

Lead Project Scientist

Storm or Project Cristobal Experiment name TDR
Flight ID 20140826H1 Mission ID 1504A

Preflight

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 MGOC in Miami.
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 MGOC.
7. Determine next mission status, if any, and brief crews as necessary.
8. Notify MGOC 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

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A. Participants:

HRD		AOC	
Function	Participant	Function	Participant
Lead Project Scientist	<u>Jun Zhang</u>	Flight Director	<u>Heming</u>
Radar/Workstation	<u>Frank Marks</u>	Pilots	<u>Harris</u>
		Navigator	<u>Tim</u>
Cloud Physics		Systems Engineer	<u>Terry Lynch</u>
		Data Technician	<u>Joe</u>
Dropwindsonde	<u>Rob Rogers</u>	Electronics Technician	<u>Tom</u>
AXBT/AXCP		Other	
Photographer/Observer			
s/Guests			

B. Take-off and Landing Times and Locations:

Take-Off: 0847 UTC Location: _____

Landing: _____ UTC Location: _____

Number of Eye Penetrations: _____

C. Past and Forecast Storm Locations:

Date/Time	Latitude	Longitude	MSLP	Maximum Wind

D. Mission Briefing: TDR mission, butterfly pattern, Added sondes for the 45 miles radius. - Also dropsondes at run.
 Convective burst module - reverse pattern instead of box, Rob Rogers will call for the module

Lead Project Scientist Event Log

Date 08/26

Flight ID 2014082641 LPS Jzheng

[illegible]

Lead Project Scientist Event Log

Date 08/26

Flight ID 20140826H1 LPS Jun Zhang

Time	Event	Position	Comments
0547	Take off ①		
* 0731	IP ②	2557 7406	Drop 1
0737	90 nm	2555 7339	Drop 2
0748	max wind	2552 7248	Drop 3
58 km/h MBL 74 km/h * 0800	center *	2604 7153	Drop 4 987 m 14 kt (12 kt 12 m)
0807	max wind	2603 7121	Drop 5 - 47 kt fl - 90 kt at 900 m
0818	90 nm	2603 7033	Drop 6
* 0829	turn point ③	2604 6944	Drop 7 -
- 0855	End of downwind ④		Drop 8
0905	90 nm	2724 7113	Drop 9
0919	max wind	2633 7141	Drop 10 - 50 kt wind near the surface
* 0926	center *	2613 7157	Drop 11 (119.22 kt)
0939	max wind	2527 7227	Drop 12
0948	90 nm	2456 7247	Drop 13
+ 0956	turn point ⑤	2428 7405	Drop 14
~ (1024) * 1034	End of downwind ⑥		Drop 15 - 95 nm
10:36	90 nm		Drop 16 (38 m) 28.3°C
10:50	max wind	2554 7139	Drop 17 - trip ends 13T (13T)
981 10 kt * 11:01	center *	2633 7200	Drop 18 BT Combs 28.9°C
11:05	max wind	2650 7212	Drop 19
11:19	90 nm	2740 7244	Drop 20
* 1129	turn point ⑦	2817 7308	Drop 21
	Landing ⑧		

The first sound will be the IP.

Rem - 07051 - End point 46

Mission Summary

Storm name

YYMMDDA# Aircraft 4_RF

Scientific Crew (4 RF)

Lead Project Scientist Jin Zhang
Radar Scientist Frank Marks
Cloud Physics Scientist _____
Dropwindsonde Scientist Robert Rogers
Boundary-Layer Scientist _____
Workstation Scientist _____
Observers (affiliation) John O'Brien

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

- see attached flight pattern, butterfly, drops at midpoint, turn
- and 1.5 Rmm ~ 45 nm, Center. Rmm, - proposed 21 + 2 drops
- shear experiment - inflow layer module - (more sondes)

Mission Synopsis: (include plot of actual flight track)

SST from BT matches the IR sonde

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

- initially we planned to drop sonde at 45 nm which is thought to be 1.5 Rmm, but the latest Arfene fix showed storm expansion and the Rmm is ~ 50 nm, so changed plan drop at 90 nm

Problems: (list all problems)

- dewpoint had problem - Frank noticed it, reset it by Terry
- trouble shouldn't have occurred -
- HDobs - flight recorder - what software need to reboot a couple of times -

Expendables used in mission:

GPS sondes: 21

AXBTs: _____

Sonobuoys: _____

- Radar analysis stopped working for the third eyewall penetration legs
trying to fix it by running different scanning time

P3 orbiting at the corner of the beginning of the third leg, rebooting the data system, HD obs -
third leg wasn't assimilated or sent to EDC