

Lead Project Scientist

Storm or Project ALOG / FLORENCE Experiment type EARLY STAGE
Flight ID 20180909 H1 Mission ID WBOGA

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.

Lead Project Scientist Check List

Storm or Project ALOG / FLORENCE Experiment name EARLY STAGE

Flight ID 20180909HI Mission ID W306A

A. Participants:

| HRD | | AOC | |
|------------------------|-----------------|------------------------|--|
| Function | Participant | Function | Participant |
| Lead Project Scientist | <u>ZAWISLAK</u> | Flight Director | <u>HOLMES</u> |
| Radar/Workstation | <u>REASOR</u> | Pilots | <u>KIBBEY ROSSI</u> <u>ARIBOL</u> |
| Cloud Physics | _____ | Navigator | <u>RICHARDS</u> |
| Dropwindsonde | _____ | Systems Engineer | <u>GREENE (MM2)</u> <u>DART</u> |
| AXBT/AXCP | _____ | Data Technician | <u>MASCARO</u> |
| Photographer/Observer | _____ | Electronics Technician | _____ |
| s/Guests | _____ | Other | <u>AVAPS UNDERWOOD</u> <u>IWRAP: CHANG, SAOB, ZELENAK</u> |

B. Take-off and Landing Times and Locations:

Take-Off: 1142 UTC Location: BERMUDA

Landing: 2000 UTC Location: BERMUDA

Number of Eye Penetrations: 5

9/22: 303/3kt

SHIPS SHEAR: 9/19Z 108/3kt

C. Past and Forecast Storm Locations:

| Date/Time | Latitude | Longitude | MSLP | Maximum Wind |
|------------------|--------------|--------------|--------------|---|
| <u>5AM 19 06</u> | <u>24.5N</u> | <u>55.8W</u> | <u>989mb</u> | <u>60KT</u> W AT 5KT |
| <u>FST 18Z</u> | <u>24.6N</u> | <u>56.7W</u> | | <u>70KT</u> |
| <u>11AM NHC</u> | <u>24.4N</u> | <u>56.3W</u> | <u>984mb</u> | <u>65KT</u> |
| | | | | |
| | | | | |

D. Mission Briefing:

BUTTERFLY PATTERN WITH 240/60, 300/150, 120/300° → FIRST LEG TIMED AND AUGMENTED W/ CIRCLES OVERPASS AT 1900Z, ABOUT WHEN WE SHOULD ARRIVE ON STATION. INITIAL RADAR FOR BUTTERFLY. CONCERN W/ IWRAP & CONVECTIVE BURST PROBABLY IS HIGH WIND / HIGH RAIN PART OF STORM. FIXES / SOUNDS IS EACH CENTER FOR NHC. ONLY AIRCRAFT OUT THERE

Storm or Project AL06/FLORENCE Experiment name EARLY STAGE

Flight ID 2018090941 Mission ID WB06A

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 | ↓ PIP | ↓ PIP | | |
| Data System | | | | |
| GPS sondes | | | | |
| AXBT/AXCP | | | | |
| Ozone instrument | | | | |
| Workstation | | | | |
| Cameras | | | | |

REMARKS:

PIP DOWN, WORKED ON 20180908M/HZ
MASCARD COUNT + GET IT WORKING

Lead Project Scientist Event Log

Date 9/9/18 Flight ID 20180909H1 LPS ZAWISLUK

| Time | Event | Position | Comments |
|-------|---|--------------------|--|
| 1142Z | TAKEOFF | | |
| 1310Z | INBOUND TO IP | 25° 48' / 160° 34' | SOME CONVECTIVE BURST HAS ROTATED FROM THE CTR AND APPEAR TO BE STARTING TO CYCLE OUT OF THE NEW INLET ON THE NORTH SIDE. SO BURSTING SEEMS TO BE HEAVY FIVE DIRECTIONAL. SHOULD ALSO HAVE STRONGER WINDS. WILL SEE WHEN WE GET IN. FIRST PASS 240°/160° CAPING FIX TO TIME AND ALIGN W/ CHGNSS. |
| 1336Z | | 24° 15' / 58° 42' | DESCEND TO 10. HONORANCE BUT ON SE / NE SID. VESS INTENSIVE TOOS TO WISW. |
| 1350Z | IP | 23° 34' / 57° 42' | HIT IP, INBOUND 240° AZ. 060° HEAD AC. SATELLITE CLOUDS UNDERPART THINER FOR 142-1430Z HIGHEST WINDS COULD BE NE QUANT W WIND TRACK INBOUND 060° PAUL CHANGE CLOUD NOT WIND INBOUND |
| 1402Z | MIDPOINT INBOUND MP | 23° 55' / 56° 56' | SOME CONVECTION IN VICINITY ANAL ABOVE, CLEAR OUT TO CTR. SOME TRYING TO CLEAR OUT AN FT. CONVECTION ON THE WAY AROUND THE B-BALL A LITTLE LAST PRECP COVERAGE ON WEST SIDE. MOSTLY JUST ANAL ABOVE LF. |
| 1408 | RMW ON 240° AZ | 24° 9' / 56° 30' | RMW SOUND FOR MESO.3 |
| 1410 | RMW 2 ON 240° AZ | 24° 12' / 56° 24' | RMW SOUND FOR MESO.3 |
| | | | CTR. CLOUDS EXP. UPON WIND |
| 1412 | RMW 3 | 24° 17' / 56° 15' | FLWINDS STILL COMING ON SOME SCUD. ANSWER RMW |
| 1413 | CTR #1 ^{060°} _{OUT} ₆₇₅₀₀₀ | 24° 20' / 56° 9' | CEWER 982MB (EXTRAPOLATED) |
| 1416 | RMW 4 OUTBOUND 060° | | RMW OUTBOUND 060° X-STRONG CONVECTION. CIRCULAR |
| 1425 | MIDPOINT 060° | 24° 44' / 55° 23' | MID ON OUTBOUND 060° MUCH MORE PRECP / SCUD ON THE EAST SIDE QUITE SYMMETRIC WIND AND LOUDS LIKE A HURRICANE. WINDS AND RMW SOUND OUTBOUND C-AREA |
| 1435 | ENDPOINT ON 060° | 25° 3' / 54° 47' | ENDPOINT SOUND CLEAR BELOW |

DROP 1
HRO 1

DROP 2 H
COMB MP

DROP 3 M

DROP 4 M

DROP 5 M

DROP 6 M

DROP 7 M

DROP 8 H
COMB BTZ

DROP 9 H

Lead Project Scientist Event Log

Date 9/9/10 Flight ID Z0180909H1 LPS Zawislak

| Time | Event | Position | Comments |
|--------|---|--------------------------------------|---|
| 1458 | TURNPOINT SUMMIT INBOUND 360° 02' | 25° 50' / 56° 17' | JUST SOME CUMUL OVERHEAD ON DOWNWIND TO NORTH POINT |
| | | CLEAR FROM CUMUL SCATTERED CLOUDS | SCATTERED CLOUDS BELOW WAS VISIBLE |
| | NOW INBOUND, SEEING HEALTHY, W/ W CONVECTION W/ST ON WEST SIDE TRWD TO BEW 19. FULL RENEWAL | | CERTAINLY IR SUGGEST STRONGEST CONVECTION ON EAST SIDE, BUT COULD ROTATE TO NORTH SIDE FOR US TO GET THE EVOLUTION |
| | MIDPOINT INBOUND 360° 02' | | STILL JUST SCATTERED DECS BELOW. CUMUL ABOVE. UTILIZING SW |
| 1509 Z | → | 25° 01' / 56° 17' | PRETTY STRONG ON THE NORTH SIDE BANDING OUTSIDE OF PART ASYMMETRIC |
| | REALLY HEALTHY CONVECTION | | |
| 1521 Z | 982 CTR 2 DROD 12 AFTER EXIT P 987 SOME 1/4 K | 24° 19' / 56° 22' | A LOT OF CUMUL AT 8 KM NOW. EYE IS ALMOST CLOSED NOW |
| | REALLY HEALTHY CONVECTION ON SOUTHERN RENEWAL | | NOW CONVECTION HAS ROTATED AROUND TO THE W/SIDE AND MORE OPEN IN REPEATED TO EAST CTR OF FL CULD BE SOUTH W/ AGAINST |
| | NOT MUCH ECHO TOPS ABOVE 10 KM THOUGH CUMUL WAS SHALLOW A LOT OF STRATIFORM | | OUTBOUND REALLY FLOWING IN INTERACT IN SOUTH QUADRANTS |
| 1533 | MIDPOINT OUTBOUND 180° | 23° 32' / 56° 23' | SOME STRATIFORM PRECIP ANUL TYPE SCATTERED CLOUDS BELOW |
| 1536 | PAST MIDPOINT DECENT CONVECTION | 23° 20' / 56° 23' | WENT THROUGH A DECENT CELL |
| 1539 | DEVIATION 153° | | |
| 1544 | ENDPOINT TO SOUTH | 22° 51' / 56° 15' | NOW TURNING DOWNWIND TO SE POINT |
| | MUCH WEAKER WINDS ON THIS SOUTH SIDE - 30 K RATHER THAN 50 | | SOME MORE CUMUL TO CLOUD OUT HERE. STILL CUMUL ABOVE. CAN SEE THE SPEC THOUGH |
| | | | DOWNWIND LEG INTENTION FOR AUGURANCE. COMING OUT SOME, THEN |
| 1558 | ON DOWNWIND LEG, DEVIATION FOR WX | 23° 18' / 55° 21' | COME BACK IN. PRETTY ACTIVE THAN WE HAD BEFORE IS THE STRAT |
| 1606 | | 23° 31' / 55° 21' | NICE RAINBOW OFF TO OUR WEST. AT SOME POINT WE HAVE TO GO IN, TRYING TO GET AROUND IT. |
| | | | GOING TO DROP A SONDE ON EITHER SIDE OF THE BAND |
| 1611 | | 23° 57' / 55° 51' | THAT W/ICE RAIN THROUGH OUR LEFT INBOUND 275° |
| | | | PAINTING OUR BAND TO OUR WEST TOWNS TO 10 KM |
| | PAINTING AN OUTER BAND W/ TOR | | DECENT DRZ ESSENTIALLY PAINTING AN OUTER BAND |
| | WILL TRY TO DROP SONDE ON EITHER SIDE. IS IT DURABLE OR JUST A STRONG BAND? | | REALLY DEEP CONVECTION IN BAND |

1617 ON EAST SIDE OF RAIN BAND 24° 17' / 55° 17'
1621 ON WEST SIDE OF RAIN BAND 24° 12' / 55° 32'

> RAINBOW SIZES
SAW MOSTLY STRATIFORM.

DROP 10 H

DROP 11
HP
COMB AT

DROPTION
CONTINUED

DROP 12A

DROP BAND

DROP 13
COMB BY

DROP 14

DROP 15 H
9

DROP 16 H
10

Lead Project Scientist Event Log

Date 9/2/18 Flight ID 20180909H1 LPS ZAWISLAK

| Time | Event | Position | Comments |
|------|---|--|---|
| 1623 | | | TURNING 280° TO GET IN |
| 1628 | Get THROUGH BAN HEADING 284 TOWARD EZR NEVER GOT TO | 24° 14' / 56° 21' | WENT THROUGH BAN BAND AND HEADING TOWARD CENTER CONNECTED US TO SD1 |
| 1636 | EXITED CTR 3 984 240/54 981ms OPEN TO NW BUT A HOLE IN MMR TO SW CAUSED SOME DECENT TURBULENCE PRESSURE JUST WENT LOWER. SEEMS LOT OF CLOUDS SEEN CONNECTION. | 24° 23' / 56° 29' | REALLY INTENSE CONNECTION TO SOUND NOW. NOT INTENSE SEEN ON MMR. AVOIDING A LITTLE HOLE BUT ITS FOR LOW CLIMB. CAN SEE THAT TOWER IN THE IR. |
| 1647 | MIDPOINT OUTBOUND ON 300 | 24° 48' / 57° 12' | MIDPOINT SOUND CLOUD DECH BELOW. SOME DECENT CONNECTION AROUND. |
| 1658 | ENDPOINT OUTBOUND 300 | 25° 9' / 57° 50' | LAST SOUND OF BURST/AN PATTERN NOW GOING TO HEAD INBOUND ON SOME AZIMUTH TOWARD CTR GOING INBOUND, WILL GET ANOTHER LOOK AT THAT FINCH → STATEM OR CONNECTION IN THAT RIGHT NOW |
| 1700 | NEW CONNECTION BURST DEVELOPING ON SOUTHWEST SIDE OF CIRCUM → BETTER, MORE DEFINED FIREBALL. | | |
| 1721 | RMW COMBO 270° AZI 986ms CTR 4 NO PAY | 24° 23' / 56° 42' 24° 26' / 56° 43' | RMW INTO EYE TWO BURSTS? TURNED OUTBOUND TO 250° OR 20° THAT CONNECTION FINCH IS NOW MORE ON THE SOUTH OF THE FIREBALL |
| 1733 | | 24° 18' / 57° 21' | PAVE DOESN'T LIKE THE WINDS TO WEST TO DO CIRCLES WANT TO DO ORIGINAL 300 FOR MMR LFG FY CIR, G OUT 300 DO RMW THEN CIRCLES → KIND OF A BURST MODULE MARE. IN 270°, OUT 250°, BACK 10 250° - NO SOUNDS |
| 1738 | 980ms 6W CTR 5 Going out 300° TO HIT PEAK WIND | 24° 23' / 56° 36' | STRONGEST CONN. SINCE SOUND STRUM 4 BEST CONNECTION ON SOUTH SIDE. |
| 1743 | RMW | 24° 32' / 56° 32' | RMW COMBO OUTSIDE 300° FOR CHANGE WAIT A FEW FOR CIRCLES |
| 1749 | BT/DROP COMBO STARTS CIRCLES | 24° 40' / 57° 17' | COMBO AT START OF CIRCLES BACKUP DUE TO FAST FALL. |
| 1752 | CIRCLED | 24° 37' / 57° 21' | NEW SOUND 3 CIRCLES 30° 5 CIRCLES AT 45° LEFT HAND TURNS |

PLEASE SFMR
SO FAR 1 72 KT
FL 76 KT

MEDS POINT
2 BTS LEFT
SO GO BACK IN.
FIX CIR COME OUT
FORWARD 500K
DO CIRCLES
TRY ONE MORE
IF THERE
DROP 1 BT RMW
SAVE ONE FOR
CIRCLES.

CHANGE GO INBOUND
270° TRAVEL FIX CIR
GO OUT 300° RMW
OUT CIRCLES
1 SOUND (BT, BT)
COMBO

GET THE PRE-R1
PULF PRESSURE

OUT 8 BT
GOOD.

AS WE'RE LEAVING THE STORM
DEFINITE HEAVY NEW BURST
ON SOUTH SIDE.

DROP 1
DROPS
COMBO BT
DROPS
DROPS 20
COMBO BT
DROPS 21
DROPS 22
COMBO BT
DROPS 2
COMBO BT
DROPS 2
HRO

Mission Summary

Storm name

YYMMDDA# Aircraft 42RF

20180909H1

Scientific Crew (4RF)

Lead Project Scientist ZAWISLAK

Radar Scientist REASOR

Cloud Physics Scientist _____

Dropwindsonde Scientist HOLBACH

Boundary-Layer Scientist _____

Workstation Scientist _____

Observers (affiliation) _____

WRAP: CHANG
ZELENAR
SAPP

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

BUTTERFLY PATTERN, WITH 240/60, 360/180, 120/300. TIMES AND
ALLOWED FOR 14Z OVERPASS FROM CLASS TOP LEG) FINDER OF
CONNECTIVE BURST / WRAP IN HIGH WIND / RAIN

STORM COULD BE TODAY. CONNECTIVE IN EYEWALL TRYING TO BECOME MORE
SYMMETRIC. BURST CIRCULING IN CENTER. SURE LOW SET GOOD, BUT AIR THE ONLY POSSIBILITY
OF KEEPING THIS THING FROM RL

Mission Synopsis: (include plot of actual flight track)

DEFINITE MORE SYMMETRIC CONNECTIVE

GET OFF THE DEER EARLY TO GET TO IF ANY ON TRACK FOR OVERPASS. CIA THE OR
FLEW THE BUTTERFLY → IN 240° / OUT 60° DOWNWARD TO 360° (180° → DID THAT WAY,
PRETTY STRAIGHT. THEN PERFORMED A RAINBOW OVER (DIURNAL PULSE?) TO S → E. HAD TO
GO UP TO NORTH OF ORIGINAL AZIMUTH OF 120° (GOT TO ~270°) TO DO THAT LAST WRAP. US
OUTBOUND WAS FIVE AT 300°, THEN WENT TO NESTLE SCIENCE CAMP IN 300° (WENT OUT 270°
TO AND W. WENT OUT 250°, NOT GOOD WIND), WENT AT 250°, FWD CTR, OUT 300°, FWD,
THEN CIRCLED

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

SEEMS LIKE WE SAMPLED JUST AS RI BEGAN. INITIALLY DIDN'T SEE THE PRESSURE FALL.
BUT SAW PLENTY OF CONVECTION CIRCULING AROUND THE EYEWALL, THEN THE PRESSURE
STARTED TO DECREASE IN OUR LAST COUPLE OF LEGS 984 AND 3rd PASS CTR, THEN 988 300E
5th CTR. EXTRAPOLATED. SO STORM IS DEFINITELY INTENSIFYING. GOT FAIRLY GOOD COVERAGE BUT
A LITTLE LESS THAN IDEAL WE MISSING THAT SE 120° AZIMUTH. DID GET KIND OF A CONNECTIVE
BURST MURKIN ON WEST SIDE AT END. GOT 300 (END OF BUTTERFLY), W 270° OUT 250°, IN 250°
OUT 300°. RAW 2 300E
RT

Problems: (list all problems)

PIP NOT WORKING, ALTHOUGH IT DID YESTERDAY. SO NO DATA COLLECTION AREA THAT

Get circled
NO
3 30 / 5 45'
PIP DOWN
OUTREACH GEAR
C-RAND DOWN
UTHERLICK
INSTRUMENTS
GONE

Expendables used in mission.

GPS sondes: 24 (1 fast fall)

AXBTs: 8 (6 good)

Sonobuoys: 8 (6 good)

↓
6 NWS
4 NWS
14 HRD

6 RAW SONDES (NWS)
4 CENTER SONDES (NWS)
14 PATTERN SONDES (HRD)
(INCLUDE 1 FA CIRCLES
AND ADDITIONAL 1 FOR 2 ON
ONE SIDE AND OTHER OF
CUTEL RAINBAND
5 MIDPOINT BTs
1 CIRCLES BT
2 RAW BTs