Monday 6 September 2010 (Happy Labor Day)

TRI-AGENCY Weather Discussion

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Current Conditions/Review of Yesterday's Forecast:

Big Picture: The large-scale flow conditions in the middle and upper troposphere across the CONUS, Gulf of Mexico, Caribbean Sea, and North Atlantic at 1415 UTC 5 Sep are summarized by the high-resolution water vapor winds (**image 1**) and Atlantic scale IR image for 1415 UTC 5 Sep (**image 2**). Features of interest include TC Hermine (formally TD-10 and not TD-11 as erroneously listed in yesterday's weather summary), PGI38L (remnants of Gaston), and upper-level cold low to the west of PGI38L and a trio of disturbances (PGI39L, PGI41L, and PGI42L) over the extreme eastern Atlantic and western Africa (**image 3**). These features are all readily apparent in the high-resolution water vapor upper-level wind imagery for 1415 UTC 6 Sep (**image 1**). Light upper-level winds in the vicinity of Hermine with an outflow to the northeast to the north and an outflow channel to the south and southwest to the south can also be seen (**image 1**). A Hermine-induced outflow ridge is also developing over the western Gulf of Mexico (**image 1**). Farther to the east, upper-level easterly flow across PGI38L turns poleward to the east of the aforementioned upper-level cold low (**image 1**)

At 1500 UTC 6 Sep, TC Hermine was located at 23.4 N and 95.8 W. The central pressure was 998 hPa, the maximum sustained winds were 45 kt, and the storm was moving to the north-northwest at 11 kt. The NHC expects Hermine to continue to track toward the north-northwest and make landfall in extreme northeastern Mexico with sustained winds just below hurricane force of 60 kt by 1200 UTC 7 Sep (**image 4**). TC Hermine is intensifying in a low deep-layer shear environment (< 10 kt; not shown) over warm SSTs (29-30 C) and in area where a Cat 5 storm with minimum sea level pressure below 880 hPa is theoretically possible according to Kerry Emanuel's real-time hurricane potential intensity map for 6 Sep (**image 5**). A backward trajectory analysis for 0000 UTC 6 Sep shows that Hermine is being fed by air flows originating from the tropical eastern Pacific at midlevels and the Gulf of Mexico at lower levels (**image 6**). Very high (> 60 mm) TPW values are also evident in the area where Hermine is intensifying (**image 3**).

At 1200 UTC 6 Sep, PGI38L was located near 17 N and 57 W, while PGI39L (16 N 29 W), PGI41L (12 N 17 W), and PGI42L (11 N 5 W) were located in the extreme eastern North Atlantic and western Africa (**image 3**). On the large scale at 1415 UTC, PGI38L was located beneath 30-40 kt easterly winds in the upper troposphere (**image 1**). Southerly upper-level flow in the upper troposphere was prevalent over the eastern part of the Caribbean just east of the upper-level cold low we have been watching for several days. At issue in the near term is whether the westward progression of the upper-level low will be impeded by the well-defined anticyclonic outflow over the Gulf of Mexico that is associated with the development of Hermine.

A notable difference in the convective structure of PGI38L between this morning and previous mornings was the widespread outbreak of convection northwest of the disturbance (**image 7**). This convection appears to be oriented along the mid and upper-level north-south axis of dilatation that set up in the confluent flow between the southerlies east of the upper-level cold low and the easterlies over PGI38L. Note also that the convection northwest of PGI38L appears to be embedded in a region of low-level speed convergence (**image 8**). Evidence for the mid and upper-level confluent flow was apparent in the 1200 UTC 6 Sep soundings from TFFR (78897) and TJSJ (78526). Note in the TFFR sounding (**image 9**) that deep easterlies are present, with flow approaching 30-40 kt above 250 hPa, while the TJSJ sounding (**image 10**) shows deep southerly flow above 500 hPa approaching 40 kt. The more southerly flow at TJSJ nicely shows the confluent flow, and likely increased mid to upper-level deformation, present west of PGI38L.

Another notable difference in convective structure today is the more pronounced development of convection along the southern and eastern flank of PGI38L (**image 8**) and the more abundant moisture farther eastward in storm relative coordinates…suggesting that the pouch sweet spot may be more protected from the abundant dry air to the northeast (**image 7**).

Farther eastward in the eastern North Atlantic and western Africa, PGI39L, PGI41L, and PGI42L are all associated with well-defined low-level vorticity centers and organized convection (not shown). See the extended forecast section for the forecast discussion of these PGI's.

Day 1 (Next 24 hours) Outlook:

Hermine: This TC is forecast to make landfall over extreme northeastern Mexico by 1200 UTC 7 Sep (**image 4**). The SHIPS output from 1200 UTC (appended to the end of this report) indicates a 47% chance for rapid intensification (25 kt threshold) in the next 24-h…indicating a potential for the landfall intensity to reach the Cat 1 range.

Over the next 24-hours, PGI38L is forecast by the ensembles to continue westward and be located near 62-64 W as a weak surface low pressure center or a weak tropical storm (**image 11** and **image 12**). The pouch products from the GFS (**image 13**) and the ECMWF (**image 14**) both indicate gradual weakening by 1200 UTC 7 September, with PGI38L beginning to take a more southerly track into the eastern Caribbean. Meanwhile, the SHIPS output (appended to the end of this report) is indicating that PGI38L will enter an environment with decreasing shear and warm SSTs…seemingly favorable for continued development, which is inconsistent with the current dynamical model runs.

Day 2 (24-48 h) Outlook:

Hermine: The NHC forecast follows:

FORECAST POSITIONS AND MAX WINDS

```
INITIAL      06/1500Z 23.4N  95.8W    45 KT
 12HR VT     07/0000Z 24.9N  96.9W    60 KT
 24HR VT     07/1200Z 27.0N  98.3W    55 KT...INLAND
 36HR VT     08/0000Z 29.1N  99.6W    30 KT...INLAND
 48HR VT     08/1200Z 31.4N 100.4W    25 KT...POST-TROP/REMNT LOW
 72HR VT     09/1200Z 36.0N  99.0W    20 KT...POST-TROP/REMNT LOW
 96HR VT     10/1200Z...DISSIPATED
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Although Hermine is expected to make landfall over extreme northeastern Mexico before it can intensify into a Cat 1 storm, prudence and the fact that one of us has lived too long, suggest that when it comes to TCs, statements of expected future intensity should always be accompanied by big error bars, waffling, bobbing, and weaving as required, and creative "weasel language" as needed. The biggest disruption to human activity from Hermine is likely to result from inland flooding in Texas and adjacent states to the north and east. A predecessor rain event in these regions is a distinct possibility.

In the 24-48-hour period, the ensemble forecast takes PGI38L just south of STX to near 66-68 W (**image 11**). The intensity forecast from the ensemble members range from a weak low pressure center to a moderate tropical storm by 1200 UTC 8 Sep (**image 12**) as PGI38L moves into an environment richer in deep tropical moisture, warm SSTs (> 29 C), and weak deep layer wind shear (not shown). The pouch products are consistent with the ensembles, except that the GFS and ECMWF take PGI38L farther south than almost all of the ensemble members (**image 13** and **image 14**). The SHIPS continues to indicate a favorable environment for intensification through 48-h.

Extended Outlook:

Hermine: The ECMWF model from 1200 UTC 6 Sep forecasts the layer-mean 925-850 hPa Hermine vorticity maximum to track along a broad anticyclonic path from Texas the Atlantic coast. Numerous mesoscale convective systems and very heavy rains are at risk to occur along the inland track of the forecast Hermine vorticity maximum. This Hermine vorticity maximum is forecast to be located over eastern Kansas, at 1200 UTC 9 Sep, central Kentucky at 0000 UTC 11 Sep, along the coast of North Carolina by 1200 UTC 12 Sep, and over the central subtropical Atlantic by 1200 UTC 13 UTC (not shown). Subsequently, the former Hermine disturbance is forecast to strengthen rapidly as it undergoes ordinary baroclinic cyclogenesis as it interacts oceanic upper-level trough over the subtropical North Atlantic. Whether the forecast baroclinic cyclogenesis will have characteristics of a subtropical storm development and whether the resulting cyclone will undergo a tropical transition remains to be determined.

PGI38L: In the long range, the ensemble forecasts continue to take PGI38L on a westerly track into the western Caribbean (**image 11**) where Kerry Emanuel's maximum potential intensity is a maximum (**image 5**). The intensity forecast from the ensemble members range from a weak low pressure center to a strong Cat 4 storm by 120-h (**image 12**)…representing a substantial divergence in the ensemble member forecasts. The pouch products indicate that PGI38L will continue southwestward…rather than westward in the ensemble… and weaken the system significantly by 120-h. Beyond 120-h in the 1200 UTC 6 Sep GFS and ECMWF (not shown), the disturbance completely dissipates over the western Caribbean.

PGI39L: The 1200 UTC 6 Sep GFS and ECMWF move it northwestward as a weak vorticity center to near 30 N 42 W by 0000 UTC 10 Sep. The disturbance is currently progged to remain weak and dissipate as it interacts with a midlatitude upper-level trough after 0000 UTC 10 Sep (not shown).

PGI41L: The 1200 UTC 6 Sep GFS rapidly develops it into an intense tropical cyclone near 20 W by 0000 UTC 9 Sep and moves it northwestward to near 25 N 55 W by 1200 UTC 16 Sep where it interacts with a strong upper-level trough. The 1200 UTC 6 Sep ECMWF keeps PGI41L much weaker and on a more westerly course, reaching the Lesser Antilles near 18 N by 1200 UTC 16 Sep.

PGI42L: The 1200 UTC 6 Sep GFS moves it off the African coast by 1200 UTC 12 Sep and rapidly develops it into a tropical cyclone reaching 20 N 32 W by 1200 UTC 16 Sep. The 1200 UTC 6 Sep ECMWF has a very similar solution.

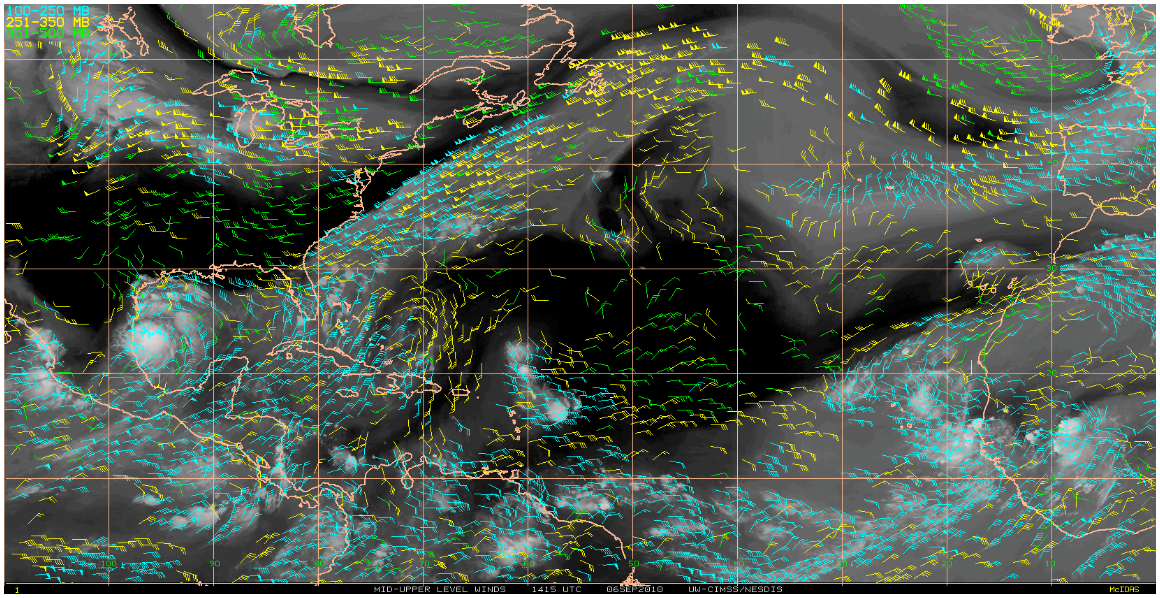


Image 1

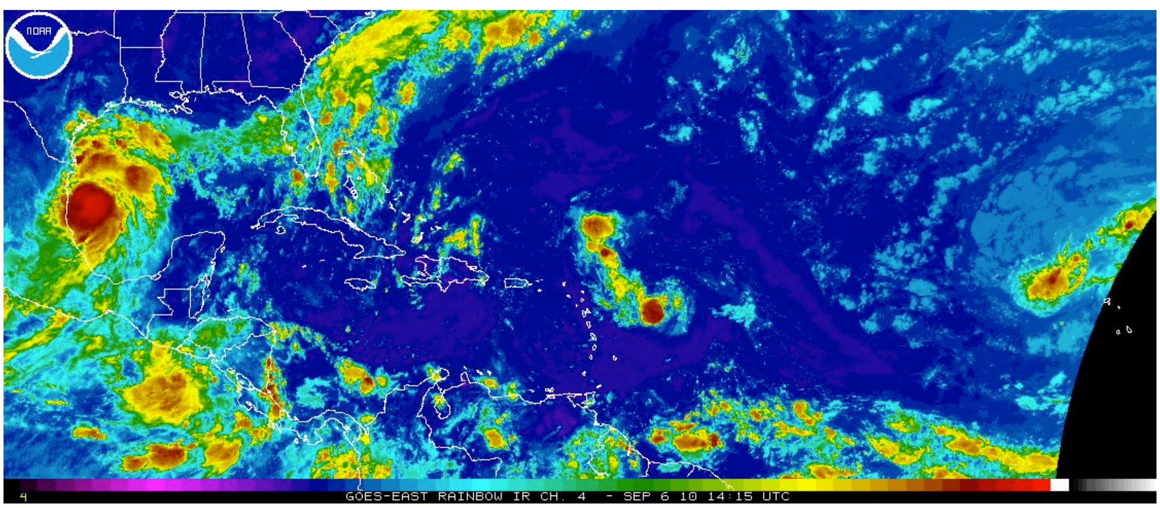


Image 2

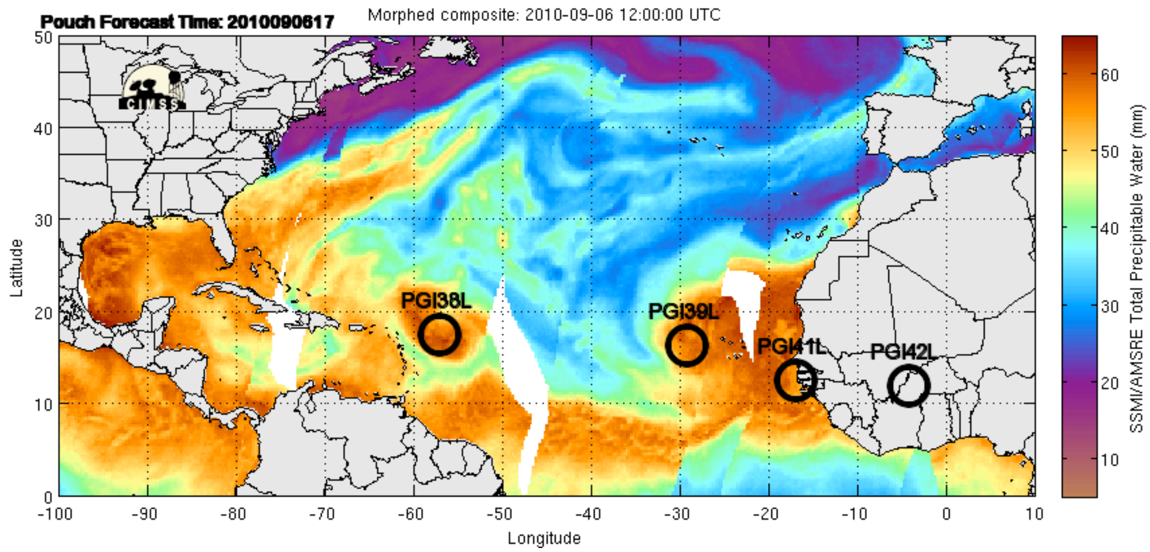


Image 3

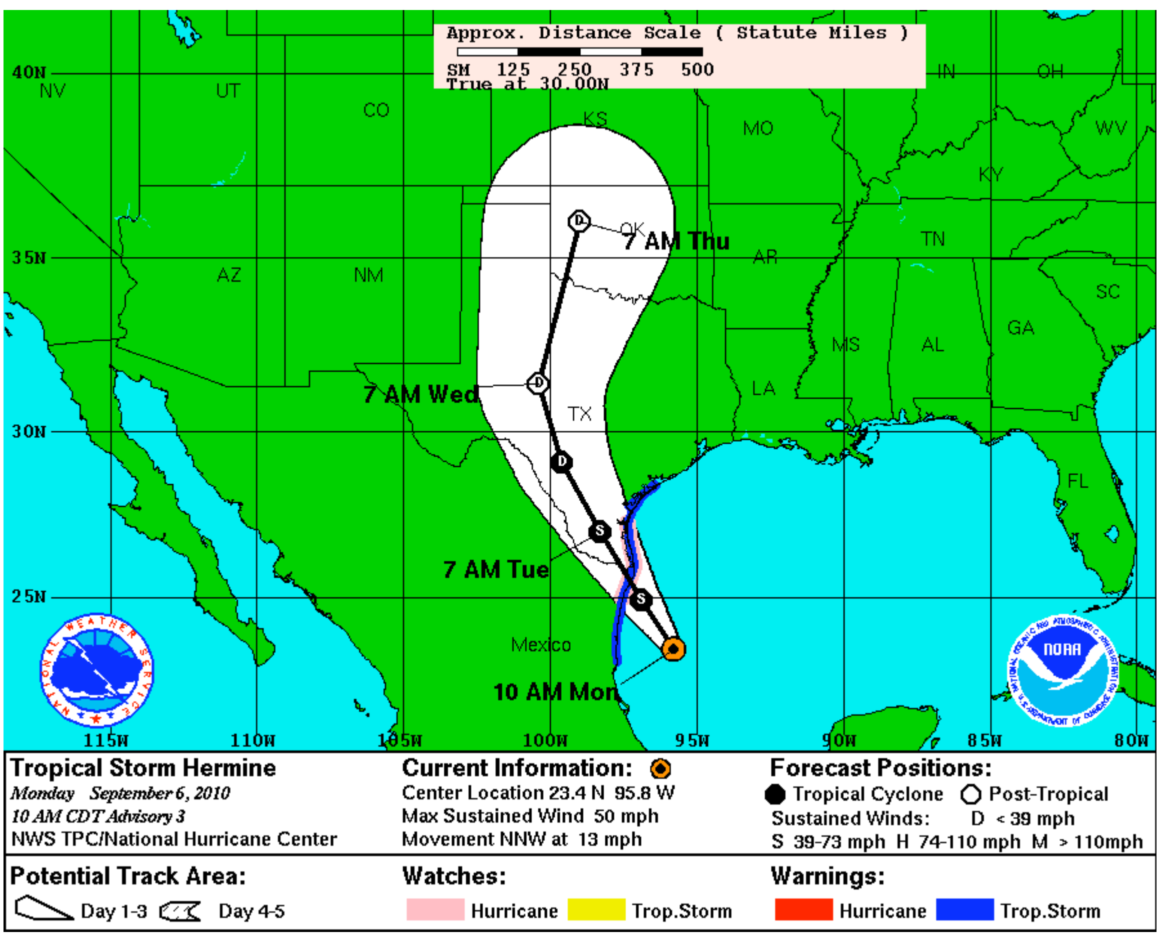


Image 4

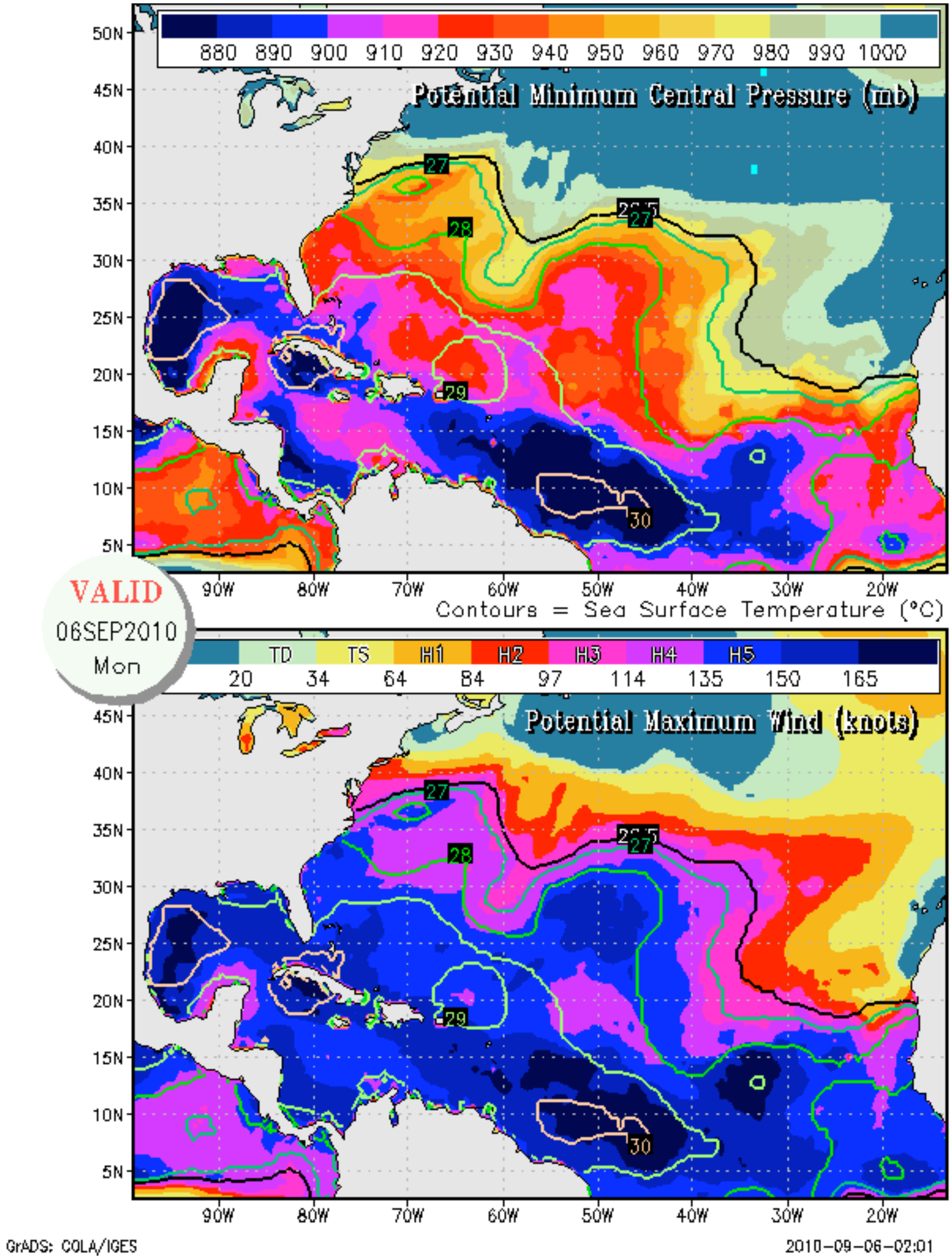
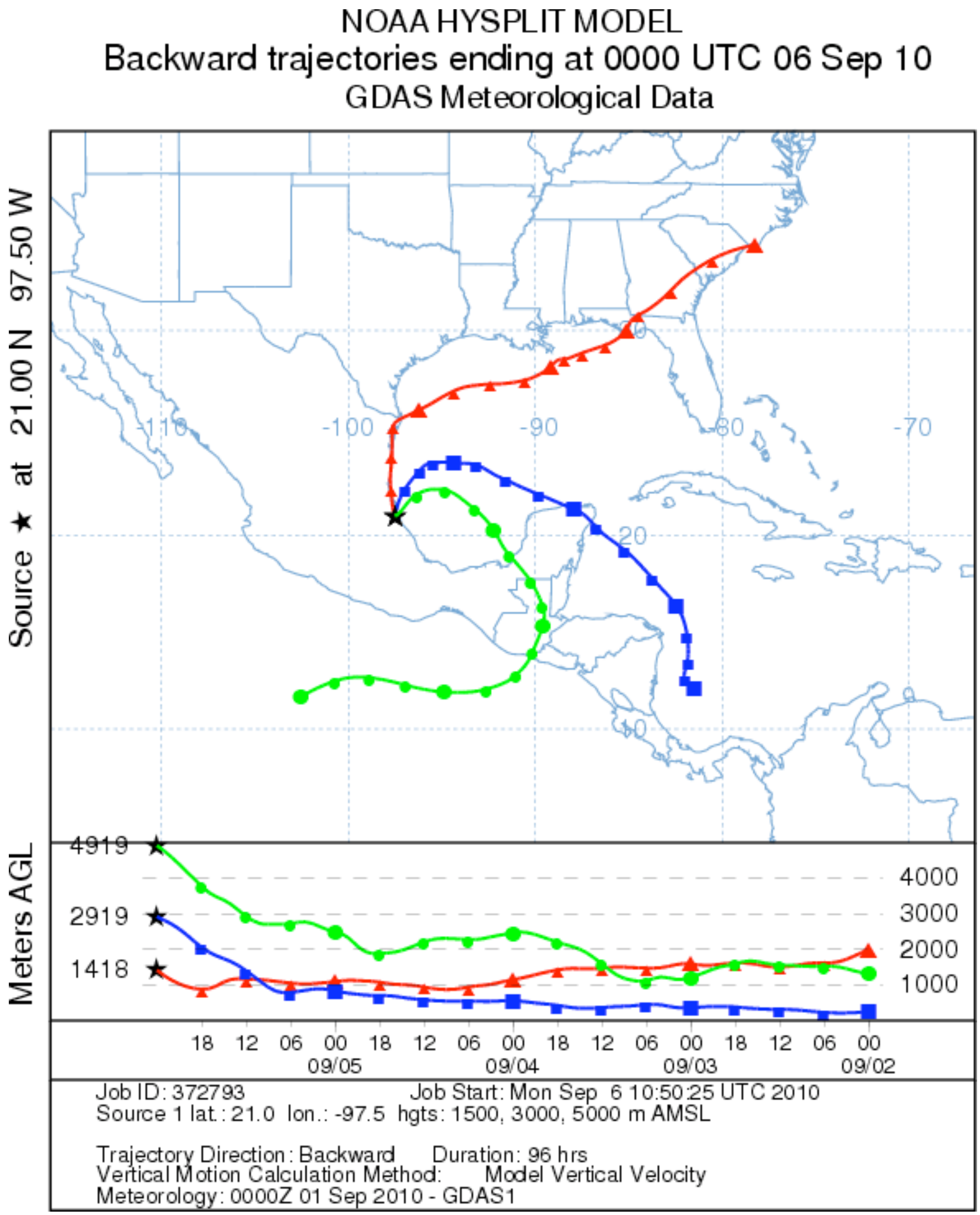

Potential Minimum Central Pressure (mb)
880 890 900 910 920 930 940 950 960 970 980 990 1000
Contours = Sea Surface Temperature (°C)
VALID
06SEP2010
Mon
Potential Maximum Wind (knots)
TD TS H1 H2 H3 H4 H5
20 34 64 84 97 114 135 150 165
50N 45N 40N 35N 30N 25N 20N 15N 10N 5N
90W 80W 70W 60W 50W 40W 30W 20W
GrADS: COLA/IGES
2010-09-06-02:01

Image 5


NOAA HYSPLIT MODEL
Backward trajectories ending at 0000 UTC 06 Sep 10
GDAS Meteorological Data
Source ★ at 21.00 N 97.50 W
-110
-100
-90
-80
-70
20
10
Meters AGL
4919
2919
1418
4000
3000
2000
1000
18 12 06 00 18 12 06 00 18 12 06 00 18 12 06 00
09/05
09/04
09/03
09/02
Job ID: 372793 Job Start: Mon Sep 6 10:50:25 UTC 2010
Source 1 lat.: 21.0 lon.: -97.5 hgts: 1500, 3000, 5000 m AMSL
Trajectory Direction: Backward Duration: 96 hrs
Vertical Motion Calculation Method: Model Vertical Velocity
Meteorology: 0000Z 01 Sep 2010 - GDAS1
Image 6

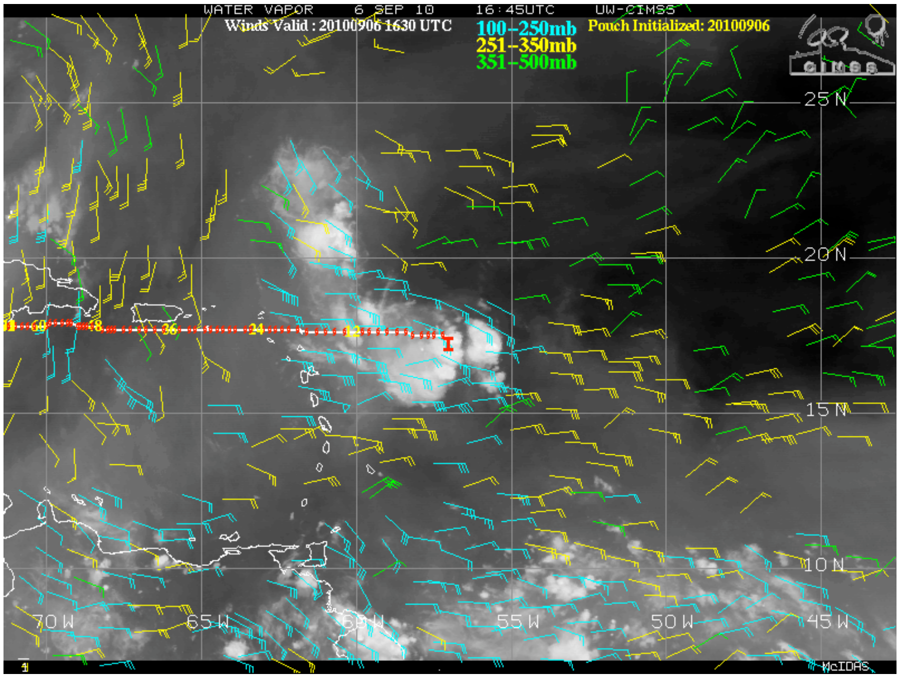


Image 7

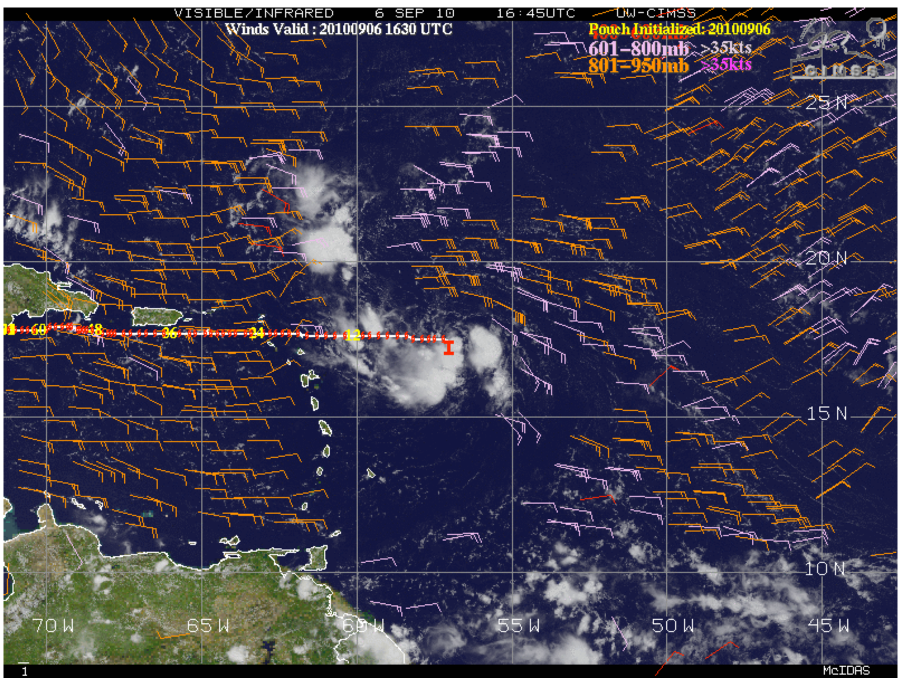


Image 8

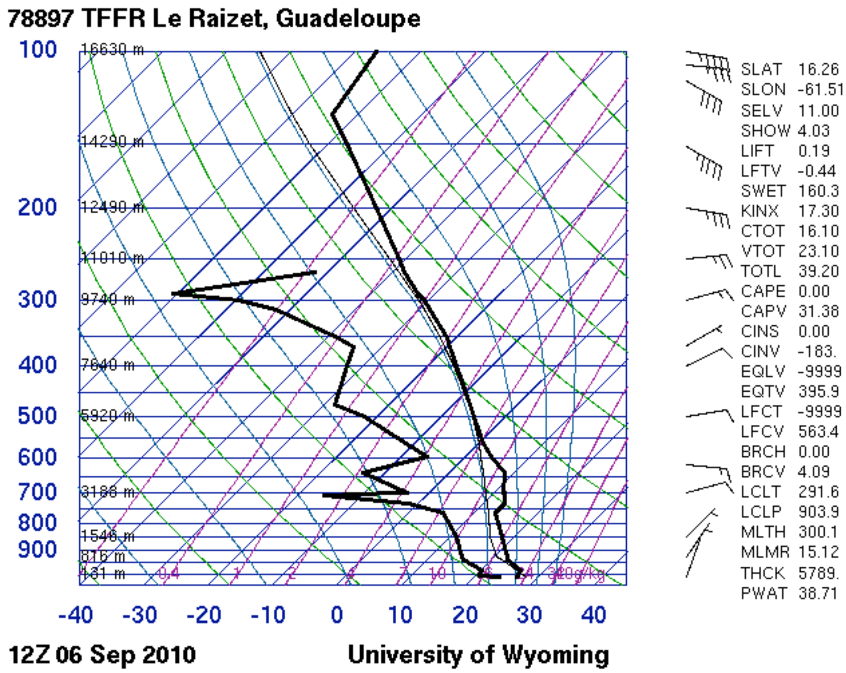


Image 9

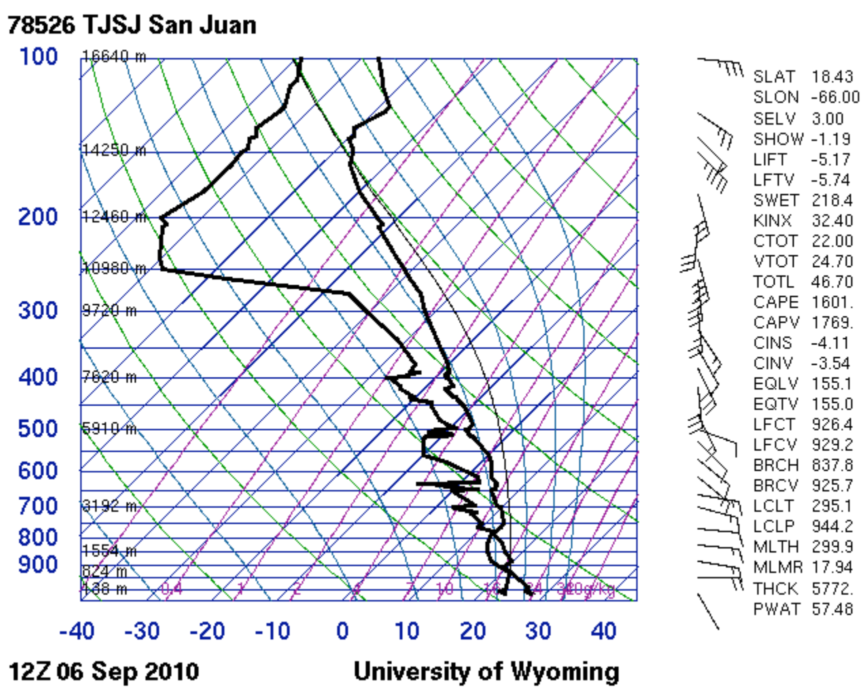


Image 10

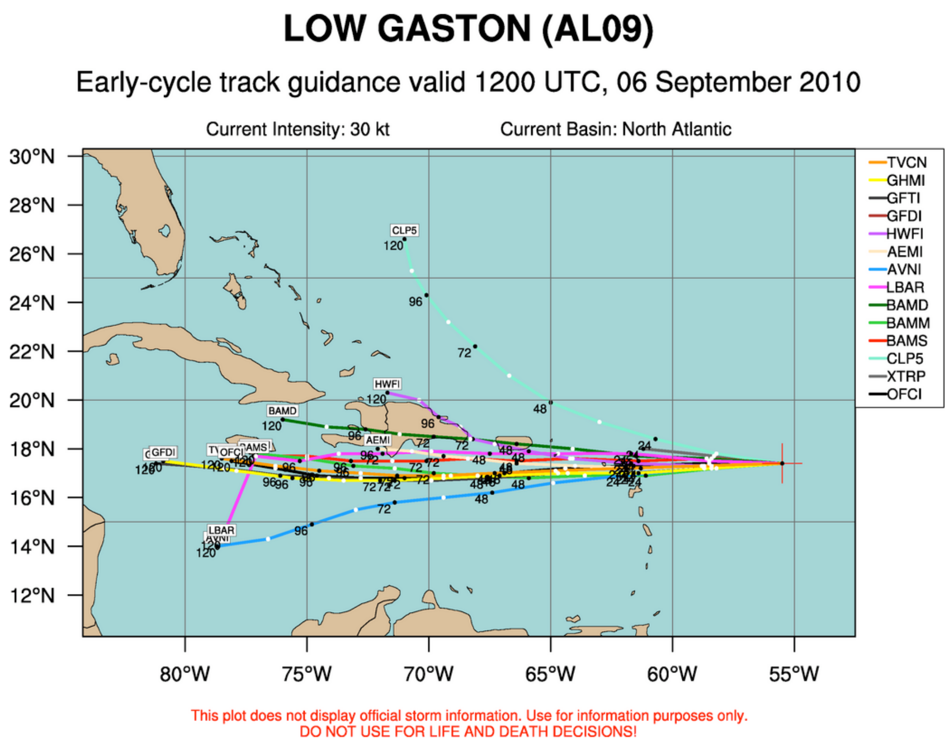


Image 11

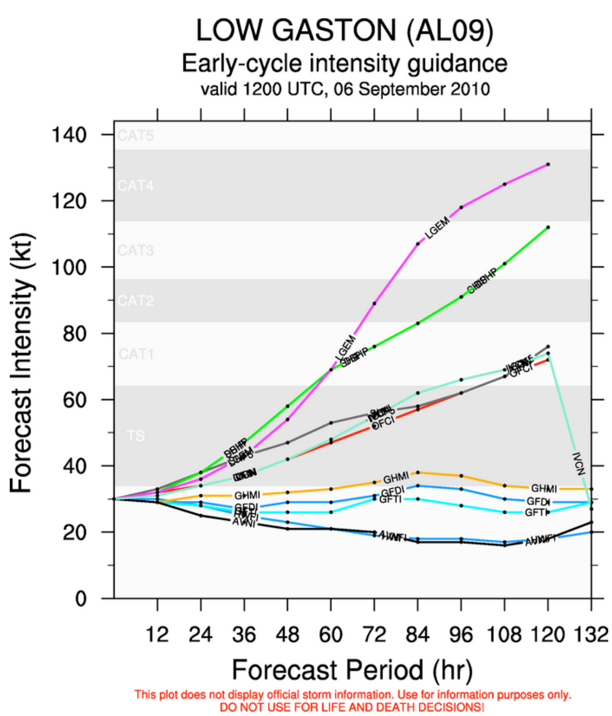


Image 12

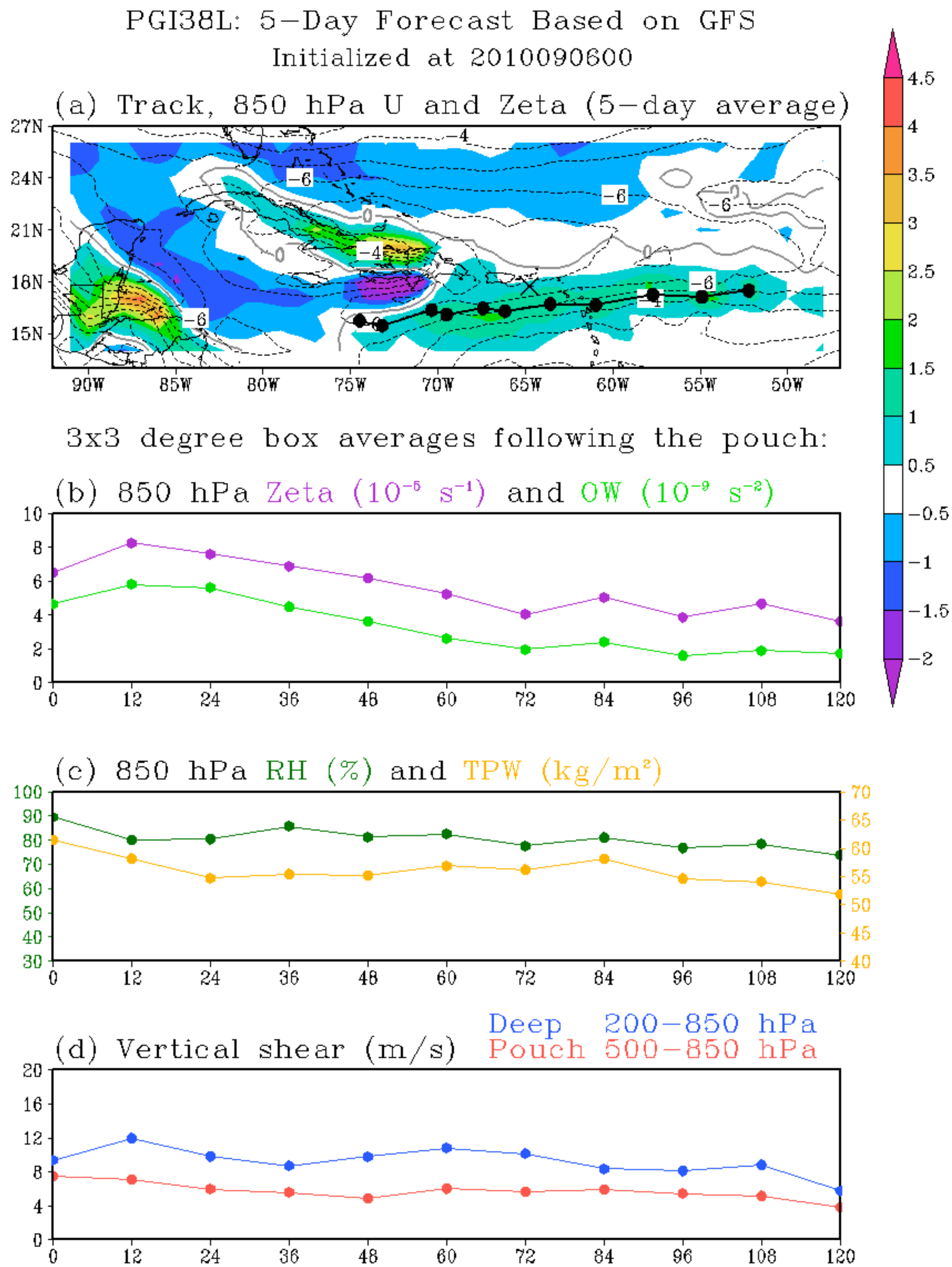

PGI38L: 5-Day Forecast Based on GFS
Initialized at 2010090600
(a) Track, 850 hPa U and Zeta (5-day average)
3x3 degree box averages following the pouch:
(b) 850 hPa Zeta (10⁻⁵ s⁻¹) and OW (10⁻⁹ s⁻²)
(c) 850 hPa RH (%) and TPW (kg/m²)
(d) Vertical shear (m/s)
Deep 200-850 hPa
Pouch 500-850 hPa

Image 13

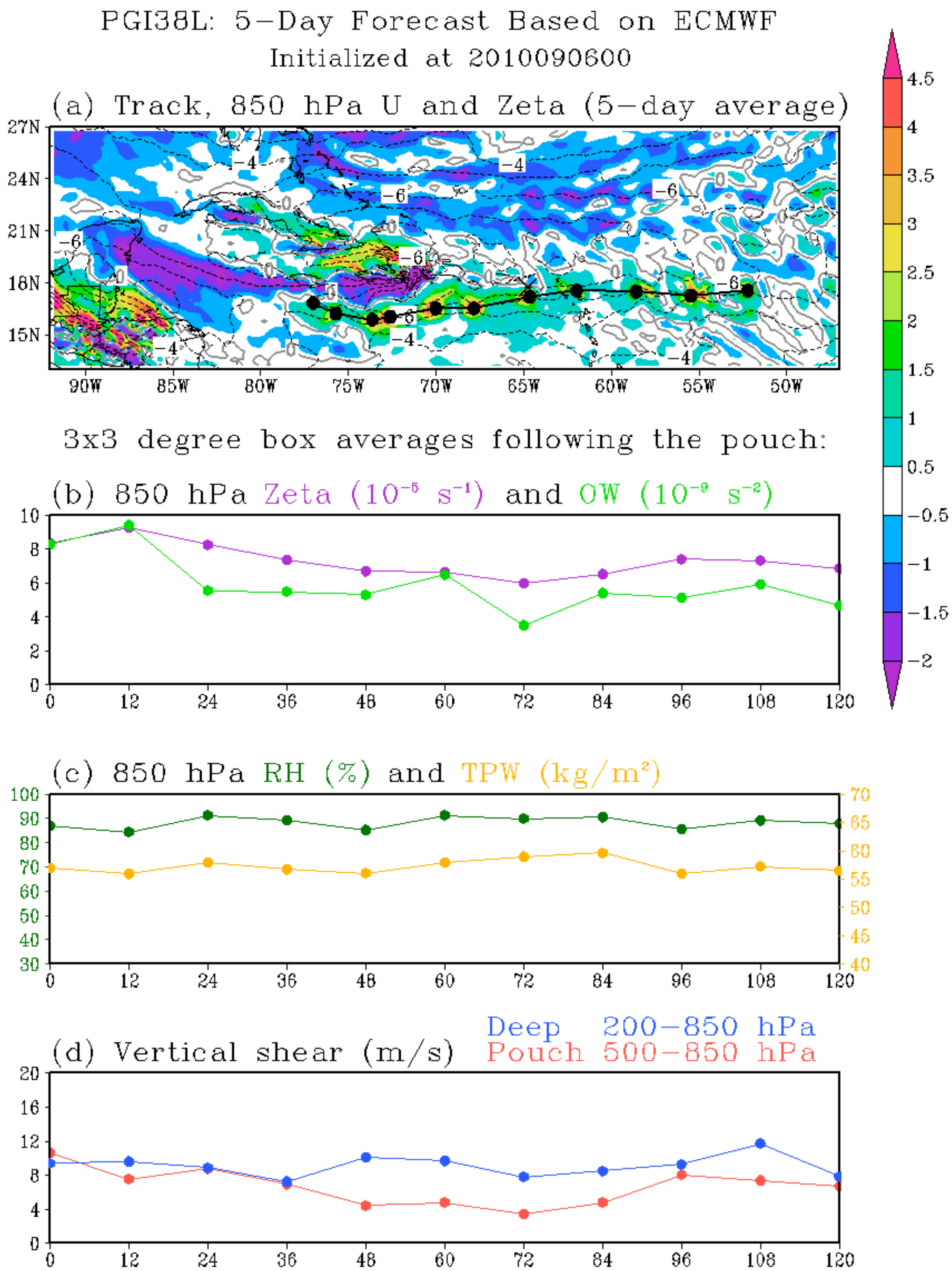

PGI38L: 5-Day Forecast Based on ECMWF
Initialized at 2010090600
(a) Track, 850 hPa U and Zeta (5-day average)
3x3 degree box averages following the pouch:
(b) 850 hPa Zeta (10⁻⁵ s⁻¹) and OW (10⁻⁹ s⁻²)
(c) 850 hPa RH (%) and TPW (kg/m²)
(d) Vertical shear (m/s)
Deep 200-850 hPa
Pouch 500-850 hPa

Image 14

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                    *   ATLANTIC SHIPS INTENSITY FORECAST       *
                    *      GOES DATA AVAILABLE                  *
                    *      OHC  DATA AVAILABLE                  *
                    *     HERMINE  AL102010  09/06/10  12 UTC   *

TIME (HR)          0     6    12    18    24    36    48    60    72    84    96   108   120
V (KT) NO LAND    45    51    56    61    65    71    76    73    68    59    53    43    36
V (KT) LAND       45    51    56    53    44    32    28    27    27    27    28    29    30
V (KT) LGE mod    45    52    59    64    47    33    29    27    27    27    29    29    30

SHEAR (KT)         9     8    12    13    17    16    17    25    21    31    29    42    64
SHEAR ADJ (KT)     1     0     0    -2    -5     4     0     3     1     3     8    -1   -12
SHEAR DIR          4   345   305   301   302   256   279   268   305   291   293   276   261
SST (C)         30.0  30.0  29.8  29.6  29.5  29.7  28.7  24.7  22.3  21.1  20.6  21.4  22.2
POT. INT. (KT)   170   170   166   163   161   164   147   103    89    85    84    87    91
ADJ. POT. INT.   158   158   152   147   144   145   128    90    80    77    76    79    81
200 MB T (C)   -51.8 -51.2 -50.5 -50.5 -50.8 -50.4 -50.9 -50.8 -51.7 -51.5 -52.3 -52.7 -53.2
TH_E DEV (C)       8    11    15    12    11    12     9    13     5     8     0     0     0
700-500 MB RH     71    67    66    61    66    67    66    64    64    53    54    48    59
GFS VTEX (KT)     12    10     9     9    10    10    12     8     9     6     9     8     9
850 MB ENV VOR    59    41    30    10    24     4   -18   -30   -35   -37    -5    -7    49
200 MB DIV        15    14    25    24    22    65    39    33    49    53    67    27    57
LAND (KM)        216   178    96    -2   -68  -197  -432  -613  -723  -912  -999  -999  -999
LAT (DEG N)     22.6  23.6  24.6  25.6  26.5  28.5  30.5  32.8  34.9  37.5  39.6  41.3  44.0
LONG(DEG W)     95.4  96.1  96.7  97.4  98.0  99.1 100.4 100.3  99.1  97.4  93.9  89.5  85.4
STM SPEED (KT)    11    12    12    11    11    11    11    11    13    16    18    19    20
HEAT CONTENT      63    67    46     4    42     0  9999     0     0     0     0     0     0

  FORECAST TRACK FROM OFCI       INITIAL HEADING/SPEED (DEG/KT):  0/ 10      CX,CY:   0/ 10
  T-12 MAX WIND:  30             PRESSURE OF STEERING LEVEL (MB):  741  (MEAN=624)
  GOES IR BRIGHTNESS TEMP. STD DEV.  50-200 KM RAD:   9.1 (MEAN=14.5)
  % GOES IR PIXELS WITH T < -20 C    50-200 KM RAD:  99.0 (MEAN=65.0)

                        INDIVIDUAL CONTRIBUTIONS TO INTENSITY CHANGE
                         6   12   18   24   36   48   60   72   84   96  108  120
                        ----------------------------------------------------------
  SAMPLE MEAN CHANGE     1.   2.   3.   4.   6.   8.   9.  11.  11.  12.  13.  13.
  SST POTENTIAL          1.   2.   3.   5.   9.  12.  14.  13.  12.  10.   8.   6.
  VERTICAL SHEAR MAG     1.   2.   3.   3.   5.   6.   5.   4.   3.   1.  -2.  -7.
  VERTICAL SHEAR ADJ     0.   0.   0.   0.   0.   0.   0.   0.   0.  -1.  -1.   0.
  VERTICAL SHEAR DIR     0.   0.   0.   0.   0.   1.   2.   3.   3.   4.   5.   7.
  PERSISTENCE            3.   5.   6.   7.   7.   7.   6.   5.   4.   2.   1.   0.
  200/250 MB TEMP.       0.  -1.  -2.  -2.  -4.  -5.  -7.  -7.  -8.  -9.  -9.  -9.
  THETA_E EXCESS         0.   0.   0.   0.   1.   0.   1.   0.  -1.  -4.  -7. -11.
  700-500 MB RH          0.   0.   0.   0.  -1.  -1.  -1.  -1.  -1.  -1.  -1.  -1.
  GFS VORTEX TENDENCY    0.  -1.  -1.  -1.  -1.  -1.  -3.  -3.  -5.  -3.  -4.  -4.
  850 MB ENV VORTICITY   0.   0.   0.   0.   0.   0.  -1.  -2.  -2.  -3.  -3.  -3.
  200 MB DIVERGENCE      0.   0.   0.   0.   0.   1.   1.   2.   2.   3.   3.   3.
  ZONAL STORM MOTION     0.   0.   0.   0.  -1.  -1.  -1.  -2.  -2.  -3.  -3.  -4.
  STEERING LEVEL PRES    0.   0.   0.   0.  -1.  -1.  -1.  -2.  -2.  -2.  -2.  -1.
  DAYS FROM CLIM. PEAK   0.   0.   0.   0.   0.   0.   1.   1.   0.   0.   0.   0.
  GOES PREDICTORS        1.   2.   3.   4.   4.   4.   3.   2.   2.   2.   2.   2.
  OCEAN HEAT CONTENT     0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.
                        ----------------------------------------------------------
  TOTAL CHANGE           6.  11.  16.  20.  26.  31.  28.  23.  14.   8.  -2.  -9.

   ** 2010 ATLANTIC RI INDEX AL102010    HERMINE 09/06/10  12 UTC **
          ( 30 KT OR MORE MAX WIND INCREASE IN NEXT 24 HR)

 12 HR PERSISTENCE (KT):  15.0 Range:-45.0 to  30.0 Scaled/Wgted Val:  0.8/  1.7
 850-200 MB SHEAR (KT) :  11.8 Range: 26.2 to   3.2 Scaled/Wgted Val:  0.6/  0.8
 D200 (10**7s-1)       :  20.0 Range:-21.0 to 140.0 Scaled/Wgted Val:  0.3/  0.4
 POT = MPI-VMAX (KT)   : 106.8 Range: 33.5 to 126.5 Scaled/Wgted Val:  0.8/  0.6
 850-700 MB REL HUM (%):  71.8 Range: 56.0 to  85.0 Scaled/Wgted Val:  0.5/  0.3
 % area w/pixels <-30 C:  99.0 Range: 17.0 to 100.0 Scaled/Wgted Val:  1.0/  0.1
 STD DEV OF IR BR TEMP :   9.1 Range: 30.6 to   3.2 Scaled/Wgted Val:  0.8/  1.3
 Heat content (KJ/cm2) :  44.4 Range:  0.0 to 130.0 Scaled/Wgted Val:  0.3/  0.0

 Prob of RI for 25 kt RI threshold=    47% is   3.7 times the sample mean(12.6%)
 Prob of RI for 30 kt RI threshold=    28% is   3.4 times the sample mean( 8.1%)
 Prob of RI for 35 kt RI threshold=    16% is   3.3 times the sample mean( 4.8%)
 Prob of RI for 40 kt RI threshold=     9% is   2.5 times the sample mean( 3.4%)

   ##          ANNULAR HURRICANE INDEX (AHI) AL102010    HERMINE 09/06/10  12 UTC          ##
   ## STORM NOT ANNULAR, SCREENING STEP FAILED, NPASS=3 NFAIL=4                            ##
   ## AHI=  0   (AHI OF 100 IS BEST FIT TO ANN. STRUC., 1 IS MARGINAL, 0 IS NOT ANNULAR) ##
   ##      ANNULAR INDEX RAN NORMALLY

** PROBLTY OF AT LEAST 1 SCNDRY EYEWL FORMTN EVENT AL102010    HERMINE 09/06/2010  12 UTC **
TIME(HR)    0-12  12-24(0-24)  24-36(0-36)  36-48(0-48)
CLIMO(%)      0       0(  0)       0(  0)       0(  0)     <-- PROB BASED ON INTENSITY ONLY
PROB(%)       0       0(  0)       0(  0)       0(  0)     <-- FULL MODEL PROB (RAN NORMALLY)
```

* ATLANTIC SHIPS INTENSITY FORECAST *
* GOES DATA AVAILABLE *
* OHC DATA AVAILABLE *
* GASTON AL092010 09/06/10 12 UTC *

TIME (HR)	0	6	12	18	24	36	48	60	72	84	96	108	120
V (KT) NO LAND	30	31	32	35	38	47	58	69	76	83	91	101	112
V (KT) LAND	30	31	32	35	38	47	58	69	76	83	91	101	112
V (KT) LGE mod	30	31	32	34	36	43	54	69	89	107	118	125	131
SHEAR (KT)	10	11	7	5	3	5	4	6	10	7	11	4	6
SHEAR ADJ (KT)	3	5	5	3	0	1	-1	0	-3	-1	-8	-2	-5
SHEAR DIR	76	80	113	117	74	102	41	61	52	88	34	81	355
SST (C)	29.1	29.1	29.1	29.1	29.1	29.3	29.5	29.5	29.4	29.4	29.4	29.5	29.7
POT. INT. (KT)	155	155	155	155	155	158	161	160	158	158	158	160	163
ADJ. POT. INT.	152	153	154	154	153	155	156	154	150	150	150	152	155
200 MB T (C)	-52.6	-52.4	-52.2	-52.1	-52.3	-52.3	-52.5	-52.3	-52.7	-52.5	-52.9	-52.5	-52.8
TH_E DEV (C)	11	12	12	12	12	12	12	12	11	11	10	11	11
700-500 MB RH	41	40	41	41	45	48	49	55	57	59	56	55	53
GFS VTEX (KT)	9	8	7	7	7	6	5	4	3	3	3	3	3
850 MB ENV VOR	18	17	17	13	19	18	21	38	28	27	16	16	7
200 MB DIV	7	28	7	2	5	0	13	6	8	15	-15	-5	0
LAND (KM)	942	850	768	606	447	172	102	153	104	155	151	77	53
LAT (DEG N)	17.4	17.4	17.4	17.4	17.3	17.2	17.0	16.8	16.7	16.7	16.8	17.1	17.5
LONG(DEG W)	55.5	57.0	58.5	60.1	61.6	64.5	67.0	69.2	71.1	72.8	74.5	76.2	78.1
STM SPEED (KT)	14	14	15	15	14	13	11	10	9	8	8	9	9
HEAT CONTENT	88	93	92	99	71	108	123	96	108	119	120	116	133

FORECAST TRACK FROM OFCI INITIAL HEADING/SPEED (DEG/KT):275/ 14 CX,CY: -13/ 1
T-12 MAX WIND: 30 PRESSURE OF STEERING LEVEL (MB): 589 (MEAN=624)
GOES IR BRIGHTNESS TEMP. STD DEV. 50-200 KM RAD: 18.3 (MEAN=14.5)
% GOES IR PIXELS WITH T < -20 C 50-200 KM RAD: 25.0 (MEAN=65.0)

INDIVIDUAL CONTRIBUTIONS TO INTENSITY CHANGE

	6	12	18	24	36	48	60	72	84	96	108	120
SAMPLE MEAN CHANGE	1.	2.	3.	4.	6.	8.	9.	11.	11.	12.	13.	13.
SST POTENTIAL	0.	0.	1.	2.	7.	14.	21.	25.	30.	33.	35.	36.
VERTICAL SHEAR MAG	1.	2.	4.	5.	8.	10.	12.	13.	13.	13.	13.	14.
VERTICAL SHEAR ADJ	0.	0.	-1.	-1.	-1.	-1.	-1.	0.	0.	1.	1.	1.
VERTICAL SHEAR DIR	0.	1.	1.	2.	4.	5.	7.	10.	12.	14.	15.	16.
PERSISTENCE	0.	-1.	-1.	-1.	-1.	-1.	-1.	-1.	-1.	0.	0.	0.
200/250 MB TEMP.	0.	-1.	-1.	-1.	-2.	-2.	-3.	-3.	-3.	-3.	-3.	-4.
THETA_E EXCESS	0.	0.	0.	0.	1.	1.	1.	2.	2.	2.	2.	2.
700-500 MB RH	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
GFS VORTEX TENDENCY	0.	-1.	-1.	-1.	-2.	-3.	-4.	-5.	-5.	-6.	-6.	-6.
850 MB ENV VORTICITY	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
200 MB DIVERGENCE	0.	0.	0.	-1.	-1.	-1.	-2.	-2.	-2.	-2.	-2.	-2.
ZONAL STORM MOTION	0.	0.	1.	1.	2.	2.	2.	3.	3.	4.	4.	4.
STEERING LEVEL PRES	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
DAYS FROM CLIM. PEAK	0.	0.	0.	0.	0.	0.	1.	1.	0.	0.	0.	0.
GOES PREDICTORS	-1.	-2.	-2.	-3.	-4.	-5.	-5.	-5.	-5.	-5.	-4.	-4.
OCEAN HEAT CONTENT	0.	1.	1.	1.	1.	1.	0.	-2.	-2.	-1.	3.	11.
TOTAL CHANGE	1.	2.	5.	8.	17.	28.	39.	46.	53.	61.	71.	82.

** 2010 ATLANTIC RI INDEX AL092010 GASTON 09/06/10 12 UTC **
(30 KT OR MORE MAX WIND INCREASE IN NEXT 24 HR)

12 HR PERSISTENCE (KT): 0.0 Range:-45.0 to 30.0 Scaled/Wgted Val: 0.6/ 1.3
850-200 MB SHEAR (KT) : 7.4 Range: 26.2 to 3.2 Scaled/Wgted Val: 0.8/ 1.0
D200 (10**7s-1) : 9.8 Range:-21.0 to 140.0 Scaled/Wgted Val: 0.2/ 0.3
POT = MPI-VMAX (KT) : 123.2 Range: 33.5 to 126.5 Scaled/Wgted Val: 1.0/ 0.7
850-700 MB REL HUM (%): 58.0 Range: 56.0 to 85.0 Scaled/Wgted Val: 0.1/ 0.0
% area w/pixels <-30 C: 18.0 Range: 17.0 to 100.0 Scaled/Wgted Val: 0.0/ 0.0
STD DEV OF IR BR TEMP : 18.3 Range: 30.6 to 3.2 Scaled/Wgted Val: 0.4/ 0.8
Heat content (KJ/cm2) : 88.6 Range: 0.0 to 130.0 Scaled/Wgted Val: 0.7/ 0.1

Prob of RI for 25 kt RI threshold= 22% is 1.7 times the sample mean(12.6%)
Prob of RI for 30 kt RI threshold= 15% is 1.8 times the sample mean(8.1%)
Prob of RI for 35 kt RI threshold= 1% is 0.3 times the sample mean(4.8%)
Prob of RI for 40 kt RI threshold= 1% is 0.3 times the sample mean(3.4%)

ANNULAR HURRICANE INDEX (AHI) AL092010 GASTON 09/06/10 12 UTC
STORM NOT ANNULAR, SCREENING STEP FAILED, NPASS=3 NFAIL=4
AHI= 0 (AHI OF 100 IS BEST FIT TO ANN. STRUC., 1 IS MARGINAL, 0 IS NOT ANNULAR)
ANNULAR INDEX RAN NORMALLY

** PROBLTY OF AT LEAST 1 SCNDRY EYEWL FORMTN EVENT AL092010 GASTON 09/06/2010 12 UTC **

TIME(HR)	0-12	12-24(0-24)	24-36(0-36)	36-48(0-48)	
CLIMO(%)	0	0(0)	0(0)	0(0)	<-- PROB BASED ON INTENSITY ONLY
PROB(%)	0	0(0)	0(0)	0(0)	<-- FULL MODEL PROB (RAN NORMALLY)