

Lead Project Scientist

Storm or Project FRANKLIN Experiment type TOR

Flight ID 70009H1 Mission ID 0207A

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 FRANKLIN Experiment name TDR

Flight ID 290803H4 Mission ID 0207A

A. Participants:

HRD		AOC	
Function	Participant	Function	Participant
Lead Project Scientist	<u>ZAWISLAK</u>	Flight Director	<u>BELSON / PARRISH</u>
Radar/Workstation	<u>ZHANG</u>	Pilots	<u>PRICE MITCHELL / RUCKFORD</u>
		Navigator	<u>GALLAGHER / URATO</u>
Cloud Physics		Systems Engineer	<u>HEYSTEL / SOUZA</u>
		Data Technician	<u>MASCARO</u>
Dropwindsonde	<u>SELWOOD</u>	Electronics Technician	
AXBT/AXCP		Other	<u>McALISTER (NAPS)</u>
Photographer/Observer			
s/Guests			

B. Take-off and Landing Times and Locations:

Take-Off: 2200 UTC Location: KLAL

Landing: 0437 UTC Location: KLAL

Number of Eye Penetrations: 0

SHIPS VWSH (8/18Z): 35C/8KT

C. Past and Forecast Storm Locations:

MOTION: 290 / 12ms (10KT)

Date/Time	Latitude	Longitude	MSLP	Maximum Wind
8/18Z (NHC)	20.0N	89.9W	1002mb	35 KT
8/21Z (NHC)	20.2N	90.3W	1001mb	35 KT
8/230Z (AF)	20°10'	90°42'		
8/000Z (AF)	20°4'	90°49'		

D. Mission Briefing:

EMC-TASKED TDR MISSION INTO TROPICAL STORM FRANKLIN, EMERGING OFF THE YUCATAN PENINSULA. CHANCE OF RI. BUTTERFLY PATTERN, TRUNCATED ON EAST SIDE NE TO LAND. 10KFB. DROP AT END POINT, BTs AT EACH POINT. THE WP#2 WILL BE TOUGH. MAY ROTATE OUTBOUND TO GET A LONGER LEG OUTBOUND FROM CTR TO PT #2. THEN DOWNWIND TO WP#3 EAST OF CTR. TRY TO GET LONG ENOUGH INBOUND TO ENTER WHILE COME TO PT #4. STRAIGHT LEGS.

MAY HAVE TO DROP/BT OF WP#3 SOONER ON LEG TO GET DEEPER WATER.

Storm or Project FRANKLIN Experiment name TOR

Flight ID 17080841 Mission ID 0207A

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	↑	7 DROPS		
AXBT/AXCP	↑	2 OF 4 BTs DROPT AS WELL		
Ozone instrument	N/A	FIRST DATA BT ~ 1500 SECOND NONE THIRD/FOURTH GOOD		
Workstation	↑			
Cameras	N/OSE/DOWN/DROPT			

REMARKS:

PCAS

Lead Project Scientist Event Log

Date 8/8/17 Flight ID 170808H1 LPS ZAWISLAK

Time	Event	Position	Comments
2200Z		KLAL	T/O
2230Z		27°3' / 84°8'	CENTER IS OFF COAST NOW. SOME DEEP CONVECTION NEAR CTR. A LOT OF ARC CLOUDS TO NORTH & DR. AIR
2331Z		23°57' / 89°22'	CAN'T GET TO WP#5 BEC OF RESTRICTED AIRSPACE. SO WERE GING TO ROTATE WP#4 OUTBOUND 15° CIRCUMFER AND MOVE WP#5 TO NORTH OUT OF RESTRICTED AIRSPACE TO GET A STRAIGHT INBOUND. THAT'LL GIVE US MORE REAL SEPARATION. JUST TOO MUCH RESTRICTED AIRSPACE TO GET SW OF THE STORM CENTER
0003Z	21°46' 91°12'	IP (DROP/BT)	CHECKING ABOUT ENTERING THE RESTRICTED AIRSPACE
	21.81N / 91.22W	INBOUND TO CTR	SOUND/BT AWAY - INBOUND 130°
	100m / 168°	INBOUND CTR	SHOULD CONGESTION / HIGH ANVIL ABOVE
0009Z	20°04' / 90°49'	AF FIX	
0028Z	20°8' / 90°51'	CENTER DROP AWAY	DECENT RAINBOW SOUTH
			BT AT WP#1 DIDN'T GET DATA UNTIL 130 FT 1750
		OUTBOUND TO WP#2	
	19°33' / 91°9'	OUTBOUND WP#2	GOING THROUGH "STRONGEST" RAINBOW, BUT 20dBZ TO 10-11 KM.
0046Z	19°4' / 91°21'	WP#2 (DROP/BT)	BT NOT REALLY GETTING PAID
0102Z	19°59' / 90°37'	WP#3 (DROP/BT)	INBOUND TO CENTER 320° RAIN
0108Z	20°18' / 90°54'	CENTER (DROP)	DECENT ECHO TO 12-14 KM ON SR EYEWALL
	20.3 / 90.9		NOW OUTBOUND ON 320°
0122Z			NOR MUCH ON NW SIDE OF THE STORM (PRESUMABLY UP SHEAR)
0130Z	21°35' / 92°10'	WP#4 (DROP/BT)	TURNING DOWNWIND FOR WP#5 → W → E 100°
0137Z	21° / 92°21'	DOWNWIND TO WP#5	SOME MICE CONVECTIVE RAINING TO THE WEST OF STORM, FAR FROM CENTER, INNER BAND IS WRAPPING OUT TO OSL DECENT HEIGHTS IN IT.

2

CHEC

170 / 9T BT
130P
350
395

AF 995mb

ENDING UP ON ORIGINAL TRACK

DROP WP #1 (LP)
IN CLEAR AT FL / CONGESTION BELOW

DROP CENTER /
↓
REMOVE HEIGHTS NO SEC P, BUT WITH

DROP/BT WP #2

NO-DROP

DROP CENTER

DROP/BT

DROP/BT

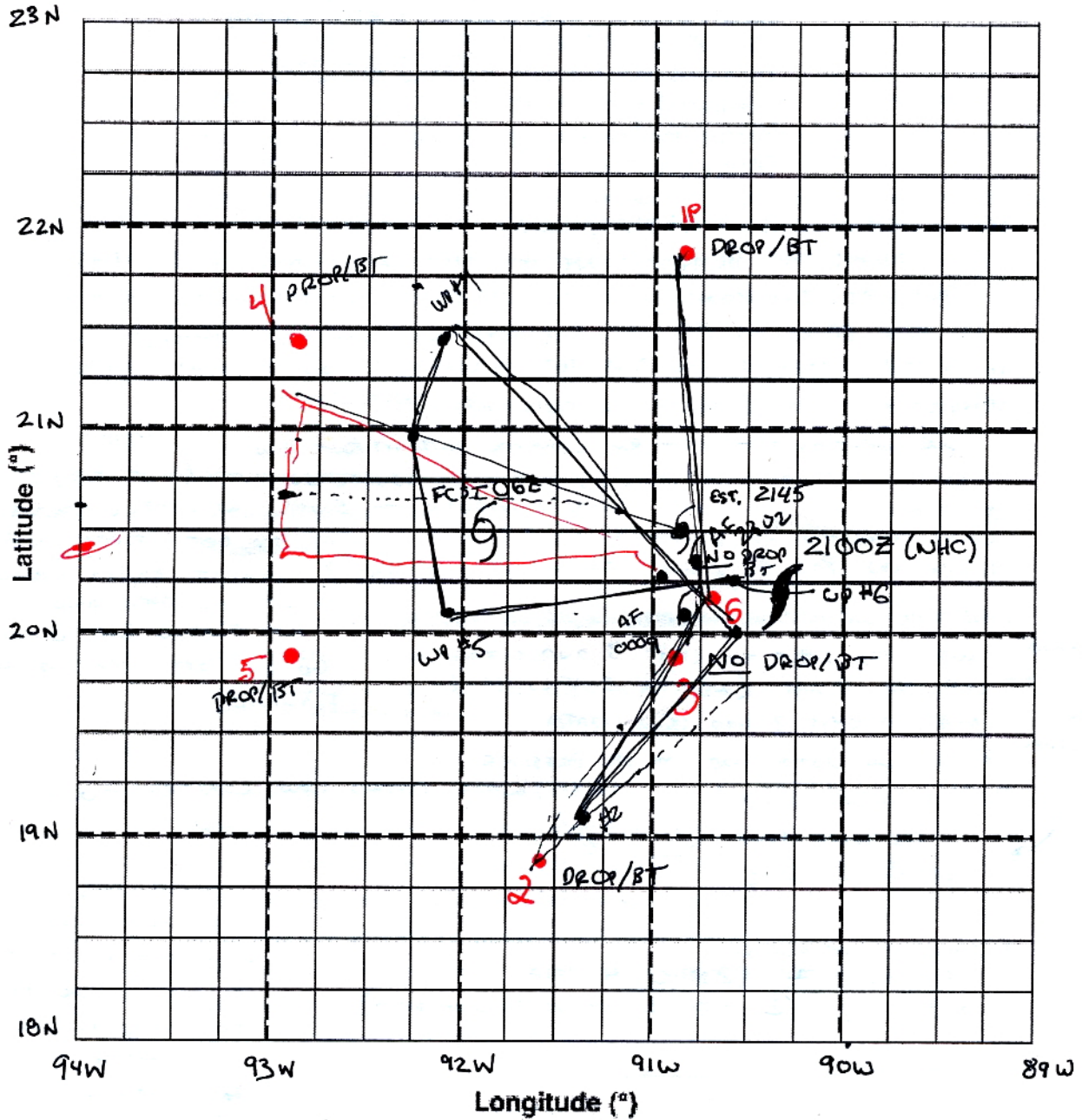
10.10.16.22 CAMERA
10.10.16.68 PowerMap

Observer's Flight Track Worksheet

Date 8/8/17 Flight 170808H1 Observer ZAWISLAC

20°38'
93

20



290

Mission Summary

Storm name

YYMMDDA# Aircraft 42RF

Scientific Crew (4 RF)

Lead Project Scientist JON ZAWISIAK
Radar Scientist JUN ZHANG (CREATOR GROUND)
Cloud Physics Scientist _____
Dropwindsonde Scientist KATHRYN SELLWOOD
Boundary-Layer Scientist _____
Workstation Scientist _____
Observers (affiliation) _____

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

TRUNCATED BUTTERFLY DUE TO YUXTAN PENINSULA. AS N→S, SE→NW, W→E
DROPS AT TURN POINTS, CENTER. AXBTs PAIRED AT DROPS, HOWEVER
NO ~~GOOD~~ DROPS OR BTs AT #3 AND #6 (CLOSE TO COAST), AND NO BTs
IN CENTER. STRAIGHT LEGS → GET THROUGH CENTER, FIX ON PASS #1. 10KFE.

Mission Synopsis: (include plot of actual flight track)

WE WERE ABLE TO GET ~~THE~~ COMPLETE INBOUND OUT BLW
WP#1 /CTR/ #2. GOOD ANALYSIS. NOT MUCH CONVECTION NORTH (UPSTREAM) OF CENTER,
MUCH MIDDLE LEVEL CONVECTION. BETTER CONVECTION TO SOUTH. W/ SOME CLEARANCE WE
WERE ABLE TO GO DOWNWIND TO #3 AND GO 320' TO GET CENTER. WE DID
A FIX ON PASS #1 AND CPA ON PASSES 2 AND 3. DESPITE EARLY CONCERN OVER

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

PAUL REQUESTING
LOTS OF MISSING
DATA BELOW
THE FLIGHT LEVEL
IN 3D
ANALYSES

WE WERE ABLE TO GET 3 ANALYSES
OFF THE PLANE. (W/ SOME DIFFICULTIES)

AXBTs → ONLY 2 HAD GOOD DATA

7 DROPS → SOME HAD GOOD SFC. PRESSURE

Problems: (list all problems)

(~989) WHICH SEEMED LOW COMPARED TO AFRIC FIXES
(~995mb)

SEE SOME ISSUE

SEE ANALYSIS ISSUE

A WARNING AREA AROUND #5
WE FINALLY GOT CLEARANCE TO
GO IN AND COMPLETE LEGS AS
PLANNED.

Expendables used in mission:

GPS sondes: 7 (3 NHC, 4 HFIP)

AXBTs: 4 (2 GOOD, 1 SOME DATA, 1 NO DATA)

Sonobuoys: _____

AS WE LEFT, DEEP CONVECTION
WRAPPING AROUND USL → NOT
MUCH PRECIP OUTSIDE OF THERE
TO NORTH (UPSTREAM LEFT) UNTIL
BUT TO WEST (USE) →
CONVECTIVE BANDING.
CERTAINLY LOOKS PRIMED
TO INTENSIFY.