

Lead Project Scientist

Storm or Project ALOG/FLORENCE Experiment type MATURE STAGE EXPERIMENT / OCEAN WINDS
Flight ID 20180910 H1 Mission ID WC06A

Preflight

- _____ 1. Participate in general mission briefing.
- _____ 2. Determine specific mission and flight requirements for assigned aircraft from the Field Program Director.
- _____ 3. 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.
- _____ 4. Meet with AOC flight director and navigator at least 3 hours before take-off for initial briefing.
- _____ 5. Determine from AOC flight director the mission designation and whether aircraft has operational fix responsibility.
- _____ 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 drops.
- _____ 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. Request AOC flight director to leave radar in non-sector mode for initial Figure 4.
- _____ 5. Once at IP, request AOC flight director adjust radar tilt to minimize sea clutter.
- _____ 6. Complete Lead Project Scientist Form.
- _____ 7. Check in occasionally 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 Dropsonde raw and processed files from the AVAPS operator on thumb drive.
- _____ 4. Obtain a copy of the radar LF files from the radar technician on thumb drive.
- _____ 5. Obtain a copy of the tar'ed radar TA files from the radar scientist on thumb drive.
- _____ 6. Obtain a copy of serial flight data and raw NetCDF file on thumb drive from the data technician.
- _____ 7. Obtain a copy of SFMR data on thumb drive from the data technician.
- _____ 8. Obtain a copy of DMT data on thumb drive from the data technician.
- _____ 9. Report landing time, aircraft, crew, and mission status to the Field Program Director.
- _____ 10. Determine next mission status, if any, and brief crews as necessary.
- _____ 11. Prepare written mission summary using Mission Summary form.

NO ARCHIVED
SOME RADAR DATA
FILE TOO LARGE

Lead Project Scientist Check List

Storm or Project ALOG / FLORENCE Experiment name MATURE STAGE

Flight ID 20180910H1 Mission ID WC06A

A. Participants:

HRD		AOC	
Function	Participant	Function	Participant
Lead Project Scientist	<u>ZAWISLAK</u>	Flight Director	<u>HOLMES</u>
Radar/Workstation	<u>ZAWISLAK</u>	Pilots	<u>KIBIKI</u> <u>ROSSI / ARITBOL</u>
		Navigator	<u>RICHARDS</u>
Cloud Physics		Systems Engineer	<u>GREENE (MIR) / DORON (F6)</u>
		Data Technician	<u>MASCARO</u>
Dropwindsonde	<u>HOLBACH</u>	Electronics Technician	
AXBT/AXCP		Other	
Photographer/Observer			<u>NRSOIS</u> / <u>PAUL CHANG</u> <u>JOE SAPP</u> <u>ZERANA JEBENAK</u>
s/Guests			

B. Take-off and Landing Times and Locations:

Take-Off: 1322 UTC Location: BERMUDA

Landing: 2242 UTC Location: ST. CROIX

Number of Eye Penetrations: 9

C. Past and Forecast Storm Locations:

SHIPS 12 UTC: 127°/4 kt
18 UTC: 119°/5 kt

Date/Time	Latitude	Longitude	MSLP	Maximum Wind
5 AM NHC	<u>24.9</u>	<u>58.9</u>	<u>969 mb</u>	<u>90 kt</u>
FCST 18Z	<u>25.4</u>	<u>60.5</u>		<u>110 kt</u>
11 AM NHC	<u>25.0</u>	<u>60.0</u>	<u>962 mb</u>	<u>100 kt</u>

WNW 5KT

W 11 kt

D. Mission Briefing:

INITIAL BUTTERFLY PATTERN → 240/60° AZI., 360/180° AZI., 120°/300° AZI.
FIRST PASS WAS SUGGESTED TO AVOID W/ CLOUDS, BUT DELAYED TAKEOFF IS LESS
THAN 10 MIN. DUE TO TURN/MOS, CAR, RMW (AS REQUESTED). AXBTs AT
RMW, OR CIRCLES (OR OTHER INTERESTING SPOTS). BUTTERFLY WILL BE FOLLOWED BY
10 MIN. LEGS FOR MISSOIS, WHICH ARE SIMILAR TO OUR CONVECTIVE BURSTS.
POSSIBLE CIRCULAR PATTERN IN THICK WINDS FOR MISSOIS AND SEHR.

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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:

PIP ↓ WILL NEED TO RETURN TO FLOOR IN CUP

↳ PIP WAS ACTUALLY UP! YESTERDAY TOO.

Lead Project Scientist Event Log

Date 9/10/18 Flight ID 2018091041 LPS ZAWISLAK

Time	Event	Position	Comments
1323	TAKEOFF BERMUDA		
1333	INBOUND TO IP		OK, SO FURANCE IS BEGAIN TO SHOW A MIE WAVE RETURNING. SYMMETRIC ON AN IDEAL THERE IS STILL A HINT OF A OR SLIGHT THE SOUTH/SOUTHWEST. BUT NOT GETTING FOR INTO THE UNDER COBE. HOWEVER IT IS CAUSING SOME SOME MORE INTENSE CONVECTIVE BOUNDARY, ENTER ON THE SOUTH AND EAST SIDES.
1428	INBOUND TO IP	27°33'N/61°48'W	CULD GET SOME SAMPLING OF THE OUTER BOW COMING OUT FROM THE DIURNAL CYCLE
1450		25°39'N/61°52'	NOW 115M4 STORM.
1512	IP	24°09'N/61°27'	NOW INBOUND ON 200°/060° TRACK. WILL BE APPARENT IRMW COHP.
			JASON'S BOW LOOK STRAIGHT PRECO. MATH CONJECTS TO OUR
1518Z	HIT BOW OUT	24°21'N/61°31'	NOW SOME CONVECTION TO OUR NORTH → NO TOUS DSE
			DSE LOOK LIKE ANOTHER BOW AHEAD. MORE INTENSE CONVECTION
1526Z	APPROX MP INBOUND 060° HP	24°39'N/60°30'	A LOT OF STRAIGHTEN AHEAD OF US
1530Z	A LOT OF RAINFALL	24°49'N/60°24'	ANOTHER CONVECTIVE BOW BEHIND US
1533Z	RMW		MAR WITH SOME
1535Z	945' CTR #1 947ms	24°59'N/60°21'	CTR.
1537Z	RMW 1 OUT 060		RMW OUTBOUND 060° #1
1538Z	RMW 2 OUT 060	25°06'N/59°57'	RMW OUTBOUND 060° #2
	MIOPUNT	25°20'N/59°29'	MIOPUNT OUTBOUND BUT 110° TO GET THROUGH IT
1557Z	ENDPOINT	25°31'N/59°47'	DEFINITE FOUNO JASON'S BOW OUT ON THE EAST SIDE. RECENT CONVECTIVE BOWS NOT TO FIND A GOOD ENTRANCE TO IT
1559Z	ENDPOINT SANDS	25°33'N/59°51'	ENDPOINT SANDS
			WE HAD TO MANOEUVRE AROUND THAT DUNIOR RING, BUT NOT PERPENDICULAR IN 17. MILES 070° → 45°

DROP 1 HAD 1

DROP 2 HAD 2

DROP 3 NEAR 3

BT COM 1

DROP 4 NEAR 1

DROP 5 NEAR 2

DROP 6 NEAR 3

DROP 7 HAD 3

DROP 8 HAD 4

SURGE OF ABOUT 120 KTS
170 KTS PL
ON THE WAY OUT.
NEARLY SYMMETRIC
ON SE NW SIDE
IF WIND.
NOT
GOOD BT
NOT
GOOD BT

Lead Project Scientist Event Log

Date 9/10/18 Flight ID 2018091041 LPS ZAWISLAK

Time	Event	Position	Comments
1609 Z	HEADING TOWARDS NORTHERN POINT	26° 14' / 59° 39'	Going Right on the M100 OUTSIDE THAT BAND WE WENT THROUGH. TOR POINT WELL ON BOTH SIDES
1617 Z	INBOUND 180° TRACK 360° AZI	26° 24' / 60° 14'	NOW INBOUND TO CTR 12
1620 Z	INBOUND SOURCE	26° 14' / 60° 14'	INBOUND SOURCE
1628 Z	MIDPOINT SOURCE 360°	25° 44' / 60° 14'	MIDPOINT SOURCE OUT OF BAND TO SOUTH OF IT. AGAIN, A LOT OF BANDING SOLID ATWAVE INBOUND
1648 Z	AMU	25° 10' / 60° 13'	RMW INBOUND 360°. NO BT CAMBO
1642 Z	944 BEST CTR 2 942 EXTEND	25° 31' / 60° 19'	CTR
1644 Z	9 RMW OUTBOUND SOUTH		RMW OUTBOUND SOUTH
1653 Z	MIDPOINT OUTBOUND 180°	24° 26' / 60° 18'	MIDPOINT + AMU TO GO THROUGH A RAIN AREA
1659	OUTBOUND TO SOUTH POINT	24° 21' / 60° 19'	REACHING SOME CLOUDS CONDITIONS BALU
1702 Z	ENDPOINT SOURCE SOUTH	23° 46' / 60° 19'	ENDPOINT TO SOUTH
			DOWNWARD POINTING THE RAYBAND TO THE SOUTH OF THE STORM
1716 Z	TRAIL INBOUND TO 315°	24° 14' / 59° 24'	INBOUND 315° TO RAYBAND INFLECT RIGHT AT OUR NEW POINT.
1721 Z		24° 31' / 59° 40'	LESS CONSISTENT PRECIP ON THIS INBOUND TO THE NW ON 135° AZI.
1727 Z	MIDPOINT SOURCE 135° AZI.	24° 49' / 59° 58'	MIDPOINT INBOUND. PRETTY CLEAN STRAIGHT OUTLINE
1733 Z	RMW ON 135° AZI.	25° 51' / 60° 21'	
1736 Z	CTR 3	25° 8' / 60° 31'	CTR 7
1738 Z	RMW OUT ON 315°	25° 14' / 60° 37'	RMW OUT BT CAMBO.
1748 Z	MIDPOINT OUT ON 315° AZI.	25° 38' / 61° 11'	MIDPOINT
1754	ENDPOINT ON 315° AZI	25° 58' / 61° 44'	ENDPOINT
			END OF BUTTERFLY

NOW WILL TURN 190° AND GO INBOUND AGAIN

HR

ALL OUTBOUND
OF PMU.

CUMBO BT /
SOURCE AT
240° 060°
135° 315°

OUTBOUND 125K
SFR

BAD CTR
SOURCE

143K SFR
IN OUTBOUND
RMW ELEVATION
TOWARDS INCL 150

0/4 ON
BTS.

DROP 9
H2O 5

DROP 10
H2O C

DROP 11
H2O 3

DROP 12
H2O 2

DROP 13
H2O 4

DROP 14
H2O 7

DROP 15
H2O 8

DROP 16
H2O 9

DROP 17
H2O 10

DROP 18
H2O 5
COMBO 3

DROP 19
H2O 3

DROP 20
H2O 6
CTR 4

DROP 21
H2O 11

DROP 22
H2O 12

Lead Project Scientist Event Log

Date 9/10/18 Flight ID 2018091041 LPS ZAWISLAK

Time	Event	Position	Comments	
1800Z			SO NOW NEED WORK GOING IN BOUND ON SIMILAR AZL	OP
1816Z	RMW 305° INBOUND AZL			DROP 23 NEEDS 7
			CHANG WORK BEGIN	
1819Z	CTR 4	25.2N/60.6W		DROP 24 NEEDS 4
1829Z	RMW SONDE 180°	25° 4' / 60° 38'	OUTBOUND 180° INFO SOUTH BOUNDARY	DROP 25 NEEDS 3
			NOW HEADING INBOUND	
1900Z			TRACKIN 340°	
	RMW INBOUND			RMW DROP 26 NEEDS 4
1918Z	CTR 5 940ms EXTEND	25.26N/60.79W	A LITTLE LIGHTNING	DROP 27 CTR NEEDS 5
1922Z	RMW OUTBOUND 230°			DROP 28 NEEDS 10
1923Z	RMW OUTBOUND 230°		OUTBOUND FL WINDS 100	
1928Z	RMW INBOUND 075°		DROP 30 / WEEDS 12	DROP 29 NEEDS 11
	CTR 6 940ms		NO SONDE. GROUND SCATTER.	DROP 30 NEEDS 12
1932Z	RMW INBOUND 030°		OUTBOUND 030°	DROP 31 NEEDS 13
1933Z	RMW OUTBOUND 030°		OUTBOUND 030°	DROP 32 NEEDS 14
1957Z	RMW INBOUND TRK 209 ON 25° N3	25° 25' / 60° 45'	INBOUND 020°	DROP 33 NEEDS 15
	RMW INBOUND 020°		WIND	DROP 34 NEEDS 16
2000Z	CTR 7	25° 18' / 60° 54'		NEEDS 6
2002Z	RMW OUT ON 280°	25° 15' / 61° 2'	OUTBOUND RMW 2450	DROP 35 NEEDS 16
2022Z	RMW INBOUND 360°		RMW INBOUND 36°	DROP 36 NEEDS 17
2024Z	CTR 8	25° 22' / 61° 2'	CTR	DROP 37 NEEDS 18
2027Z	RMW OUT ON 060°	25° 20' / 60° 52'	RMW OUTBOUND 060°	DROP 38 NEEDS 19
2028Z	RMW OUT 060°	25° 31' / 60° 44'	RMW OUTBOUND 060	DROP 39 NEEDS 19
			DECENT BOUND THEN GOOD MOST NEW FIREWALL	
2055Z	RMW IN 200		RMW IN 200° 20°	DROP 40 NEEDS 20
2058Z	CTR 9		CTR	DROP 41 NEEDS 8
2059Z	RMW 222° SW FLW			DROP 42 NEEDS 21
2101Z	RMW 222° SW FLW			

3800
SONDE

938ms
EXTEND
↓
SEE THE
LOWEST
EXTEND

15ms
EXT

HOLDING
PARITY STEADY
IN INTENSITY
~ 940ms

INDICATIONS OF
SEE IN NE
FIREWALL.
SEE IT IN FL
AND IN
PAUL'S
ANALYSIS

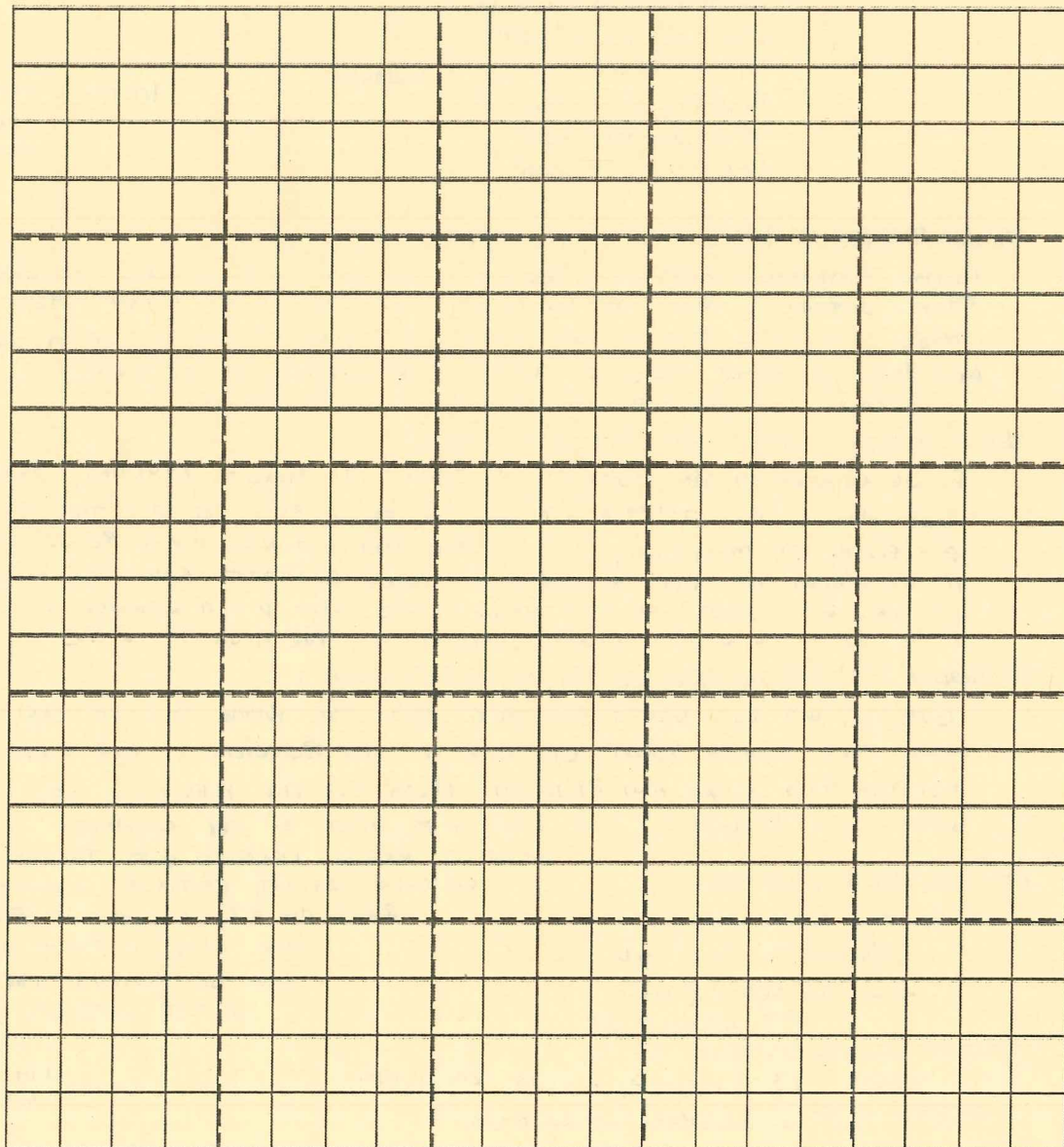
HRD 12 SENDER
7 NM

43 22 M23015

Observer's Flight Track Worksheet

Date 9/10/18 Flight 20180910 41 Observer Zawisak

Latitude (°)



Longitude (°)

Mission Summary

Storm name

YYMMDDA# Aircraft 42 RF

20180910 H1

Scientific Crew (4 RF)

Lead Project Scientist ZAWISLAK

Radar Scientist ZAWISLAK

Cloud Physics Scientist _____

Dropwindsonde Scientist HOLBACH

Boundary-Layer Scientist _____

Workstation Scientist _____

Observers (affiliation) _____

NESDIS: CHANG
JELENIAK
SAPP

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

INITIAL BUTTERFLY 240°/060°, 360°/180°, 120°/300°. 90km LEGS. TURNED FOR
CLONTS OVERCASTS. DROPS AT ENDPOINTS, MIDPOINTS, CENTER, RHWs. BKA RPTER.
AFTER THAT WILL PROCEED INTO LWRAP LEGS (CONVECTIVE BURST MODES)
AND POSSIBLE SFR CIRCUITS. WILL BE BACKTRACKING IN ST. CLOUD.
TAKING INTO HIGH WIND REGIONS AND HIGH RAIN. FOR NESDIS.

Mission Synopsis: (include plot of actual flight track)

SO WE COMPLETED THE BUTTERFLY AS DRAWN UP. ABOUT 240/060°, 360°/180°,
AND HAD TO DO 135°/315° OUT. ON THE FINAL PASS FOR THE TOR PATTERN.
DID ENDPOINTS, MIDPOINTS, OR ON EACH PASS OUT INBOUND/OUTBOUND. DID RHWs
IN THREE AND WE GOT 4 AXBTs AT EACH QUADRANT RHW, BUT NONE WORKED.
WE THEN WENT INTO NESDIS OCEAN WINDS AND DID A NUMBER OF LEGS
FROM S/SW TO N/NE TAKING APPARENTLY THE HIGHEST WINDS.

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

OVERALL, WE GOT GREAT COVERAGE FROM THE RAIN DURING THE 90km
LEGS. THE GREAT SLOW CURVE IN THE BUTTERFLY. WE WERE HERE
FOR THE END OF RI AND PERHAPS HERE FOR THE BEGINNING OR AN SFR SLOW
WITHIN THE REFLECTIVITY AND THE WFL WINDS OF THE HIGHEST STOR.

Problems: (list all problems)

3 SUNDERS WERE BAD,

POTENTIAL PASS FAIL

NONE OF AXBTs WORKED
PIR WAIN'T UP.

INTENTION RAIN CLOUDS OUT, THOUGH. ~940MB
WE ALSO CROSSED, PERHAPS THROUGH A DIURNAL
RISE OR OR IF INBOUND FROM THE SW

AND THEN A MUCH STRONGER, INTENSE
PART OF PERHAPS THE SAME BAND
OR THE OUTBOUND. CROSSED IT THERE
MORE E-W.

Expendables used in mission:

GPS sondes : 43 (12 HRP, 7 NWS, 24 NESDIS)

AXBTs : 4 / BUT NONE WERE GOOD

NESDIS OCEAN WINDS
GUT THEIR WORK IN

Sonobuoys: —