Lead Project Scientist

Storm or Project Earl **Experiment name** TDR/Oceanwind,
Flight ID 100820I1 **Mission ID** WX07A Earl4

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_____ **Experiment name**_____

Flight ID _____ **Mission ID**_____

A. Participants:

HRD		AOC	
Function	**Participant**	**Function**	**Participant**
Lead Project Scientist	Clark	Flight Director	Sears
Radar/Workstation	Leighton/Amodio	Pilots	Nelson Halverson
	—	Navigator	Sloan
Cloud Physics	—	Systems Engineer	Bastardo/Hayster
Photographer/Observer /Guests	—	Data Technician	Nadeer
Dropwindsonde	Leighton	Electronics Technician	Jon Sousa
AXBT/AXCP	—	~~Other~~ Sondes	Mascaro

B. Take-off and Landing Times and Locations:

Take-Off: 1938 UTC Location: Barbados

Landing: 0220 UTC Location: Barbados

Number of Eye Penetrations: 4

C. Past and Forecast Storm Locations:

Date/Time	Latitude	Longitude	MSLP	Maximum Wind

D. Mission Briefing:

Storm or Project_____ **Experiment name**_____

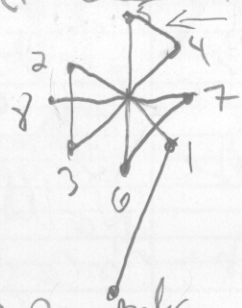
Flight ID _____ **Mission ID**_____

E. —Equipment Status (Up ↑, Down ↓, 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:

Similar to 43's flight into TS Earl on 2 flights. Closer to Barbados (~200 nm North of Island). Plan: 2 Figure 4s (rotated. One @ 12Kft (Radar) + 2nd @ 7Kft (Radar w/ Winds on) 2nd Fig 4 = Ocean Winds.



GPS Drop plan: Endpts (8) Midpts (8)
+ (4 eye Legs (1-2)(7-8) Barbados

Backup GPS: Only for "Bad" eye or "Bad" endpt...

est Mission time: 6:45
" Take off ~ 7:30 (2030Z)

Lead Project Scientist Event Log

Date ______________ **Flight ID** ______________ **LPS** ______________

Time	Event	Position	Comments
1938Z	Takeoff	Barbados	
2008	Haze on flight	14.87 58.75	Lots of low level haze (below 13Kft) SAL? TOR
~~2031~~		height 13-12.5K' (Jason D)	confirms SAL
d1 2031	IP	16.3 58.3	IP (Drop 1) Begin leg 1-2
d2 2040	Midpt drop	16.8 58.77	Line of convection SE of center
2044	Double eyewall?	50 nmi SE of center	looks like 2 circles of features...
2048	34 m/s SFMR	S Eyewall	50 nm dealing
Bad → d3 2056	eye fix drop	17°38" 59°39"	Bad sonde!
d4 21:06:50	Midpt 1-2	18.4 60.3	NW of eye
d5 21:19:39	Turn pt leg 2-3	18.57 60.77	Drop 5
21:50	Midpt 3-4	16.97 60.16	Drop 7 (drop 6 ...)
d8 22:03:10	Center fix	17.60 59.95	Radar center fix possible
d9 2208	eyewall	17.92 59.69	Max SFMR 32 MS
	replaced	mid leg drop	
d10 2229	end pt 4	18.93 58.97	Very NW downwind
2249	end pt 5	19.33 60.28	very south
Note:	... mid pt	drops to	eyewall drops... for
legs 5-6 + 7-8			
Note:	drops to	7 Kft	radar
N d11 23:07	North eyewall	18.17 60.28	Max SFMR 39 m/s
Note:	concentric	eyewall ~30 nmi	eye?
" :	open (Radar) on	N semi-circle,	S eyewall very solid
2313	Nav: course +	speed 292@13Kts	
d12 2314	S. eyewall	17.43 60.11	solid ...
			SFMR 50 M/S

Sonde bad? → No... good! 75Kts

accd to avgs

Lead Project Scientist Event Log

Date ________________ Flight ID________________ LPS ____________________

Time	Event	Position	Comments
d13 2338	endpt (6)	16.06 60.12	also a convective cell
d14 Note begin leg 6-7		final leg is 7-8 ...	
0:13	Turn Pt 7	17.80 58.73	final leg
Note:	Plan here is	endpt (7)	eyewall east
eye; eyewall west;		endpt (8) →	final
Mod:	2 banded structure		so outer eyewall
for	drop 15 ...	then w. side	is precip free
so	will drop	16 into	inner eyewall on
east	... then	eye (17)	
then	Pt 8	(18)	then ...
d15 02700	outer eyewall east	17.75 59.69	NASTY like ...
NOTE: SE wind max →		Max SFMR 32	RR 48 missed outer ...
d16 03249	inner eyewall	17.75N 60.20	inner EW
		Note: (97) kt max FL	45 SFMR?
d17 03904	Center drop	17.76N 60.55W	Center fix
d18		2855 Time	15+7
043	Pseudo W eyewall	17.75 60.95	not much conv ~70kt was SFMR
d19 1:04:34	end Pt 8	17.68 62.22	Last Drop - Done
	Ferry home		

9/6/2010 1/157 ...

Mission Summary
Storm name
YYMMDDA# Aircraft 4_RF

Scientific Crew (4 RF)

Lead Project Scientist _____
Radar Scientist_____
Cloud Physics Scientist_____
Dropwindsonde Scientist_____
Boundary-Layer Scientist_____
Workstation Scientist_____
Observers_____

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

Mission Synopsis: (include plot of actual flight track)

see earlier

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

yes, all objectives met

Problems:(list all problems)

radar, drops all ok
no major (or minor) probs!

Expendables used in mission:

GPS sondes : 19 1 failure (eye)
AXBTs : 0
Sonobuoys: 0