Lead Project Scientist

Flight ID 081108I **Storm** Ophelia **LPS** M. Black

Preflight

- ✓ 1. Participate in general mission briefing.
- ✓ 2. Determine specific mission and flight requirements for assigned aircraft.
- ✓ 3. Determine from field program director whether aircraft has operational fix responsibility and discuss with AOC flight director/meteorologist unless briefed otherwise by field program director.
- ✓ 4. Contact HRD members of crew to:
  a. Assure availability for mission.
  b. Review field program safety checklist
  c. Arrange ground transportation schedule when deployed.
  d. Determine equipment status.
- ✓ 5. Meet with AOC flight director and navigator at least 3 hours before take-off for initial briefing.
- ✓ 5. Meet with AOC flight crew at least 2 hours before take-off for crew briefing. Provide copies of flight requirements and provide a formal briefing for the flight director, navigator, and pilots.
- ✓ 6. Report status of aircraft, systems, necessary on-board supplies and crews to appropriate HRD operations center (MGOC in Miami).
- ✓ 7. Before take-off, brief the on-board GPS dropsonde operator on times and positions of drop times.
- ✓ 7. Make sure each HRD flight crew members have life vests
- ✓ 7. Perform a headset operation check with all HRD flight crew members. Make sure everyone can hear and speak using the headset.
- ✓ 8. Collect "mess" fee ($2.00) from all on-board HRD flight crew members.

In-Flight

- ____ 1. Confirm from AOC flight director that satellite data link is operative (information).
- ____ 2. Confirm camera mode of operation.
- ____ 3. Confirm data recording rate.
- ____ 4. Complete Lead Project Scientist Form.
- ____ 5. Check in with the flight director to make sure the mission is going as planned (i.e. turns are made when they are supposed to be made).

Post flight

- ____ 1. Debrief scientific crew.
- ____ 2. Report landing time, aircraft, crew, and mission status along with supplies (tapes, *etc.*) remaining aboard the aircraft to MGOC.
- ____ 3. Gather completed forms for mission and turn in at the appropriate operations center. [Note: all data removed from the aircraft by HRD personnel should be cleared with the AOC flight director.]
- ____ 4. Obtain a copy of the 10-s flight listing from the AOC flight director. Turn in with completed forms.
- ____ 5. Obtain a copy of the radar DAT tapes. Turn in with completed forms.
- ____ 6. Obtain a copy of the all VHS videos form aircraft cameras (3-4 approx.). Turn in with completed forms.
- ____ 7. Obtain a copy of CD with all flight data. Turn in with completed forms.
- ____ 8. Determine next mission status, if any, and brief crews as necessary.
- ____ 9. Notify MGOC as to where you can be contacted and arrange for any further coordination required.
- ____ 10. Prepare written mission summary using **Mission Summary** form (due to Field Program Director a week after the flight).

Lead Project Scientist Check List

Storm or Project Paloma **Experiment name** HFIP/RI
Date 11/8/08 **Aircraft** 43 **Flight ID** 08I108I

A. Participants:

HRD		AOC	
Function	**Participant**	**Function**	**Participant**
Lead Project Scientist	M. Black	Flight Director	Barry Damiano
Radar	P. Leighton/S. Lorsolo	Pilots	Al Giramonte, Cyril Wiseman
Workstation	P. Leighton	Navigator	Joe Bishop, Ryan
Cloud Physics	—	Systems Engineer	Joe Klippel
Photographer/Observer /Guests	M. Black	Data Technician	Dale Carpenter, Jeff Smith
Dropwindsonde	P. Leighton	Electronics Technician	
AXBT/AXCP	M. Black	Other	

B. Take-off and Landing Times and Locations:

Take-Off: 1347 UTC Location: MacDill

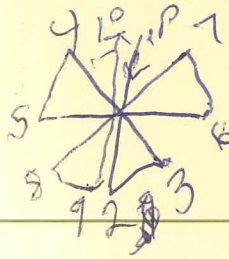
Landing: 2120 UTC Location: MacDill

Number of Eye Penetrations: _____

C. Past and Forecast Storm Locations:

Date/Time	Latitude	Longitude	MSLP	Maximum Wind
08/1030	19.6	79.8	945	115 kt
08/18	20.1	79.4		115
09/06	20.8	78.2		100 - S. coast of Cuba

D. Mission Briefing: Rotating butterfly, 12 kft, 75 nmi legs, 7.5 hr mission, ashes of former AOC employee in eye circle in eye inner edge upwind w/4-6 drops 18 AXBTs, combo drops at end points, combo at middle and RMW air N-S and W-E pass. 225 drops, 2 eye



~~20°N~~
20.20N
79.05
16Z

Lead Project Scientist Event Log

Date 11/8/08 **Flight** 081108I **LPS** M. Black

Time	Event	Position	Comments
1347	Takeoff	MacDill	15 min early
1451	Crossing N. Cuba coast	23.47 81.35	
	Bumpy		
1506	South Cuba coast - eye visible on LF		
sonde) 155050	IP - 75nmi N, 21.19	79.09	Sonde #1
1552	Tail noisy - reset		
#2 155936	20.58 79.15 Sonde #2, BT #1 38 mi N		
	SFMR 50 kt 28°C		
#3 160602	N eyewall - Combo	20.13 79.18	
#4 1611	eye Combo		
	20.1 79.1		
1629	20.09	79.11	Eye after
	circling	3 times and exits	
#5 163038	19.94° Combo	79.12° S. Eyewall SFMR 95kt	
#6 163837	Combo	19.40 79.12	38 mi S
#7 164800	Combo	19.83 79.0	25 nmi South
	No Launch detect		
	Clear on south side		
8 165952	Combo	SE point	
	19.27	79.36	
9 171325	Sonde	SE eyewall	19.97 79.93
	120 kt FL SFMR 95 kt		
	big updraft		
~~#11~~ 1715	beginning eyewall		mode to
	circle	along edge	

1717 EYE 20.2 79.6

Lead Project Scientist Event Log

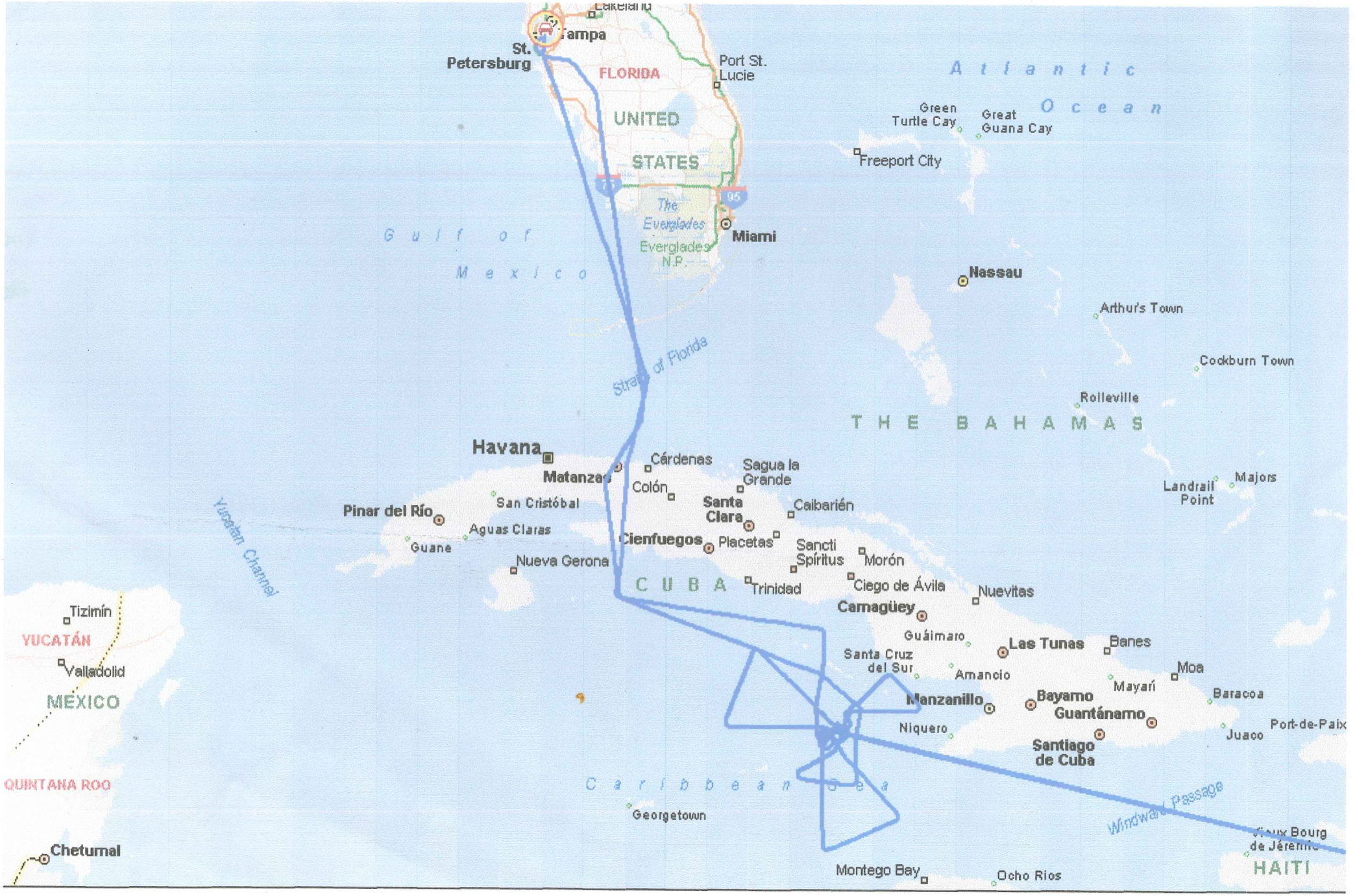
Date _____ Flight _____ LPS _____

Time	Event	Position	Comments
172800	20.29	79.09	NW eyewall
	135 Kt	Flt lvl	120 kt SFMR
	too small an eye for		
	dropsonde		
174356	Sonde	NW turnpt	75 nm
	20.96	79.95	
175517	Sonde	W point	20.18 80.16
	Combo		
180476	Combo	35 mi W	20.18 79.42
180840	Turning	to South	to avoid
	west eyewall	50+ dBZ core	27.8
181117	SW eyewall	Combo	~~26°C~~
	20.17	78.8	
181343	eye	Combo	20.3 78.84 28C
	Strong	asymmetry - high dBZ	
	12 nm diameter	N and W side	
181642	East eyewall	Combo	
	20.34	78.67	
	135 Kt	SFC	110 SFMR
182125	20.34	78.34	sonde 55 mi East
182505	20.42	78.0	sonde 50 mi East
		Combo	27°C 50 m
183357	NE point	~45 mi NE	
183936	Combo	NE eyewall	20.45 78.66 28
184220	eye	20.32	78.79 sonde
184410	SW eye wall	20.22	78.85 110 Kt SFMR
	turbulent	110 Kt flt lvl	

Lead Project Scientist Event Log

Date _____ **Flight** _____ **LPS** _____

Time	Event	Position	Comments
1855	19.59 78.30 SW point 50 miles		
	Combo 28°C		≤ 50 meters
190607	Sonde south pt 50mi	19.62 78.71	
191501	Sonde south eyewall	20.27	
	130 kt FL+1V1 - 110 SFMR 78.65		
191750	eye		
191901	N eyewall 20110 78.69		
	110 FL+1V1 and SFMR		
192400	- turning NW over cube		
192840	50 mi NW in clear - last sonde		
	end of pattern		
2120	Landing		


Tampa
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Port St. Lucie
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Everglades N.P.
Miami
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Atlantic Ocean
Green Turtle Cay
Great Guana Cay
Freeport City
Nassau
Arthur's Town
Cockburn Town
Rolleville
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Landrail Point
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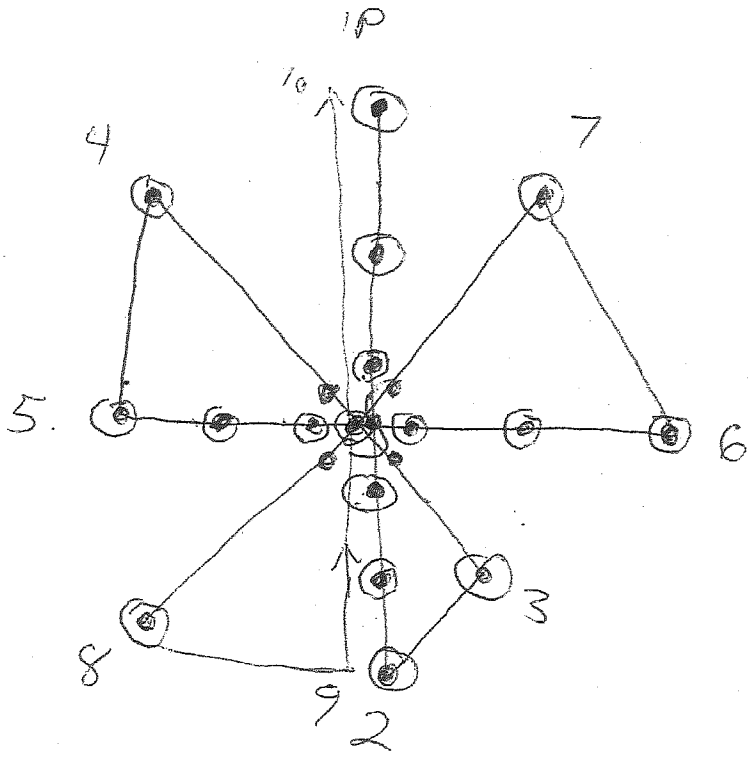
Guane
Nueva Gerona
Yucatan Channel
Tizimín
YUCATÁN
Valladolid
MÉXICO
QUINTANA ROO
Chetumal
Caribbean Sea
Georgetown
Guáimaro
Las Tunas
Banes
Santa Cruz del Sur
Amancio
Moa
Mayarí
Baracoa
Manzanillo
Bayamo
Guantánamo
Niquero
Santiago de Cuba
Juaco
Port-de-Paix
Windward Passage
Vieux Bourg de Jérémie
HAITI
Montego Bay
Ocho Rios

sonde

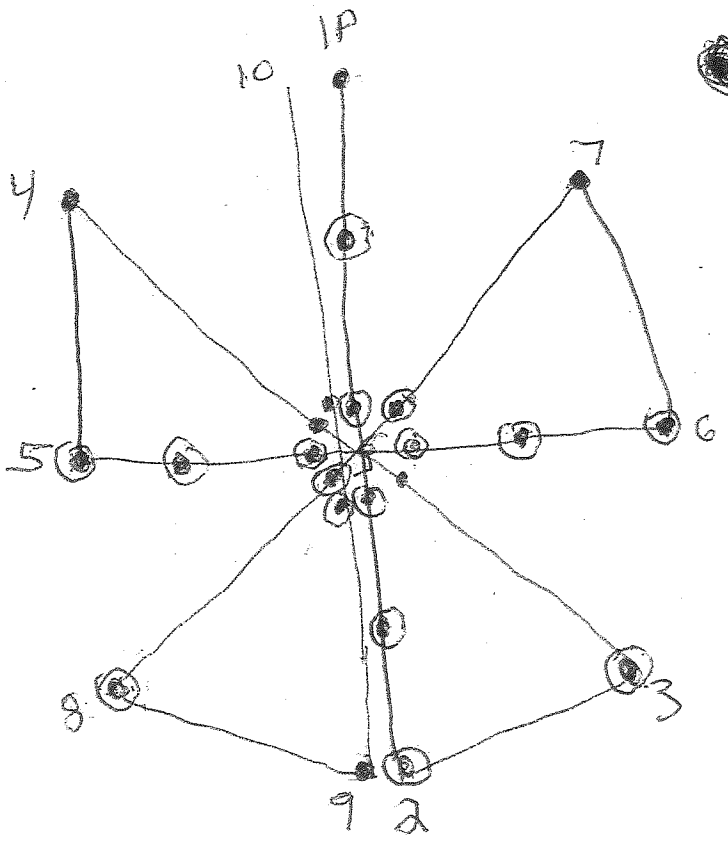
AXBT combo

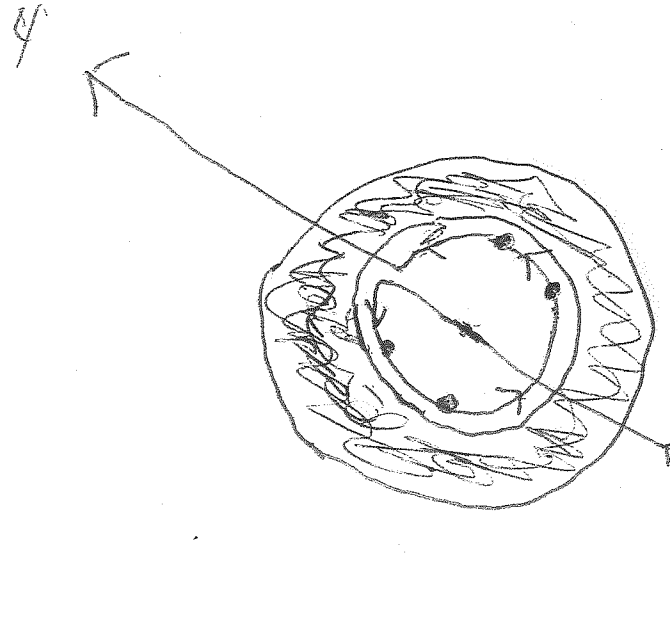
combo in eye 1st pass
sonde in eye 3rd pass
sonde in eye final pass



• sonde
◉ sonde, BT combo

◉ eye combo 1P-2
eye combo 5-6
◉ eye sonde 7-8
eye sonde 9-10





eye module:

1. Cross eye
2. turn upwind along inner edge
3. Circumnavigate eye
4-6 sondes
4. Resume outbound track

1st Fri
6 AL - 2 reg
2nd Tue - 6 reg 2 AL
2nd Thu 8 reg 2 OT
2nd Fri 8 reg 6 OT
14 HD
2nd Sat 13 OT 13 HD

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WTNT42 KNHC 071432
TCDAT2
HURRICANE PALOMA DISCUSSION NUMBER   8
NWS TPC/NATIONAL HURRICANE CENTER MIAMI FL   AL172008
1000 AM EST FRI NOV 07 2008

PALOMA IS CONTINUING TO STRENGTHEN THIS MORNING WITH HINTS OF AN EYE
ON VISIBLE SATELLITE PICTURES. THE INITIAL INTENSITY IS INCREASED
TO 75 KT AND IS IN LINE WITH MOST RECENT DVORAK ESTIMATES FROM
TAFB/SAB. FURTHER STRENGTHENING IS LIKELY FOR THE NEXT 24 HOURS OR
SO BEFORE VERTICAL WIND SHEAR INCREASES. CURIOUSLY...THE GFDL/HWRF
NOW SHOW THE HURRICANE COMING UP A BIT SHY OF MAJOR HURRICANE
STATUS. UNTIL WE SEE SOME SIGNS THAT PALOMA IS NOT CONTINUING TO
INTENSIFY...IT IS BEST TO KEEP THE PREVIOUS FORECAST OF THE SYSTEM
BECOMING A MAJOR HURRICANE. BY SUNDAY...THE SHEAR INCREASES TO SUCH
A HIGH DEGREE THAT PALOMA MAY WEAKEN EVEN FASTER THAN SHOWN BELOW.
ON TUESDAY...THERE IS THE POSSIBILITY THAT THE SYSTEM WILL
TRANSITION TO AN EXTRATROPICAL CYCLONE...BUT SINCE THE BAROCLINIC
INFLUENCES SEEM LIMITED...REMNANT LOW SEEMS LIKE THE MORE ACCURATE
TERM. THE CANADIAN TERM POST-TROPICAL MAY ALSO FIT THIS SITUATION.

SATELLITE IMAGES SUGGEST THAT PALOMA HAS SLOWED SOMEWHAT THIS
MORNING AND IS NOW MOVING 005/6.  VERY LITTLE CHANGE WAS MADE TO
THE EARLY PART OF THE NHC FORECAST AS GUIDANCE IS IN GOOD AGREEMENT
ON A NORTHWARD THEN NORTHEASTWARD TRACK OF THIS SYSTEM.  THERE ARE
STILL SIGNIFICANT TIMING DIFFERENCES ON HOW FAST PALOMA LEAVES THE
CARIBBEAN...WHICH IS PROBABLY TIED TO HOW QUICKLY THE STORM FALLS
APART.  A POSSIBLE SOLUTION IS THAT THE EFFECTS OF LAND INTERACTION
AND HIGH SHEAR CAUSE THE HURRICANE TO LOSE VERTICAL COHERENCE
AFTER A CUBAN LANDFALL...CAUSING PALOMA TO SLOW DOWN SIGNIFICANTLY.
THERE IS ALSO SOME EVIDENCE OF THIS POSSIBILTY IN THE MOST RECENT
GFS AND HWRF MODEL RUNS.  THE OFFICIAL FORECAST IS NOT AS FAST THAN
THE PREVIOUS ONE BUT IS STILL AHEAD OF THE MODEL CONSENSUS.


FORECAST POSITIONS AND MAX WINDS

INITIAL      07/1500Z 18.3N  81.6W    75 KT
 12HR VT     08/0000Z 19.1N  81.3W    90 KT
 24HR VT     08/1200Z 19.9N  80.5W   100 KT
 36HR VT     09/0000Z 20.8N  79.4W    90 KT
 48HR VT     09/1200Z 21.6N  78.3W    75 KT...INLAND
 72HR VT     10/1200Z 23.0N  76.5W    50 KT
 96HR VT     11/1200Z 24.5N  74.5W    30 KT...REMNANT LOW
120HR VT     12/1200Z 26.0N  72.0W    25 KT...REMNANT LOW

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FORECASTER BLAKE
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HURRICANE PALOMA SPECIAL DISCUSSION NUMBER  12
NWS TPC/NATIONAL HURRICANE CENTER MIAMI FL   AL172008
530 AM EST SAT NOV 08 2008

REPORTS FROM AN AIR FORCE RESERVE HURRICANE HUNTER AIRCRAFT INDICATE
THAT PALOMA HAS STRENGTHENED TO A CATEGORY FOUR HURRICANE WITH A
CENTRAL PRESSURE OF 945 MB AND MAXIMUM WINDS NEAR 115 KT.  THIS
SPECIAL ADVISORY UPDATES THE INTENSITY FOR THE FIRST 36 HR OF THE
FORECAST.  THERE ARE NO CHANGES TO THE PREVIOUS TRACK...THE WIND
RADII...OR THE INTENSITY AT OTHER TIMES.

THE NEW INTENSITY FORECAST NOW CALLS FOR PALOMA TO MAKE LANDFALL IN
CUBA AS A MAJOR HURRICANE.  THUS...THE STORM SURGE VALUES IN THE
PUBLIC ADVISORY HAVE BEEN INCREASED.

FORECAST POSITIONS AND MAX WINDS

INITIAL      08/1030Z 19.6N  79.8W   115 KT
 12HR VT     08/1800Z 20.1N  79.4W   115 KT
 24HR VT     09/0600Z 20.8N  78.2W   100 KT...NEAR COAST OF CUBA
 36HR VT     09/1800Z 21.4N  77.2W    70 KT...INLAND
 48HR VT     10/0600Z 21.8N  76.5W    45 KT...OVER WATER
 72HR VT     11/0600Z 22.5N  76.0W    35 KT...DISSIPATING
 96HR VT     12/0600Z 23.0N  76.0W    25 KT...REMNANT LOW
120HR VT     13/0600Z 23.0N  76.5W    20 KT...REMNANT LOW

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FORECASTER BEVEN
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