

Lead Project Scientist

Date Sept. 15, 2019

Flight ID 20190915H1

Storm or Project Humberto

Experiment name TDR

Mission ID

Pre-flight

1. Participate in general mission briefing.
2. Determine specific mission and flight requirements for assigned aircraft.
3. Determine from AOC flight director/meteorologist whether aircraft has operational fix responsibility and the mission designation.
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.
6. 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.
7. Report status of aircraft, systems, necessary on-board supplies and crews to Field Program Director.
8. Before take-off, brief the on-board GPS dropsonde operator on times and positions of drop times.
9. Make sure each HRD flight crew member has a life vest.
10. Perform a headset operation check with all HRD flight crew members. Make sure everyone can hear and speak using the headset.

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. Gather completed forms for mission and turn in to data manager at HRD.
3. Obtain a copy of the 10-s flight listing from the AOC flight director. Turn in with completed forms.
4. Obtain a copy of the radar DAT tapes. Turn in with completed forms.
5. Obtain a copy of serial flight data on thumb drive. Turn in with completed forms.

[Note: all data removed from the aircraft by HRD personnel should be cleared with the AOC flight director.]

6. Report landing time, aircraft, crew, and mission status along with supplies (tapes, etc.) remaining aboard the aircraft to Field Program Director
7. Determine next mission status, if any, and brief crews as necessary.
8. Notify Field Program Director as to where you can be contacted and arrange for any further coordination required.
9. Prepare written mission summary using **Mission Summary** form.

Lead Project Scientist Check List

Storm or Project HUMBERTO Experiment name TDR

Flight ID 20190915H1 Mission ID _____

A. Participants:

Function	Participant	Function	Participant
Lead Project Scientist	Bucci	Flight Director	Lundry / Parrish
Radar	Awey	Pilot	Kahn
Workstation		Pilot	Rossi / Legidakes
Cloud Physics		Navigator	Richards
Drosonde	Aberson	Systems Engineer	
Drosonde		Data Technician	warnecke
AXBT/AXCP		Electronics Technicians	
Observer/Guest	chang		Naener McAtister
Observer/Guest		Flight Engineer	Heystek / Sanchez

B. Take-off and Landing Times and Locations:

Take-Off: 2045 UTC Location: Lakeland, FL

Landing: 0123 UTC Location: Lakeland, FL

Number of Eye Penetrations: 3

C. Past and Forecast Storm Locations:

Date/Time	Latitude	Longitude	MSLP	Maximum Wind
/				
/				
/				
/				
/				

D. Mission Briefing:

TS Humberto east of FL coast is a 60 kt storm w/ 989 mb central pressure. Melbourne radar shows improving convective structure and a partial eye. Appears almost stationary and predicted to turn east very soon. EMC mission calls for a TDR mission w/ an NHC 2330Z fix Butterfly at 10 kts w/ mid, end, and 1 center drop.

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Flight ID 2019 0915H1 Mission ID

E. – Equipment Status (Up U, Down D, Not Available N/A, Not Used O)

Equipment	Pre-Flight	In-Flight	Post-Flight	# DATs / CDs /Expendables/ Printouts
Radar/LF	↑	↑		
Doppler Radar/TA	↑	↑		
Cloud Physics				
Data System	↑	↑		
GPS sondes	↑	↑		
AXBT/AXCP				
Ozone instrument				
Workstation	↑	↑		
Cameras	↑	↑		

REMARKS:

:

Lead Project Scientist Event

Date 2019-09-15 Flight ID 20190915H1 LPS Bucci

Sondes

	Time	Event	Position	Comments
(1)	2112	IP-sonde	end pt	
	2117	shifted inbound		5° right based on MMR
	2121	scattered convection on MMR		
(2)	2125	mid pt sonde	inbound mid	good sonde
	2128	shifted inbound		5° right based on MMR
	2129	TDR radar shows widespread		stratiform
	2133	~30 n mi wide eye on MMR		
		open to the east		
	2137	marked center	29°11' 77°56'	987.5 mb 4°kt
	2150	wide spread stratiform on E side		
(3)	2150	mid pt sonde		good sonde
	2202	early turn	end pt	avoidance
(4)	2204	end pt sonde		
(5)	2228	end pt sonde	pta	good sonde
(6)	2242	mid pt sonde		
	2243	radar analyses show ~60kt		2km winds (and 0.5km)
(7)	2257	center sonde	good sonde	0.9kts 987mb
(8)	2310	mid pt sonde		
(9)		end pt sonde		
	2325	less convection on S side,		but sondes aren't
		as dry as yesterday		
(10)	2346	end pt sonde		good sonde
	2353	outer rainband - pretty cellular		
(11)	0001	mid pt sonde		questionable ^{RH} sondes
	0003	FL winds above 60 kts in SE quad		
	0006	stratiform w/ shallow convection tops @ 6-8 km		
	0008	eyewall @ ~50% w/ WFS open		

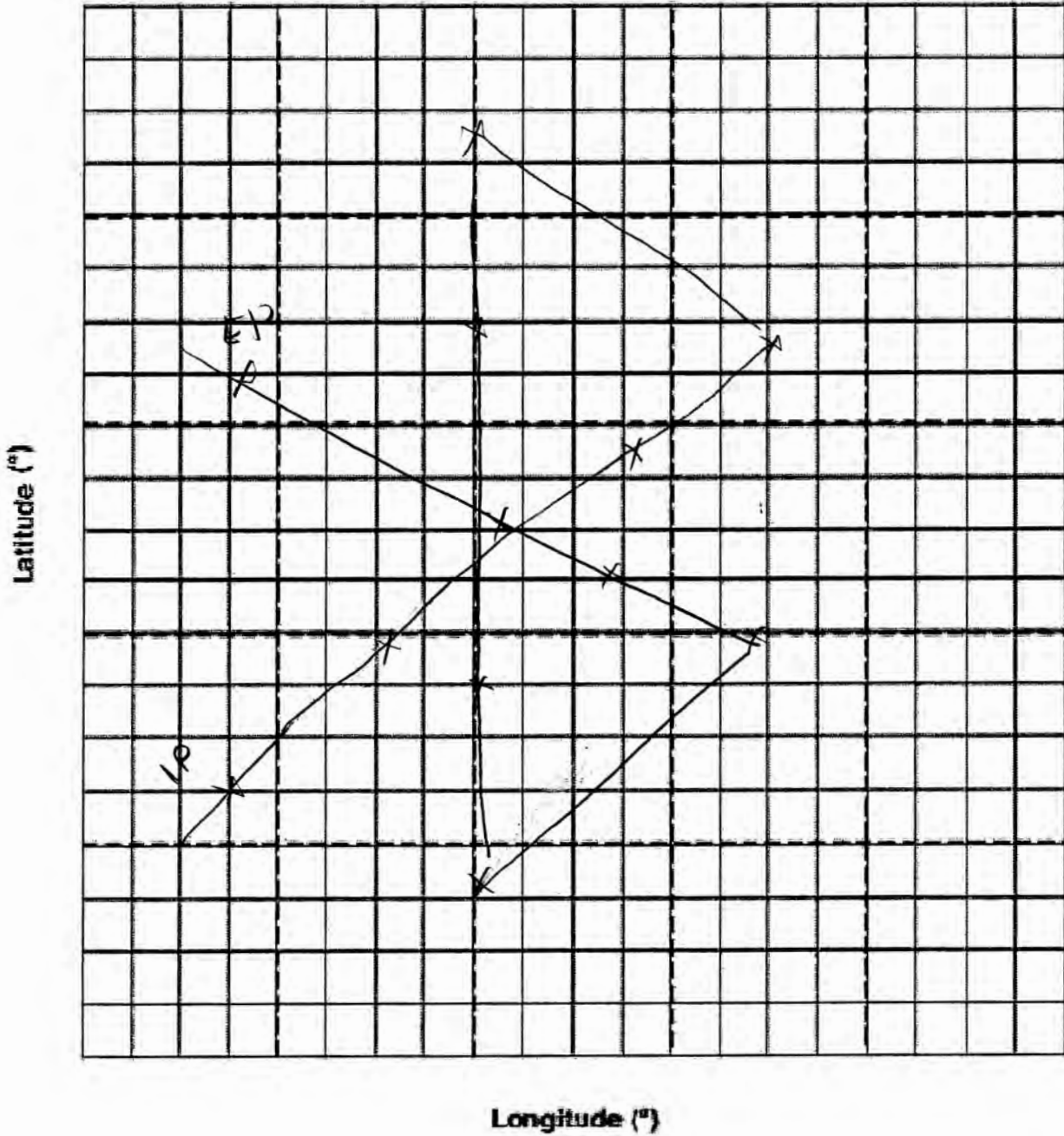
Observer's Flight Track Worksheet

Date 2019-09-15

Flight 20190915H1

Observer _____

Use highlighter to draw freehand on chart



Mission Summary

Scientific Crew (4 RF)

Lead Project Scientist Bucci
Radar Scientist Alvey
Cloud Physics Scientist
Dropwindsonde Scientist Abersm
Boundary-Layer Scientist
Workstation Scientist
Observers (affiliation)

Mission Briefing: (include sketch of proposed flight track or page #)

EMC TDR ^{bitterfly} pattern to transmit 3 analyses. Last EMC mission in set of 3. 2330 Z fix for NHC @ 10 kft. Humberto a 60 kts TS with better satellite presentation and no obvious dry air / shear.

Mission Synopsis: (include plot of actual flight track)

Humberto upgrade to 65 kts motion 040 @ 3 kts. SE quadrant had strongest winds but no obvious RMW. While FL winds reached 70 kts, SFMR held steady ~50-55 kts. 13 sondes dropped, 3 analyses. NO module work - ADM Aeolus too far, winds too weak for Ocean Winds

Evaluation: (did the experiment meet the proposed objectives?)

Mission successful - data transmitted and fix of center for NHC. Current motion means EMC will drop tracking. and convection not deep for CBM.

Problems: (list all problems)

None

Expendables used in mission.

	Deployed	Good	Bad
GPS sondes:	13		
AXBTs:	0		
Sonobuoys:	0		
UAVs	0		