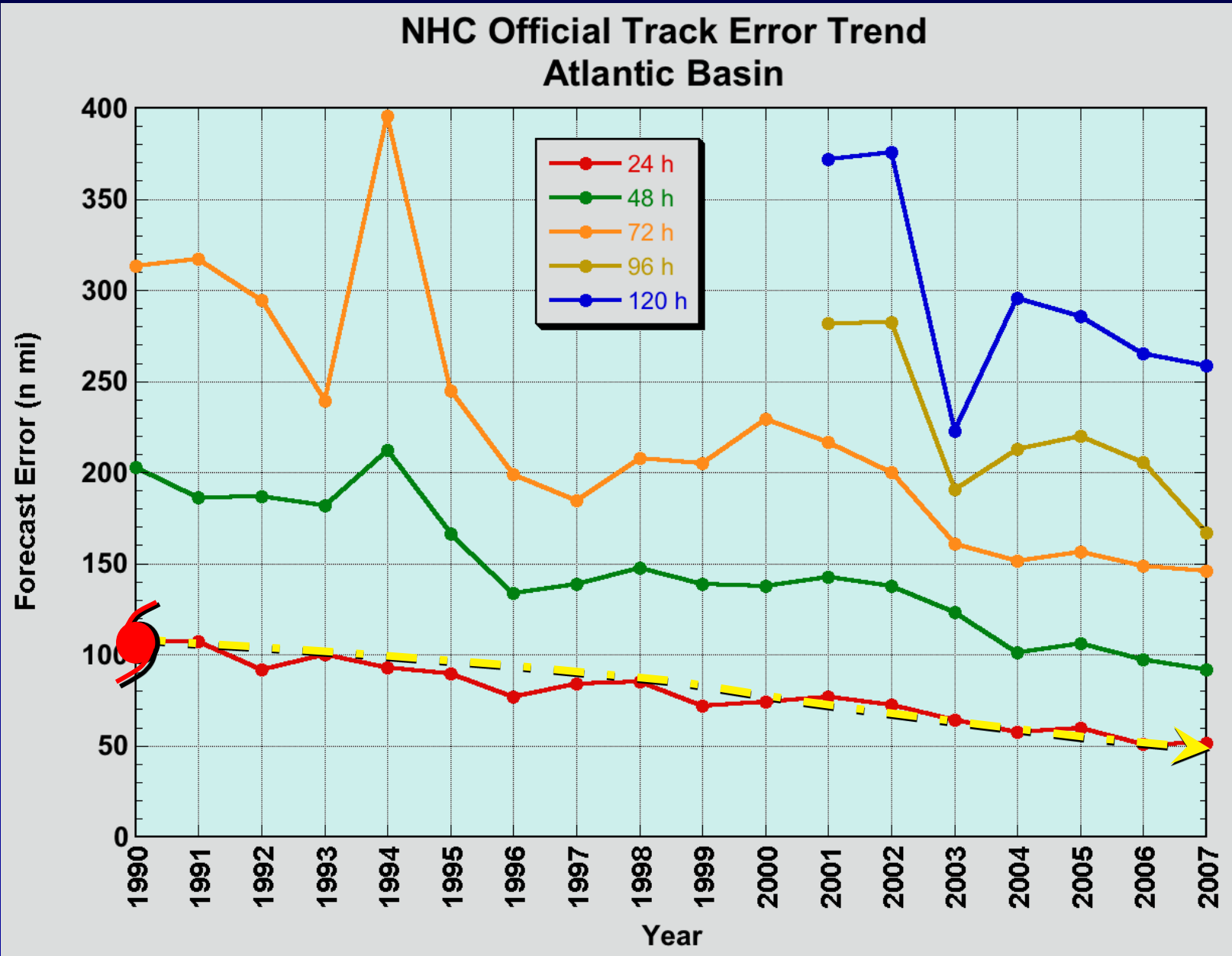


WATCHES/WARNINGS ISSUED
OVER STRETCHES OF THE
COASTLINE DEFINED BY PRE-
DETERMINED "BREAKPOINTS"

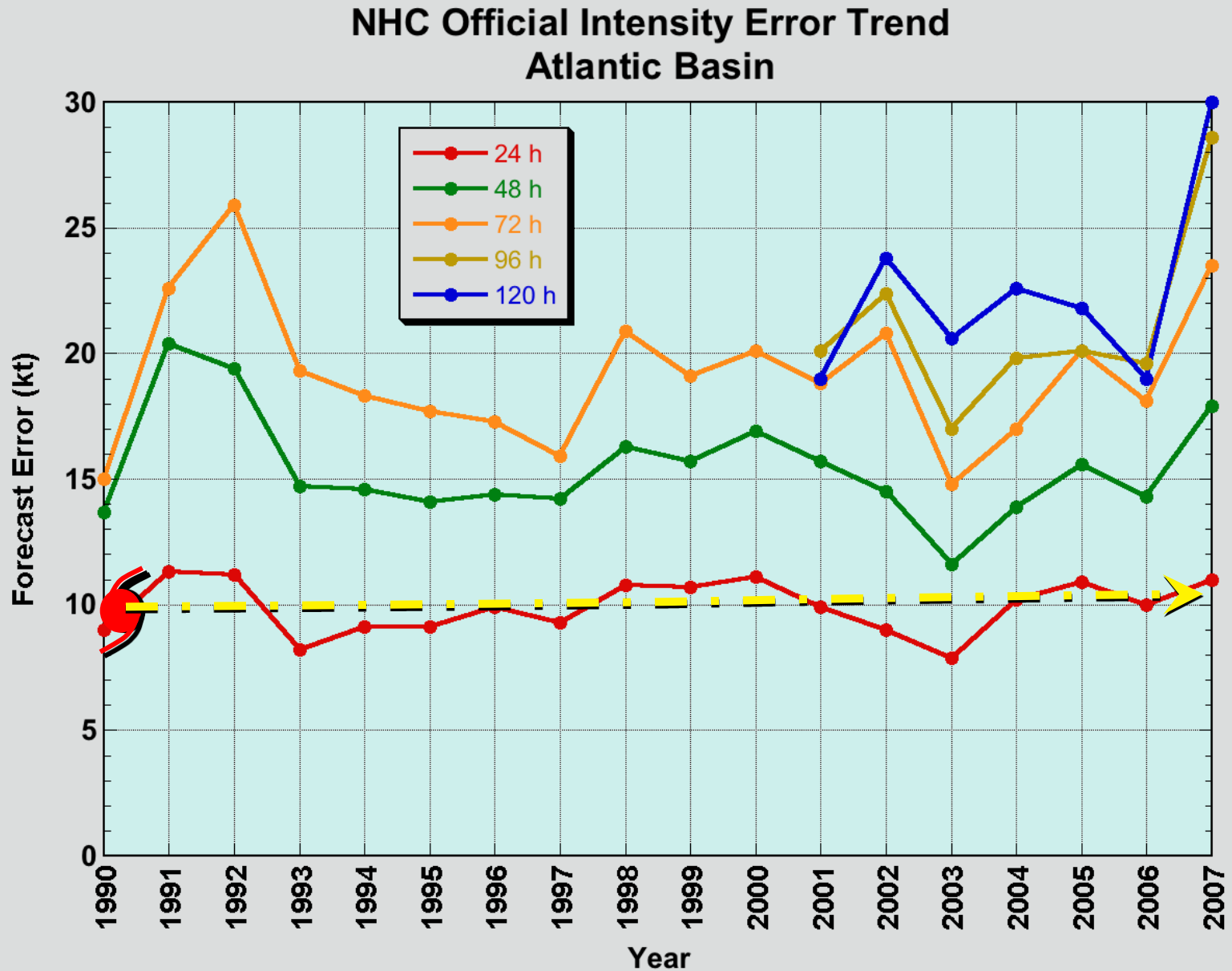
What do coastal watches and warnings mean?

- **Hurricane Warning:** hurricane conditions are expected within the warning area, generally within the next 24 hours
- **Hurricane Watch:** hurricane conditions are possible within the watch area, generally within the next 36 hours

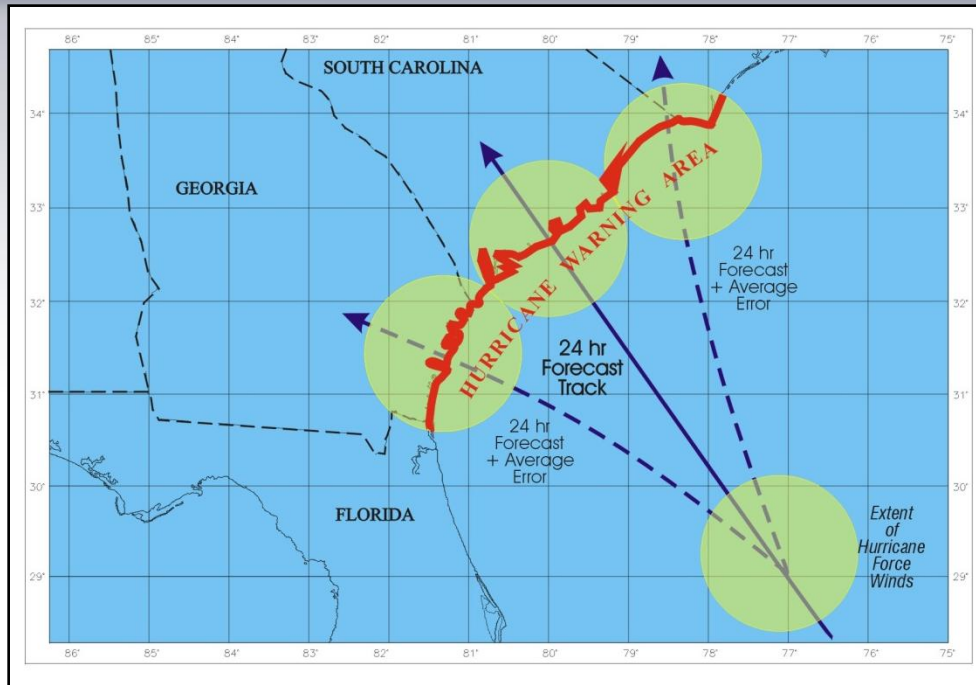
Track forecast errors cut in half since 1990



No progress with intensity



Issuing Warnings

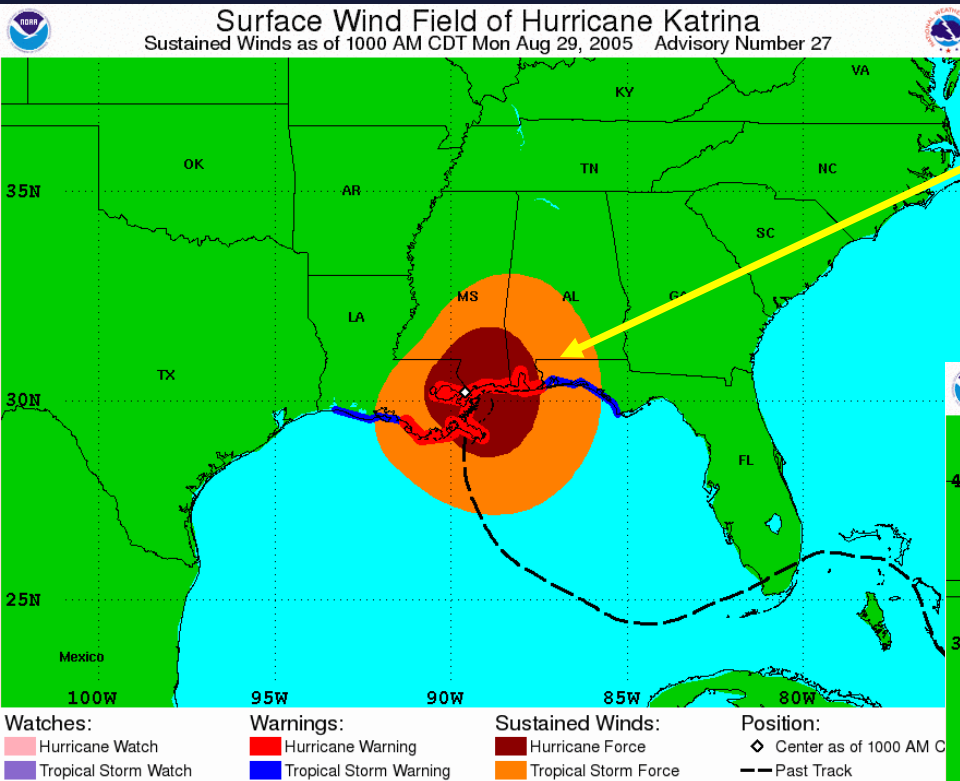


(AVERAGE 24-HOUR FORECAST ERROR IS NOW ~60 MILES)

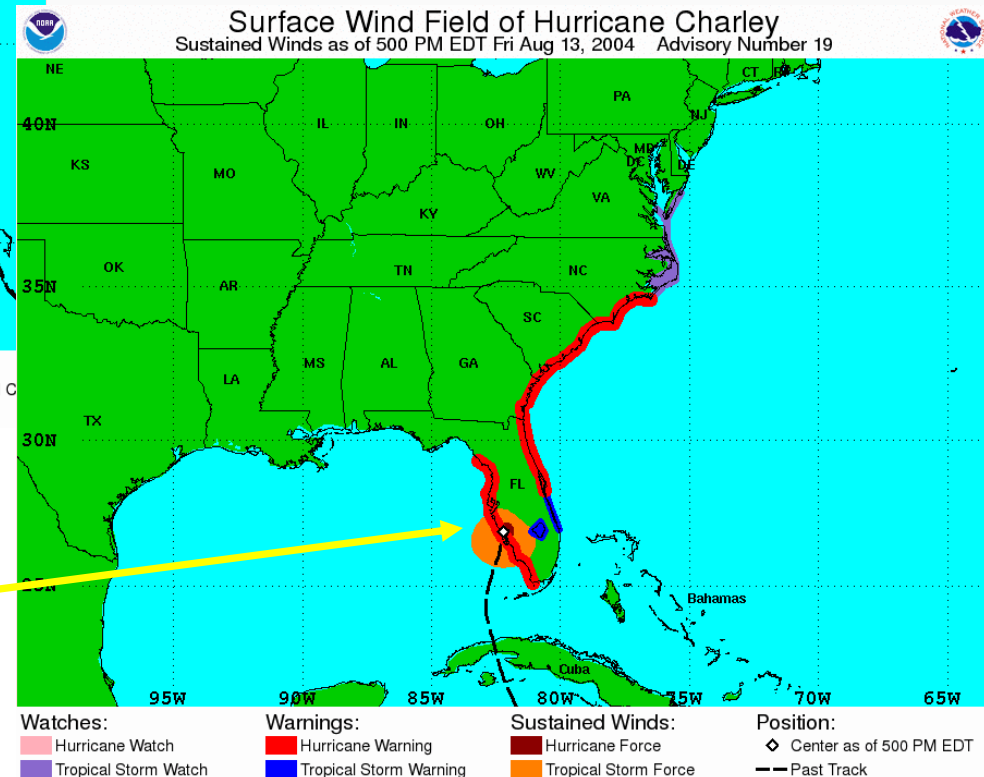
Warning Size is based on:

- Forecast Track
 - Storm Size
 - Known uncertainties in the forecasts
- Orientation of the forecast track with respect to the coast plays a major role in the size of the warning area

Issuing Warnings



Katrina grew larger prior to landfall

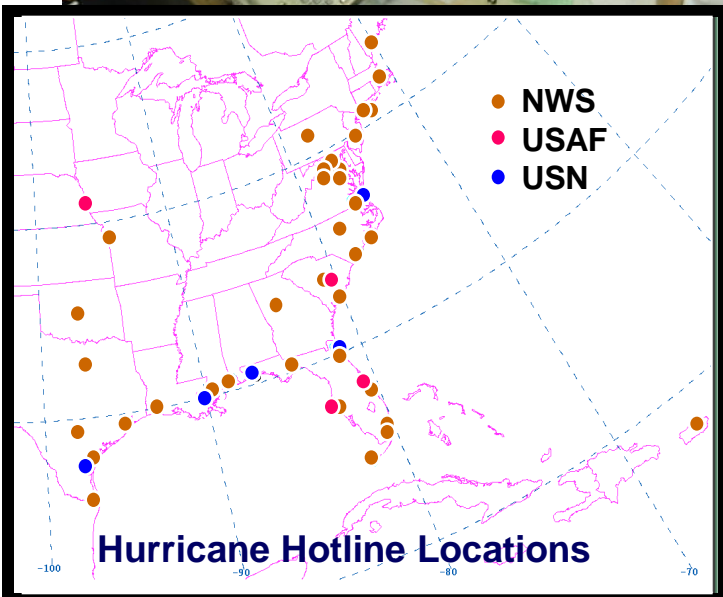


Charley's nearly parallel approach to the coast required a large warning area

Forecast Coordination

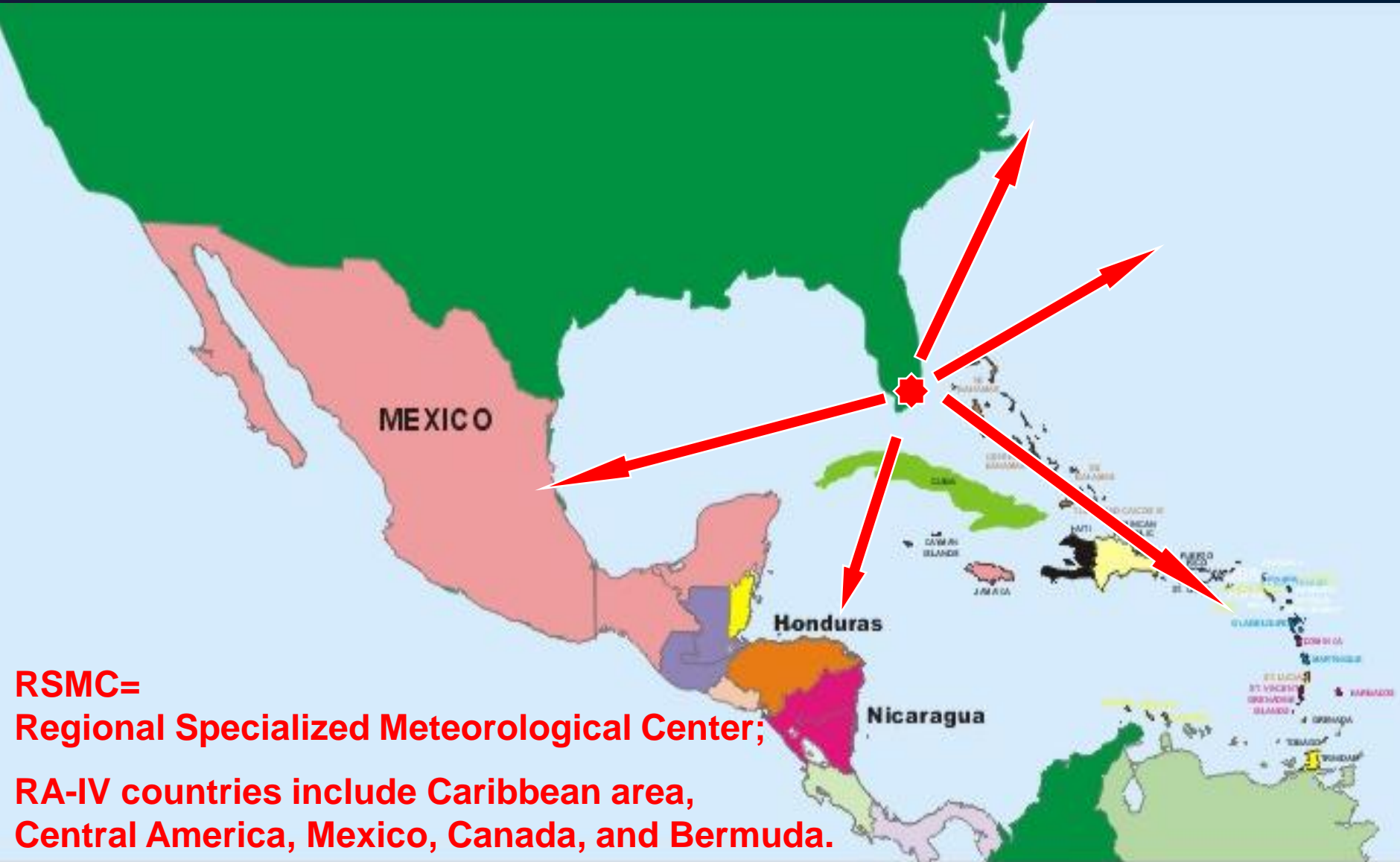


- Hurricane Hotline
 - Other NWS/NCEP National Centers (HPC, OPC, SPC)
 - Local NWS Offices
 - DOD
 - Other federal agencies



International Coordination

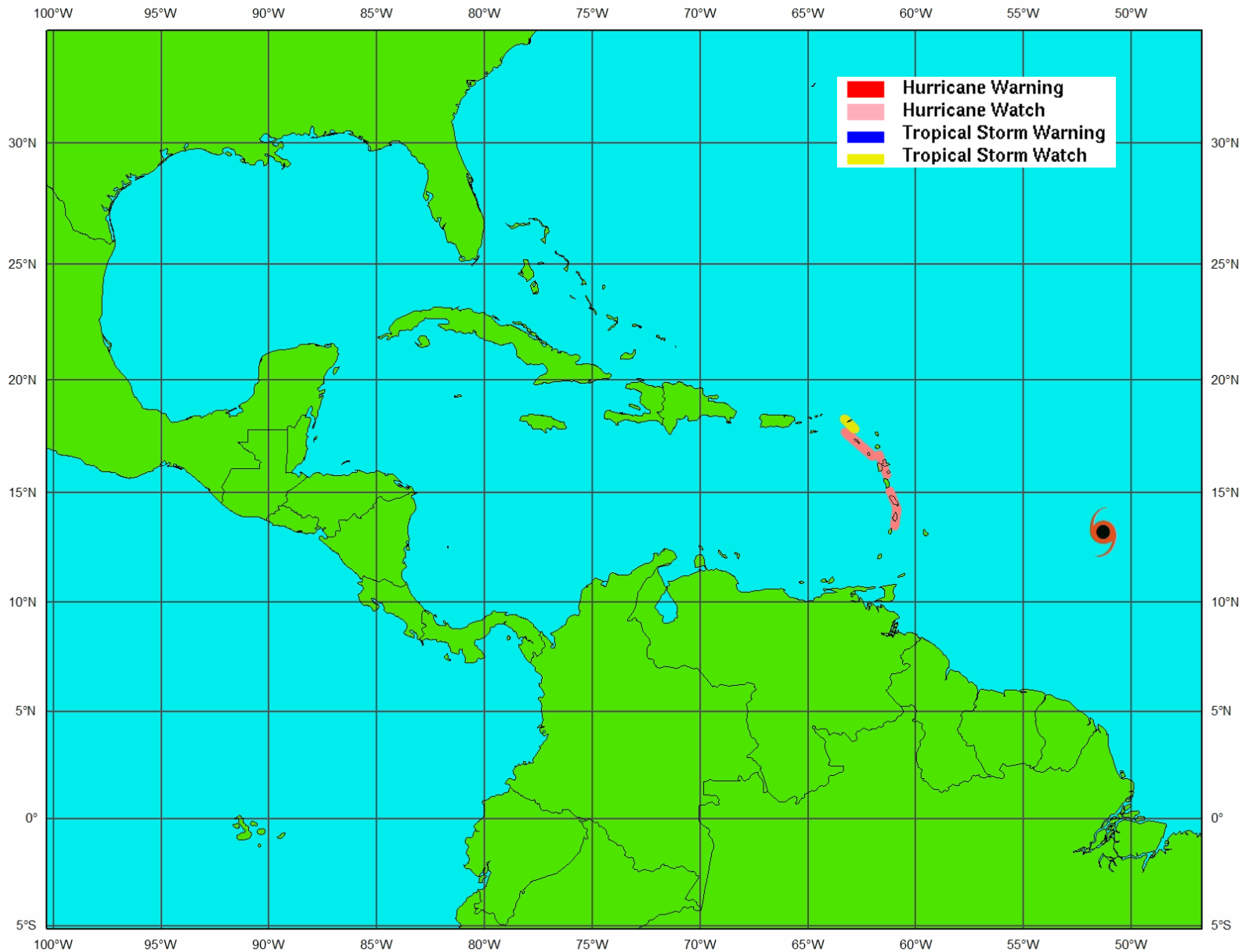
World MET. ORGANIZATION - Regional Association IV Coordination



RSMC=
Regional Specialized Meteorological Center;

RA-IV countries include Caribbean area,
Central America, Mexico, Canada, and Bermuda.

Hurricane Dean watches and warnings



Forecast Process

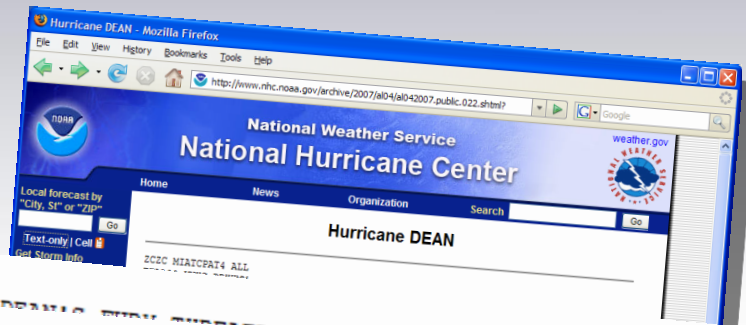
1. Locate the cyclone center and determine the motion, intensity and size
2. Initialize and retrieve guidance models
3. Construct forecast of track, intensity, and wind radii
4. Coordinate Forecasts and Warnings
5. Prepare and transmit the advisory “package”

Cycle repeats every 6 hours!

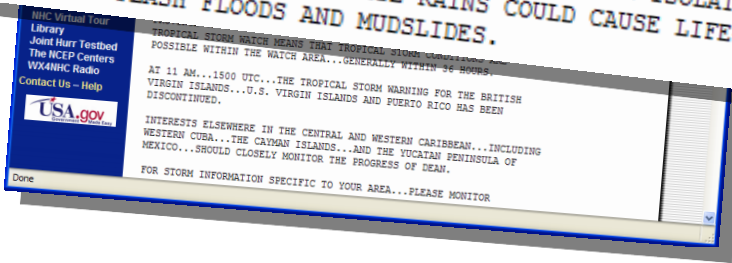
NHC Tropical Cyclone Advisory Products

Public Advisory

- plain-language text product originally intended for “rip and read”.
- Headline or lead statement
- Watches and warnings
- Center location, motion, forecast
- Wind speed and forecast
- Storm surge/Rainfall/Tornadoes
- Recommended actions

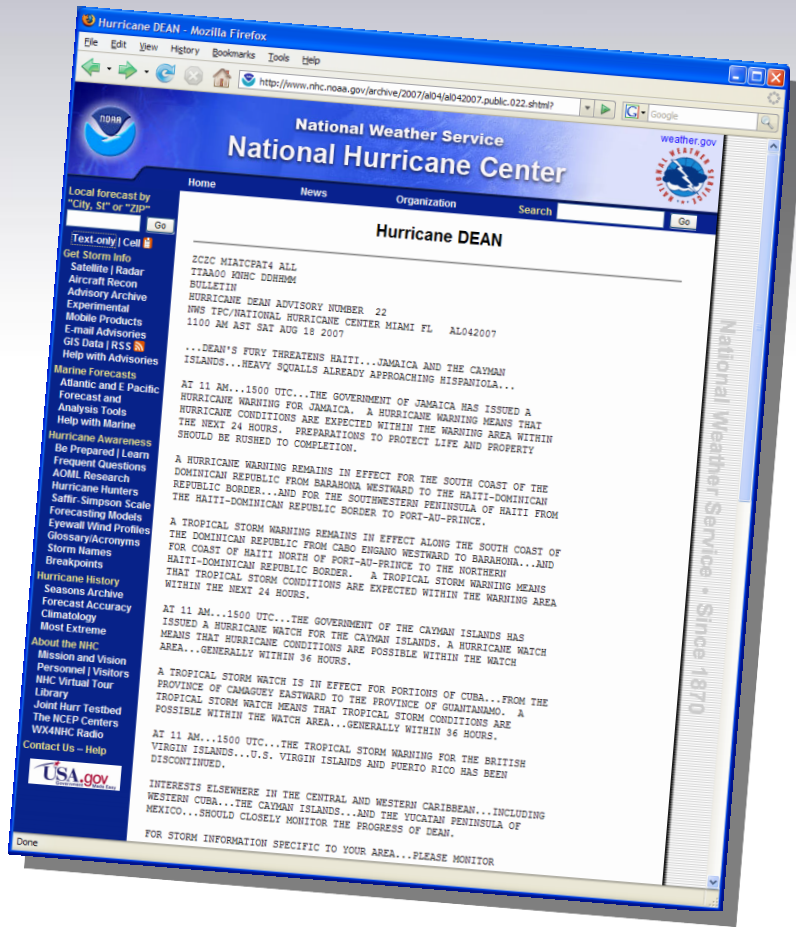


AT 11 AM...1500 UTC...THE GOVERNMENT OF JAMAICA HAS ISSUED A TROPICAL STORM WARNING FOR JAMAICA. A HURRICANE WARNING MEANS THAT AT 1100 AM AST...1500Z...THE CENTER OF HURRICANE DEAN WAS LOCATED NEAR LATITUDE 15.7 NORTH...LONGITUDE 68.6 WEST OR ABOUT 565 MILES... 210 MI EAST SOUTHEAST OF KINGSTON, JAMAICA AND ABOUT 210 MILES STORM TOTAL RAINFALL AMOUNTS OF 5 TO 10 INCHES CAN BE EXPECTED OVER JAMAICA...WITH MAXIMUM AMOUNTS OF UP TO 20 INCHES. AMOUNTS OF 2 TO 3 INCHES CAN BE EXPECTED OVER THE DOMINICAN REPUBLIC AND HAITI WITH AMOUNTS UP TO 6 INCHES POSSIBLE. ADDITIONAL RAIN ACCUMULATIONS OF 1 TO 2 INCHES ARE POSSIBLE OVER PUERTO RICO...WITH ISOLATED STORM TOTAL AMOUNTS OF 5 INCHES. THESE RAINS COULD CAUSE LIFE-THREATENING FLASH FLOODS AND MUDSLIDES.



NHC Tropical Cyclone Advisory Products

Intermediate Public Advisory

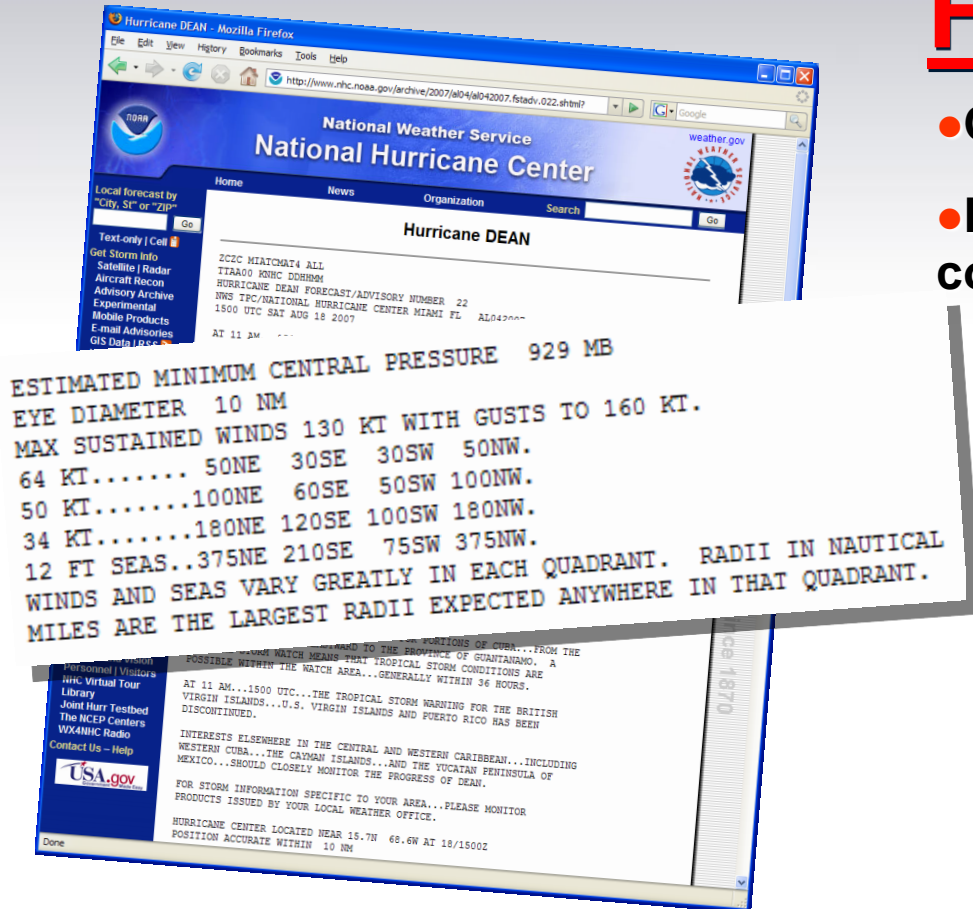


- Provides continuous flow of information
- Issued when watches or warnings are in effect
- Issued 3-hourly or 2-hourly if well-defined center within NWS radar range
- Not used to issued watches or warnings
- Content similar to routine public advisories

NHC Tropical Cyclone Advisory Products

Forecast Advisory

- Only source of all the forecast data
- Data is used in HURREVAC and other commercial tracking software
- Watches and warnings
- Center location, motion, minimum pressure and eye diameter
- Forecast positions, intensity and wind radii



NHC Tropical Cyclone Advisory Products

Forecast Discussion

- Free-form text product
- Provides the reasoning behind forecasts and warnings
- Discussion of relevant observations, model guidance, and the forecast uncertainties
- Includes table of track and intensity forecasts

Forecast Discussion for Hurricane DEAN

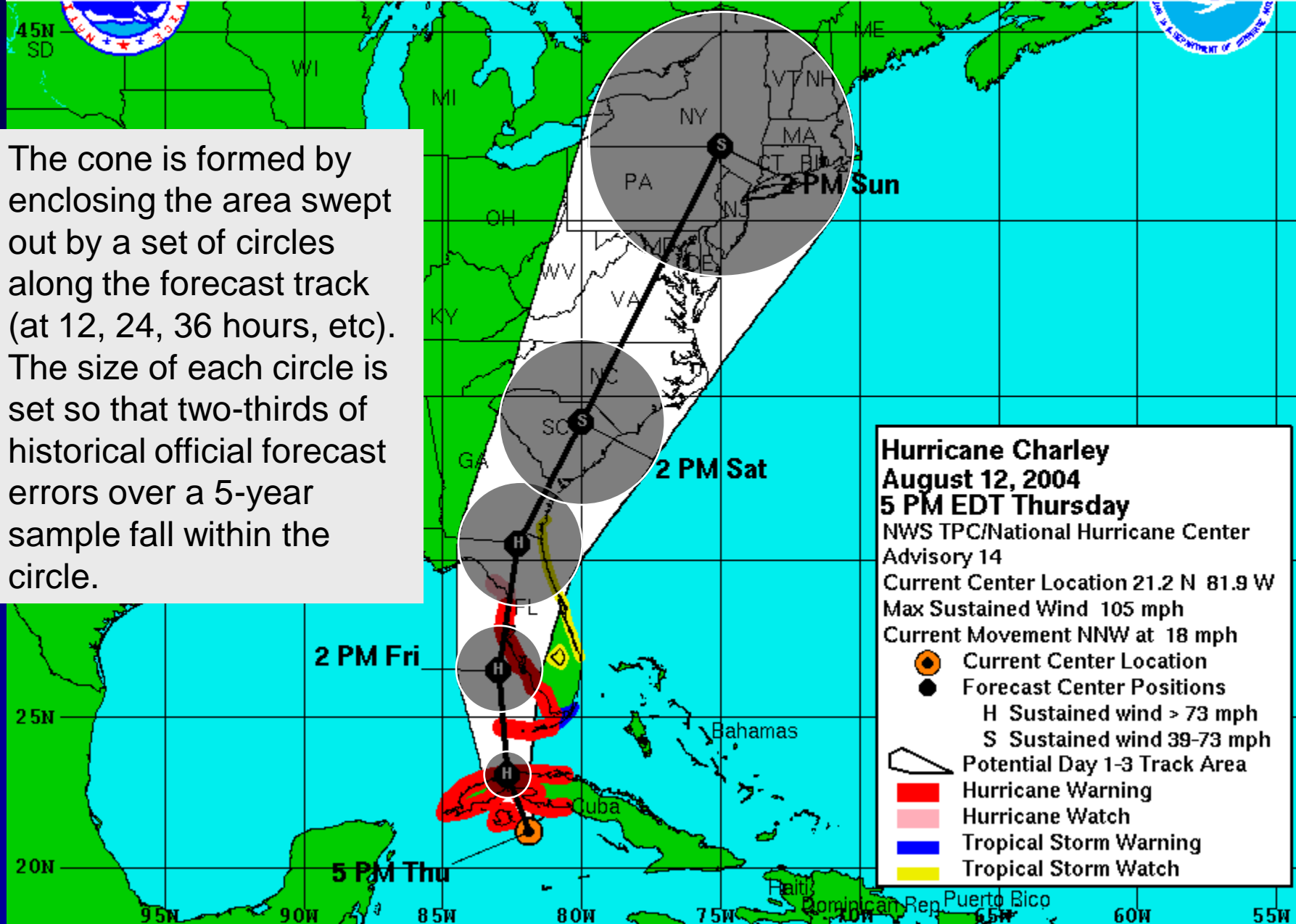
| INITIAL | 18/1500Z | 15.7N | 68.6W | 130 KT |
|----------|----------|-------|--------|-------------------------------|
| 12HR VT | 19/0000Z | 16.4N | 71.0W | 130 KT |
| 24HR VT | 19/1200Z | 17.3N | 74.3W | 135 KT |
| 36HR VT | 20/0000Z | 18.3N | 77.8W | 125 KT...NEAR OR OVER JAMAICA |
| 48HR VT | 20/1200Z | 19.5N | 81.4W | 140 KT |
| 72HR VT | 21/1200Z | 21.5N | 88.5W | 100 KT...INLAND |
| 96HR VT | 22/1200Z | 23.0N | 94.0W | 110 KT |
| 120HR VT | 23/1200Z | 25.4N | 100.0W | 50 KT...INLAND |

FORECASTER AVILA

Quick Navigation Links:
NHC Active Storms - Atlantic and E Pacific Marine - Storm Archives

Track Forecast/Cone Graphic

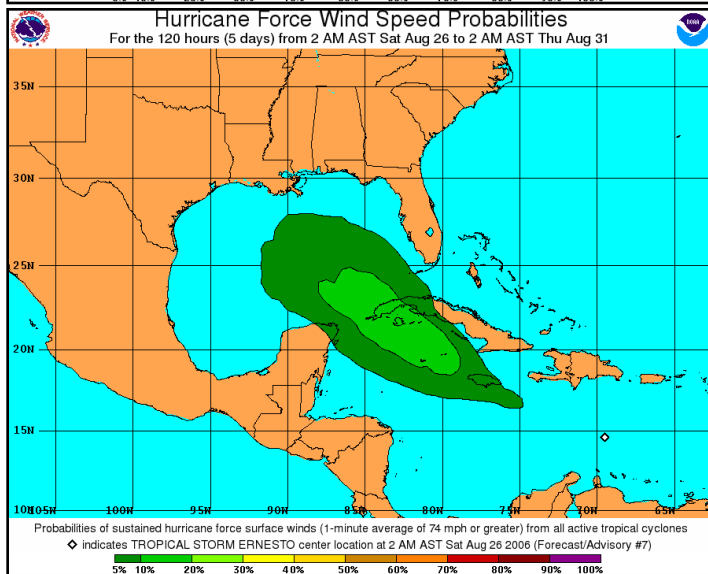
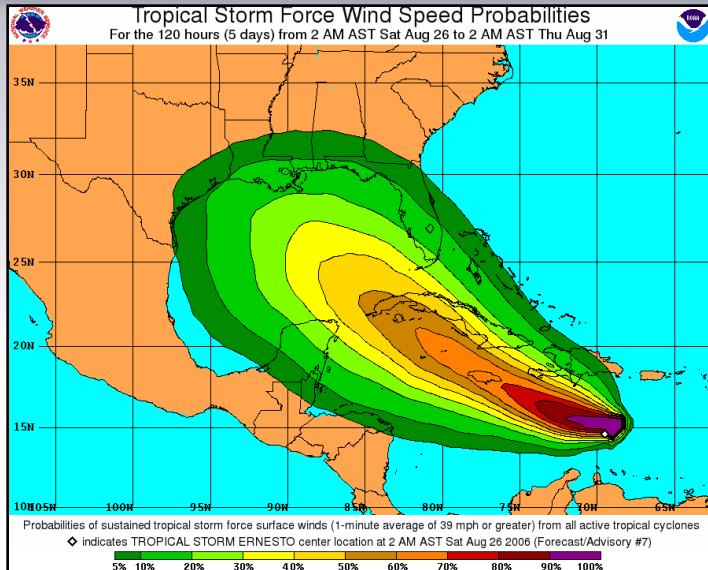
The cone is formed by enclosing the area swept out by a set of circles along the forecast track (at 12, 24, 36 hours, etc). The size of each circle is set so that two-thirds of historical official forecast errors over a 5-year sample fall within the circle.



NHC Tropical Cyclone Advisory Products

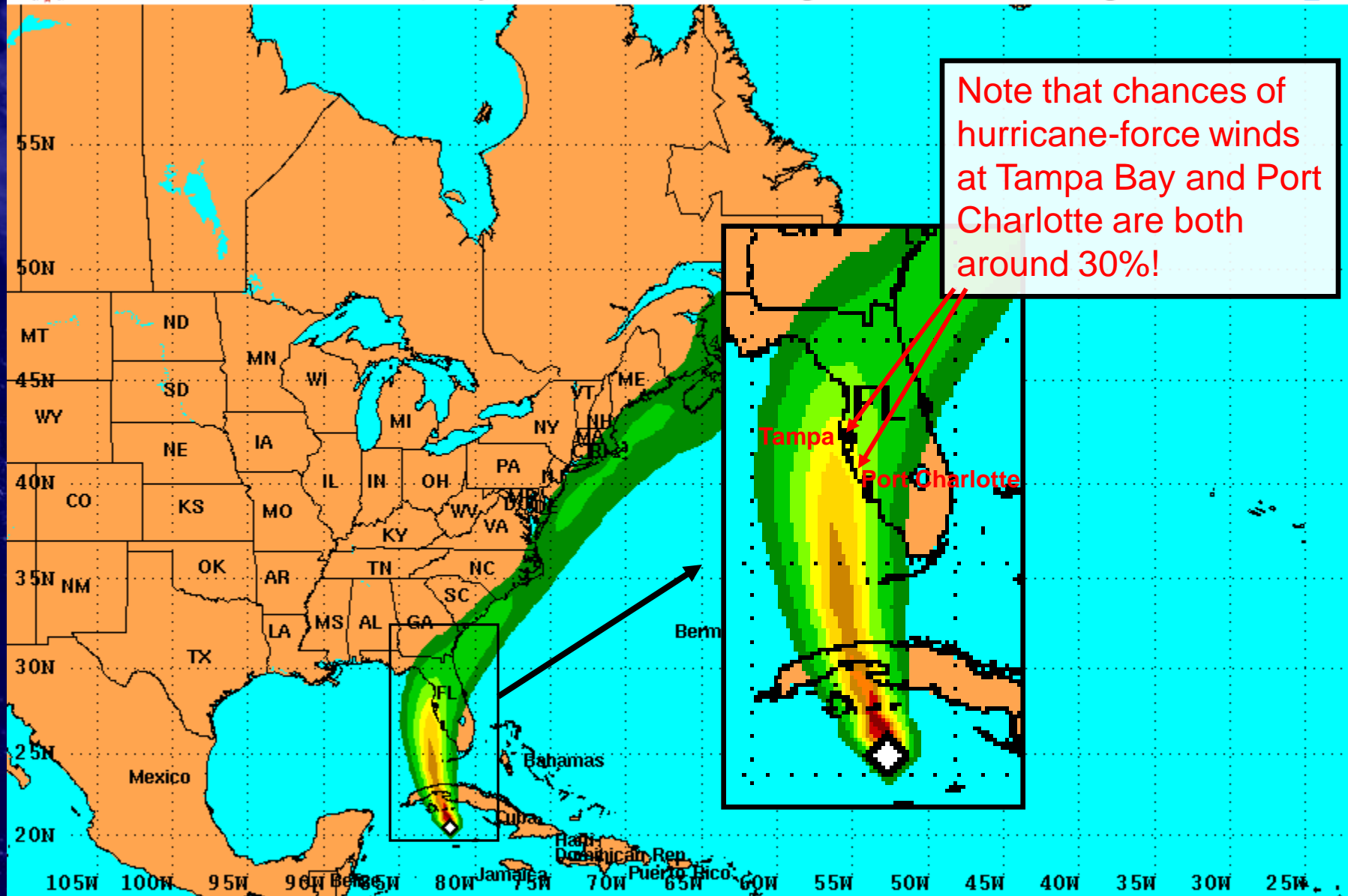
Wind Speed Probabilities

- Wind speed probabilities depict the chance and possible timing of 34-kt (tropical-storm force), 50-kt, and 64-kt (hurricane force) winds at any specific location during the five-day forecast period
- Accounts for combined uncertainty in track, intensity, and size
- Includes inland locations
- Designed to aid decision makers
- Graphics show cumulative probabilities to 5 days (120 h)





PRELIMINARY (SINGLE STORM) Hurricane Force Wind Speed Probabilities
 For the 120 hours (5 days) from 2 PM EDT Thu Aug 12 to 2 PM EDT Tue Aug 17



Note that chances of hurricane-force winds at Tampa Bay and Port Charlotte are both around 30%!

Probabilities of sustained hurricane force surface winds (1-minute average of 74 mph or greater) from all active tropical cyclones

◇ indicates HURRICANE CHARLEY center location at 2 PM EDT Thu Aug 12 2004 (Forecast/Advisory #14)



Interpretation of Text Output

Individual period probabilities (chance that winds of indicated speed will *start* during each period) are *outside* the parentheses

| TIME PERIODS | FROM 18Z FRI | | FROM 06Z SAT | | FROM 18Z SAT | | FROM 06Z SUN | | FROM 18Z SUN | | FROM 18Z MON | | FROM 18Z TUE | |
|---------------|--------------|----|--------------|-----|--------------|-----|--------------|-----|--------------|------|--------------|------|--------------|------|
| | TO | TO | TO | TO | TO | TO | TO | TO | TO | TO | TO | TO | TO | |
| FORECAST HOUR | (12) | | (24) | | (36) | | (48) | | (72) | | (96) | | (120) | |
| LOCATION | KT | | | | | | | | | | | | | |
| RALEIGH NC | 34 | X | X | (X) | X | (X) | 2 | (2) | 10 | (12) | 8 | (20) | 10 | (30) |
| RALEIGH NC | 50 | X | X | (X) | X | (X) | X | (X) | 2 | (2) | 3 | (5) | 5 | (10) |
| RALEIGH NC | 64 | X | X | (X) | X | (X) | X | (X) | X | (X) | 2 | (2) | 2 | (4) |
| CAPE HATTERAS | 34 | X | X | (X) | X | (X) | 1 | (1) | 4 | (5) | 3 | (8) | 7 | (15) |
| CAPE HATTERAS | 50 | X | X | (X) | X | (X) | X | (X) | X | (X) | 1 | (1) | 2 | (3) |
| CHARLOTTE NC | 34 | X | X | (X) | X | (X) | 3 | (3) | 18 | (21) | 12 | (33) | 9 | (42) |
| CHARLOTTE NC | 50 | X | X | (X) | X | (X) | X | (X) | 4 | (4) | 6 | (10) | 4 | (14) |
| CHARLOTTE NC | 64 | X | X | (X) | X | (X) | X | (X) | 2 | (2) | 2 | (4) | 2 | (6) |



Interpretation of Text Output

Cumulative probabilities (chances that winds of indicated speed will *occur* between start of forecast and end of each period) are *inside* the parentheses

| TIME PERIODS | FROM 18Z FRI TO 06Z SAT | FROM 06Z SAT TO 18Z SAT | FROM 18Z SAT TO 06Z SUN | FROM 06Z SUN TO 18Z SUN | FROM 18Z SUN TO 18Z MON | FROM 18Z MON TO 18Z TUE | FROM 18Z TUE TO 18Z WED |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| FORECAST HOUR | (12) | (24) | (36) | (48) | (72) | (96) | (120) |
| LOCATION | KT | | | | | | |
| RALEIGH NC 34 | X | X(X) | X(X) | 2(2) | 10(12) | 8(20) | 10(30) |
| RALEIGH NC 50 | X | X(X) | X(X) | X(X) | 2(2) | 3(5) | 5(10) |
| RALEIGH NC 64 | X | X(X) | X(X) | X(X) | X(X) | 2(2) | 2(4) |
| CAPE HATTERAS 34 | X | X(X) | X(X) | 1(1) | 4(5) | 3(8) | 7(15) |
| CAPE HATTERAS 50 | X | X(X) | X(X) | X(X) | X(X) | 1(1) | 2(3) |
| CHARLOTTE NC 34 | X | X(X) | X(X) | 3(3) | 18(21) | 12(33) | 9(42) |
| CHARLOTTE NC 50 | X | X(X) | X(X) | X(X) | 4(4) | 6(10) | 4(14) |
| CHARLOTTE NC 64 | X | X(X) | X(X) | X(X) | 2(2) | 2(4) | 2(6) |

Values in last column are same as shown on graphical products



Special Advisories

- **Special advisory packages are issued when:**

- ① **Watches or warnings are required immediately**

- ② **Or when an unexpected significant change has occurred.**

Other NHC Products

Tropical Cyclone Update

BULLETIN

TROPICAL STORM LORENZO TROPICAL CYCLONE UPDATE

NWS TPC/NATIONAL HURRICANE CENTER MIAMI FL AL132007

THU SEP 27 2007

1250 PM CDT

DATA FROM A RECONNAISSANCE PLANE INDICATE THAT THE TROPICAL DEPRESSION IN THE GULF OF MEXICO HAS BECOME TROPICAL STORM LORENZO AND WINDS HAVE INCREASED TO 60 MPH...95 KM/HR. A SPECIAL ADVISORY WILL BE ISSUED SHORTLY AND WILL REPLACE THE 1 PM CDT INTERMEDIATE ADVISORY.

FORECASTER AVILA

This product is issued when unexpected changes occur in the cyclone or to issue international watches and warnings.



Other NHC Products

Tropical Cyclone Position Estimate

HURRICANE CHARLEY POSITION ESTIMATE
NWS TPC/NATIONAL HURRICANE CENTER MIAMI FL
4 PM EDT FRI AUG 13 2004

AT 4 PM EDT....2000Z...THE EYE OF HURRICANE CHARLEY WAS ESTIMATED
NEAR LATITUDE 26.7 NORTH...LONGITUDE 82.2 WEST OR ABOUT 20 MILES
WEST-NORTHWEST OF FORT MYERS FLORIDA. THIS POSITION IS ALSO NEAR LA
COSTA ISLAND BETWEEN CAPTIVA AND BOCA GRANDE.

FORECASTER LAWRENCE/BROWN

**This product is issued between
2-hourly intermediate advisories.**



Other NHC Products

Special Tropical Disturbance Statement

SPECIAL TROPICAL DISTURBANCE STATEMENT
NWS TPC/NATIONAL HURRICANE CENTER MIAMI FL
845 AM EDT FRI SEP 07 2007

SATELLITE IMAGES INDICATE THAT THE AREA OF LOW PRESSURE LOCATED BETWEEN BERMUDA AND THE SOUTHEAST U.S. COAST HAS BECOME BETTER ORGANIZED OVERNIGHT. UPPER-LEVEL WINDS ARE BECOMING MORE FAVORABLE FOR ADDITIONAL DEVELOPMENT...AND A TROPICAL DEPRESSION COULD FORM LATER TODAY. AN AIR FORCE RESERVE HURRICANE HUNTER AIRCRAFT IS SCHEDULED TO INVESTIGATE THIS SYSTEM THIS AFTERNOON. THE LOW IS FORECAST TO MOVE GENERALLY WESTWARD OR NORTHWESTWARD DURING THE NEXT COUPLE OF DAYS...AND INTERESTS ALONG THE EAST COAST OF THE UNITED STATES SHOULD CLOSELY MONITOR THE PROGRESS OF THIS SYSTEM.

}}

FORECASTER KNABB

This product is issued as needed to provide information on systems that are not officially tropical cyclones.



Other NHC Products

Tropical Weather Outlook

TROPICAL WEATHER OUTLOOK
NEWS TPC/NATIONAL HURRICANE CENTER MIAMI FL
1130 AM EDT TUE AUG 14 2007

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

THE NATIONAL HURRICANE CENTER IS ISSUING ADVISORIES ON RECENTLY UPGRADED TROPICAL STORM DEAN...LOCATED ABOUT 1490 MILES EAST OF THE LESSER ANTILLES.

SATELLITE IMAGES AND SURFACE DATA INDICATE THAT THE AREA OF LOW PRESSURE IN THE SOUTH CENTRAL GULF OF MEXICO IS GRADUALLY BECOMING BETTER ORGANIZED AND A TROPICAL DEPRESSION COULD BE FORMING. A RECONNAISSANCE AIRCRAFT IS SCHEDULED TO CHECK THE AREA THIS AFTERNOON. THIS SYSTEM IS EXPECTED TO MOVE TOWARD THE WEST-NORTHWEST OR NORTHWEST AT 10 TO 15 MPH. ALL INTERESTS IN THE NORTHWESTERN GULF OF MEXICO...INCLUDING THE SOUTHERN TEXAS AND NORTHEASTERN MEXICO COASTAL AREAS...SHOULD CLOSELY MONITOR THE PROGRESS OF THIS SYSTEM...AND BE READY TO TAKE ACTIONS. TROPICAL STORM WATCHES OR WARNINGS COULD BE PROMPTLY REQUIRED FOR A PORTION OF THE COAST.

ELSEWHERE...TROPICAL CYCLONE FORMATION IS NOT EXPECTED DURING THE NEXT 48 HOURS.

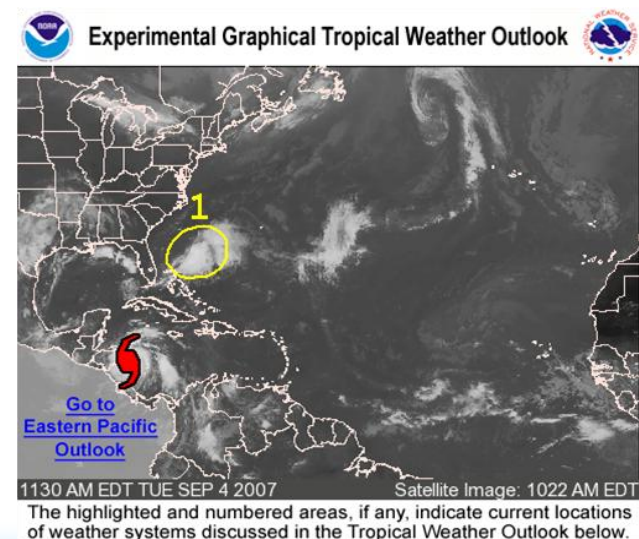
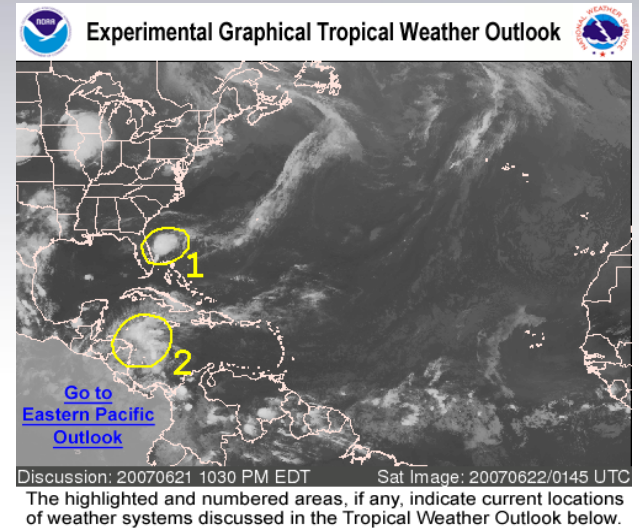
??
FORECASTER AVILA

This product is routinely issued four times per day.



The Graphical Tropical Weather Outlook

- A visual companion product to the text Tropical Weather Outlook
- A web-based graphic superimposed on the most recently available geostationary satellite mosaic of the GOES-East, GOES-West, and Meteosat 9 satellites
- Indicates the **current** locations of areas of disturbed weather discussed in the TWO by encircling them. No indication of motion or forecast
- Active tropical cyclones are also shown on the Graphical TWO with a cyclone symbol



GTWO Changes for 2008

1. Move the issuance times of the operational text Tropical Weather Outlook (TWO) and the experimental graphical TWO for both the Atlantic and East Pacific basins to synoptic time.
2. Increase the availability of the graphical TWO from two to four times daily.
3. Include 3-tiered categorical genesis forecasts (color-coding) in the experimental graphical TWO.

-Low-probability of genesis → less than 20%
-Medium-probability of genesis → between 20-50%
-High-probability of genesis → greater than 50%

Graphical Tropical Weather Outlook

weather.gov

Local forecast by
"City, St" or "ZIP"

Go

Text-only version

Get Storm Info

Satellite | Radar

Aircraft Recon

Advisory Archive

Experimental

Mobile Products

E-mail Advisories

GIS Data | RSS

Help with Advisories

Marine Forecasts

Atlantic and E Pacific

Forecast and

Analysis Tools

Help with Marine

Hurricane Awareness

Be Prepared | Learn

Frequent Questions

AOML Research

Hurricane Hunters

Saffir-Simpson Scale

Forecasting Models

Eyewall Wind Profiles

Glossary/Acronyms

Storm Names

Breakpoints

Hurricane History

Seasons Archive

Forecast Accuracy

Climatology

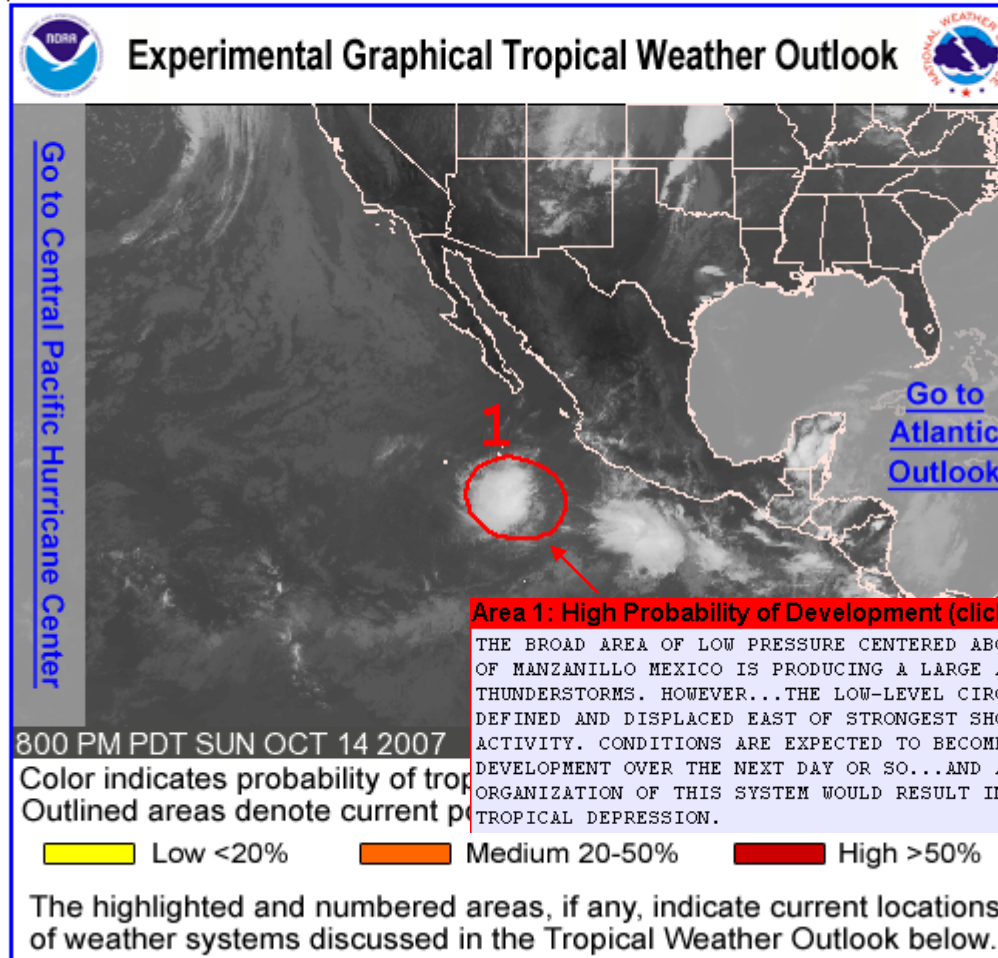
Most Extreme

About the NHC

Mission and Vision

Example 2 Graphical Tropical Weather Outlook

Place your mouse cursor over areas of interest for more information



National Weather Service

1870

Comments or Questions

Thanks!