

## Lead Project Scientist

Date 9-5-19

Flight ID

Storm or Project Dorian

Experiment name FDR - ocean winds

Mission ID 19090547

### Pre-flight

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 Field Program Director.
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 Field Program Director
7. Determine next mission status, if any, and brief crews as necessary.
8. Notify Field Program Director 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:**

Function	Participant	Function	Participant
Lead Project Scientist	Dunin	Flight Director	Lundry
Radar	Rogers	Pilot	Kibbey
Workstation		Pilot	Mitchell, Deremius
Cloud Physics		Navigator	
Dropsonde	Dahl	Systems Engineer	
Dropsonde	Underwood	Data Technician	
AXBT/AXCP		Electronics Technicians	
Observer/Guest			
Observer/Guest		Flight Engineer	

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

Take-Off: 0820 UTC Location: LAL

Landing: 1540 UTC Location: LAL

Number of Eye Penetrations: \_\_\_\_\_

**C. Past and Forecast Storm Locations:**

Date/Time	Latitude	Longitude	MSLP	Maximum Wind
/				
/				
/				
/				
/				

**D. Mission Briefing:**

Conduct TDR mission into Hurricane Dorian. The storm has begun its track to the N and is forecast to brush the Carolina coast before heading out to sea. The storm structure has looked better overnight and is now a weak cat 3 (100kt/115mph). The eye diameter is now ~ 35-45nm across. Plans include 105nm legs, possibly extending four NW Pds (3+4) overland since there are plenty of scatters. We're also keeping an option for a landfall module (SFMR) but are not certain at +/o if coastal teams are set up. Plans for NEDIS are also being discussed.

Storm or Project \_\_\_\_\_ Experiment name

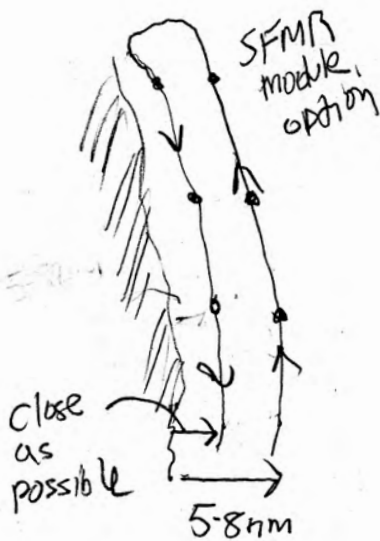
Flight ID

Mission ID

E. — Equipment Status (Up U, Down D, 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:



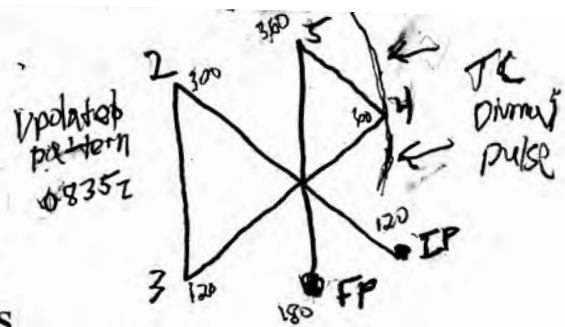
truck  
Band

Lead Project Scientist Event

Date

Flight ID

LPS



Time	Event	Position	Comments
0820Z	t/d	LAL	
0835Z	pattern change	sw of orig IP	new corner of pattern → severe winds + FD concerns of getting boxed in eye
0900Z	NHC Sam - 100kt, 010/6kt, 50nm		eye
0917	drop	IP (SE)	
0931	drop	mid SE-ctr	
0938	SE eyewall		open
094333	ctr	31.74N 79.46	no fix or drop, ~959 mb
0955	drop	WP 2 (NW)	
1019	drop	WP 3 (SW)	no launch detect, backed up
1030	problems setting up inbound		resetting SW IP
1038	new TDR SW	IP: 31.40 80.62	
1049	drop	mid WP3-ctr	
1057	ctr	31.95 79.35	
	drop	mid (ctr-NE)	
	drop	WP 4	outer
	Break pattern, riding outer band	turn SE to follow	TC Journal pulse / band
1135	"	drop	HED sonde SSE-NW track
1140	"	drop	" " SSE-NW track
	drop	WP 4	
1159Z	ctr	32.12 79.19	1.7
1211	WMM reset by FD		causing ob # issues for WMM's going out
	mid	ctr-FP	delayed to clear connecting
1226	drop	FP	
1226			move to NESDIS ocean winds
1			

ocean winds

→ solution for next time: stop sending WMM's, check with Core re: latest WMM ob #, send with adjusted ob # if needed

### Lead Project Scientist Event

Date

Flight ID

LPS

Time	Event	Position	Comments
1243	inbound 320°	SE-Ctr	NESDIS Ocean Winds
1251	drop	RMW	↓
1253	drop	inside edge of RMW	
1259	ctr	32.25 79.20	
1302	outbound 127°		outbound to inbound sonde splash → 31, 78.8
1310	tracking 20° in	moat at R 35 nm	↓
1311	inbound 280°		
1314	drop 280°	RMW	
1320	ctr	32.35 79.18	
1327	outbound 100°		
1333	inbound 260°		
1336	RMW - ENE		
1343	ctr	32.32 79.18	
1346	outbound 60°		
1359	inbound 200°		
1400	sonde	RMW	
1401	sonde	inner edge RMW	
1406	ctr	32.4 79.1	
1410	outbound		
1415	RMW 20°		
	inbound 180°		
1429	ctr	32.38 79.09	
1429	outbound 220°		
1433	RMW		

# Observer's Flight Track Worksheet

     Date     

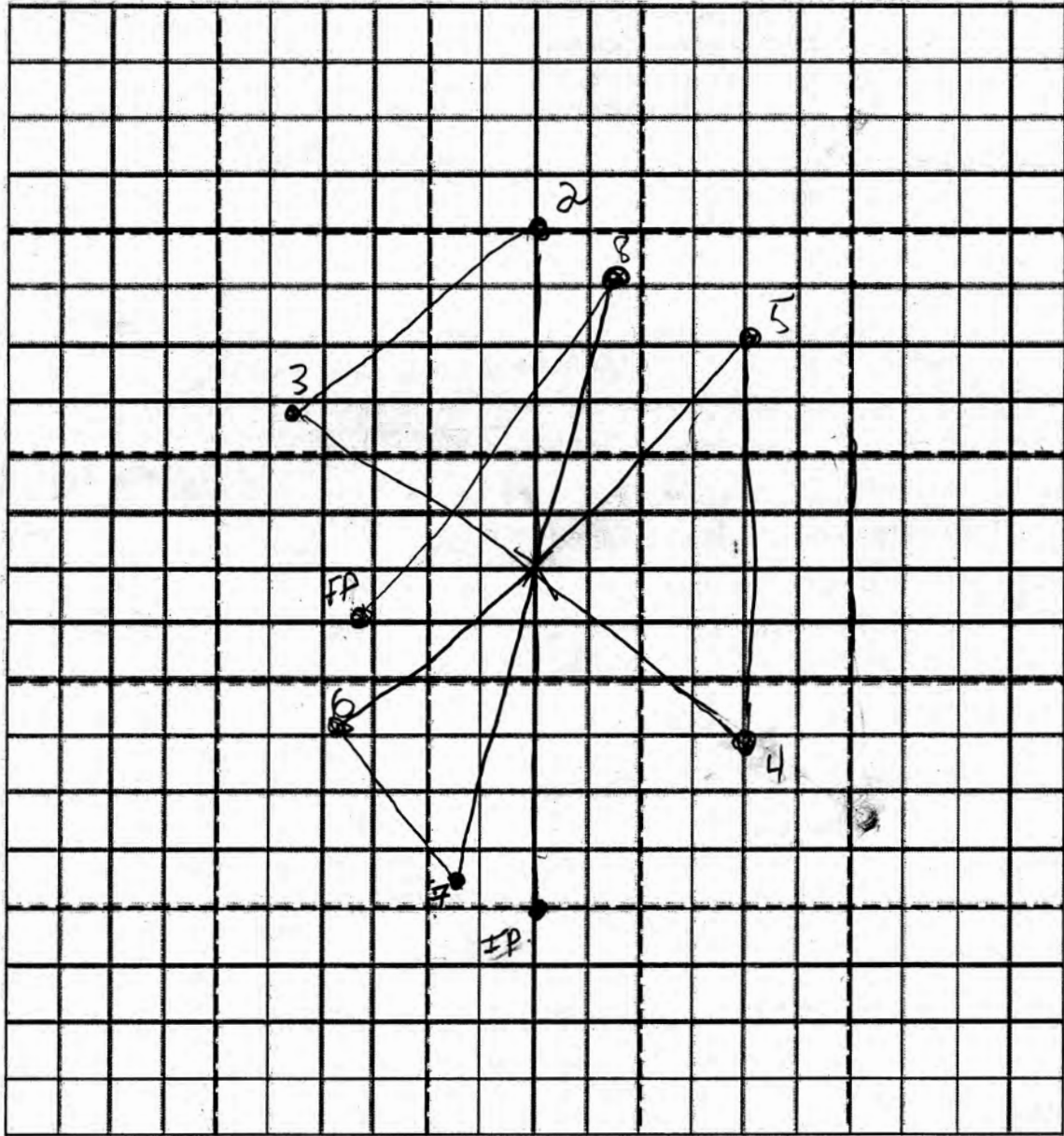
     Flight     

     Observer     

Use highlighter to draw freehand on chart

original / proposed track (not flow)

Latitude (°)



Longitude (°)

# Mission Summary

## Scientific Crew (4 RF)

- Lead Project Scientist
- Radar Scientist
- Cloud Physics Scientist
- Dropwindsonde Scientist
- Boundary-Layer Scientist
- Workstation Scientist
- Observers (affiliation)

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

Mission Synopsis: (include plot of actual flight track)

Severe WX + land in NW corner of original pattern (P7) required track changes. Adjusted track completely to remove NW pt and any N-NW-W downwind legs. Added are cloud module 240 + RESD15 ocean winds

Evaluation: (did the experiment meet the proposed objectives?)  
 Yes, 3+ ~~TD~~ legs <sup>flow</sup> WMM required restarting 2x, which threw ASPEN WMO message off sequence. This required several CCA messages.

Problems: (list all problems)

Expendables used in mission:

	Deployed	Good	Bad
GPS sondes:	21	20	1
AXBTs:	NA		
Sonobuoys:	NA		
UAVs	NA		

adjusted track

