Rogers

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 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 Katrina **Experiment name** NHC tasks / Rd/ NEX test
Date 8/25/05 **Aircraft** N43RF **Flight ID** 0508 25I

A. Participants:

HRD		AOC	
Function	**Participant**	**Function**	**Participant**
Lead Project Scientist	Rogers	Flight Director	Damiano
Radar	Gamache, Small	Pilots	Silah, Strong, Nelson
Workstation	Gamache	Navigator	Siegel
Cloud Physics	—	Systems Engineer	Lynch
Photographer/Observer /Guests	—	Data Technician	Egan Sonci
Dropwindsonde	Gamache	Electronics Technician	Olney
AXBT/AXCP	—	Other	

B. Take-off and Landing Times and Locations:

Take-Off: 1310 UTC Location: MacDill

Landing: 2115 UTC Location: MacDill

Number of Eye Penetrations: 6

C. Past and Forecast Storm Locations:

Date/Time	Latitude	Longitude	MSLP	Maximum Wind

D. Mission Briefing:

NHC-tasked combination SFMR/fix mission into Tropical Storm Katrina. IP point 60 nm north of center, do 1 fig-4, rotate 45 degr. sw of center, perform next figure-4. Move over to east side of storm (see fig.), then begin a pass toward NW from E to N of storm. During this leg will be coordinated with the NRL P-3 to test ability to guide NRL using NOAA LF radar. Drop 8-10 drops at turn points and center for NHC, then a drop on each downwind leg for AOC comparisons with SFMR. Fly at 5000ft. Fix responsibility at 15, 18, 21 UTC.

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			
Ozone instrument	—			
Workstation	↑			
Videography	↑			

REMARKS:

Lead Project Scientist Event Log

Date 8/25/05 **Flight** 050824I **LPS** Rogers

Time	Event	Position	Comments
131015	takeoff	MacDill AFB	takeoff from MacDill
135335	obs	20 nm to IP	North of center, SFwinds 30kts, FL 27kt, convective privity on east + south
135845	turn	at IP 80 nm N of center	turning to TR 180, 5000ft.
140007	drop 1	27°29'N 79°6'	drop at 1st turn, FL 30kt SF 30kt
140320	track	63 nm N of center	A bit east of center, track 190 now
140709	radar	45 nm to center	open eyewall on N side, convective line on S and strat. on NE side
141900	radar	5 nm from center	well-defined eyewall on NE side, searching for center now;
		peak FL 50-55kt, MSLP 990mb; peak SF 45-50kt	
142033	drop 2	26°13' 79°15'	center SLP 990mb
142240	obs	eyewall	peak SF winds 48kts, but that is in heavy rain, so suspect
142435	drop 3	drop on S side of eyewall	no winds except right at end
1444	drop 4	drop at turning point, to	turn to track 45, start downwind leg
1511	drop 5	drop east of center	east of center
1524	obs	25 nm E of ctr	Sat. image shows two primary outer rainbands forming,
		one on NE and one on S side; may	
		target inner edge of E rainband	
1529	obs	10 nm outside eye	SF winds ~70kt, FL 50kt
1533	center (no drop)	26°13' 79°20'	

172.16.101.83

Lead Project Scientist Event Log

Date 8/25/05 **Flight** 050825I **LPS** VRogers

Time	Event	Position	Comments
154244	drop 6	40 nm W of ctr,	drop 6, turn to coast,
		at FLA coast	no winds
154440	drop 6a	40 nm W of ctr	back up drop
155950	drop 7	70 nm SW of ctr	turn to track 25,
161400	obs	15 nm SW of ctr,	SF wind, 55-60 kt., FL 55-60
		SW eyewall	choppy
1618	ctr	26°11' 79°24'	extrap SLP about 988-990
1625	obs	NE of ctr	peak SF winds on NE side about
			40-45 kt, peak FL winds
			about 60 kt
163838	turn	80 nm NE of ctr	turn to west, FL winds
			30 kt, sf. wind 25 kt
163959	drop 8	turn point	drop at turn point
171359	drop 9	26°12' 79°30'	extrap SLP 986 mb
172330	obs	SE eyewall	FL wind peak 60 kt, SF 60-80 kt;
			with 8 mls up + 5 mls down
173030	obs	35 nm SE of ctr	SRD shows principal band wrapping
		around E and	SE side of storm, possible
		forget on outer	edge of band
1759	pattern	E of center	NRL not flying b/c of
		maintenance probs,	plus deteriorating conditions
		over FL; no more	coordination planning
		needed	
1804	pattern	80 nm NE of center	turned toward 345 track,
		will head to pt	80 nm N of center, then turn
		to pt. North of	center, then head toward
		South side of storm	

Lead Project Scientist Event Log

Date 8/25/05 **Flight** 050825I **LPS** Rogers

Time	Event	Position	Comments
1826	turn ~~80~~	80 nm N of ctr.	turn to south for another pass
1843	obs	~~N of eye~~ N eyewall	SF winds 50 kt, FL 70 kt
1845	obs	in eye	peak SF 60 kt, FL 72 kt on N side
1848	center	26°9' 79°42'	extrap SLP 986 mb
1859	obs	25° 23' 79° 41'	in rainband on S side of storm, have hit moderate turbulence (~ rows updraft)
		S and SE	side of storm is the wet
		sloppy side	
1918 30	drop 13	80 nm SSE ~~of~~ eye	SF 30 kt, FL 30 kt
19 44	radar	80 nm E of eye	MIA radar shows clear eye
1945	drop 14	80 nm E of eye	at turn, heading west
1959	obs	E eyewall	approaching E eyewall
2003	pattern	in eye again	missed center, ~~topic~~ exited eye to SW and now reentered, searching for center
201447	drop 15	26°03' 79°49'	extrap SLP 983, sonde pressure 984.5
203249	pattern	60 nm N of center	moved NE outside of band, heading home now