

## 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**

Storm or Project Cristobal Experiment name TDR  
 Flight ID 2014082641 Mission ID 1504A

**A. Participants:**

HRD		AOC	
Function	Participant	Function	Participant
Lead Project Scientist	<u>Jun Zhang</u>	Flight Director	<u>Henning</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>Tod</u>
AXBT/AXCP		Other	
Photographer/Observer			
s/Guests			

**B. Take-off and Landing Times and Locations:**

Take-Off: 0547 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. Come over burst module - reverse pattern instead of box, Rob Rogers will call for the module





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	90nm	2555 7339	Drop 2
0748	max wind	2552 7248	Drop 3
* 0800	center *	2604 7153	Drop 4 987m 14 kt (72kt 12m)
0807	max wind	2603 7121	Drop 5 - 47kt fl - 90kt at 942m
0818	90nm	2603 7032	Drop 6
* 0829	turn point ③	2604 6944	Drop 7 -
0855	End of downwind ④		Drop 8
0905	90nm	2724 7113	Drop 9
0919	max wind	2633 7147	Drop 10 - 50kt wind near the surface (55kt surf)
* 0926	center *	2613 7157	Drop 11 (119.22kt)
0939	max wind	2527 7227	Drop 12
0948	90nm	2456 7247	Drop 13
* 0956	turn point ⑤	2428 7405	Drop 14
~(1024) * 1034	End of downwind ⑥		Drop 15 - 95nm
10:36	90nm		Drop 16 (38m) 28.3°C
10:50	max wind	2594 7139	Drop 17 - trip Sonda 1BT (1BT)
981 10kt * 11:01	center *	2633 7200	Drop 18 BT Combs 28.9°C
11:05	max wind	2650 7212	Drop 19
11:19	90nm	2740 7244	Drop 20
* 11:29	turn point ⑦	2817 7308	Drop 21
	Landing ⑧		

The first sonda will be the IP.

Rem - 500m bound by 4nm  
07051 - End point of 6



## 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) Johnathan Vigh

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

- see attached flight pattern, butterfly, drops at midpoint, turn
- and 1.5 Rmw or 45 nm, Center. Rmw, - proposed 21 + 2 drops
- Shear experiment - inflow layer module - (micro 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 Rmw, but the later airborne fix showed storm expansion and the Rmw is ~50 nm, so changed plan drop at 90 nm

Problems: (list all problems)

- dewpoint had problem - Frank noted it, reset it by Terry
- trouble shouldn't have occurred -
- HD obs - flight director - what software need to reboot a couple of times -

Expendables used in mission:

GPS sondes: 21

AXBTs: \_\_\_\_\_

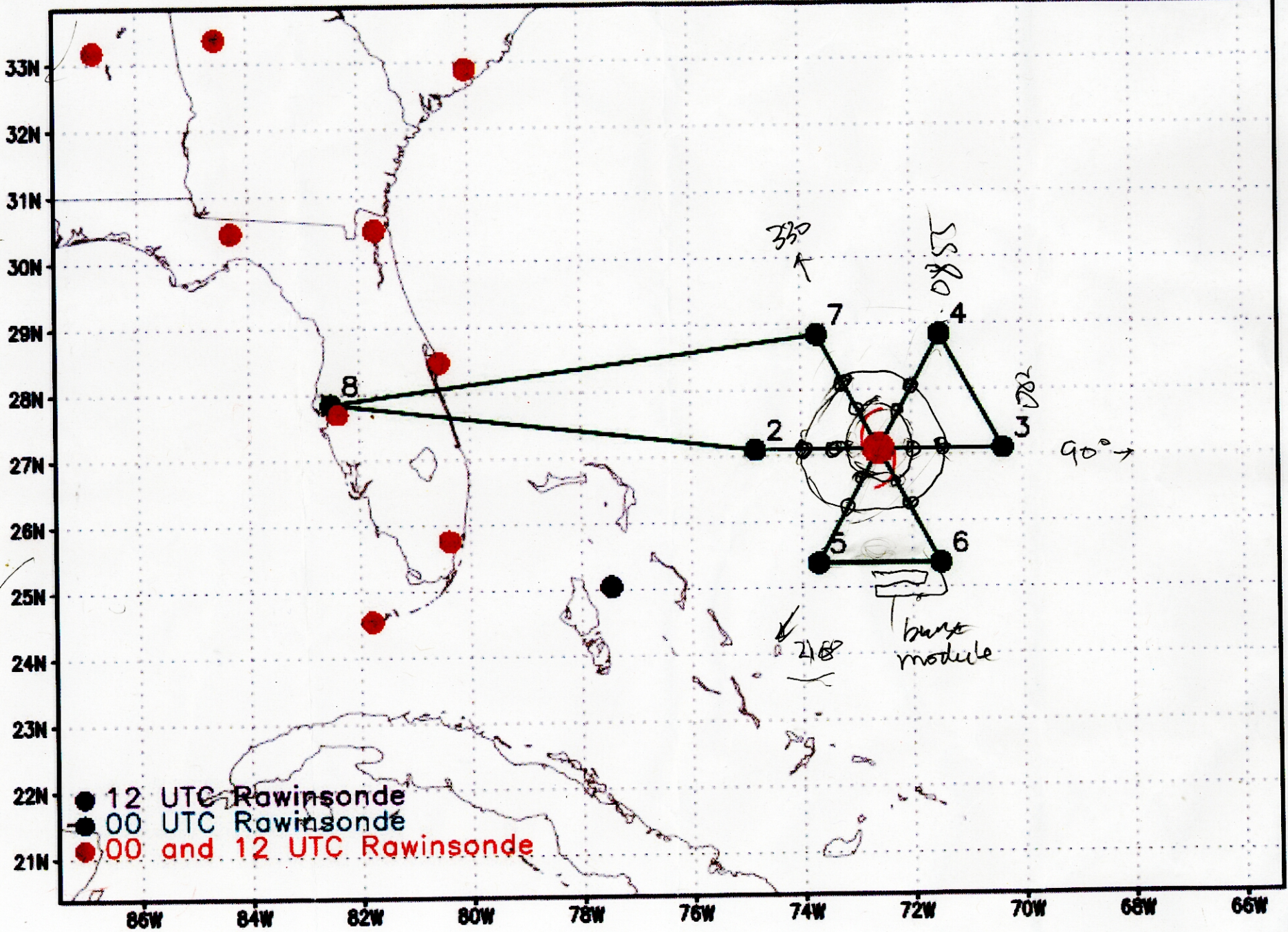
Sonobuoys: \_\_\_\_\_

- 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 EME



Motion direction 030  
 Motion speed 2





1504A Cristobal



1.5 RMM

- 1
- 2

30 RMM  
45 1.5 RMM  
60 2 RMM  
120 4 RMM

RMM/230-

