

Rogers
050907II

Lead Project Scientist

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 from 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 T.D. #16 Experiment name NHC-tasked into TD 16
 Date 9/16/05 Aircraft N43RF Flight ID 050907DI

A. Participants:

HRD		AOC	
Function	Participant	Function	Participant
Lead Project Scientist	<u>Rogers</u>	Flight Director	<u>Damiano/Mageaux</u>
Radar	<u>Dodge</u>	Pilots	<u>Tekeest/Silah</u>
Workstation	<u>Aberson</u>	Navigator	<u>Gallegher</u>
Cloud Physics	<u>_____</u>	Systems Engineer	<u>Lynch</u>
Photographer/Observer	<u>_____</u>	Data Technician	<u>San Souci</u>
/Guests	<u>_____</u>	Electronics Technician	<u>Olvey</u>
Dropwindsonde	<u>Aberson</u>	Other	<u>_____</u>
AXBT/AXCP	<u>_____</u>		

B. Take-off and Landing Times and Locations:

Take-Off: 0924 UTC Location: MacDill AFB

Landing: 0944 UTC Location: MacDill AFB

Number of Eye Penetrations: 0

C. Past and Forecast Storm Locations:

Date/Time	Latitude	Longitude	MSLP	Maximum Wind

D. Mission Briefing:

NHC-tasked ~~invest~~ invest/recco mission into T.D. #16, which is nearly stationary off the east coast of Florida. Conduct rotating-figure-4 pattern, IP 105 nm NW of center. Fly at 1500 ft for 1st two passes, then climb to 5000 ft for final pass. Only drop sondes from 5000 ft, at turn points and midpoint of radial leg. Run TA in FAST mode for almost all of flight, except run in Continuous mode for 2nd half of first inbound leg.

E. — Equipment Status (Up ↑, Down ↓, Not Available —, 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	O	O	O	
Ozone instrument	—	↑	—	
Workstation	↑	↑	↑	
Videography	O	O	O	

REMARKS:

- late launch detects on sondes
- uncertainty about C/P/AP recording

Lead Project Scientist Event Log

Date 9/7/05 Flight 050907II LPS Rogers

Time	Event	Position	Comments
0424	takeoff	MacDill AFB	takeoff from MacDill
0453	obs	FL east coast	good bumps at 11,500' off FL coast likely convective assoc. with Tis.
0459	pattern	120 nm W of possible center	descend to 1500 ft, approaching IP
0503	obs	125 nm NW of ctr.	40-kt flight level winds, 30-kt SF winds at 3500 ft
0505	obs	125 nm NW of ctr	possible center seen in LF, 220 km heading 110°, bands on NW side of storm
0507	pattern	near IP	at 1500 ft, FL 34 kt, SF 30 kt
0508	pattern	at IP	turn to track 135
0514	obs	85 nm NW of center	FL 34 kt at 1500 ft
0520	radar	60 nm NW of ctr	weak strat. echoes all around on TA radar, ref. off about 20-25 dBZ
0523	radar	53 nm NW of ctr	switch to continuous mode for remainder of inbound leg
0527	obs	40 nm NW of ctr	FL 40 kt
0530	obs	30 nm NW of ctr	more cellular, convective bands + A 2 hours reflect. of 30-40 dBZ, ref.
0532	pattern	20 nm NW of ctr	turn to track 180, search for center, switch back to F/AST mode
0539	pattern	near center	searching for center, no precip at all off center, central pressure down to about 1003 mb
0542	fix	27°52' 78°51'	sf. press. 1003 mb; 80 nm offshore, due east of Vero Beach

peak FL on NW side 40 kt

Lead Project Scientist Event Log

Date 9/7/65 Flight 05090721 LPS Rogers

Time	Event	Position	Comments
0552	obs	40 nm SE of ctr	no weather on S side of storm, FL 20 kt.
0606	pattern	80 nm SE of ctr.	turn to track 5°
0622	radar	70 nm E of ctr.	large band curving around from N to E side of ctr., likely an area of multiple convective bursts as satellite
0633	obs	19 nm from NE pt	NMC has called it a T.S. up
0638	turn	at NE pt.	turn left to track 225, turned just before reaching band on W side of storm
0702	winds	15 nm NE of ctr	peak FL winds 39 kt on NE side
0705	fix	28° 07' 78° 52'	min press. 1003 mb
0706	turn, pattern change	at center	turn to track 270, modifying pattern to go 60 nm W of center, then turn S of center by 30 nm, then bring to 5000 ft
0720	turn	60 nm W of ctr	turn to track 160
0732	25 nm from pattern	25 nm from point S of ctr	climb to 5000 ft
0738	turn	30 nm S of ctr	turn to track 0
0739	drop 1	30 nm S of ctr	drop 1, FL 17 kt, winds came in 58 s in
0743	pattern	near ctr	searching for ctr now
0748	fix, drop 2	28° 12' 79° 01'	min scl 1003
0754	obs	25 nm N of ctr	deep convection on N side of storm, embedded cells of 36-40 dBZ here on LF, some turbulence

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Lead Project Scientist Event Log

Date 9/7/65 Flight 050907II LPS Rogers

[illegible]

Mission Summary

Storm name

YYMMDDA# Aircraft 43 RF

Scientific Crew (43RF)

Lead Project Scientist Rogers
Radar Scientist Dodge
Cloud Physics Scientist _____
Dropwindsonde Scientist Alexson
Boundary-Layer Scientist _____
Workstation Scientist Alexson
Observers _____

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

see previous

Mission Synopsis: (include plot of actual flight track)



Flew modified Fig-4 pattern (see sketch) at 1500 ft until got S of center. System getting better organized, pressure dropped to 1003 mb on flight, upgraded to TS, Ophelia. Banding evident on N, E, and SE sides of storm. Center still located S of convection, but may be repositioning itself further N. Flew portion of 1st inbound leg in continuous mode; otherwise all F/A ST.

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

Was able to fly some of a frequent-monitoring experiment. B/c much of pattern was at 1500 ft, had no drops, but had radar, at least on N side. Did climb to 5000 ft and dropped sondes S, midpoint, and at N and on downwind leg. Also collected limited VI data, plus some cloud physics data, though recording may have been limited.

Problems: (list all problems)

No major problems. Were some instances of late launch delays on HRD 201 sondes, plus may have been problems with recording of cloud physics data.

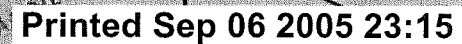
Expendables used in mission:

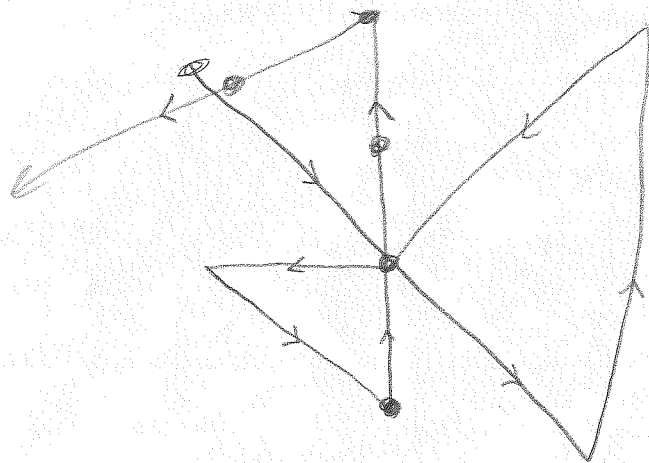
GPS sondes: 5 HRD, 1 NHC

AXBTs: 0

Sonobuoys: 0

LIMITED DISTRIBUTION





● - GPS drops