

Lead Project Scientist

Storm or Project Isaac Experiment type NHC-tasked
Flight ID 20180913 H1 Mission ID 0309A

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 Isaac Experiment name NHC

Flight ID 20180913H1 Mission ID _____

A. Participants:

HRD		AOC	
Function	Participant	Function	Participant
Lead Project Scientist	<u>Holbach</u>	Flight Director	<u>Holmes</u>
Radar/Workstation	<u>Christophersen</u>	Pilots	<u>Kibbey, Rossi, Mitchell</u>
		Navigator	<u>Urato</u>
Cloud Physics		Systems Engineer	<u>Carby, Lalonde</u>
		Data Technician	<u>Mascaro</u>
Dropwindsonde	<u>Sellwood</u>	Electronics Technician	<u>Greene</u>
AXBT/AXCP		Other	
Photographer/Observer		AVAPS	<u>Underwood</u>
s/Guests		IWRAP	<u>Chang, Selenale</u>

B. Take-off and Landing Times and Locations:

Take-Off: 1025 UTC Location: STX

Landing: 1837 UTC Location: Lakeland

Number of Eye Penetrations: 0

C. Past and Forecast Storm Locations:

Date/Time	Latitude	Longitude	MSLP	Maximum Wind
<u>13/0900Z</u>	<u>15.4</u>	<u>59.7</u>	<u>1006</u>	<u>40</u>
<u>13/1800</u>	<u>15.5</u>	<u>61.8</u>		<u>35</u>
<u>14/0600</u>	<u>15.5</u>	<u>64.8</u>		<u>35</u>
<u>14/1800</u>	<u>15.5</u>	<u>67.8</u>		<u>35</u>
<u>15/0600</u>	<u>15.4</u>	<u>70.4</u>		<u>35</u>

D. Mission Briefing:

NHC tasked fix mission for 1130Z + 1730Z. The plan is to begin w/ a N-S then NE-fix-NW leg. We will then fix as many other times as possible prior to needing to depart to return to Lakeland. Isaac is still battling strong shear & continues to outrun any deep convection that develops near the core. Planned flight level 5000' pressure. May need to go to 6000' b/c of terrain on Dominica. 105nm legs

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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:

- As "center" moved through islands, topography seems to have reduced convection on lee (west) side

Lead Project Scientist Event Log

Date 9-13-18 Flight ID 20180913H1 LPS Holbach

Time	Event	Position	Comments
1025Z	Takeoff	STX	
1030Z	Vis image center est.	15.42°N 60.84°W	
1049Z	Possible dust	17°21' 63°0'	slightly hazy possibly indicating presence of SAL
1045Z	Vis image center est.	15.34°N 60.58°W	
1100Z	Vis image center est.	15.33°N 60.73°W	
1122Z	Sonde	17°3' 60°36'	EP sonde leg 1
1115Z	vis image note	15.35°N 60.90°W	lowest level centers seem to be decoupling
1136Z	sonde	16°18' 60°36'	midpoint sonde
1140Z	convection	16°0' 60°40'	small cell of our left wing
1130Z	vis image center	15.33°N 60.80°W	best estimate very messy
1149Z	arced band on MMR ^{hosea}	15°28' 60°44'	MMR depicting eyewall like feature
1157Z	center sonde	14°58' 60°45'	
1203Z	marked center a second time	14°36' 60°43'	second wind shift. appears it may be an open wave at flight level
1208Z	NHC center est	15.2°N 60.9°W	forecaster estimate of center based on vis
1211Z	EP		turning to head to SE EP
1200Z	vis image center est	15.26°N 60.96°W	
1228Z	EP Sonde		begin SE-NW leg
1215Z	vis image center est	15.27°N 61.00°W	
1252Z	"center" sonde	15.0°N 61.2°W	CARCAH identified center outboard to NE track 060
1312Z	convection on NE	15°53' 60°24'	passing through some convection in NE quadrant
1321Z	EP Sonde	16°19' 60°0'	End NE leg turning W
1347Z	EP sonde	16°39' 61°56'	End downwind turn S
1414Z	"center" sonde	14°54' 61°30'	marked turn turning outboard to NW
1442Z	EP sonde	16°9' 62°53'	science complete

NWS #1

HRO #1

NWS #2

NWS #3

NWS #4

NWS #5

NWS #6

NWS #7

NWS #8

Mission Summary

Storm name

YYMMDDA# Aircraft 4_RF

Scientific Crew (4 RF)

Lead Project Scientist Holbach

Radar Scientist Christophersen

Cloud Physics Scientist _____

Dropwindsonde Scientist Sellwood

Boundary-Layer Scientist _____

Workstation Scientist _____

Observers (affiliation) _____

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

NHC tasked fix mission

Mission Synopsis: (include plot of actual flight track)

Provided NHC w/ 3 fixes of Isaac. 1st fix was based on flight level winds. Last two fixes were locations given to us by NHC. Dropped EP + center sondes for NHC + 1 midpoint sonde on N side.

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

Yes we were able to provide NHC w/ as many fixes as possible before having to depart to KLAL based on fuel requirements.

Problems: (list all problems)

Expendables used in mission:

GPS sondes : 9

AXBTs : 0

Sonobuoys: 0