



September Outlook – What to expect this month and the rest of the season?



Chris Hebert
Manager, TropicsWatch
chebert@impactweather.com



2011 Hurricane Season Update

Today's Topics:

- Quick Review of Hurricane Irene
- Currently Activity / Near-Term Development
- Update on Seasonal Predictors
- Updated Seasonal Outlook

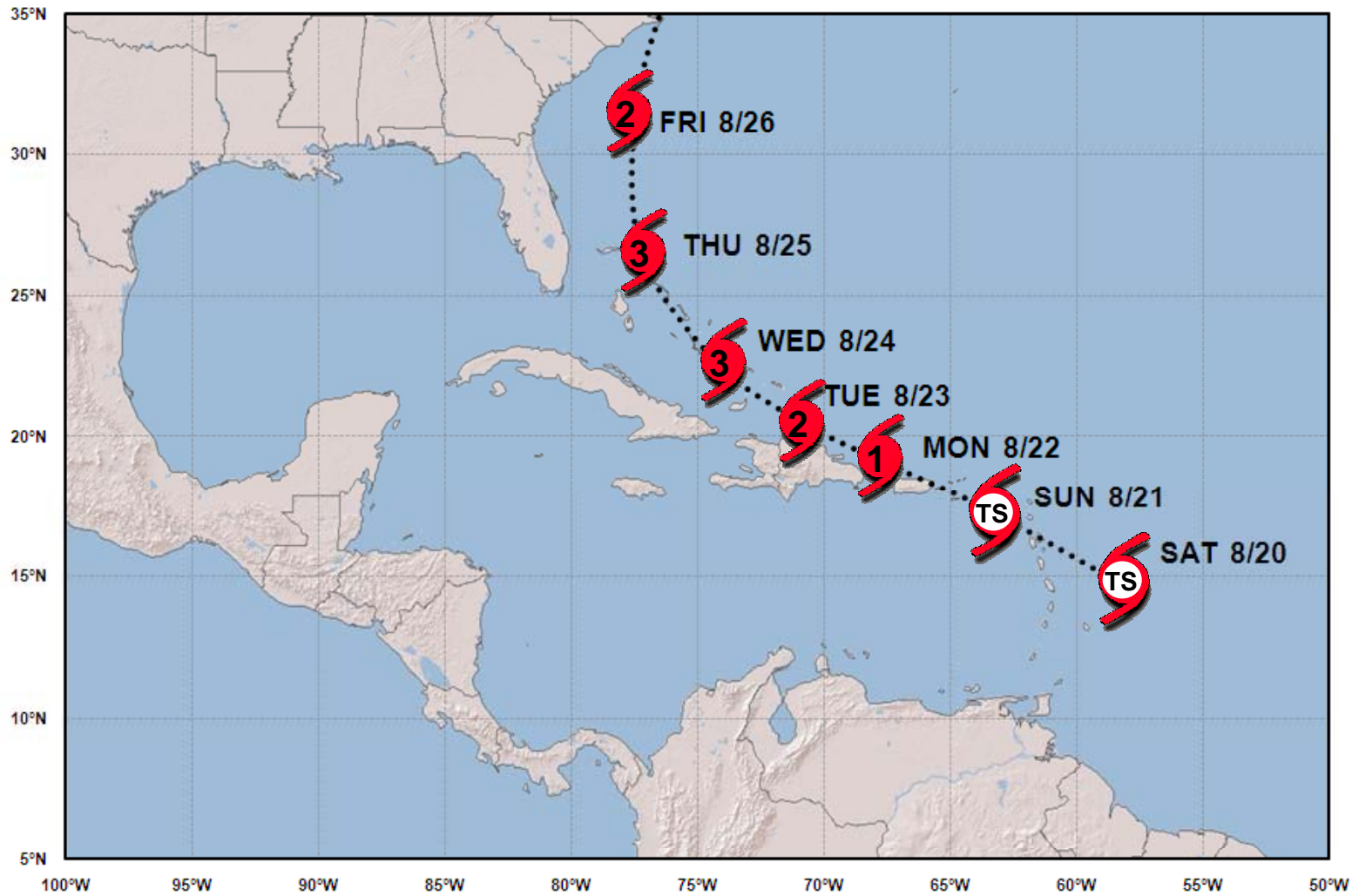
ImpactWeatherSM

*Your Weather Department*SM

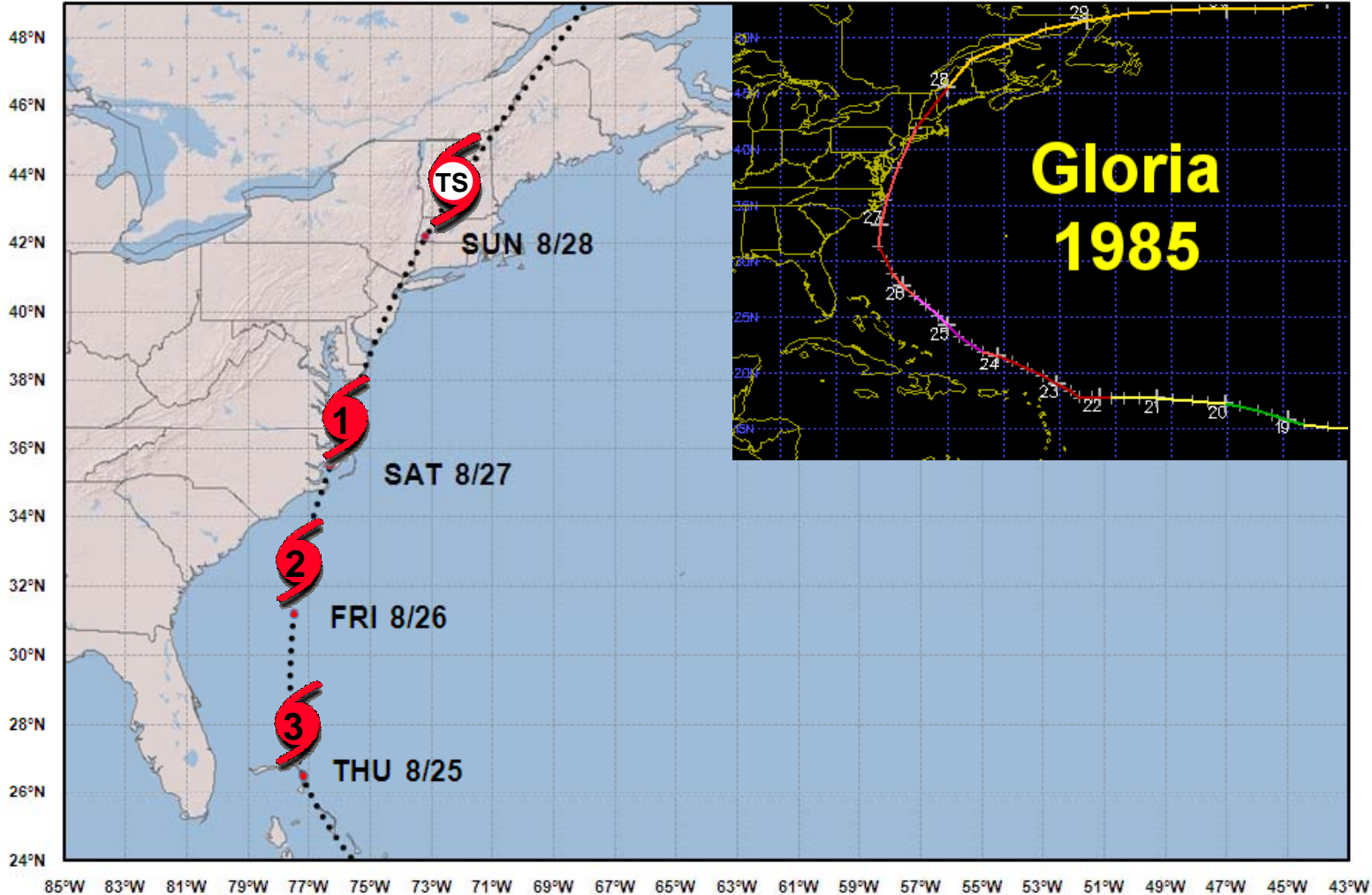
**Hurricane Irene reached Category 3
strength over southern Bahamas 8/24**



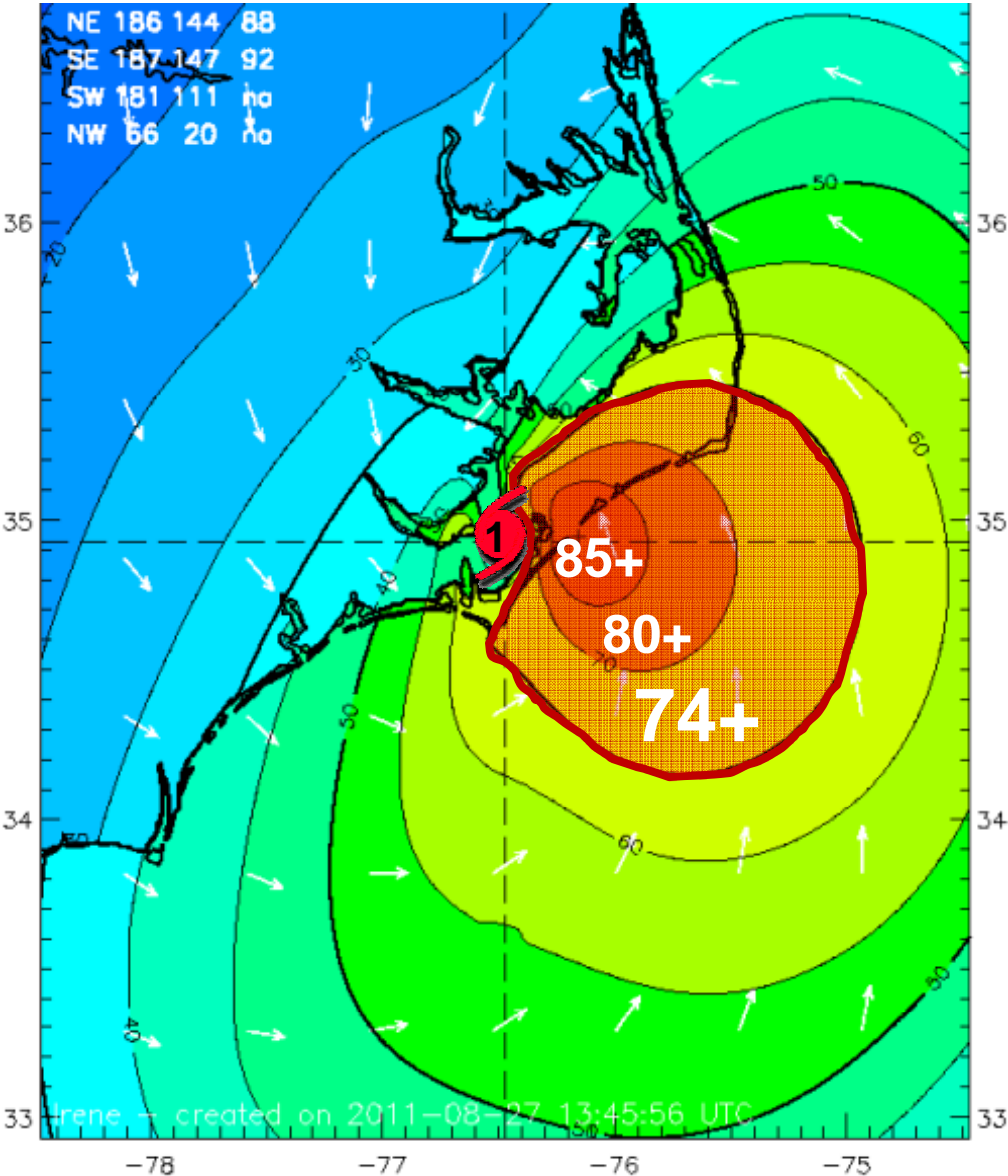
Hurricane Irene developed near the Eastern Caribbean Saturday, August 20th



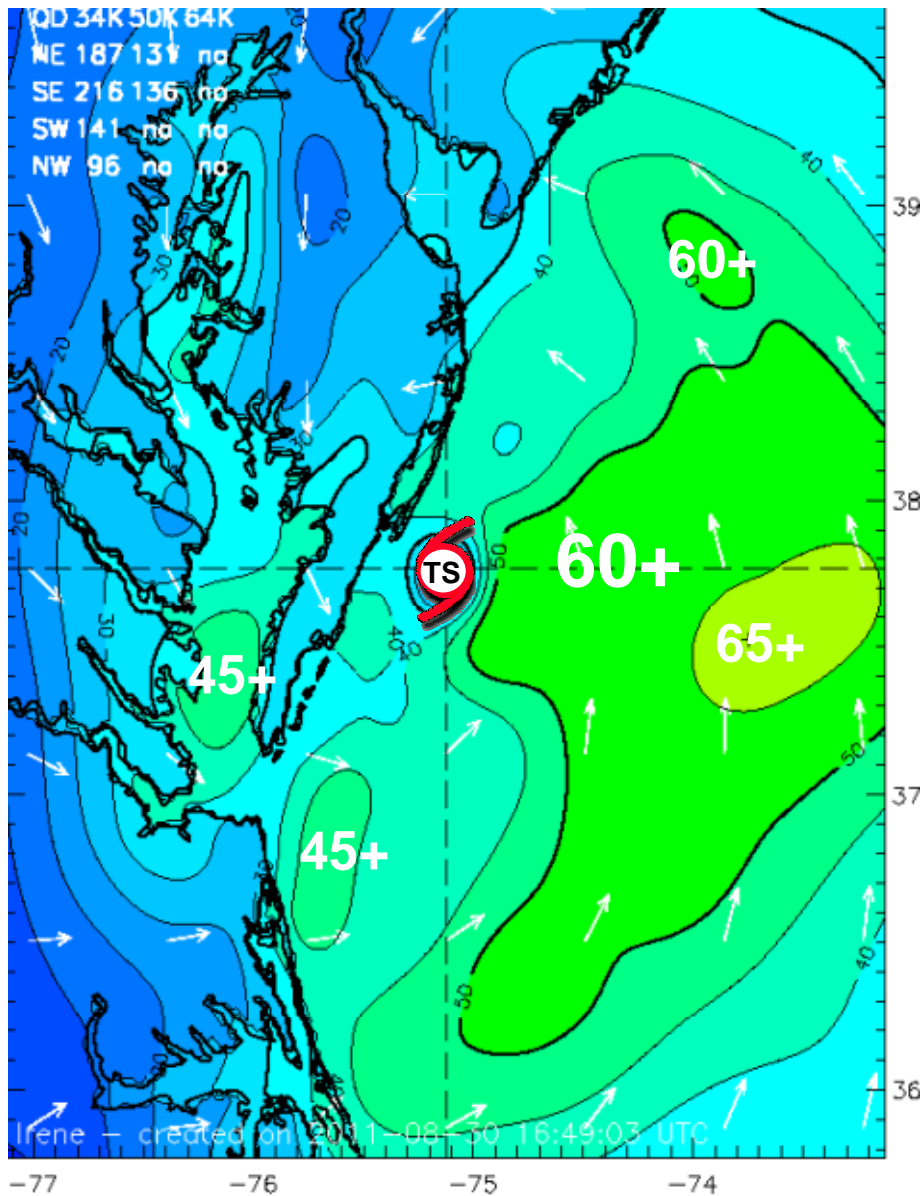
Irene was first hurricane to make landfall in the U.S. since Ike in 2008 (similar path to Gloria)



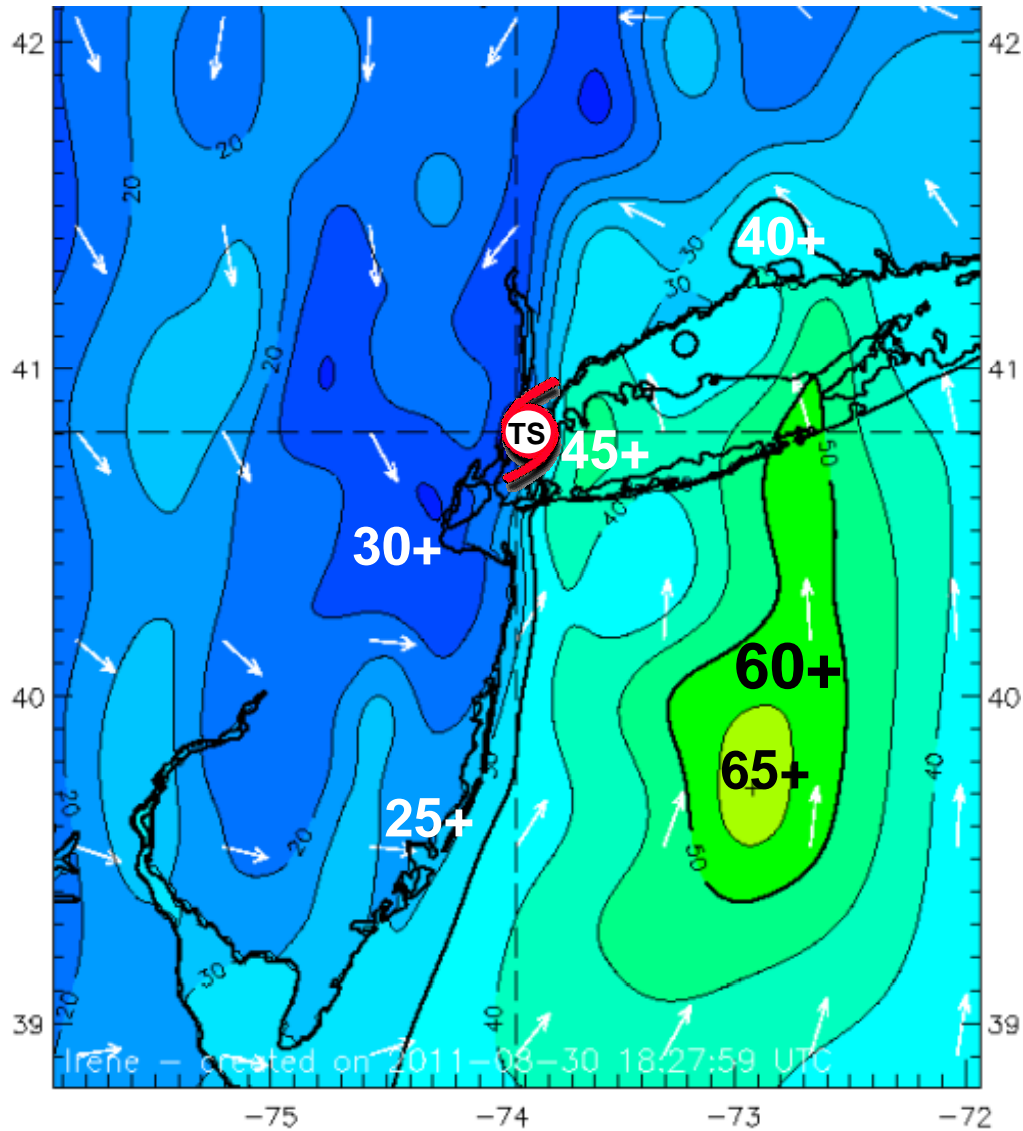
In the Carolinas, hurricane force wind confined to the Outer Banks



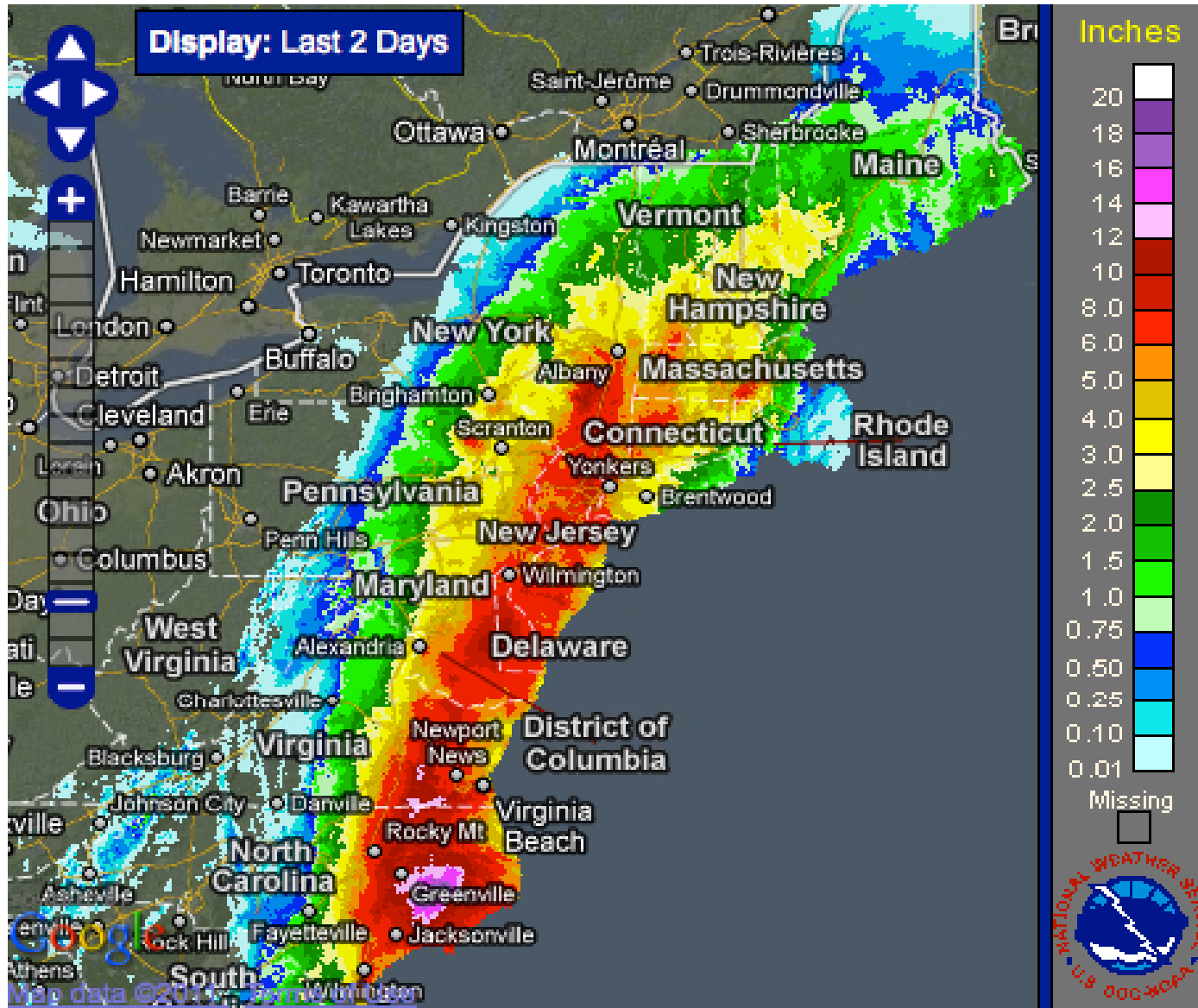
Across the DelMarVa Peninsula, winds were generally below 39 mph



Landfall near NYC – strongest winds offshore about 65 mph



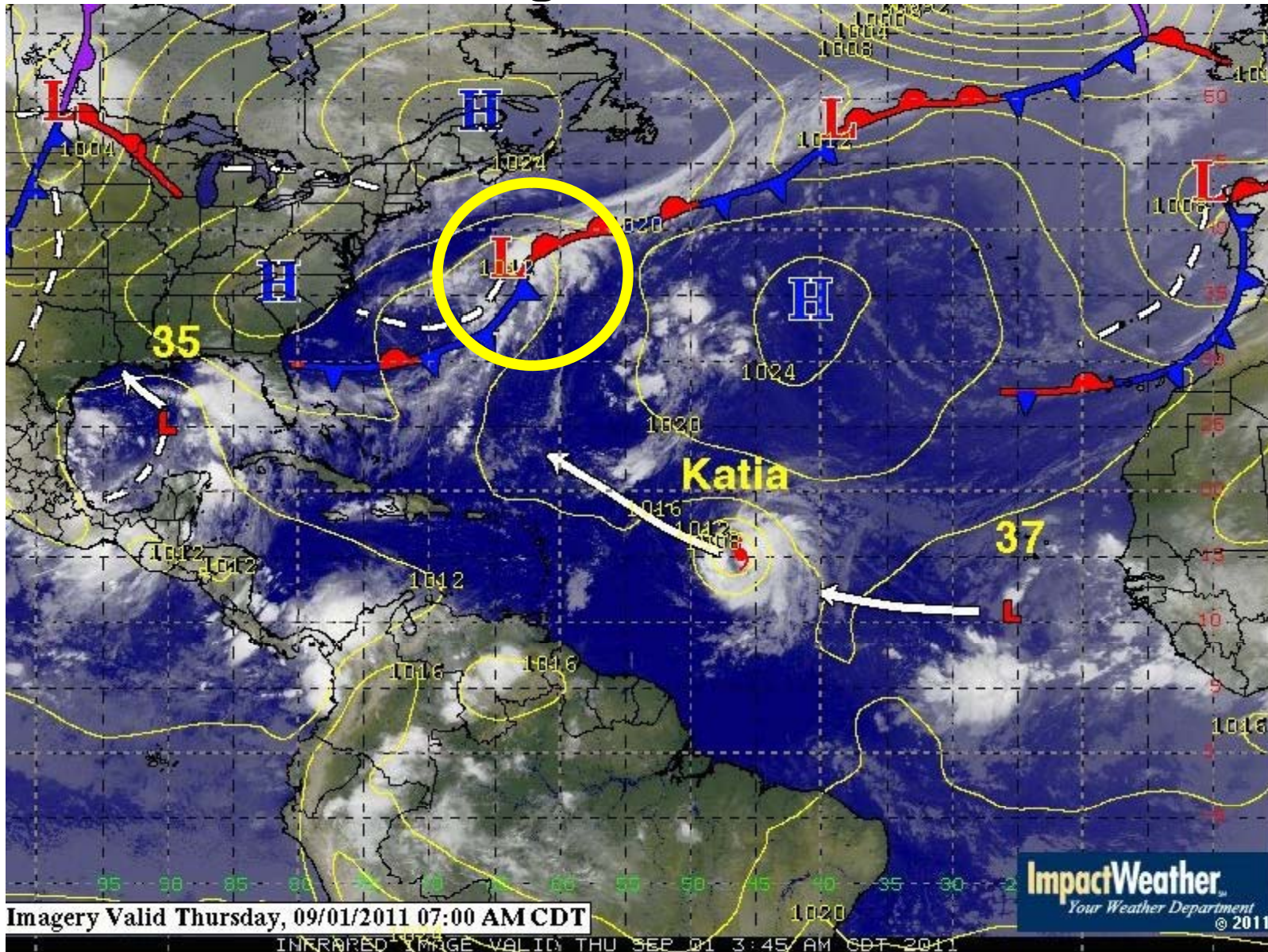
Irene dropped 8-12" of rain over a large swath, with some areas receiving more



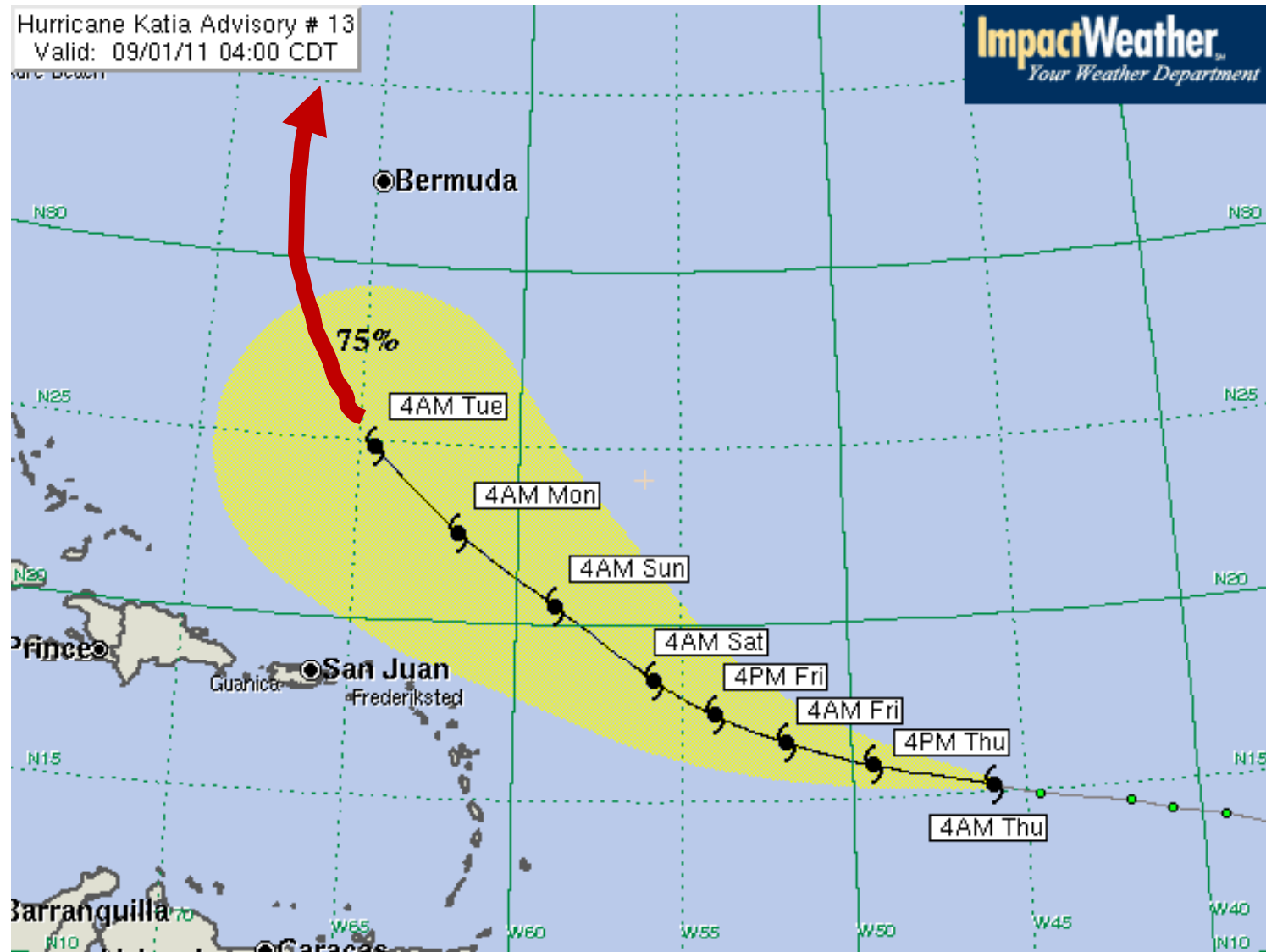
Hurricane Irene Fact Sheet

- 7.4 million customers lost power
- Insured losses \$7-\$20 Billion
- 44+ fatalities
- 15-20" rain along East U.S. Coast
- Few, if any, hurricane-force winds observed over land

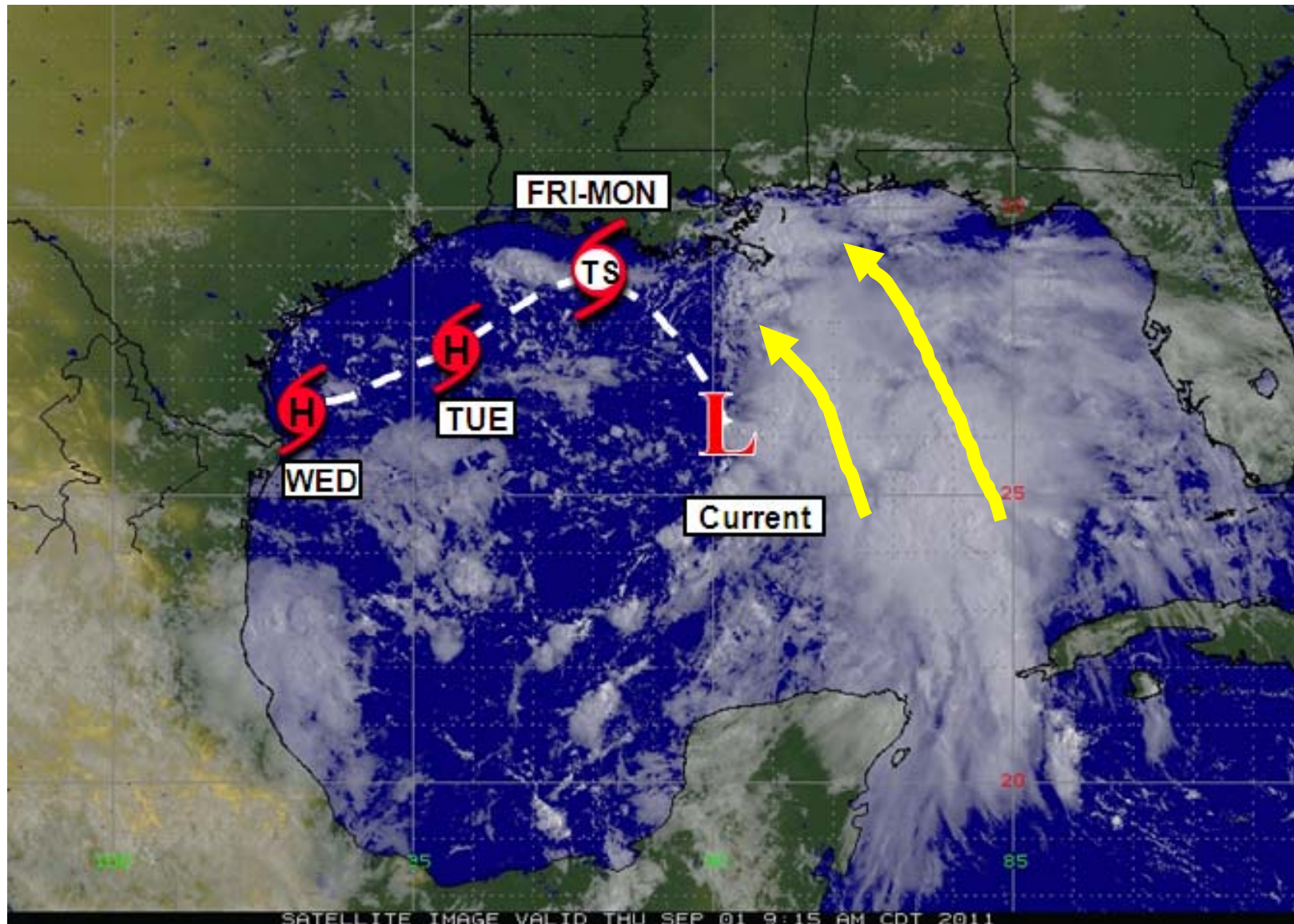
Hurr. Katia / Disturbance 35 only significant features out there



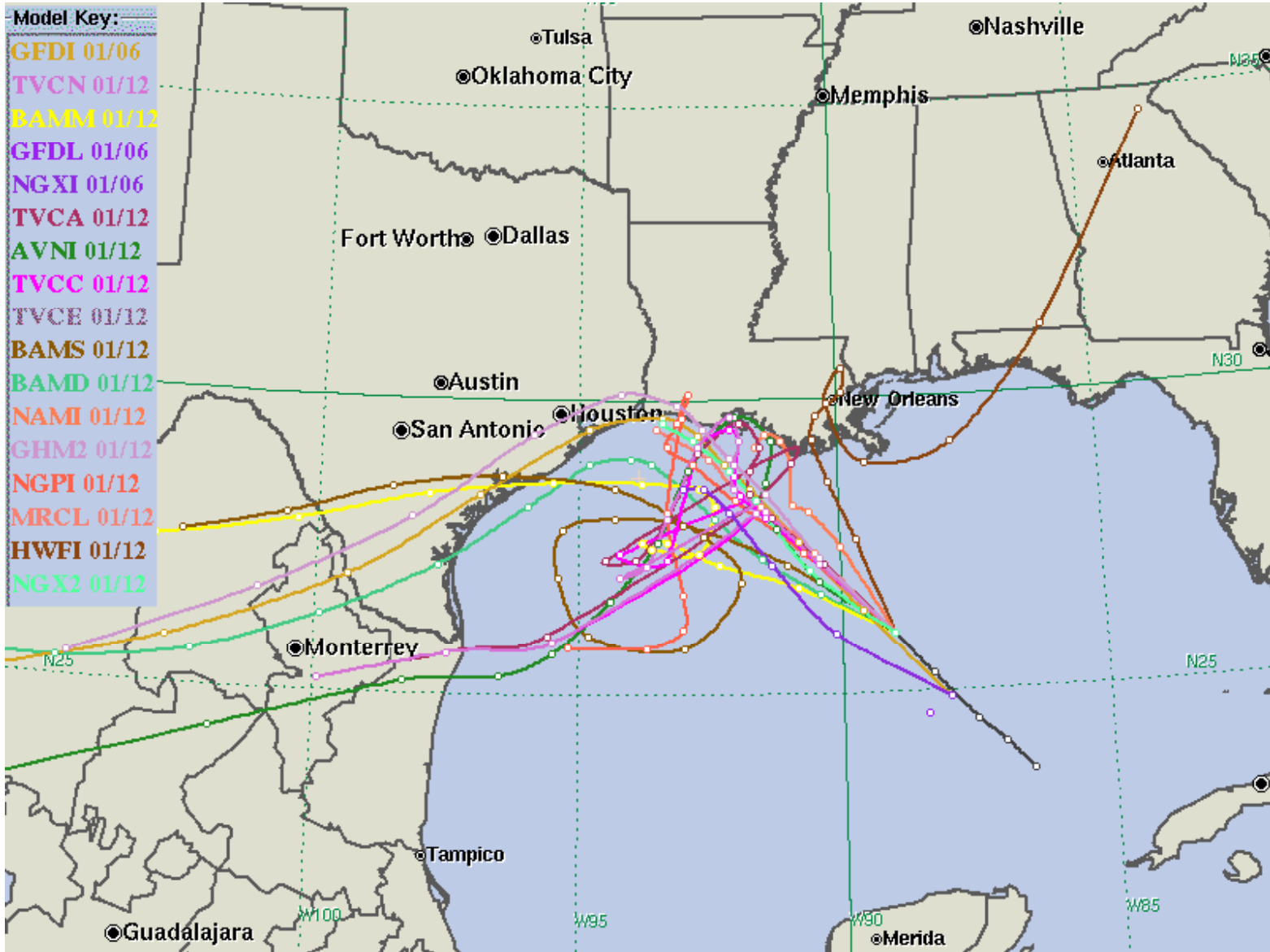
Katia should miss NE Caribbean and pass east of U.S.



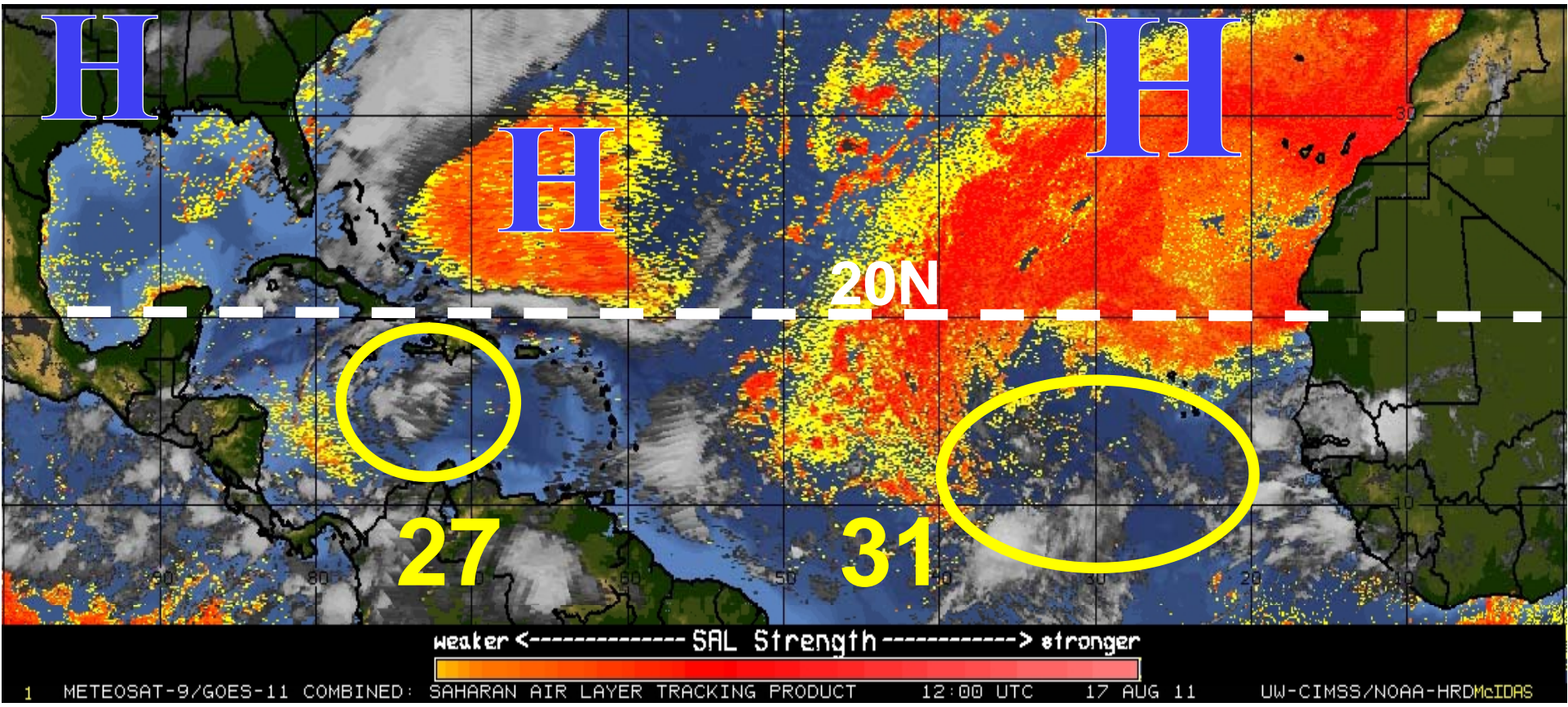
Disturbance 35 likely to become TS Lee later today



Forecast is uncertain due to considerable model disagreement

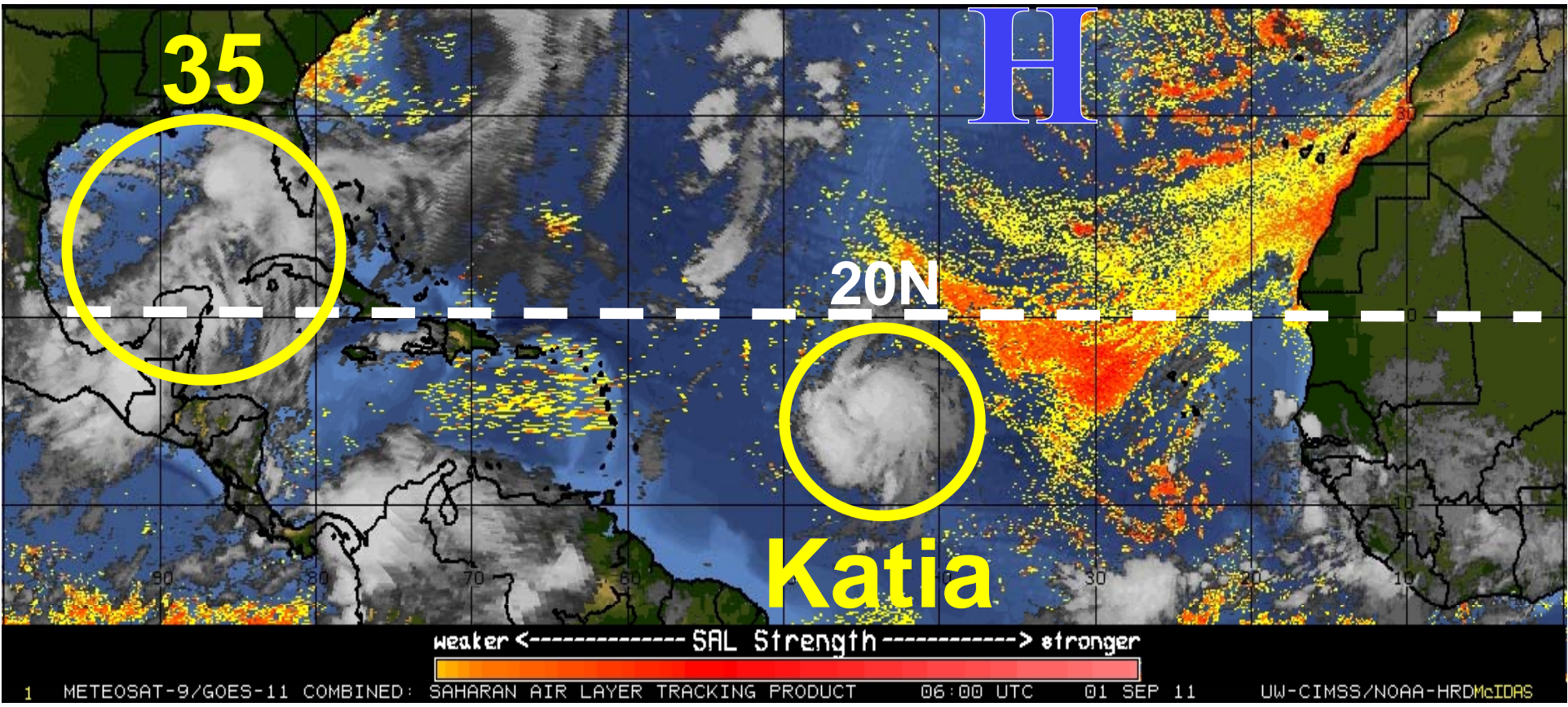


Two weeks ago, tropics were dominated by very dry air



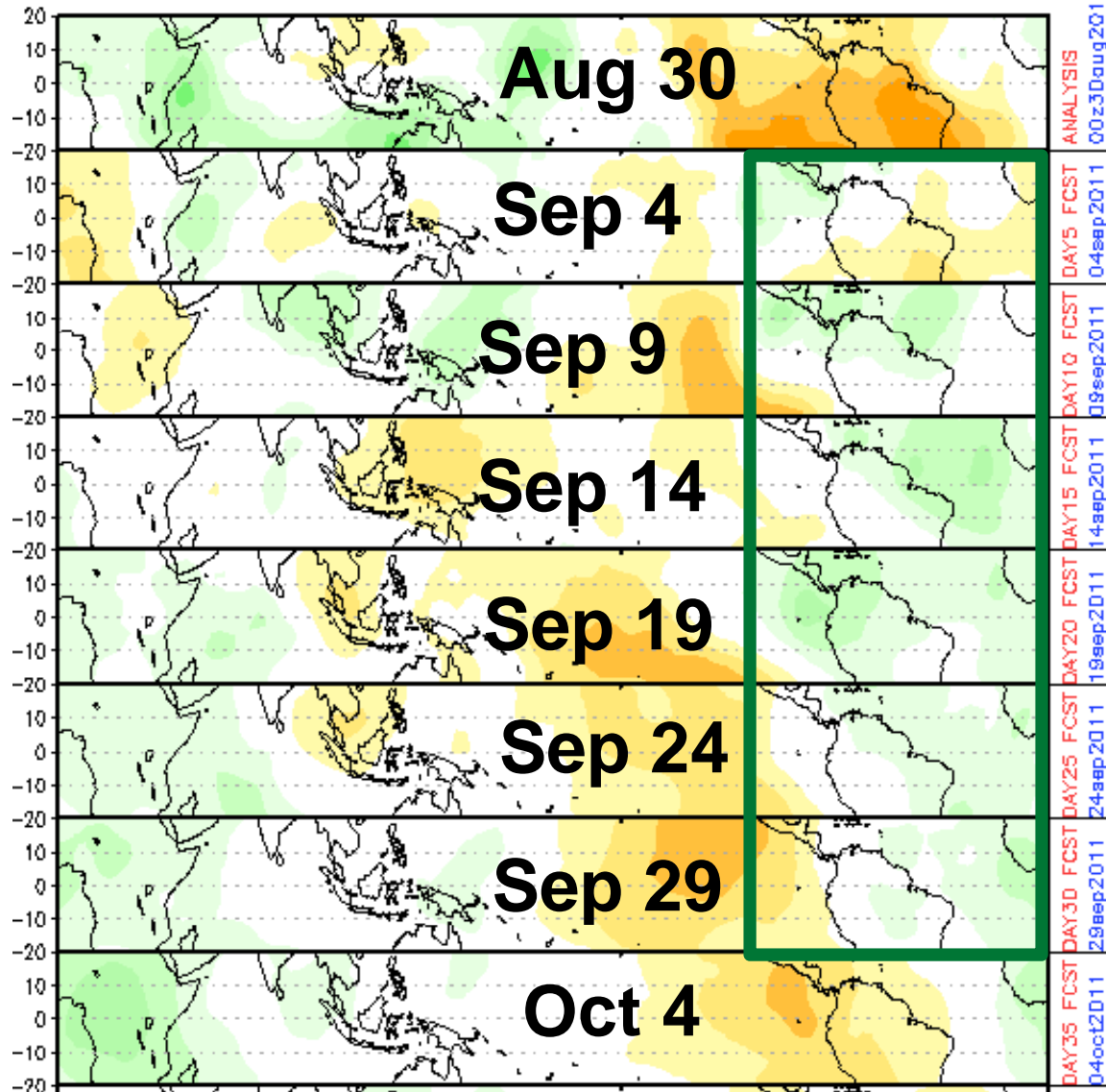
SAL = Saharan Air Layer

**Weaker high pressure across subtropics
increases development chances east**

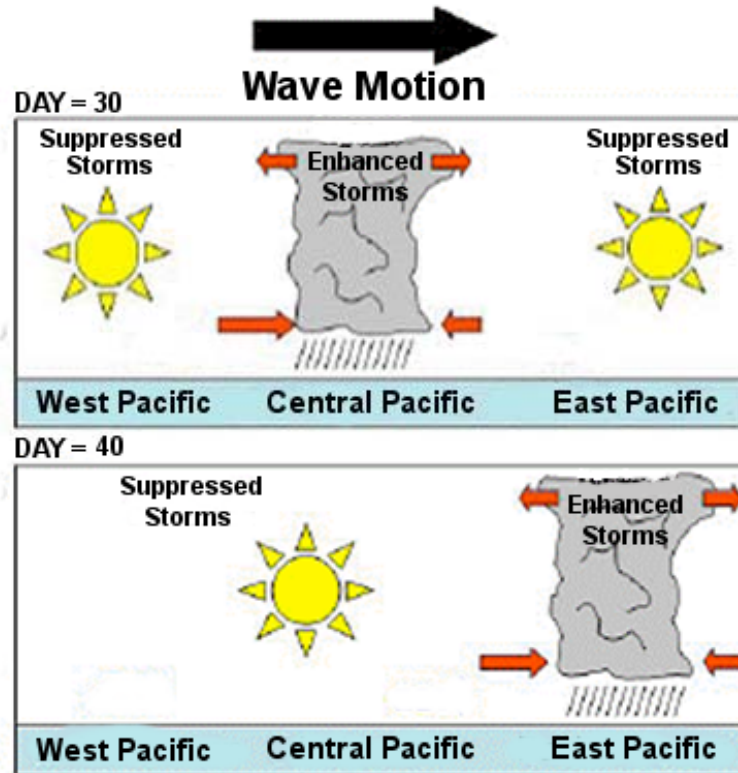
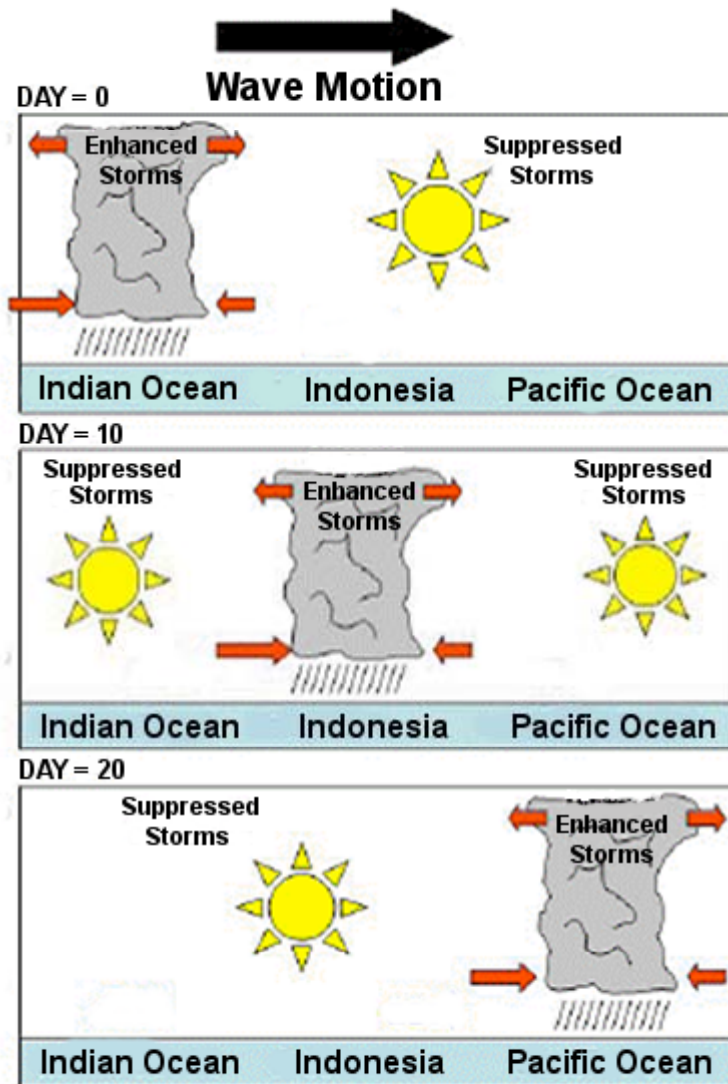


SAL = Saharan Air Layer

Rising air forecast for west Atlantic basin much of September

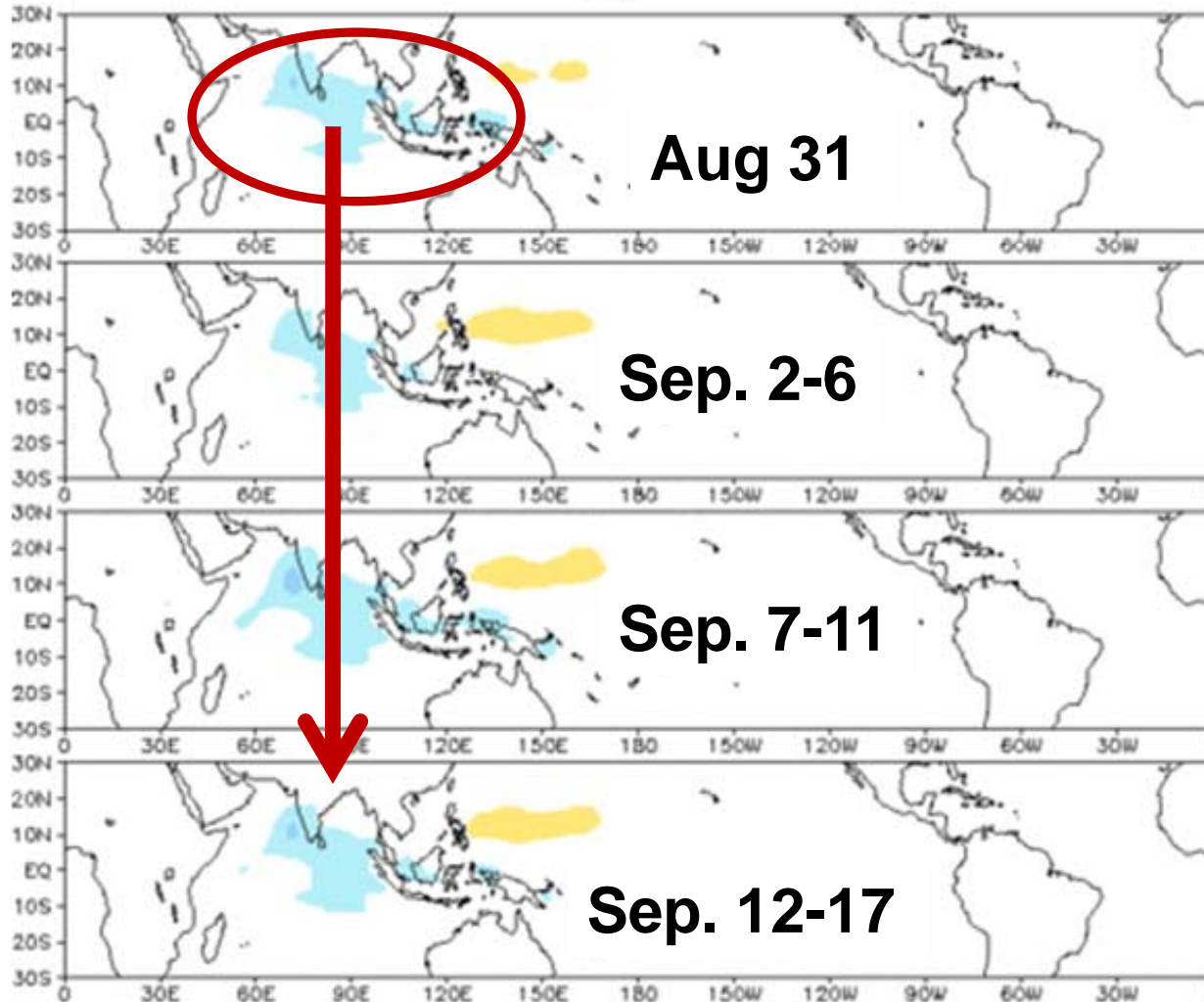


Madden-Julian Oscillation to remain weak through September

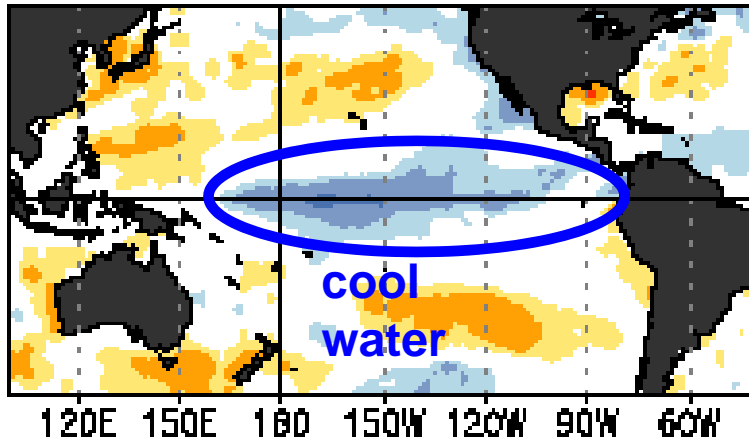


Rising air due to Madden-Julian (blue) stays in Indian Ocean

Prediction of MJO-related anomalies using GEFS operational forecast
Initial date: 31 Aug 2011
OLR

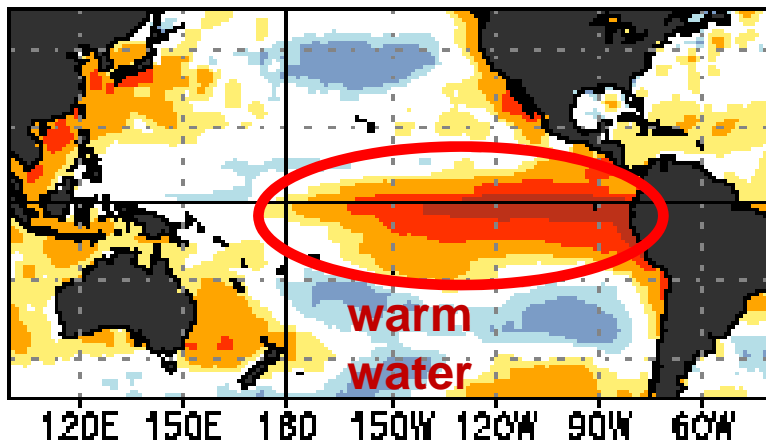


What's the Status of La Niña?



La Niña

- less wind shear in Atlantic
- more hurricanes

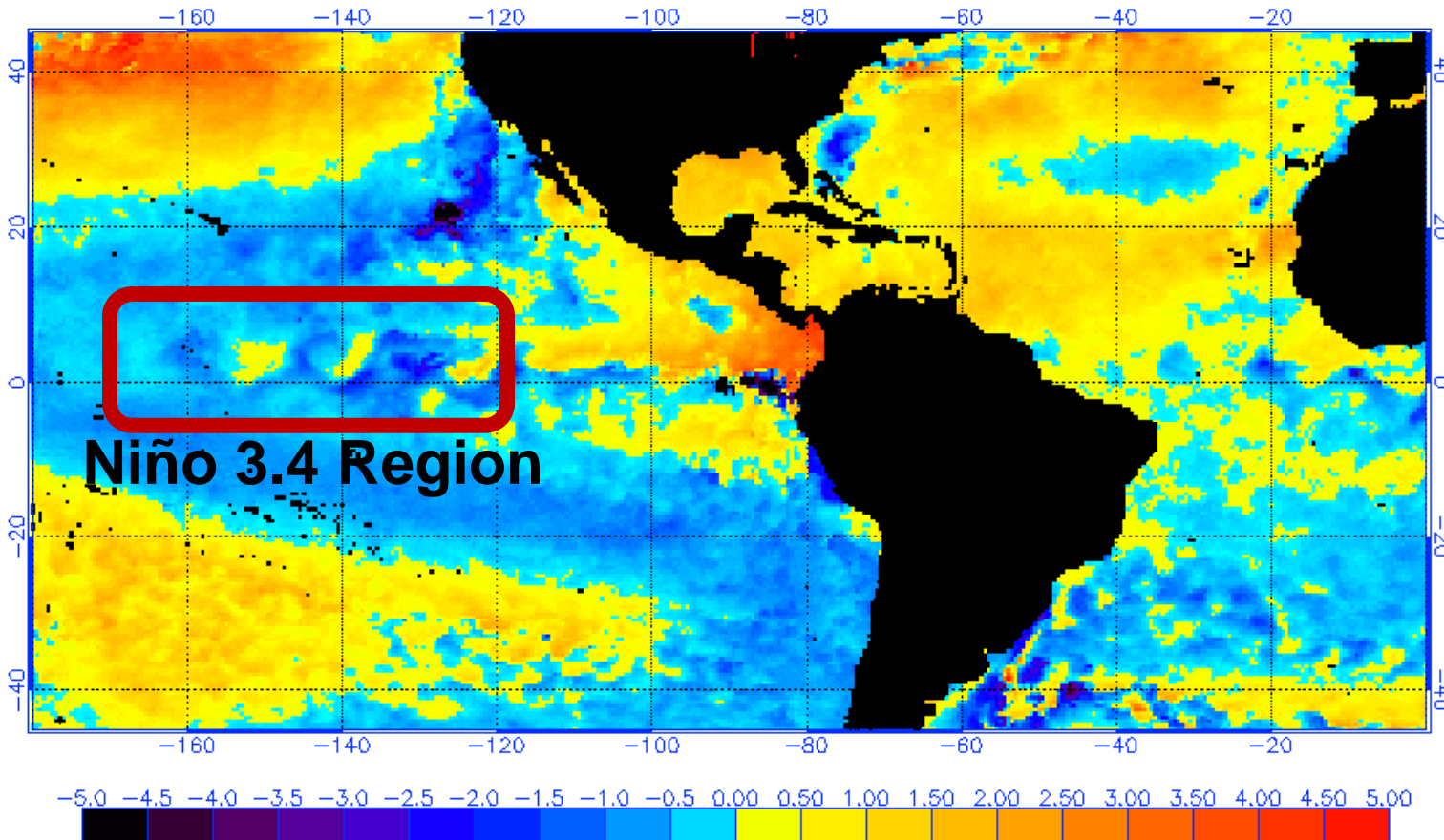


El Niño

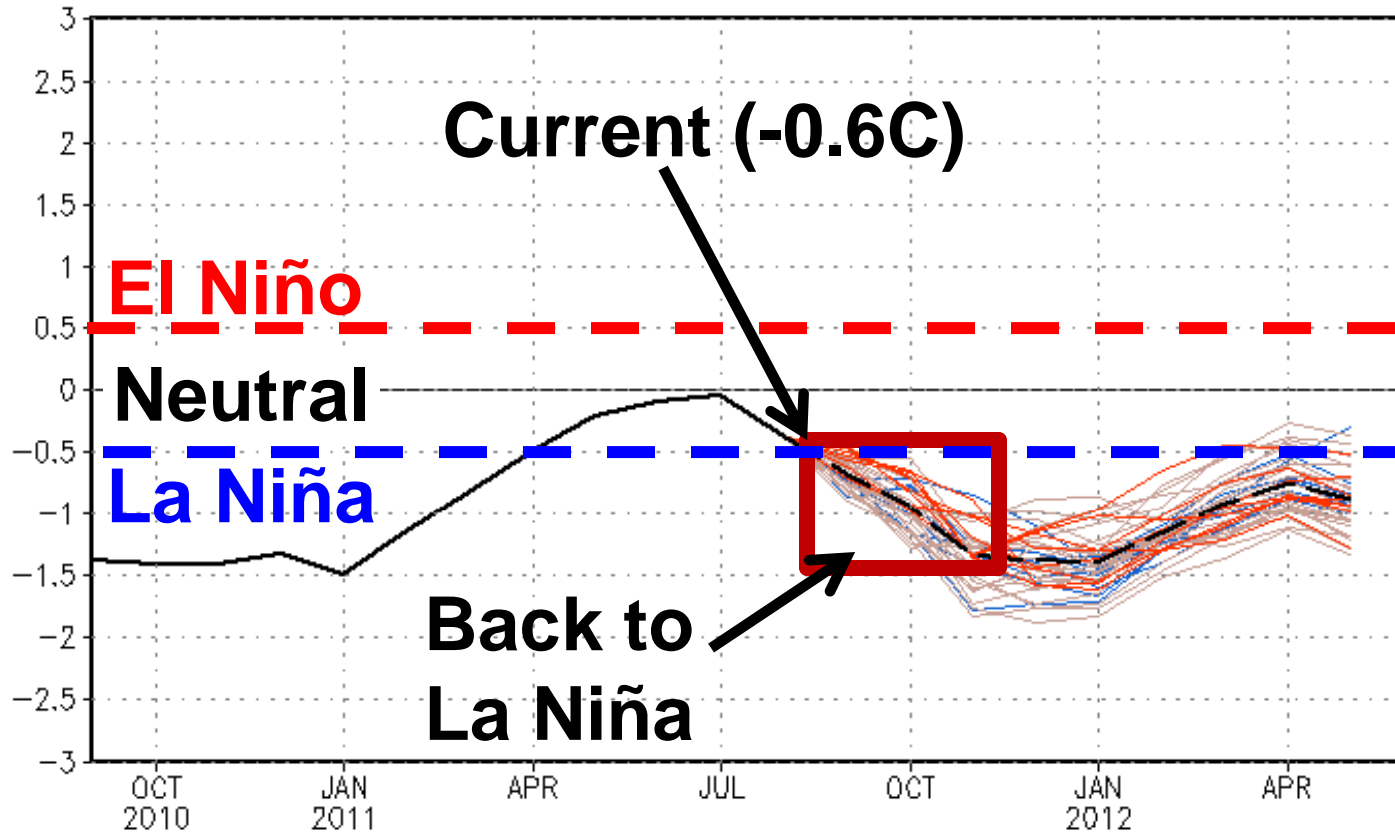
- more wind shear in Atlantic
- less hurricanes

Tropical Pacific is really starting to cool down again

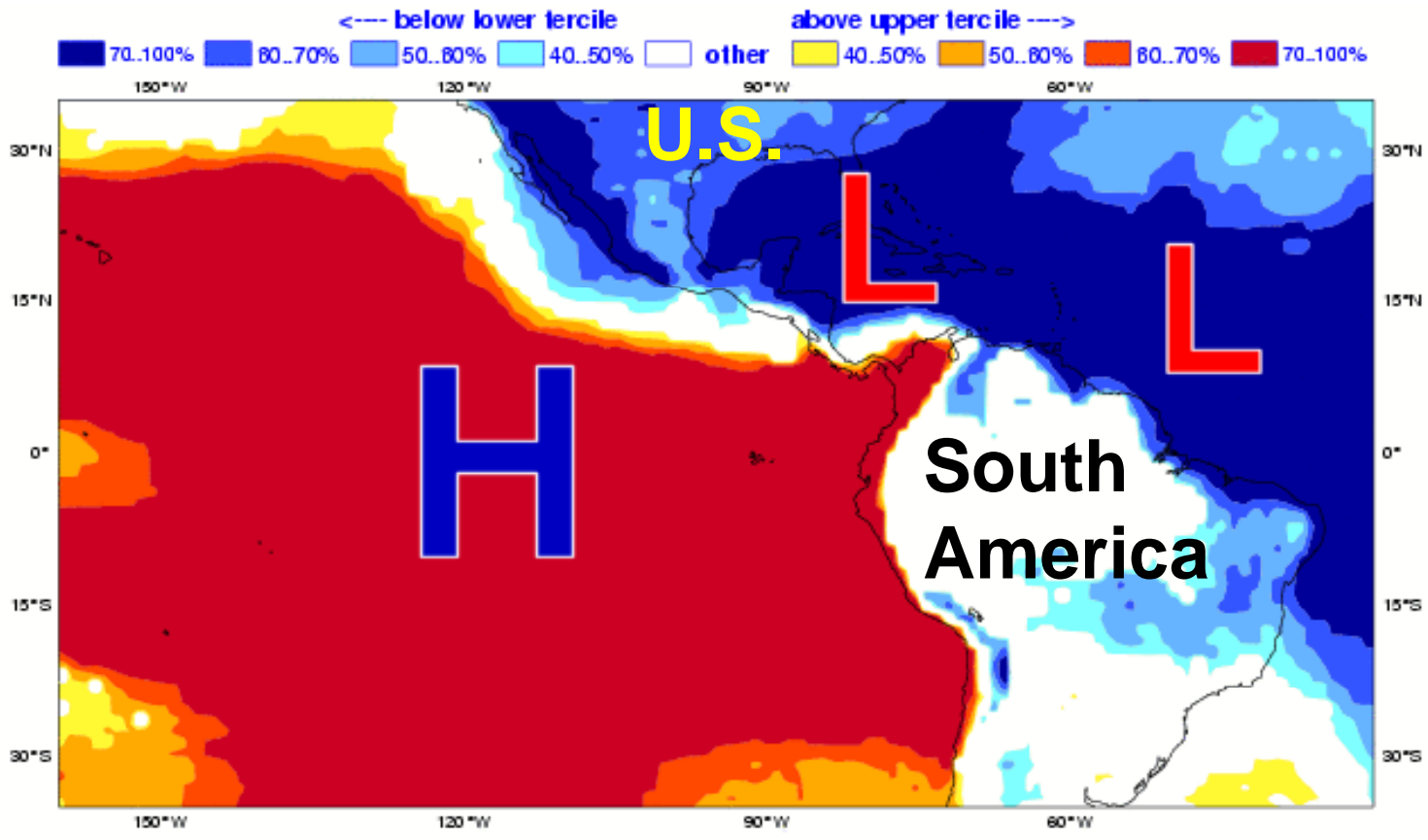
NOAA/NESDIS SST Anomaly (degrees C), 8/29/2011



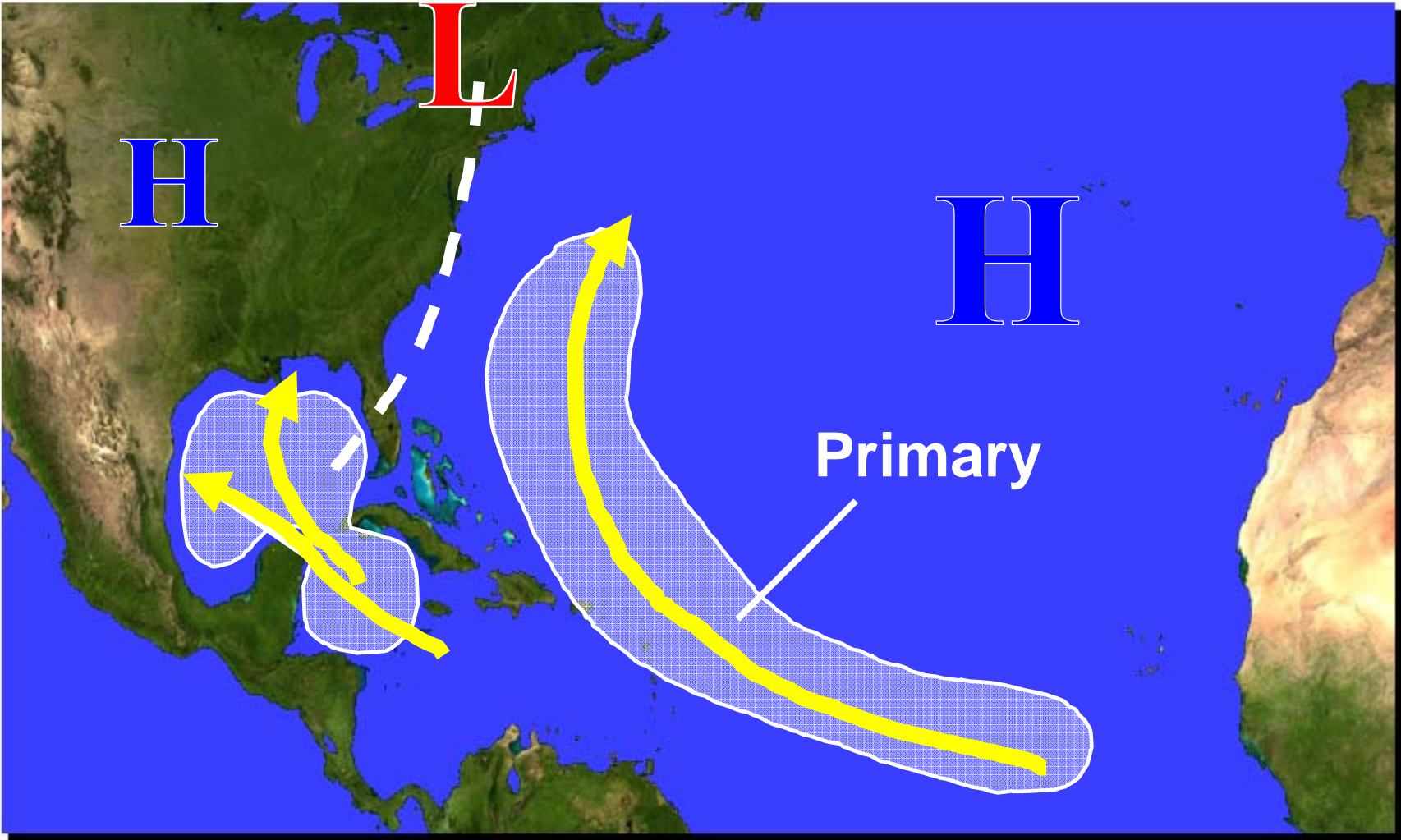
Tropical Pacific SSTs are dropping quickly back to La Niña



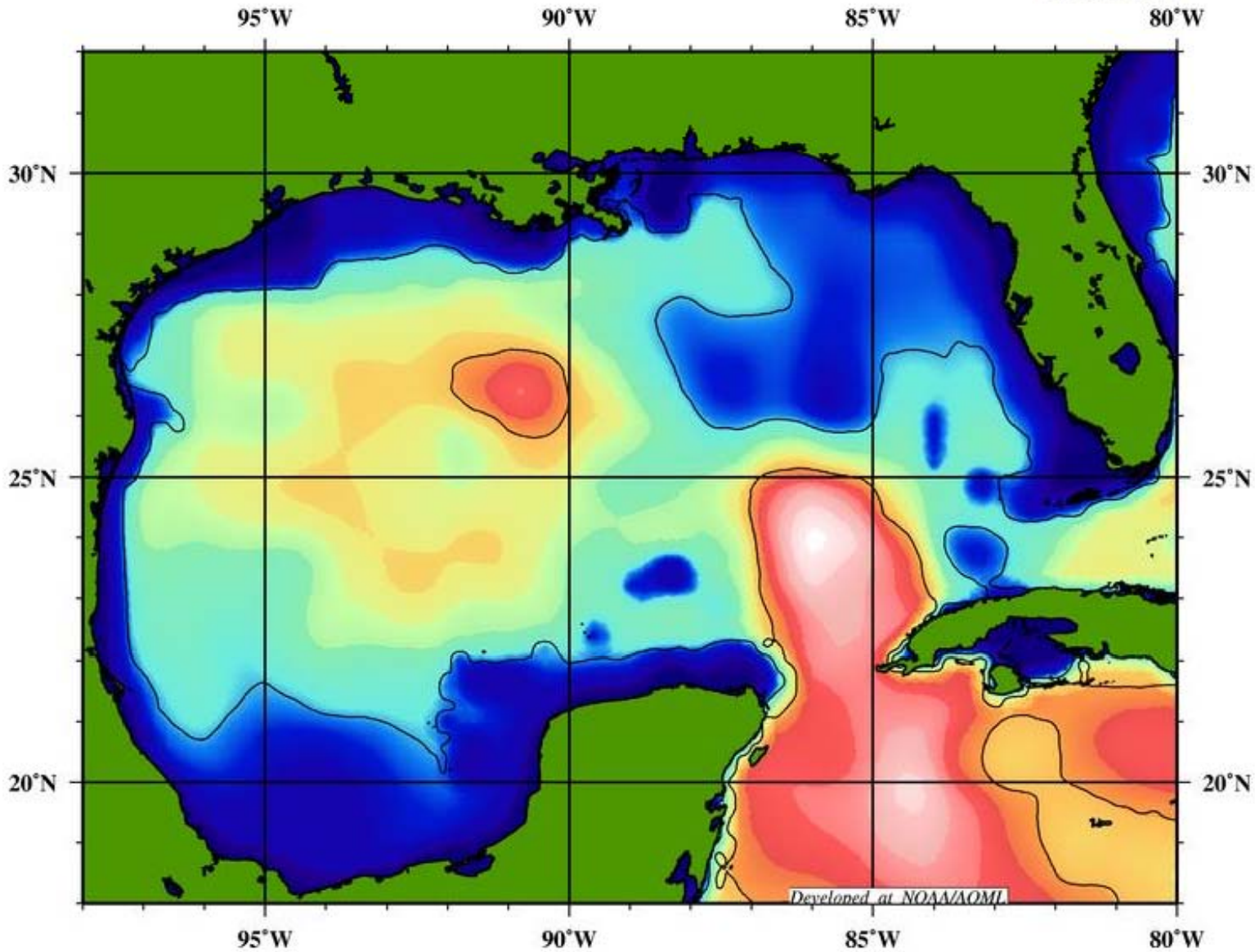
European model SEP-NOV – Very low pressure across Atlantic Basin (2010 Pattern?)



Possible September Pattern



Very high oceanic heat content across Gulf of Mexico





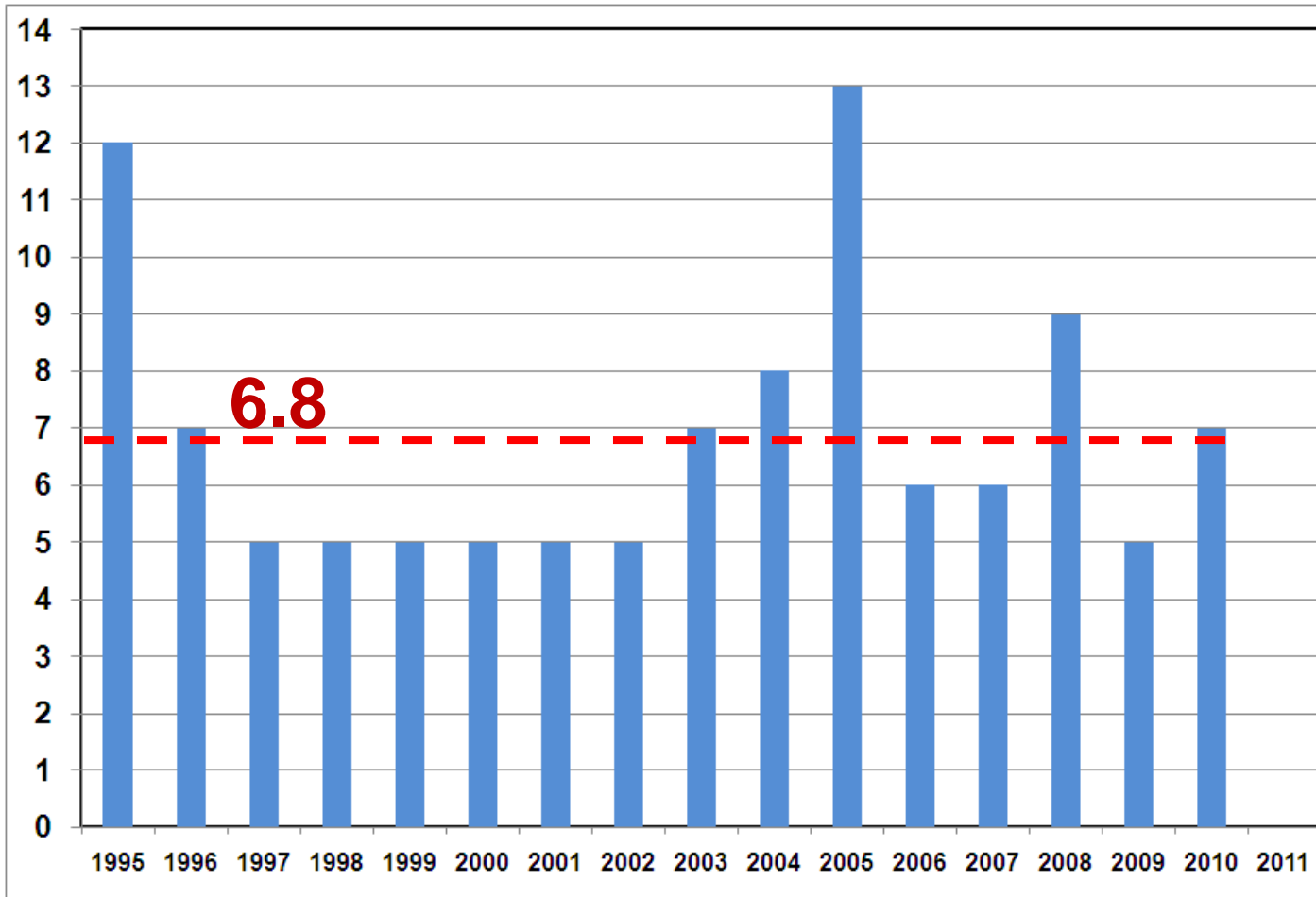
Your Weather DepartmentSM

2011 Season Number Update



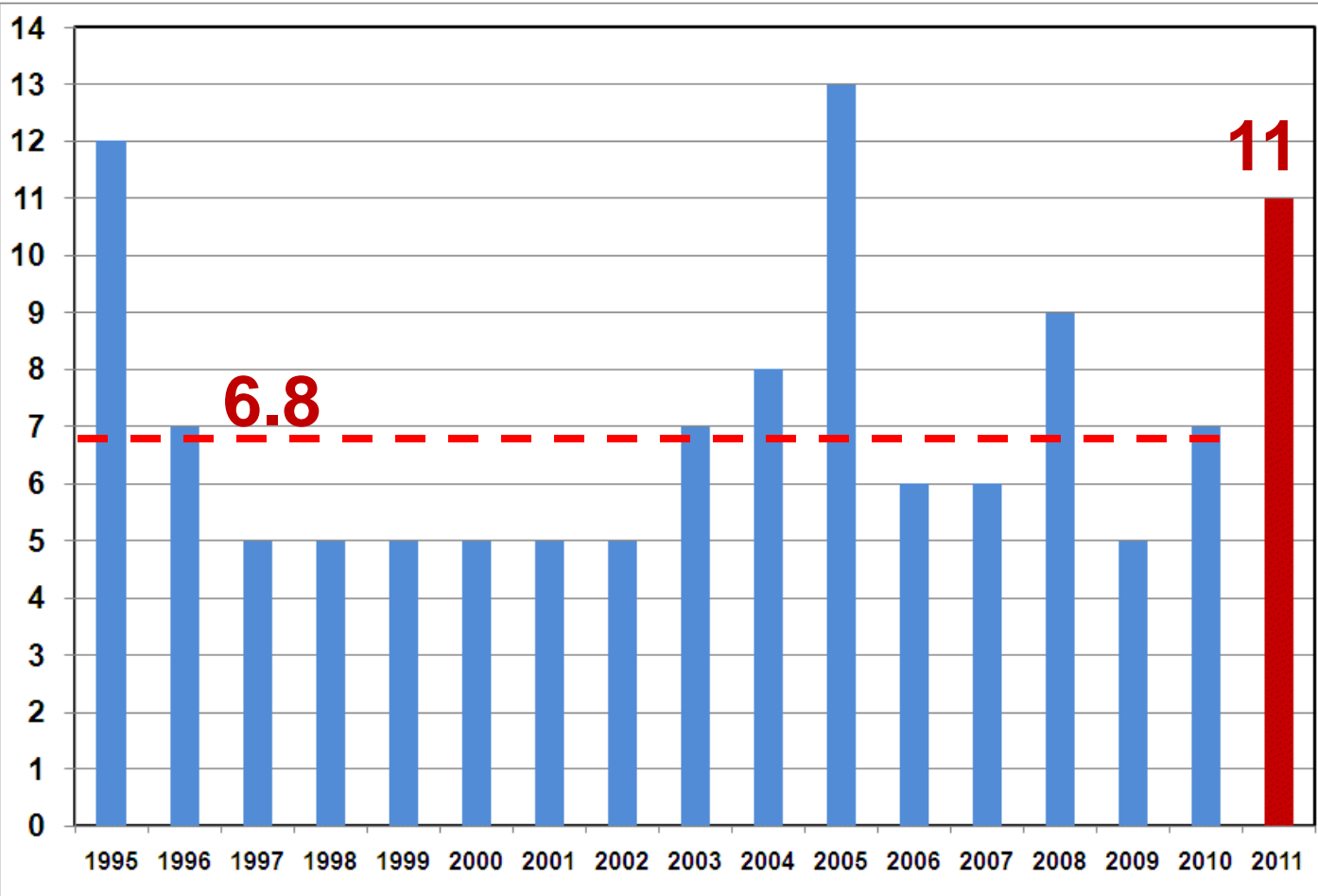


Since 1995 - average number of named storms by Sept. 1st is 6.8

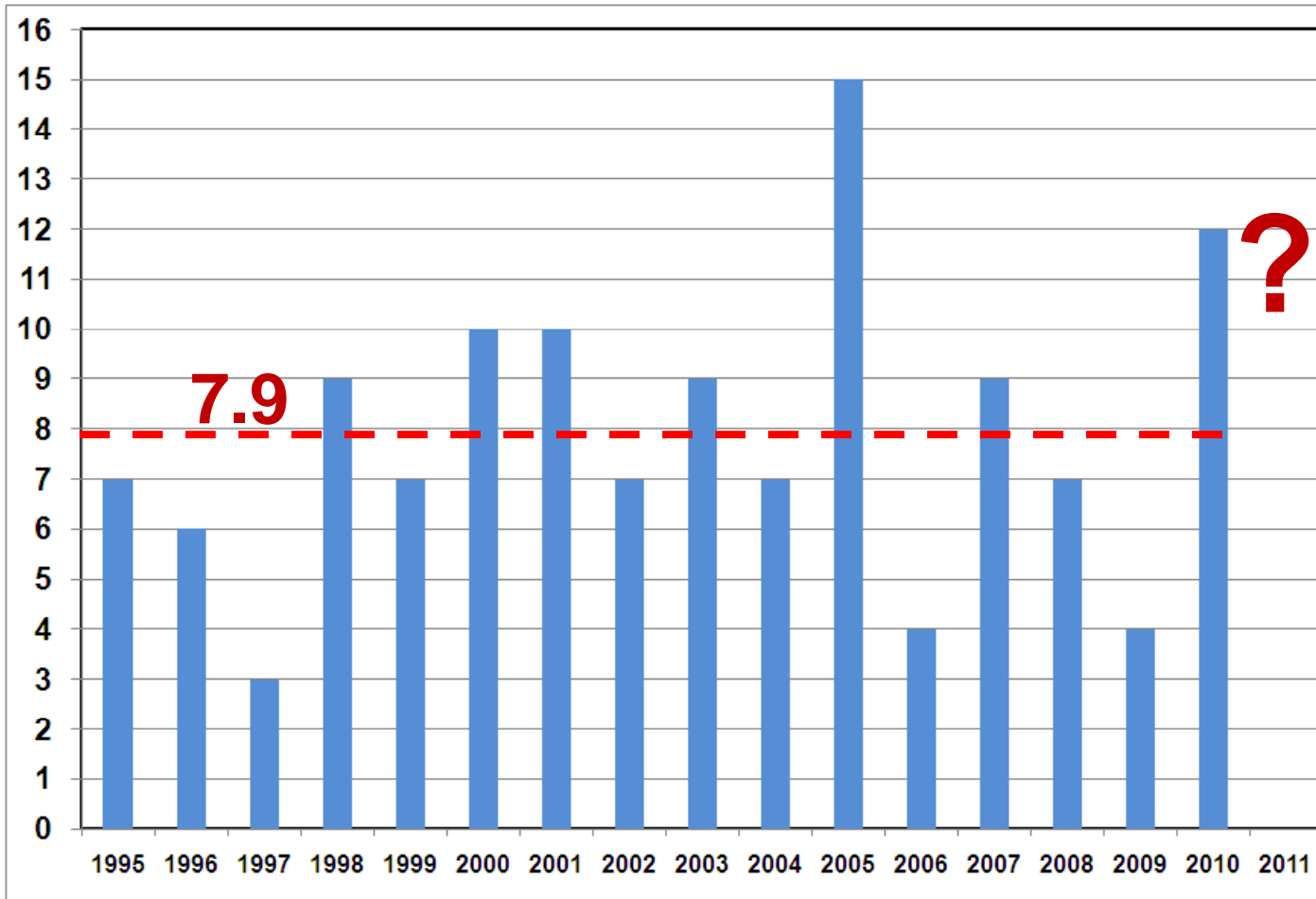




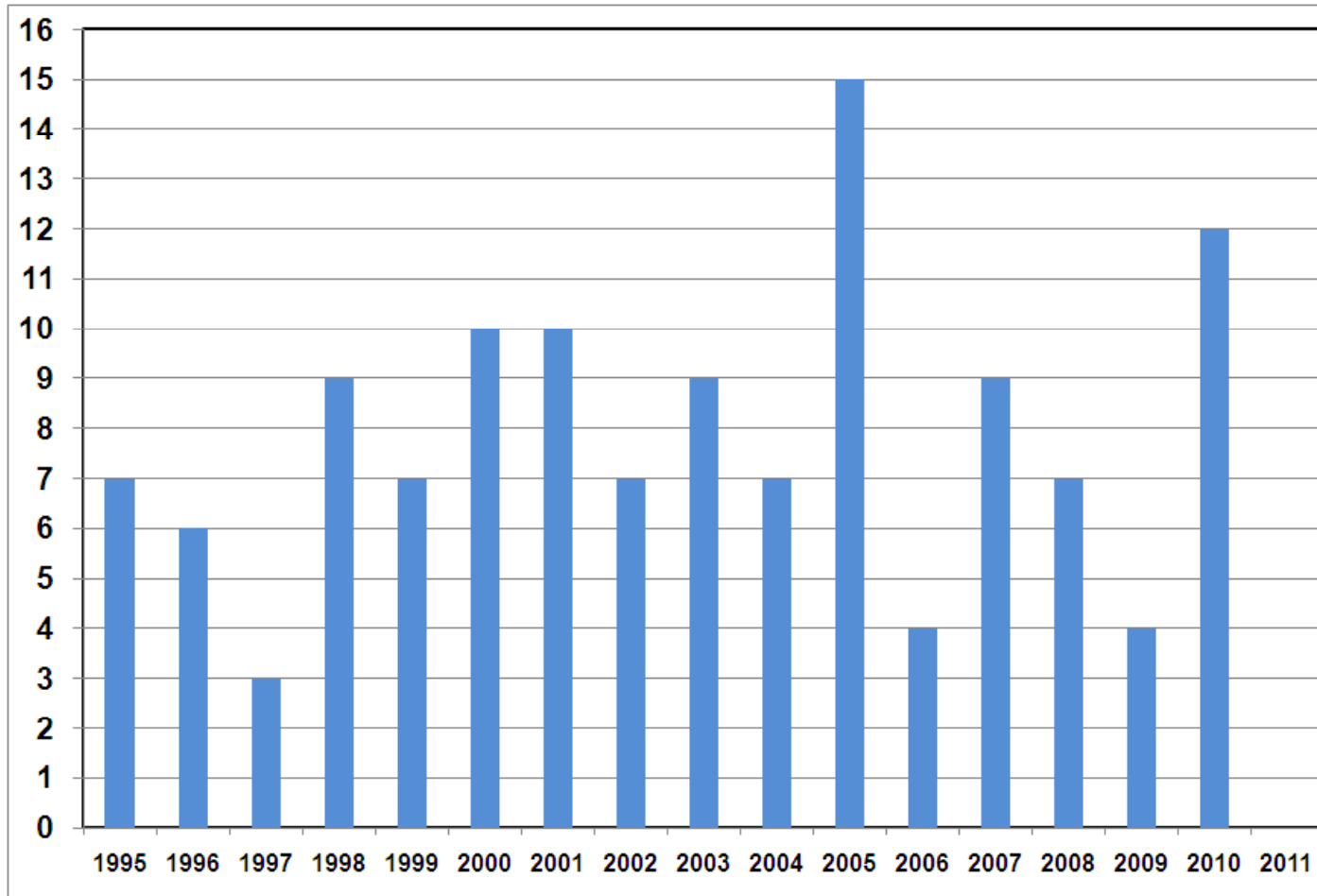
11 named storms prior to Sept. 1st this year is well above average



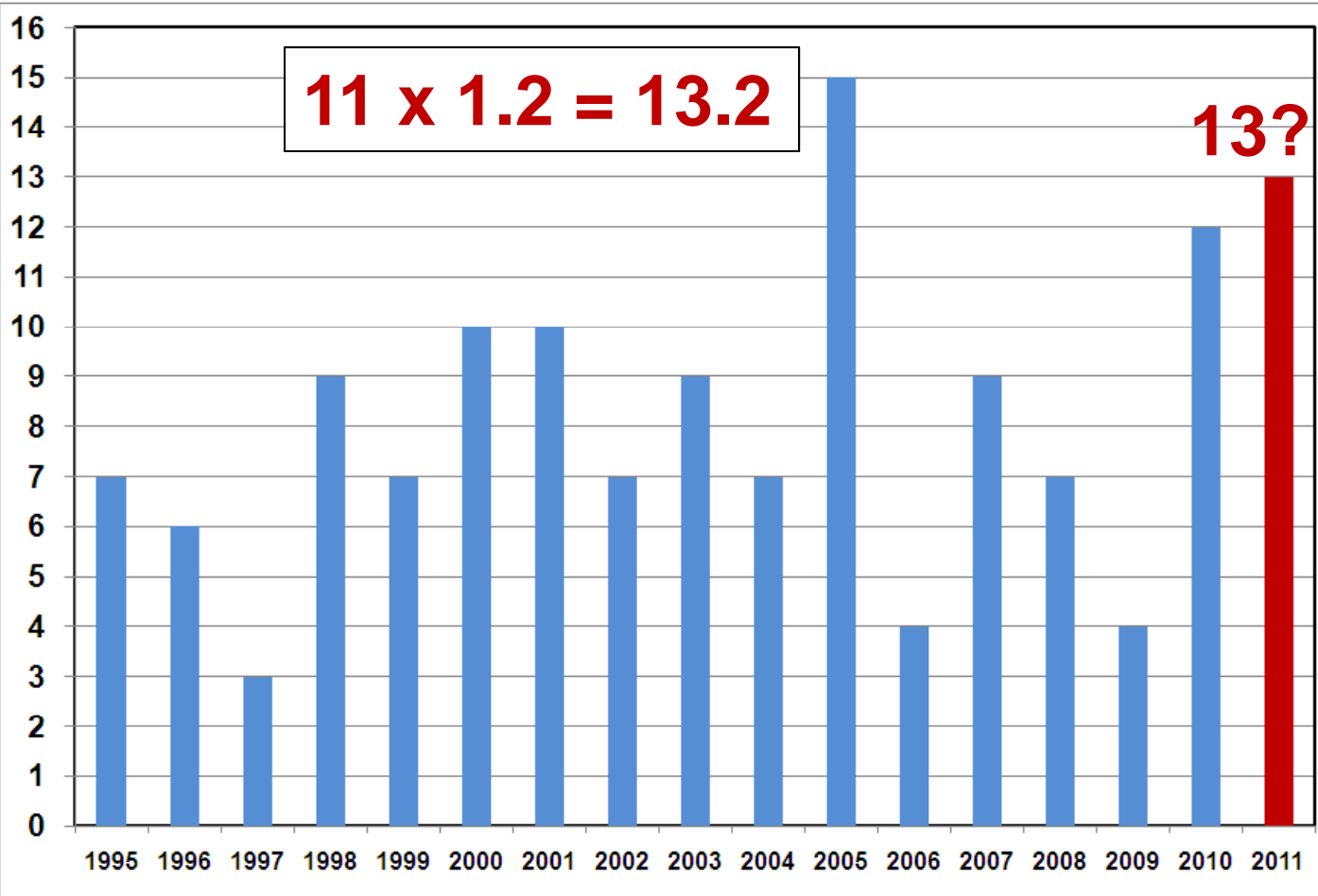
Since 1995 - average number of named storms after Sept. 1st is 7.9



About 20% more storms form after September 1st as before that date

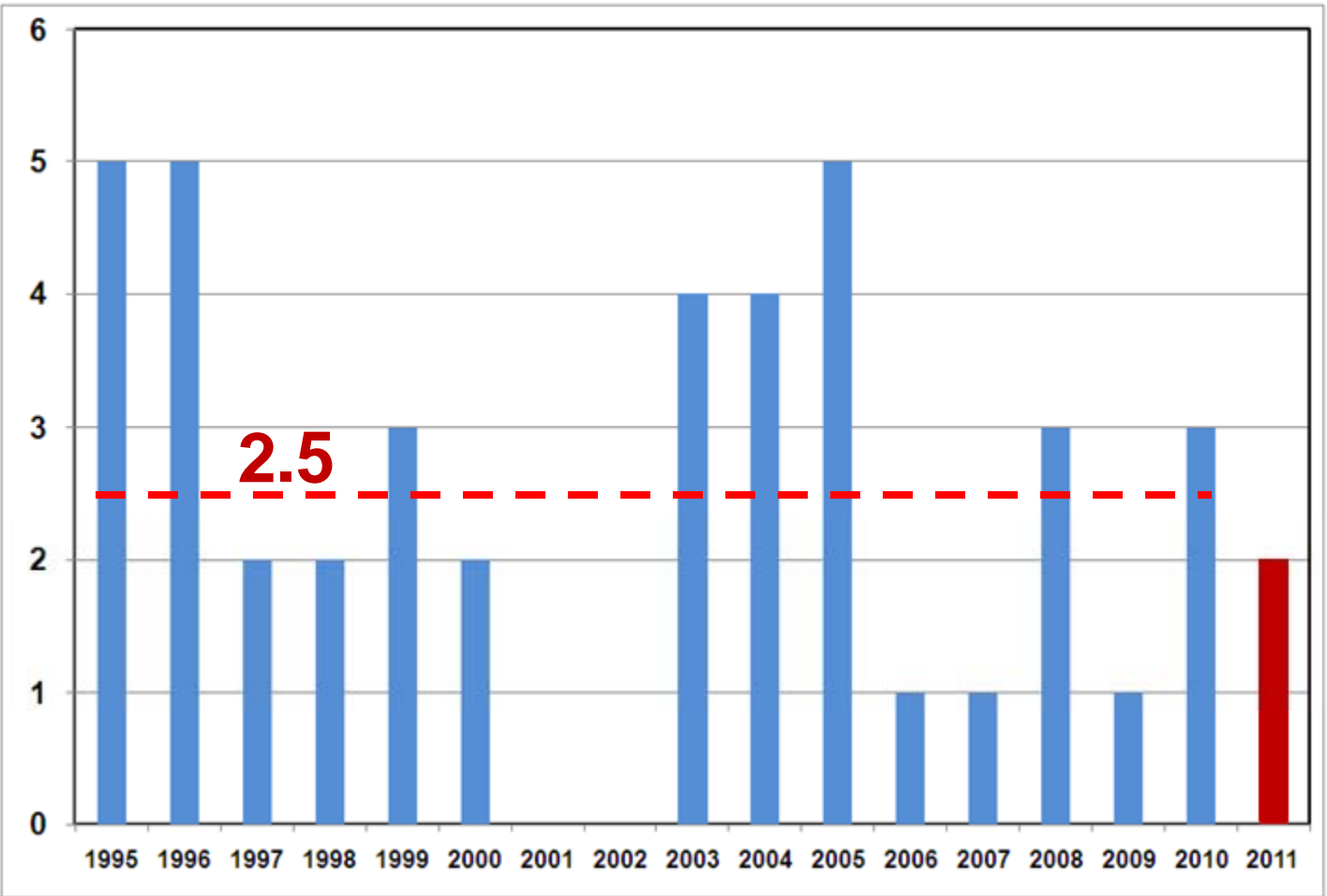


But can we really expect 13 more named storms to form in 2011?

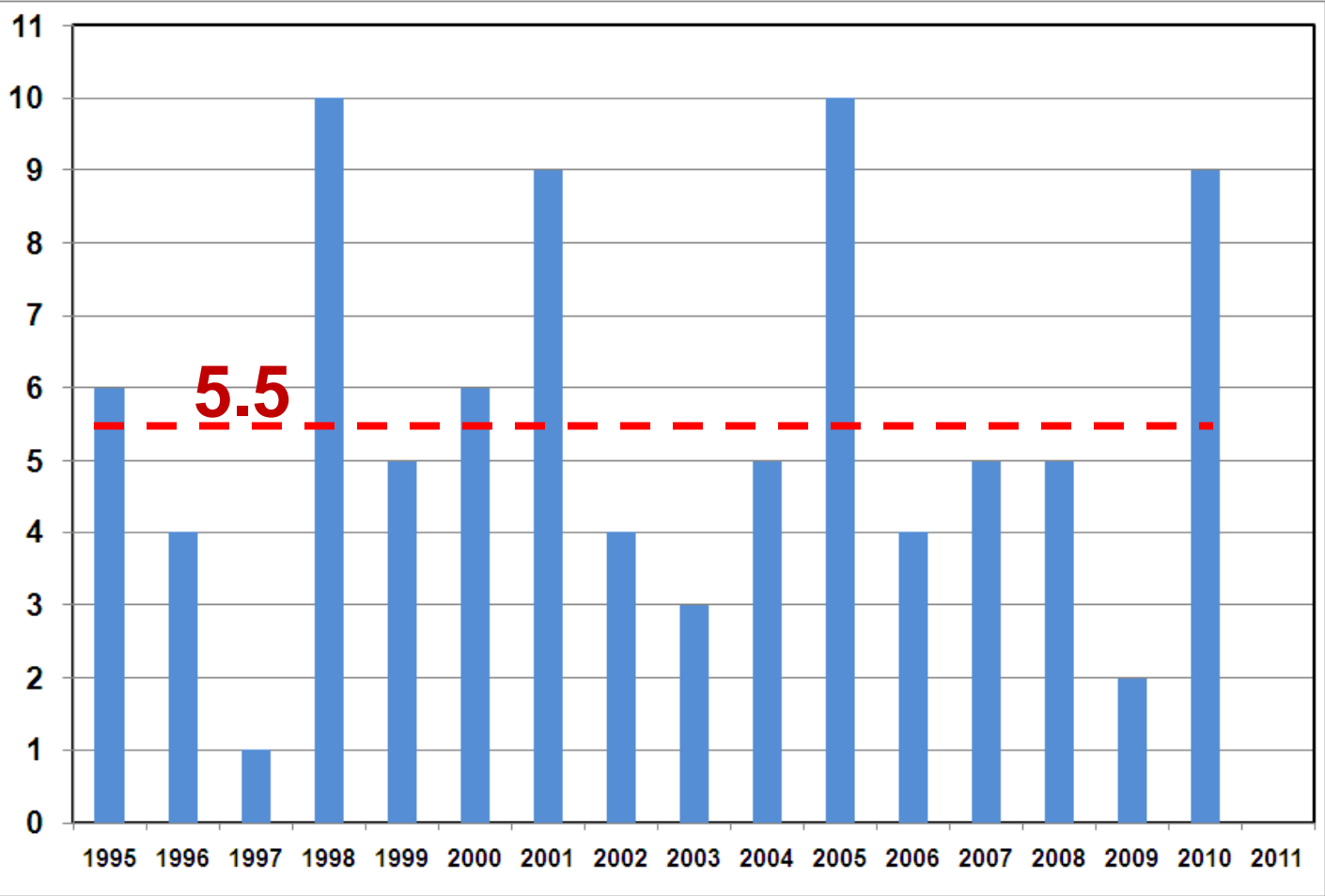




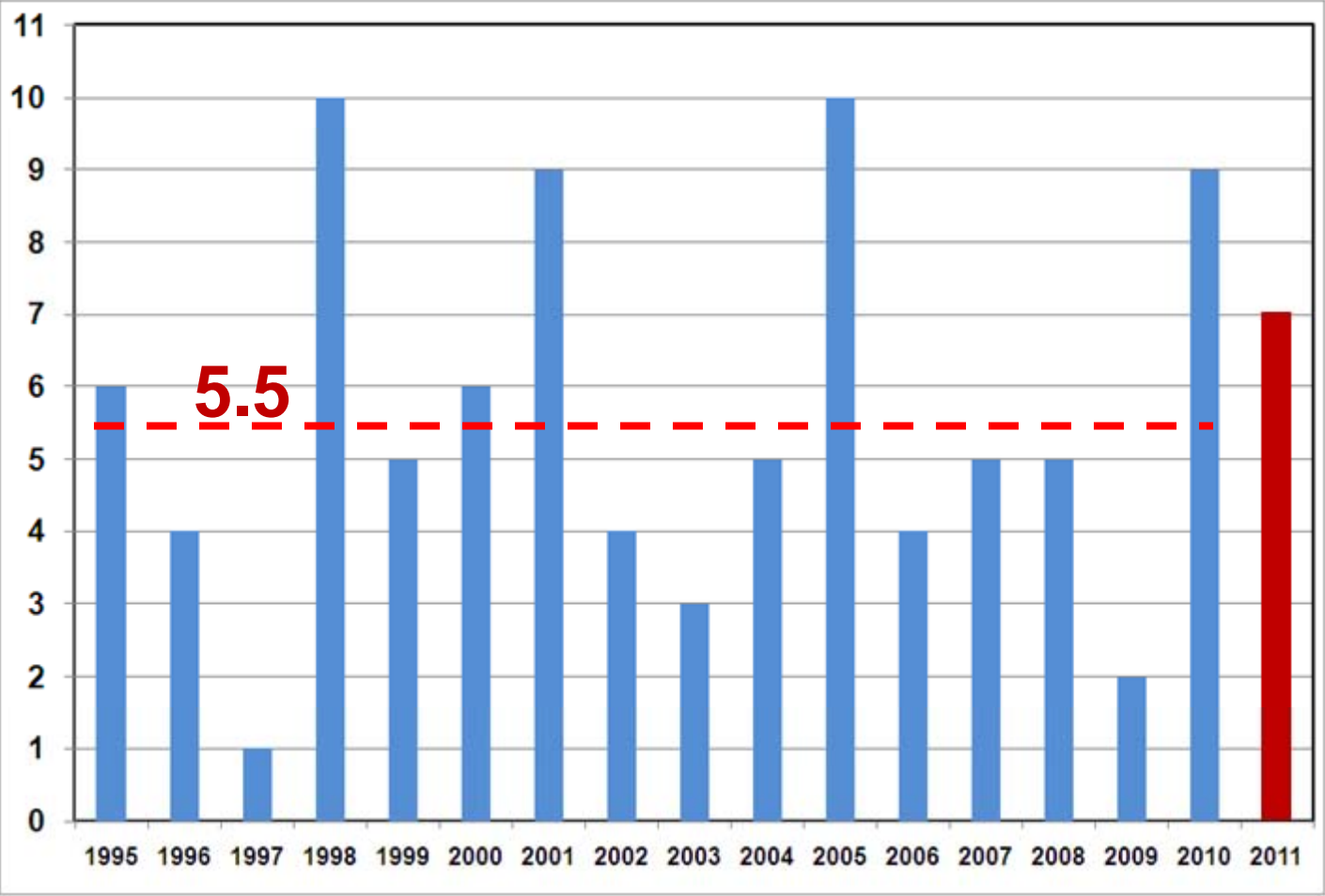
On average, 2.5 hurricanes form by September 1st – 2011 is close



Average number of hurricanes after Sept. 1st is 5.5



Most likely, another 7 hurricanes will form in 2011





Our Updated 2011 Outlook

	Named Storms	Hurricanes	Intense Hurricanes
Normal (1950-2010)	11	6	2
Average (1995-2010)	15	8	4
ImpactWeather			

A change from 16 to 20 named storms

List of 2011 Names (same list as 2005)

Arlene

Bret

Cindy

Don

Emily

Franklin

Gert

Harvey

Irene

Jose

Katia

Lee

Maria

Nate

Ophelia

Philippe

Rina

Sean

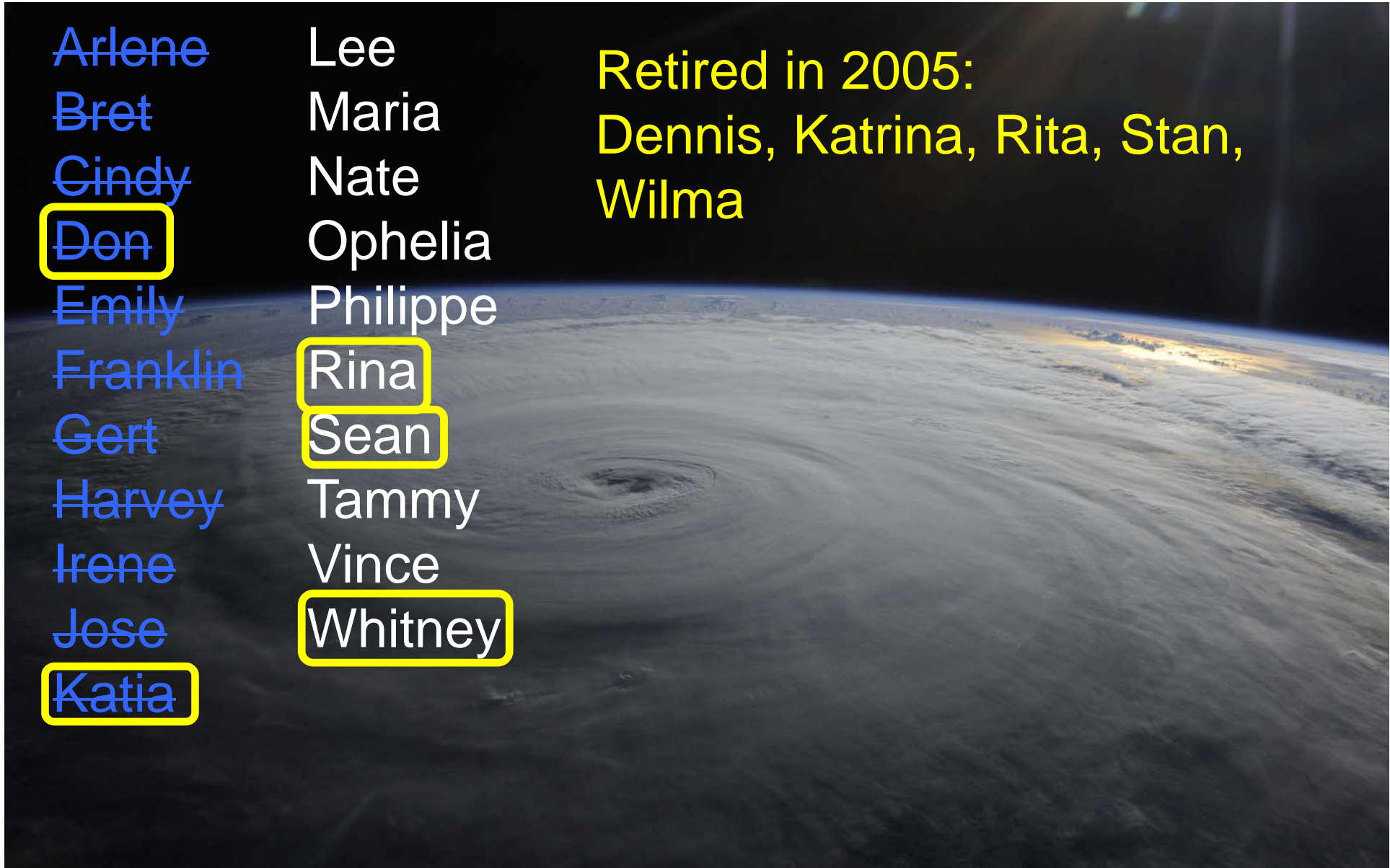
Tammy

Vince

Whitney

Retired in 2005:

Dennis, Katrina, Rita, Stan,
Wilma





Up Next: Client Weather Website User's Guide



Chris Hebert
Manager, TropicsWatch
chebert@impactweather.com

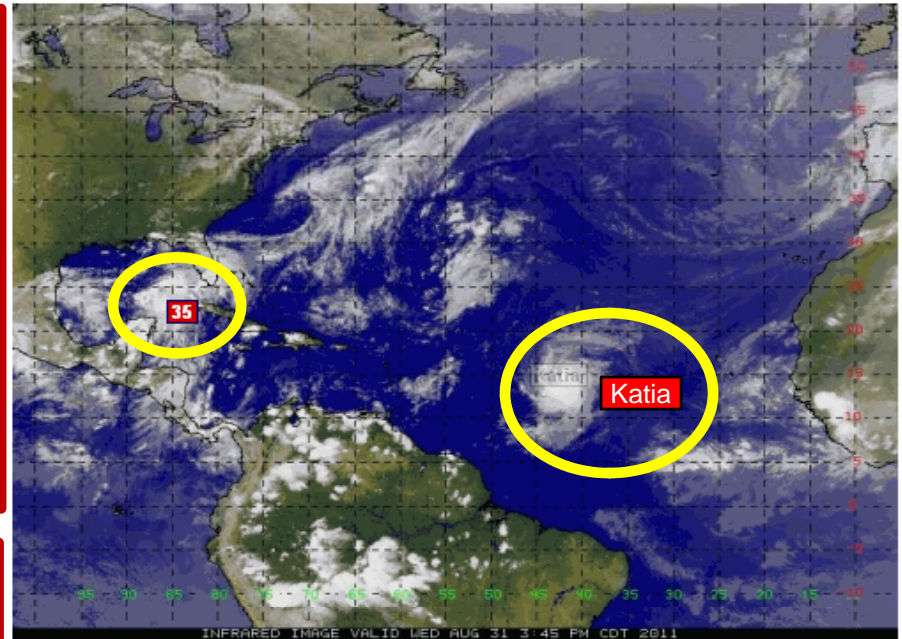


Disturbance 35 Likely to Develop Katia Not Expected to Affect Caribbean

Wednesday, August 31st 4:00PM CDT

Tropical Disturbance 35 consists of a broad area of disorganized showers and storms over the northwest Caribbean and Yucatan. It is expected to move into the Gulf over the next 24 hours and continue moving slowly across the Gulf over the next several days. We think that the **chances of a tropical storm developing over the next 48 hours is up to 40 percent. Beyond 48 hours, the chance of development is 75 percent.** Please see our latest advisory, below, for further details.

Tropical Storm Katia is centered near 14.5N/42.0W, or about 1275 miles east of the Leeward Islands. Movement is to the west-northwest at 20 mph. Maximum sustained winds are now up to 70 mph. Gradual strengthening is expected and Katia could become a hurricane later tonight or early tomorrow. It is expected to pass far to the northeast of the Leeward Islands on Sunday.



Active Storms

	Last Updated	Winds	Classification	HSI
Tropical Storm Katia	31st 2:29pm CDT	70mph	Tropical Storm	6

Significant Disturbances

	Last Updated
Tropical Disturbance 35	Wednesday, August 31st 2011 2:31pm CDT

TropicsWatch Videos

	Available Formats	Last Updated
Tropical Storm Katia	Windows Media Mobile Streaming Mobile Download	3PM CDT Wed Aug 31
Tropical Disturbance 35	Windows Media Mobile Streaming Mobile Download	3PM CDT Wed Aug 31
Daily Briefing	Windows Media Mobile Streaming Mobile Download	6AM CDT Wed Aug 31
30 Day Outlook	Windows Media Mobile Streaming Mobile Download	1AM CDT Wed Aug 31

Tropical Satellites

Western Atlantic Gulf of Mexico Atlantic Basin Eastern Atlantic

Detailed Satellite Imagery

Visible Infrared Water Vapor

Hurricane Risk Indicator for ImpactWeather, Inc.

HRI was designed to function as a "tap on the shoulder", allowing you to advance your hurricane plan from the initial state of readiness on June 1st to the next phase, a close monitoring of the tropics in the event that tropical development does occur. HRI is not a warning that a hurricane is forecast to develop and hit your particular location. Instead, HRI communicates to you that we've identified a potential hurricane threat to your general area within the next week. Due to the high uncertainty in predicting the development and movement of tropical disturbances, this potential threat typically encompasses a very large area.

For more information on the Hurricane Risk Indicator, see [HRI Help](#).

Location	Status	Associated Storm	Latitude	Longitude
Impact - Corpus Christi	positive	Tropical Disturbance 35	27.74N	97.43W
Impact - Galveston	positive	Tropical Disturbance 35	29.28N	94.84W
Impact - New Orleans	positive	Tropical Disturbance 35	30.00N	90.05W
Impact - Houma	positive	Tropical Disturbance 35	29.59N	90.72W
Impact - Port Arthur	positive	Tropical Disturbance 35	29.92N	93.96W
Impact - Port Lavaca	positive	Tropical Disturbance 35	28.60N	96.67W
Impact - Cameron, LA	positive	Tropical Disturbance 35	29.80N	93.32W
Impact - New Iberia	positive	Tropical Disturbance 35	30.00N	91.80W
Impact - Rockport	positive	Tropical Disturbance 35	28.16N	96.99W
Impact - Angleton	positive	Tropical Disturbance 35	29.19N	95.46W
Impact - Downtown Houston	positive	Tropical Disturbance 35	29.76N	95.36W
Impact - Lake Charles	positive	Tropical Disturbance 35	30.21N	93.20W
Impact - Lafayette	positive	Tropical Disturbance 35	30.22N	92.02W
IW Headquarters - Featherwood	positive	Tropical Disturbance 35	29.62N	95.21W
Impact West Houston	positive	Tropical Disturbance 35	29.73N	95.61W
Impact - Pasadena TX	positive	Tropical Disturbance 35	29.66N	95.17W
Impact - Brownsville	negative	N/A	25.96N	97.44W
Impact - Kingsville	negative	N/A	27.46N	97.85W
Impact - Gulfport	negative	N/A	30.40N	89.06W
Impact - Mobile	negative	N/A	30.75N	88.13W
Impact - Pensacola	negative	N/A	30.45N	87.28W
Impact - Panama City	negative	N/A	30.19N	85.64W
Impact - Apalachicola	negative	N/A	29.74N	85.10W
Impact - Tallahassee	negative	N/A	30.45N	84.41W
Impact - Clearwater	negative	N/A	27.96N	82.74W
Impact - Port Charlotte	negative	N/A	26.98N	82.14W
Impact - Fort Myers	negative	N/A	26.60N	81.85W
Impact - Naples	negative	N/A	26.18N	81.72W
Impact - Key West	negative	N/A	24.60N	81.69W

Tropical Disturbance 35

Updated: Wednesday, August 31st 2011 2:31pm CDT

Current Location: 24N/87.8W

Geographic Reference: Northwest Caribbean and Yucatan

Movement: Northwest at 8-10 mph

Max Winds: 35 mph

Organizational Trend: Slowly becoming better organized

Chance of Development to a Tropical Storm within 48 hours: 40%

Chance of Development to a Tropical Storm beyond 48 hours: 75%

Forecast Track Confidence: Average first 72 hours, low beyond then due to poor model agreement.

Changes From Our Previous Forecast

We have increased the development chances from 15% to 40% during the first 48 hours due to the fact that the expected time of tropical storm development (Friday afternoon to Saturday) is now nearly within the next 48 hours.

Our Forecast

It is looking more likely that the disturbance will move into the northwest Gulf by Friday and stall off the southwest to central Louisiana coast by Saturday. High pressure to its north over the weekend may result in very little movement through early next week. By next Tuesday, the high pressure to its north should have moved to the east, allowing the system to begin tracking to the west to southwest toward Texas. We think that such a track is now the more likely scenario, though it remains uncertain if a weakness in the high pressure to the north on Sunday might allow for a turn to the northeast and an acceleration toward southeast Louisiana, as the American model continues to forecast. For now, we are discounting the northeasterly track scenario. Confidence in the long-term track remains low.

Given the high oceanic heat content across the Gulf and only light to moderate shear, we think that the disturbance will most likely become a tropical depression by Friday afternoon and a tropical storm on Saturday. If it does remain stalled offshore on Sunday and Monday, then it will probably become a hurricane over the northwest Gulf and continue to slowly intensify up until its eventual landfall in Texas around the middle of next week.

Expected Impacts on Land

Texas/Louisiana Coasts: The disturbance may spread heavy rain into the area by Saturday. Due to the very slow motion expected near the coast, the squalls may last for several days.

Expected Impacts Offshore

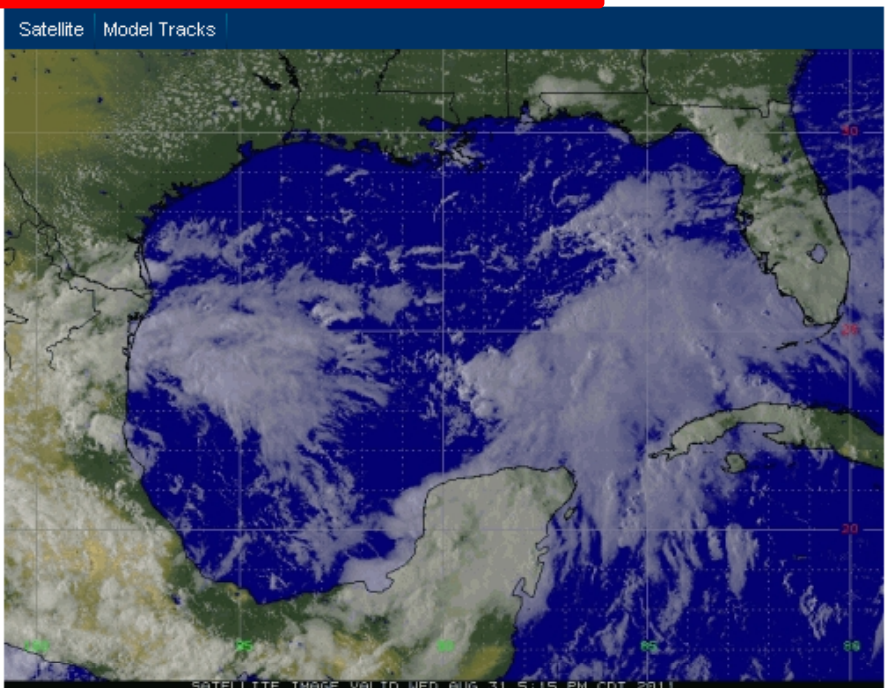
Northwest Gulf of Mexico: Thunderstorms may begin increasing off the Texas and Louisiana coasts as early as Thursday late afternoon, which means that Thursday may be the last day of good helicopter flying weather. But with that decaying frontal boundary currently across the central Gulf, there may be scattered thunderstorms off the Texas and Louisiana coasts over the next several days in advance of the disturbance and possible development.

The next update will be issued by 11PM CDT.

Video Update

Updated: Wednesday, August 31st 2011 3:05pm CDT

[Windows Media](#) [Mobile Streaming](#) [Mobile Download](#)



At least one of your locations has a positive Hurricane Risk Indicator

HDG Overview

HDG Reports

Hurricane Decision Guidance

Manage "T" Times

T times successfully updated. Please allow a few moments for settings to take effect.

Location	Storm Name	T Time	Comments	Last Updated
Impact - Corpus Christi	Tropical Disturbance 35	84		Wednesday, August 31st 2011 5:57pm CDT
Impact - Galveston	Tropical Disturbance 35	22		Wednesday, August 31st 2011 5:57pm CDT
Impact - Pensacola	Tropical Disturbance 35	36		Wednesday, August 31st 2011 5:57pm CDT
Impact - Tallahassee	Tropical Disturbance 35	48		Wednesday, August 31st 2011 5:57pm CDT
Impact - Melbourne	Tropical Disturbance 35	24		Wednesday, August 31st 2011 5:57pm CDT
IV Headquarters - Featherwood	Tropical Disturbance 35	72		Wednesday, August 31st 2011 5:58pm CDT
Impact West Houston	Tropical Disturbance 35	120		Wednesday, August 31st 2011 5:58pm CDT

Tropical Disturbance 35 Decision Guidance for Impact - Pensacola

Issued: Wednesday, August 31, 2011 04:00PM CDT (based on Advisory 1)

Our forecast takes the disturbance to just off the central Louisiana coast and stalls it in Saturday, where it should become a tropical storm and possibly a hurricane by Sunday or Monday. Thereafter, we think that high pressure to its north will weaken and move eastward, allowing for a west to southwest movement toward the lower to middle Texas coast.

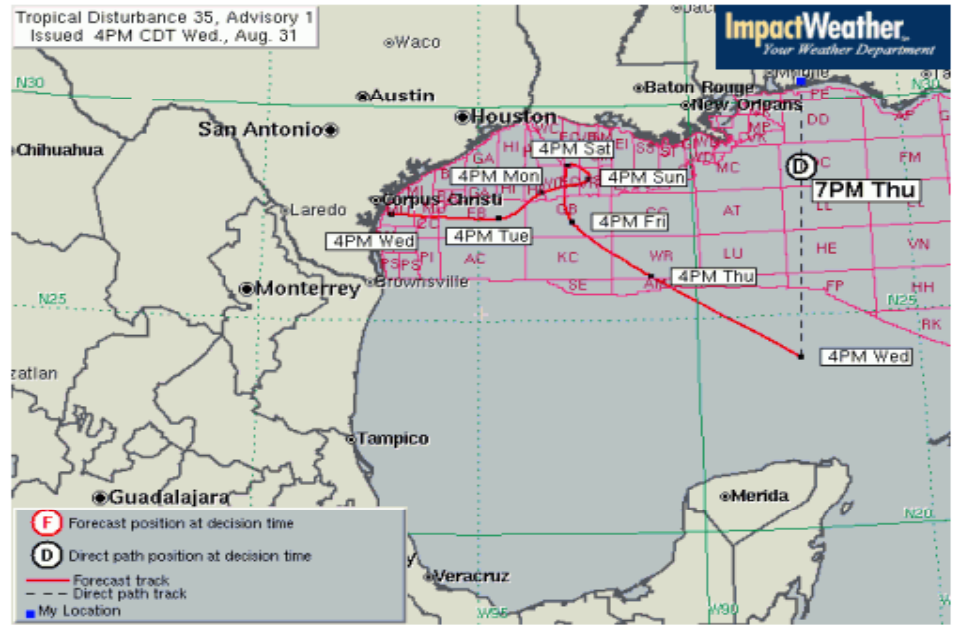
Vessel/Location	Impact - Pensacola
Latitude/Longitude	30.5N / 87.3W
Preparation Time ("T" time) Last Updated 06:04PM 08/31 by impact	12 Hours

Tropical Disturbance 35 (as of 04PM CDT 08/31)	
Location	24.0N / 87.7W
Distance to location	446 miles
Current speed of movement	10.3 mph
Probability of Tropical Storm development within 48 hours	40%
Probability of Hurricane development within 48 hours	0%
Probability of Tropical Storm development beyond 48 hours	75%
Probability of Hurricane development beyond 48 hours	50%
Confidence in track	Below Average

Hurricane Decision Guidance (as of 06:04PM CDT 08/31)
Based on Projected Arrival of Tropical Storm Force Winds

Tropical Storm Force Winds are not projected to reach your location within 7 days.

Direct Path Hurricane Decision Guidance (as of 06:04PM CDT 08/31)	
Based on Arrival of Tropical Storm Force Winds in a Direct Path Scenario	
Direct Path decision time remaining	25 hours
Direct Path decision time	Thu 09/ 1 7PM
Location of system at direct path decision time	28.4N / 87.4W
Distance to system at direct path decision time	141 miles



My Locations

- ➔ Site Trigger Report
- ➔ Site Forecast
- ➔ Probability of Wind Impact
- ➔ Worst Case Scenario
- ➔ Site Summary

Advisory Graphics

- ➔ Track Map
- ➔ Scope Of Winds
- ➔ Wind Radii
- ➔ PWM
- ➔ Hurricane Severity Index
- ➔ Classic Interactive Map
- ➔ GMaps Interactive Map

Storm Graphics

- ➔ Satellite
- ➔ Model Tracks
- ➔ Generate Wind Profile

Storm Videos

- ➔ Windows Media
- ➔ Mobile Streaming
- ➔ Mobile Download

NHC Information

- ➔ Public Advisory 11
- ➔ Aviso Publico
- ➔ Forecast/Advisory 11
- ➔ Forecast Discussion 11
- ➔ Wind Speed Probabilities 11
- ➔ Graphics
- ➔ 5-Day Track, Uncertainty Cone, Warnings (.shp)
- ➔ Best Track Information (.shp)
- ➔ Best Track Information (.kmz)
- ➔ Forecast Information (.shp)
- ➔ Wind Speed Probabilities - 0.5 Degree Multiple Basin

Tropical Storm Katia Advisory 11

Issued: Wednesday, August 31st 2011 2:29pm CDT

Current Location: 14.5N/42.0W

Geographic Reference: 1275 miles east of the Leeward Islands

Movement: West-northwest at 20 mph

Max Winds: 70 mph gusting to 85 mph

Organizational Trend: Slowly organizing

Current Hurricane Severity Index: 6 out of a possible 50 points (2 size / 4 intensity)

Peak Hurricane Severity Index: 22 out of a possible 50 points (10 size / 12 intensity)

Forecast Track Confidence: Average, due to reasonable model agreement.

Changes to Our Previous Forecast

No major changes from our previous advisory.

Our Forecast

A general west-northwest motion is expected to continue over the next 1-2 days. By the end of the week, a turn to the northwest is expected as the ridge north of Katia weakens. On this track, Katia is forecast to be about 300 miles northeast of the Leeward Islands on Sunday.

Katia continues to become better organized. It remains a strong tropical storm at this time. Environmental conditions are quite favorable for further development. Therefore, Katia is forecast to become a hurricane tonight or early tomorrow, and a category 3 hurricane by this weekend. The confidence in the intensity forecast is average.

Expected Impacts on Land

High waves could affect the north facing beaches of the northern Leeward Islands this weekend. Outer squalls could move over the far northern islands by late Saturday or early Sunday.

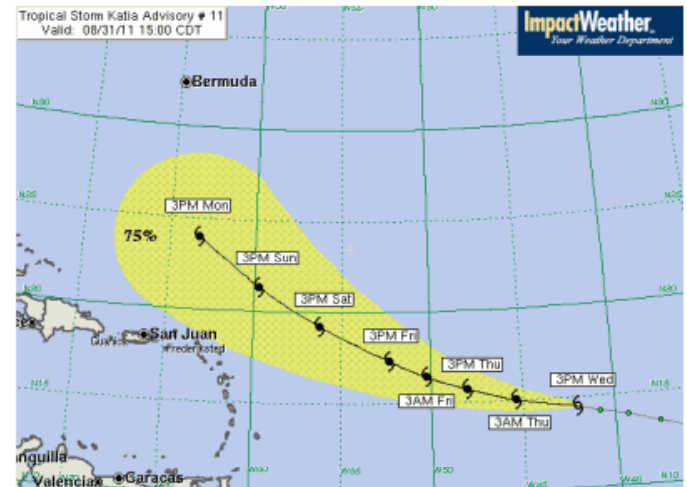
Our next full advisory will be issued by 10PM CDT.

Meteorologists: David Piech/Dante Diaz

Video Update

Updated: Wednesday, August 31st 2011 3:40pm CDT

[Windows Media](#) [Mobile Streaming](#) [Mobile Download](#)



Forecast Confidence: Average

[HSI Help](#)

Hurricane Severity Index

Forecast Hour	Valid	Lat	Lon	Max Winds	Max Gusts	Classification	Size	Intensity	Total
0	3PM CDT Wed Aug 31	14.50N	42.00W	70mph	85mph	Tropical Storm	2	4	6
12	3AM CDT Thu Sep 1	15.00N	45.30W	80mph	100mph	Category 1	3	5	8
24	3PM CDT Thu Sep 1	15.70N	48.00W	90mph	110mph	Category 1	4	7	11
36	3AM CDT Fri Sep 2	16.40N	50.20W	100mph	120mph	Category 2	6	8	14
48	3PM CDT Fri Sep 2	17.30N	52.30W	105mph	125mph	Category 2	7	9	16
72	3PM CDT Sat Sep 3	19.20N	56.20W	110mph	135mph	Category 2	8	10	18
96	3PM CDT Sun Sep 4	21.30N	59.70W	115mph	140mph	Category 3	10	11	21
120	3PM CDT Mon Sep 5	24.00N	63.30W	120mph	150mph	Category 3	10	12	22

Browse Katia Advisories

1 2 3 4 5 6 7 8 9 10 11



Your Weather DepartmentSM

Customized Trigger Report Incorporates Your Hurricane Response Plan



Trigger Report for ABC Co. (Baytown) – Hurr. Don Advisory 26
Generated: Wednesday, August 17th, 2011 4:00pm CDT



- My Locations**
- ➔ **Site Trigger Report**
- ➔ Site Forecast
- ➔ Probability of Wind Impact
- ➔ Worst Case Scenario
- ➔ Site Summary
- Advisory Graphics**
- ➔ Track Map
- ➔ Scope Of Winds
- ➔ Wind Radii
- ➔ PWI
- ➔ Hurricane Severity Index
- ➔ Classic Interactive Map
- ➔ GMaps Interactive Map
- Storm Graphics**
- ➔ Satellite
- ➔ Generate Wind Profile
- ➔ Rainfall
- ➔ Storm Surge
- IHC Information**
- ➔ NHC Archive

Current Conditions	
Location	21.0N / 88.5W
Movement	WNW at 14 mph
HRI Status	Positive
Winds	105 mph
Current HSI	26 (17 size / 9 intensity)
Current Phase	5

Forecast Conditions	
Max Forecast Winds	110 mph
Max Forecast HSI	33 (23 size / 10 intensity)
Hrs to Next Trigger Point	24
Estimated Next Phase	6
	3pm CDT Thursday, Aug. 18

Predicted Conditions at Your Facility Within the next 5 Days	
Rain	Occasional showers beginning Friday afternoon. Heavy rain likely on Saturday as Don tracks inland west of the Houston area. General rainfall amounts less than an inch on Friday and up to 5-8 inches on Saturday.
Storm Surge	Tides in northwest Galveston Bay increasing to 2-3 feet above normal Friday evening as Don approaches the lower Texas coast.

Note: Hours remaining is calculated from the time the report was generated

Wind Field Forecast and Worst-Case Arrival Times at Your Location							
Wind Field	Forecast ETA			Worst-Case ETA		Probability of Wind Impact	
	Hrs. Until Arrival	Arrival Time/Date	Duration	Hrs. Until Arrival	Arrival Time/Date (CDT)	Value	Trend
39mph	60	Friday 8/19 11:31pm	8 hrs	45	Friday 8/19 12:18pm	42%	+3%
58mph	n/a	n/a	n/a	53	Friday 8/19 6:22pm	27%	+2%

Phase	Trigger Parameters	Reached?	Estimated Time Until Next Trigger Reached
1	HRI+	YES	Trigger has been reached
2	WC S39 ≤ 120 hrs. & PWI58 ≥ 8%	YES	Trigger has been reached
3	WC S39 ≤ 96 hrs. & PWI58 ≥ 15%	YES	Trigger has been reached
4	WC S39 ≤ 72 hrs. & PWI58 ≥ 20% or PWI58 ≥ 15% and Max HSI ≥ 25	YES	Trigger has been reached
5	WC S39 ≤ 48 hrs. & PWI58 ≥ 30% or PWI58 ≥ 25% Max HSI ≥ 25	YES	Trigger has been reached
6	FTA39 ≤ 36 hrs.	NO	24 hrs – 3pm CDT Thursday 8/18
7	Sustained winds fall below 39 mph	NO	63 hrs – 7am CDT Saturday 8/20



Your Weather DepartmentSM



Chris Hebert
Manager, TropicsWatch
chebert@impactweather.com

