

Lead Project Scientist

Storm or Project T09 (AL09) Experiment name NHC Fix
Flight ID Z0160829 I2 Mission ID NOAA3 ~~0709A~~ CYCLONE
Preflight 0709A

- ___ 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 MGOC in Miami.
- ___ 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 MGOC.
- ___ 7. Determine next mission status, if any, and brief crews as necessary.
- ___ 8. Notify MGOC 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 TD9 (AL09) Experiment name NHC FIX

Flight ID 20160829 I 2 Mission ID NOAA3 ~~0709A~~ CYCLONE 0709A

A. Participants:

HRD		AOC	
Function	Participant	Function	Participant
Lead Project Scientist	<u>ZAWISLAK</u>	Flight Director	<u>SEARS / WILLIAMS</u>
Radar/Workstation	<u>ANNANE / NGUYEN</u>	Pilots	<u>KERNS / ABITBOL</u>
		Navigator	<u>GALLAGHER</u>
Cloud Physics		Systems Engineer	<u>LYNCH</u>
		Data Technician	<u>MASCARO</u>
Dropwindsonde	<u>ZAWISLAK / NGUYEN</u>	Electronics Technician	
AXBT/AXCP		Other	
Photographer/Observer			
s/Guests			

B. Take-off and Landing Times and Locations:

Take-Off: 1655 UTC Location: MAC DILL

Landing: 0049 UTC Location: MAC DILL

Number of Eye Penetrations: _____

C. Past and Forecast Storm Locations:

Date/Time	Latitude	Longitude	MSLP	Maximum Wind
<u>FCST 29/1800</u>	<u>23.7 N</u>	<u>84.7 W</u>		<u>34</u> ^{FROM} _{LAST FIX}
<u>FIX 29 /1843</u>	<u>23.8 N</u>	<u>84.5 W</u>	<u>1007</u>	<u>22 kt inbound</u>
<u>FX 29 /1946</u>	<u>23.9 N</u>	<u>84.55 W</u>	<u>1007</u>	<u>37 kt FL, 31 kt</u>
<u>N 29 /2344</u>	<u>23.95 N</u>	<u>85.13 W</u>		

ATT/O 29/1500 23.6 N 84.3 W 1007 mb 30 KT WEST / 6 MOVING: 285 17

D. Mission Briefing:

NHC TASKING : ALPHA PATTERN FOR 192 FIX. NW → SE THEN NE-SW AT 2500 THEN IF WE GET RELEASED, WE'LL CLIMB 10KFT RSTATE FIG. 4. PD FROM S → N THEN OVER FOR WEST TO EAST. THEN TIME PERMITTING, UP TO HIGH ALTITUDE FOR LAWNMOWER. NEED TO WATCH LANDING TIME.

EXPECTING TO UPGRADE TO A TS TODAY

SHEAR IS 14 KT FROM 328°

BACK BY 2030 EST
10 AM FOR NOON T/O
FOR TOMORROW

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0709A

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:

Lead Project Scientist Event Log

Date 8/29/16 Flight ID 20160829I2 LPS ZAWISLAK

Time	Event	Position	Comments
1655 Z	T/O		CONVECTION DOES APPEAR TO BE NEAR OVER THE CENTER. STILL NOT ALIGNED. AS MOST TO THE SE DUE TO NORTHWESTERLY SHEAR
			ALOT OF THE FIG 4 WILL BE IN CLEAR AIR
1806 Z	FIG 4 - NW FOR SE CENTER	24° 55' N / 86° 5' W	NW, IP FOR NW TO SE LEG, FIX
1832 Z			MANEUVERING FOR CENTER
1842 Z	MANEUVERED NORTH OF CENTER	23° 47' N / 84° 34' W	APPARENTLY JUST NORTH OF THE CENTER AT FL
1843 Z	FIX VOM	23° 47' / 84° 29'	CTR PEAK 22 KTS IN
1859 Z	PT 2 TO GROUND TO PT 3 FOR WEST LEG DOWNWIND LEG	23° 17' / 83° 40'	PT 2, SAW SOME CONVECTION UP TO ~8 KM LOTS OF STRATIFORM ANVIL, PRETTY THICK THOUGH
1924 Z	PT 3 TO GO INBOUND NE TO SW	24° 58' / 83° 30'	ON THE DOWNWIND, MOSTLY SHALLOW CONVECTIONS
1936 Z	TOWARD S CENTER SW	24° 19' / 84° 17'	SHALLOW CONVECTION MUL LEFT OF SHEAR, HIGH ANVIL PEAK WINDS 35 KTS @ FL GOT PRETTY CHOPPY NORTH OF THE CENTER ~40 KT
1948 Z	REACHED CENTER, WILL GET A VOM	CTR 23° 45' / 84° 44'	LOTS OF CLOUDINESS IN CENTER
1946 Z	CTR FIX VOM	23° 54' / 84° 33'	
2029 Z			ON OUR WAY TO OUR FINAL WP FOR S-W LEG
2036 Z	PT SOUTH PROP 1	22° 30' / 84° 50'	TURNING NORTH FOR CENTER, AT 10 KFT
2054 Z	CENTER DROP DROP 2	23° 48' / 84° 45'	NORTHWARD
2119 Z	TURN FOR DOWNWIND TO SW DROP 4	25° 31' / 84° 50'	DOWNWIND DROP
	DROP 3 WAS 2107	AS MP ON NORTHWARD LEG	
2149 Z	DROP 5 AS TURN TO EAST	23° 28' / 86° 51'	LEG 2 BEGINNING WEST TO EAST
2203 Z	DROP 6 AS MP OF WEST-EAST		LEG 2 INBOUND MP NO PRECIP LOTS OF SHALLOW CONVECTION
2230 Z	DROP 7	23.9 / 83.16	AT MP OUTBOUND ON WEST TO EAST
2241 Z	DROP 8	23° 53' / 83° 1'	AT EP OF WEST TO EAST LEG NOW TURN DOWN TO SOUTH PT.
2246 Z			NEW CONVECTION FORMING SOUTHEAST OF CENTER WE'LL DROP SOUTH OF IT ON THIS LEG

23° 54'
23.9
84.7

22° 25' 22.4
85° 13' 85.2

IS THIS
MOISTEN

USP
ANVIL
OVER

WE'LL
GET
THE INF
INTO TH

Lead Project Scientist Event Log

Date 8/29/16 Flight ID 2016082912 LPS ZAWISLAK

Time	Event	Position	Comments
2256		23° 16' / 83° 53'	IN DSK / DOWNSTREAM, CONVECTION CLOSER TO CENTER. HERE JUST APPROX STRATOCUMMUS ALTO
			NOT MUCH PRECIP INITIALLY UP THIS DOWN LEG BUT GOING THROUGH NEW CONVECTION AHEAD
2308	ENTERING CONVECTIVE AREA	22° 56' / 84° 20'	30 dBZ TO 14 KM, TOPS ABOVE 16 KM
2318	SONDE 9		SOUTH POINT OF NEXT SOUTH → NORTH LEG
2330	SONDE 10		MO OF INBOUND SOUTH TO CONVECTIVE NORTH AROUND
2			
2342	SONDE 11	23° 57' / 85° 8'	SONDE AT CENTER ON S → N LEG
2348			STILL REMAINS CLEAR UP NORTH
2354	SONDE 12	24° 46' / 85° 7'	CENTER OF THAT CONVECTIVE WENT WID, AT LEAST 85 KM SE SO CONVECTIVE BUT GOOD, BORDERS CENTER TO SE BUT MAIN PART PRETTY FAR AWAY NEW FORMATION MAYBE 20-30 KM TO EAST OF CENTER
0018	END POINT OF S → N		REACHED END OF SOUTH → NORTH LEG 2 → CLIMBING CHOSE NOT TO SONDE ON ED OF SECOND S → N LEG. NOT MUCH GOOD SCIENCE, DID IT EARLIER

85-12

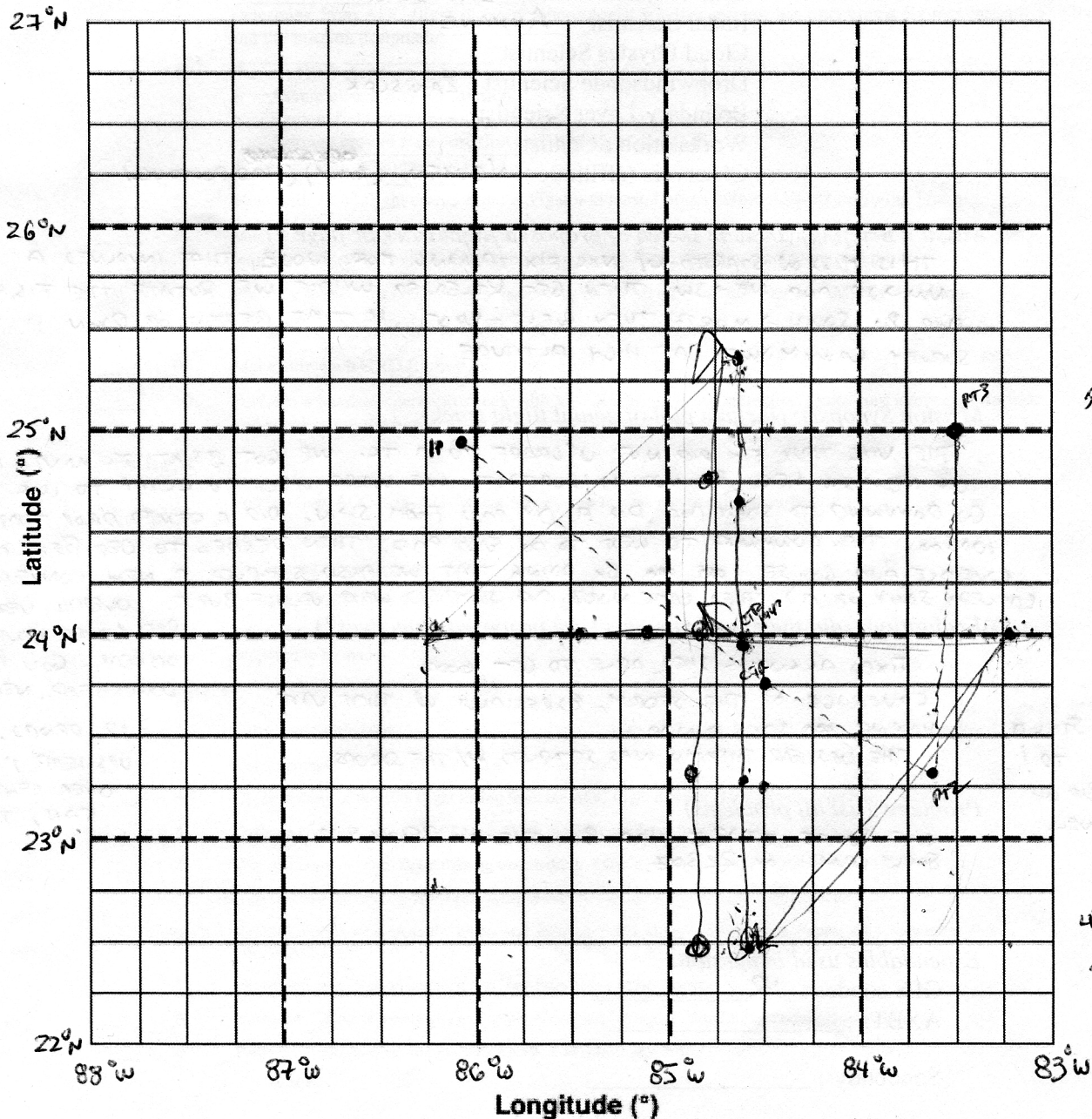
APP CENTER 2

SO GETTING
BUT DS, DSK
CLOSE TO CENTER

300 km 1 hr
 250 nm 1 hr
 50nm 10nm
 212 2230Z
 41 5.5 hr
 200 280nm
 2230 2 hr
 01
 22 28 94 80
 23 44 84 51

Observer's Flight Track Worksheet

Date _____ Flight _____ Observer _____



0.2
 100 nm
 30 nm
 50
 40
 40
 2240
 23 20Z
 230
 15
 15
 15
 15
 15
 45
 45
 30
 45
 1600

2096
 2320

Mission Summary

Storm name

YYMMDDA# Aircraft 43 RF

Scientific Crew (4 RF)

Lead Project Scientist ZAWISLAK
 Radar Scientist ANNANE
 Cloud Physics Scientist _____
 Dropwindsonde Scientist ZAWISLAK
 Boundary-Layer Scientist _____
 Workstation Scientist _____
 Observers (affiliation) NGUYEN (SUNNY) (HRO POSTDOC)

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

THIS MISSION STARTED W/ NHC FIX TAKING FOR 1800Z. THAT INVOLVES A NW → SE AND NE → SW. THEN GET RELEASED WHERE WE ROTATE THE FIG. 4 AND DO SOUTH → NORTH THEN WEST → EAST. IF TIME, REPEAT OR DOWN SURVEY LAWMOWER AT HIGH ALTITUDE

Mission Synopsis: (include plot of actual flight track)

THE NHC TAYL FIX DID NOT UPGRADE TO A TC. WE GOT 37 KT FL WINDS INBOUND ON NE → SW LEG BUT NOT AT SURFACE. WE WERE ABLE TO CLIMB TO LOK GO DOWNWIND TO SOUTH AND DO A 0° PASS FROM S → N. DID A CENTER ORB THAT HAD 1005 mb. THEN DOWNWIND TO WEST TO DO EAST PASS. THEN DECIDED TO GET BETTER RADAR COVERAGE AND GO SE. ~~WE WERE~~ BY DOING THAT WE ALSO SAMPLED A NEW CONVECTIVE BURST (AT LEAST SOUTH OF IT) THEN CAME NORTH AND SAMPLED WEST OF THE BURST. OVERALL, VERY LITTLE PRECIP OVER CENTER OR UPSHEAR. GOOD PRECIP DOWNSTREAM, NEW BURST LAST LEGS

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

FIXES ACCOMPLISHED. ABLE TO GET GOOD COVERAGE OF THE STORM, ESPECIALLY W/ THAT WEST WIND, AND SOUTH → NORTH. THE UPSHEAR THERMO WAS SAMPLED W/ THE DROPS

STILL A TO!
BUT OK WELL

12 DROPS. MPS UPSHEAR; 2 DROPS OVER CENTER. 1st S → N, THEN 2nd S → N.

Problems: (list all problems)

SNE SONDE 2203Z HAD BAD THERMO BELOW 900 EARLY LAUNCH OF 2230Z.

Expendables used in mission:

GPS sondes: 12

AXBTs: _____

Sonobuoys: _____