

Lead Project Scientist

Storm or Project IRMA Experiment type TDR

Flight ID 20170905H2 Mission ID 1011A

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 IRMA Experiment name TOR

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A. Participants:

HRD		AOC	
Function	Participant	Function	Participant
Lead Project Scientist	<u>ZAWISLAK</u>	Flight Director	
Radar/Workstation	<u>ZHANG</u>	Pilots	
		Navigator	
Cloud Physics		Systems Engineer	
		Data Technician	
Dropwindsonde	<u>ZAWISLAK</u>	Electronics Technician	
AXBT/AXCP		Other	
Photographer/Observer			
s/Guests			

B. Take-off and Landing Times and Locations:

Take-Off: 2034 UTC Location: BFB (BARBADOS)

Landing: 0247 UTC Location: BFB (BARBADOS)

Number of Eye Penetrations: 4

SHIPS SHEAR 5/12Z: 351°/12 KT
 MOTION: 270°/12 KT
 THOUGH COULD BE MOVING
 SOMEWHAT NW/W

C. Past and Forecast Storm Locations:

Date/Time	Latitude	Longitude	MSLP	Maximum Wind
^{NHC} TEAL 1638Z	16.9 16.88 N	59.1 58.88 W	926mb	160 (6190)

D. Mission Briefing:

N42 WILL FLY A ROTATED PC-4 THROUGH IRMA AT 10KFT PA (ALTITUDE MAY VARY DUE TO DECOMPLICATION W/ TEAL). 103000 LEGS. B ORBIT AT ENDPOINT, 4 IN CENTER. 2 MAX WIND SUMMS, LIKELY ON THE FIRST PASS. (DO AS MANY AS 14 ORDS)
 NO AXBT W/UNDER ONSTATION CLOSE TO Z/L. DUE TO LAND, WE MAY HAVE TO CUT THE LAST LEG SHORT OR TAKE A DIFFERENT ABORT.

CURRENTLY A CATS W/ 1600 SURFACES, 926mb. STORM HAS EVAPORATED (R/L NEW SINCE YESTERDAY'S SIGNIFICANT RAINFALL, NICE COOL, CLEAR RTF, POSSIBLE NEAR PACT)

Storm or Project 12M2 Experiment name TDR

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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:

SFMR UP
ASPEN UP / WMM UP
LF UP

Lead Project Scientist Event Log

Date 9/5/17 Flight ID 20170905H2 LPS ZAWISLAK

Time	Event	Position	Comments
2034	T/O		
2052	ENROUTE TO IP	14° 27' / 58° 56'	TOP IS ON, GET GROUND BRAIN IN BOTH TMS AND VELOCITY SENSE IS UP. ANVIL, G-DRN IS UP. PRETTY DEEP CONVECTION IN THESE CLATE BANDS EYE IS REMAINING ACCOMMODATING PAUL DUNNE REQUEST TO ROTATE PATHEON BUT ONLY ROTATING PT 3 → 4 AT 10° CLOCKWISE, SO NOW OSS
2108Z	IP (SONDE)	15° 32' / 58° 25'	LOTS OF CLOUD BANDING OUTER. 100km DIA CTR
2127Z	INBOUND CTR		100km R. CTR 20 NM
2135Z	MAX WIND IN ³¹⁵		
2138Z	CTR #1	17° 4' / 59° 54'	CTR #1
2142Z	MAX WIND OUT		
2203Z	WP #2		
			FOR THE MAX WIND OUTBOUND: BELOW 300: 326/62, DEEP LAYER MAX WIND 6°/72ms
2220Z	DOWN TO SURF WP #3		ON DOWNWARD TO WP #3
2226Z	WP #3	16° 34' / 61° 9'	TURNING INBOUND
2245Z	CTR #2	17° 7' / 60° 8'	BEAUTIFUL CONC. EYEWALL
2248Z			MAX WIND 510 OUT
2313Z	WP #4	18° 8' / 58° 57'	TURNING DOWNWARD TO 000°
			SO THE OUTBOUND OSS SENSE WAS IN CHANGE NEARS SURFACE IN MAX WIND. WE ASSUMED THAT 2ND PART FOR CLOUD FOR CLOUDS - ROTATED 10° CLOCKWISE

SONDE 1
SONDE 2
SONDE 3
SONDE 4
SONDE 5
SONDE 6
SONDE 7
SONDE 8
SONDE 9

→ NOTE ON PASS 2

SO WE HAD TO SHOWEN THAT INBOUND ON @ 275° TO ALSO AWISLAND.

WE'LL TRY TO GET OUR FINAL PASS TO THE WEST, BUT WE'LL SEE

Lead Project Scientist Event Log

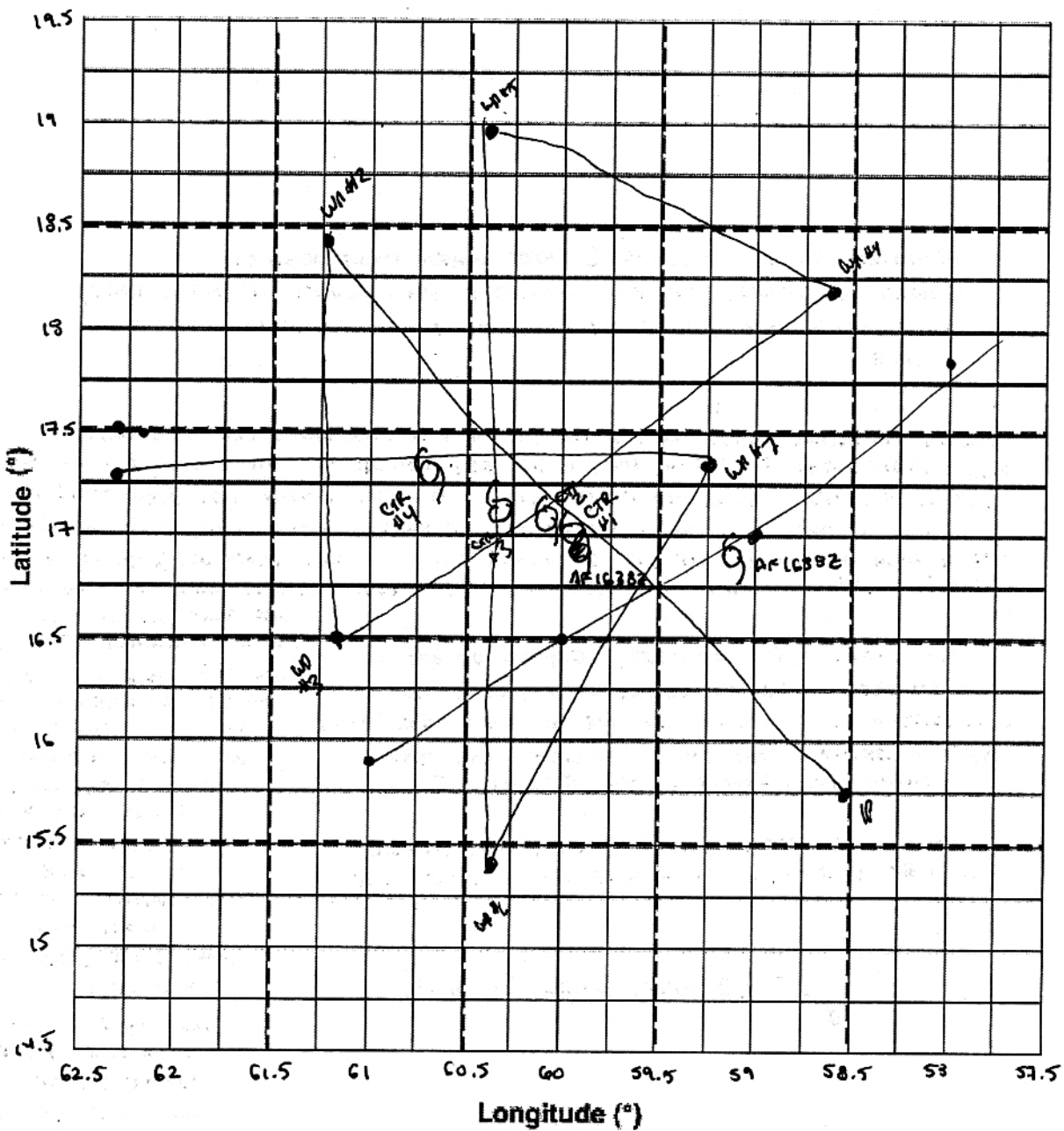
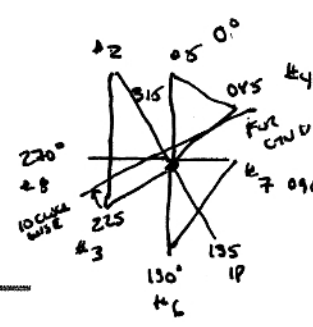
Date _____ Flight ID _____ LPS _____

Time	Event	Position	Comments
2331Z	ENROUTE WP #5	18°47' / 60°01'	SO REAL 1FMA ON 1ST PASS NW EYEWALL, 79MB 158KT LESS ON THE 2ND PASS 915MB EXTRAP, 916MB LOWEST SONDE 82KT FL PEAK ON 2ND PASS TO NE EYEWALL. 2ND PASS DEFINITELY WEAKER WINDS.
2335Z	WP #5 / SOME	19°50' / 60°26'	TURNING DOWNWARD TO 000°
2351Z	INBOUND FROM NORTH		NICE CONCENTRIC EYEWALL DOUBLE DBZ MAX PRETTY INTENSE ON NORTH SIDE
0003Z	CTR #3 / SONDE	17°12' / 60°23'	
	OUTBOUND TO WP #6		ON 180° SOUTH TO WP #6 SO FAR ANALYSIS LOOKS GOOD, THE GOOD 1FMA PEAK 160KT ON FIRST PASS, 917MB REMAINS LOWEST WPA 150, FL PEAK 170KT ON NORTH SIDE, ONE SONDE HAD 196KT AT 915MB MUST BE A GUT (MAX WIND THROUGH, NOT CENTER)
	SAW SOME LIGHTNING IN THAT LAST PASS IN EYE.		
0001Z	WP #6 / SOME	15°24' / 60°19'	DOWNWARD TO WP #7
	DOWNWARD TO WP #7		RAILIN CIRCULAR CLOUD RINGS OUT HERE
			LIGHTNING PRODUCING CONVECTION NEAR WP #7 → WILL MAKE NEXT INBOUND STRONGER
0100Z	WP #7 / SOME	17°21' / 59°17'	TWO INBOUND ~ 200MB LEG. WILL HAVE TO DO OUR BEST ON THE OUTBOUND → CONTEND W/ ISLANDS.
0121Z	CTR #4	17°21' / 60°43'	WON'T GET IN NEARBY EYEWALL NOT AS CONCENTRIC THIS TIME FEEL MORE CONNECTED
0140Z	OUTBOUND TO WP #8		BUT BURIED PRETTY GOOD IN WEST EYEWALL. MAX → SEV. WILL MAKE IT ALL THE WAY TO 105MB
0143Z	WP #8 / SOME	17°19' / 62°20'	TURNING HOME

SO THE LAST PASS HAD 158 KT FL
ON EAST SIDE, ~142 KT ON WEST
144 KT SFC WIND, MORE SYMMETRIC
EXTRAP 914, 9mb

Observer's Flight Track Worksheet

Date _____ Flight _____ Observer _____



- RHW DROP
DACCUMARK
C16W35.
- 135° / 105
 - 315° / 105
 - 225° / 105
 - 045° / 105
 - 000° / 105
 - 180° / 105
 - 090° / 105
 - 270° / 105

Mission Summary

Storm name

YYMMDDA# Aircraft 42RF

Scientific Crew (4 RF)

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

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

ROTATED FIG. 4 AT 10KFT (LOWER WHEN HEAT ARRIVES)
SONDE AT TURNS, CENTER, POSSIBLE RMW SONDE (TO NHC/NEEDS)
ALIGN WP 43 → 4 PASS TO BE PARALLEL TO (CINR) TRACK, DROP A
SONDE.

Mission Synopsis: (include plot of actual flight track)

PRETTY CONSISTENT WINDS W/ THE NORTHERN EREWALL BEING THE STRONGEST.
HAD 160KTS FMR TO THE W NW/N POSSES. LOWER SFC ON SOUTH, BUT STILL
120K. FL PERC 170KT TO WIND EREWALL AT WELL PMSLP HAS BEEN ~913mb ON
EACH PASS W/ DRW ~916mb. CONCENTRIC EREWALLS - ONE INNER/ OUTER IN DBZ, BUT
NOT AS MUCH IN WIND? WE DID A CIRCULAR ALLWELL PASS FROM WP 3 TO WP 4 BY
ROTATING 10° CLOCKWISE TO 285° → 055°. SO THAT LEG JUST LEFT OF CINR TRACK.

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

WE ALSO DID A (MAY WIND DRIP
IN NE EREWALL FOR PAUL CHANG.
WE DID MAX WIND SONDES
ON SE/NW EREWALL ON 1st PASS.
GOT GOOD WINDS. NW EREWALL
DRON RM THERMO.
CONCENTRIC EREWALLS BUT WERE
NOT AS CLEAR ON WP PASS.
BUT PRETTY GOOD TURBULENCE
ON WEST SIDE. ENDED
UP GETTING OUT 105km
ON WEST EVEN THOUGH IT
MAY HAVE BEEN AN ISSUE
EARLIER.
THE LAST PASS 144 WT DFC.
BOTH SIDES OF EREWALL,
150 KT FL ON EAST SIDE FROM
WEST WAS 140 KT OR SO.
SO BELOW THE DRW W/ DRP
FID OF 920mb. WERE GOT
DOW TO 914mb
916 IN SONDES.
POME WINDS DON'T SEEM
TO INCREASE AT SFC.

GOT GOOD TOR ANALYSIS. GOT ALL ORONS
TRANSMITTER (ONE RMW DRON ON NW SIDE WAS
BRO TUEZMO AND WINDS), BUT WE GOT WHAT WE COUD)
TOR WAS BETTER. GOT CINR'S ALLWELL PASS AFTER.

Problems: (list all problems)

ONLY ONE WPM SONDE AND THAT WAS DROPPED
IN NE EREWALL. OTHERWISE NO SCIENCE ISSUES

Expendables used in mission:

GPS sondes: 15 (8 HFIP, 6 NHC, 1 NEEDS)

AXBTs: 0

Sonobuoys: _____