

## Lead Project Scientist

Storm or Project HERMINE (AL09) Experiment name RI / LANDFALL / INTENSE RAINBAND  
Flight ID 20160901 I2 Mission ID WXWXA CYCLONE MOORE

### Preflight

- \_\_\_\_\_ 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 HERMINE (AL09) Experiment name RI / LANDFALL / INTENSE RAINBAND  
 Flight ID 2016090112 Mission ID WYNKA CYCLONE MODULE

#### A. Participants:

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

#### B. Take-off and Landing Times and Locations:

Take-Off: 1902 UTC Location: MacDill

Landing: 0022 UTC Location: MacDill

Number of Eye Penetrations: 3

#### C. Past and Forecast Storm Locations:

Date/Time	Latitude	Longitude	MSLP	Maximum Wind	
<u>1 / 1300Z</u>	<u>27.8</u>	<u>85.6</u>	<u>989mb</u>	<u>60 KT</u>	<u>NNE 12KT</u>

#### D. Mission Briefing:

TODAY WE'LL BE ATTEMPTING TO SAMPLE IN AND AROUND LANDFALLING RAINBAND ASSOCIATED W/ HERMINE. THE STORM HAS BEEN STEADILY INTENSIFYING AND ITS POSSIBLE THAT WE WILL BE OUT THERE AS A HURRICANE. OUR INITIAL PLAN WILL BE TO FLY IN A RAINBAND TOWARDS THE NORTH, RAINING W/ TA ~ 200mi AWAY FROM THE AXIS - DROP A SONDE AT THE START, MID, AND END. THEN DO N75, E7W FLTY ACROSS THE CENTER, THEN ON THE WAY HOME REVERSE E85 ACROSS THE CENTER AND FIND A PLACE TO DO A MODULE ~ INTENSE CONVECTIVE RAINBAND MODULE.

Storm or Project HERMINE (AL09) Experiment name R1/LANDFALL/INTENSE RAINBAND  
MODULE

Flight ID 2016 0901 I2 Mission ID WXNKA CYCLONE

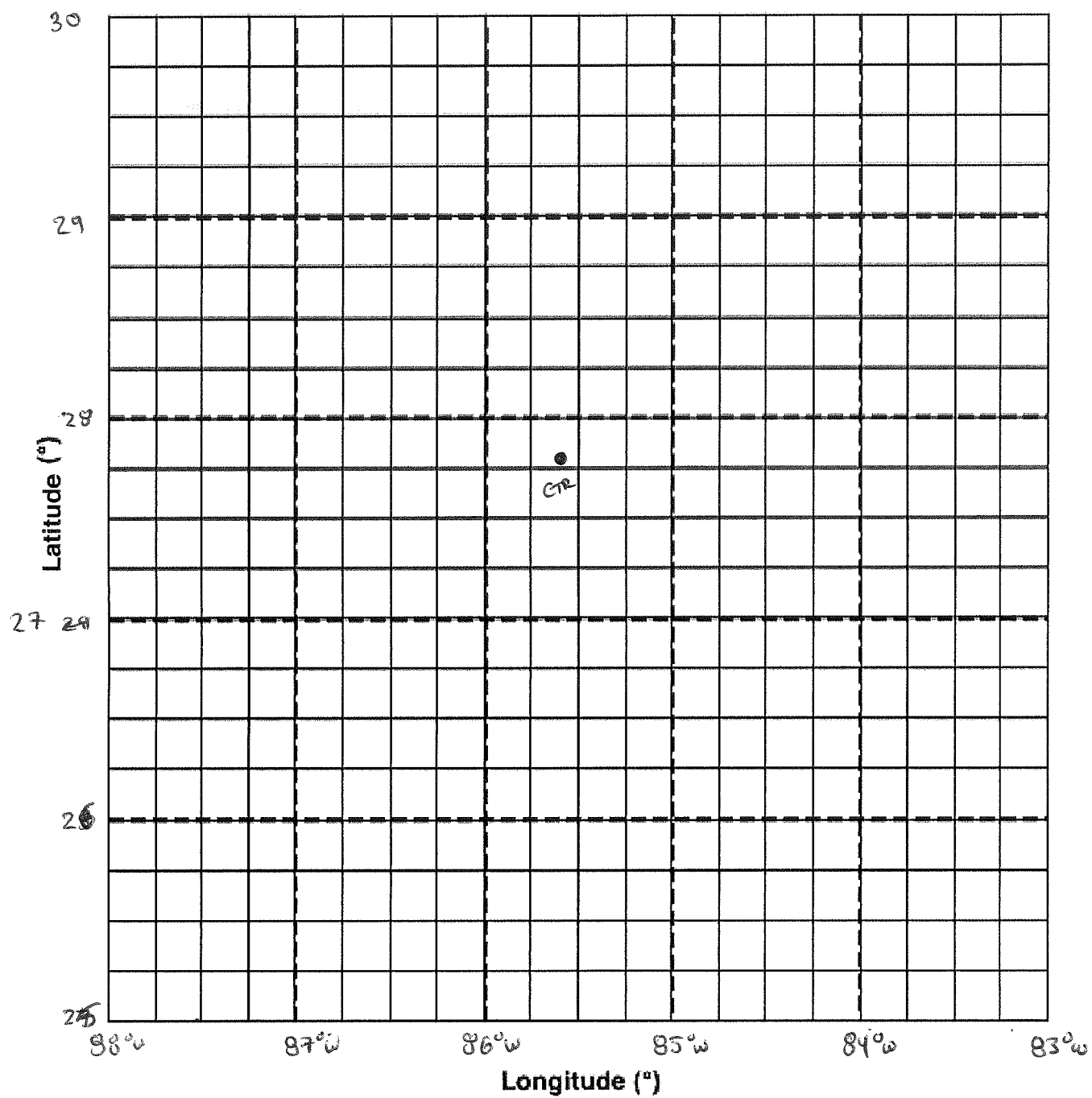
E. —Equipment Status (Up ↑, Down ↓, Not Available N/A, Not Used O)

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:

## Observer's Flight Track Worksheet

Date \_\_\_\_\_ Flight \_\_\_\_\_ Observer \_\_\_\_\_



# Lead Project Scientist Event Log

Date 9/1/16 Flight ID 2016 0901 IZ LPS ZAWISLAK

Time	Event	Position	Comments
1902	T/O		WILL BE HEADING SOUTH TO CLIMB AND SET UP OUR IP.
			↓ SET AT 28°24' / 83°10'
			GOING TO PARALLEL THE RAINBOW AND COAST FROM THERE. 3 DEGR.
			NEAR END POINT IP AND CENTER
1951Z			TURNING EAST TOWARDS COAST
1954Z	SONDE 1	28°56' / 83°10'	
2002Z	SONDE 2	29°29' / 83°29'	→ NEAR LEFT
2015Z	'		NOTHING BUT STRATIFORM
2025Z	SONDE 3		TURN SOUTH TOWARDS CENTER
2030Z	SONDE 4		MAX WIND
2039Z	SONDE 5	28.61 / 85.18	CTR
2105Z	SONDE 6	28.74 / 85.14	MAX WIND
2115Z		26°57' / 82°40'	NEW PARALLEL BAN TO IF WINDY DIRECTION
			TORI TO 12km W BROW
2126			WENT DOWNWARD PARALLEL THE RIV
2143			UPCOMING DROP ON TURN TO WEST COULD CAPTURE THE
2146	DROP 7 IN/OF BAND		PRE-ENVIRONMENT OF THE RAINBAND
2145			PAUSE BOTH BANDS RIGHT NOW WEST AND EAST
2209	DROP 9	29°45' / 85°4'	ON CENTER
2219	DROP 9		CENTER THE MOST OF DROP
2241	SONDE 10	29°54' / 84°53'	DROP AT CENTER

## Lead Project Scientist Event Log

Date 9/1/16 Flight ID 20160901 IZ LPS ZAN:JCAK

[illegible]

**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) \_\_\_\_\_

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

WE WILL BE FLYING BEHIND A LANDFALLING RAINBAND IN THE BIG BEND REGION OF FLORIDA. DROPPING A COUPLE OF SONDES, ONE NEAR BUCKSTAFF DEPLOYMENT AREA. WELL BE ~10 NM OFFSHORE. THEN DO N → S FLIGHT - 4 W/ EIGHT-THREE THEN PROCEED TO AN AREA TO DO AN INTENSE RAINBAND PASS → BE A RAINBAND W/ UPRIND/ DOWNWIND LEGS

***Mission Synopsis: (include plot of actual flight track)***

SO WE GOT BEHIND THE LANDFALLING RAINBAND, BUT IT WAS ALREADY OVER LAND SO WE FLEW 10 NM OFF THE COAST → SAW STRATIFORM DROPPED A COUPLE OF SONDES, INCLUDING NEAR BUCKSTAFF DEPLOYMENT SITE. THEN WE PROCEEDED TO NORTH POINT AND MADE A PASS, HITTING MAIN WIND AND CENTER - THEN OUTWIND TO SOUTH, THEN DOWNWIND TO E POINT BUT W/ DRIFT SO FOLLOWING PARALLEL A RAINBAND → JUST EAST OF IT. THEN DID CROSS, WENT ON SOUTH AND CAME BACK, FINISH MAX WIND TO SE, G1 20 TO DO

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

SUNSET MEASURE ABOUT ~1330MI TO EAST NEAR COAST. FLEW MODERATE PLANNED

WE GOT 3 PASSES OF THE CENTER W/ 3 DRIPS IN THE MIDDLE, 2 MAY WIND. WE FLEW ALONG A RAINBAND IN THE MIDDLE OF THE FLIGHT DOWNWIND FROM SOUTH TO E SIDE. INITIALLY THOUGH WE WERE ABLE TO FLY W/ IN STRONG OF THE COASTLINE AND FOLLOW IT AT THE RAINBAND W/ ON SHORE. TRY TO FLY IN THE SAME AREA AS THE UT 15 → ALSO GOT A DROP THERE SO WE DID THE INTENSE RAINBAND PASS NEAR TAMPA ~ABOUT 60 NM OR SO. GOT

***Problems: (list all problems)***

A LOT OF CONVECTION ON THAT, BUT ALSO STRATIFORM GOOD MIX. SO VERY SUCCESSFUL PASSAGE. STORM INTENSIFIED WHILE WE WERE OUT THERE AT WELL CENTER BECAME CLEAR

***Expendables used in mission:***

GPS sondes : 17 (3 CENTER)

AXBTs : \_\_\_\_\_

Sonobuoys: \_\_\_\_\_

WE MET PROPOSED OBJECTIVES