## Lead Project Scientist

Storm	ı or P	roject_IsaacExperiment type_NHC-tasked						
Flight	ID_	20180912HI Mission ID OLOGIA JSAAC						
Prefli	ght							
K	1.	Participate in general mission briefing.						
×	2.	Determine specific mission and flight requirements for assigned aircraft from the Field Program Director.						
<u> </u>	3.	<ul> <li>Contact HRD members of crew to:</li> <li>a. Assure availability for mission.</li> <li>b. Review field program safety checklist</li> <li>c. Arrange ground transportation schedule when deployed.</li> <li>d. Determine equipment status.</li> </ul>						
$\times$	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.						
<u>×</u>	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.						
_ <u>×</u>	10.	Perform a headset operation check with all HRD flight crew members. Make sure everyone can hear and speak using the headset.						
In-Flig	ght							
X	1.	Confirm from AOC flight director that satellite data link is operative (information).						
X	2.	Confirm camera mode of operation.						
X	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.						
X	6.	Complete Lead Project Scientist Form.						
×	7.	Check in occasionaly 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 fl	ight							
	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_	Isage	Experiment name_	NHC

Flight ID 2018091241

\_ Mission ID\_\_\_\_

0109A

## A. Participants:

HRI	)	AOC		
Function	Participant	Function	Participant	
Lead Project Scientist	Holbach	Flight Director	Holmes	
Radar/Workstation	Christophersen	Pilots	Kibber, Didier,	
			ROSSI	
		Navigator	Urato	
Cloud Physics		Systems Engineer	Dartoy / La londe	
		Data Technician	Mascaro	
Dropwindsonde	Sellwoorl	Electronics Technician	Greene	
AXBT/AXCP		Other AVADS =	Winderung	
Photographer/Observer			unashere	
s/Guests		IWRAP = Cha	ng 4 Jelenak	

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

Take-Off: 0944	UTC	Location:	STX
Landing: 1834	UTC	Location:	STX

Number of Eye Penetrations: \_\_\_\_\_

## C. Past and Forecast Storm Locations:

Date/Time	Latitude	Longitude	MSLP	Maximum Wind
12/09002	14.5N	53.5W	1600	50 kts
12/18002	14,8	55.7		50
13/06002	15.0	58.6		45
13/18002	15.2	61.5		45
14/06002	15.4	64.8		40

D. Mission Briefing: NHC tasked fix mission for TS Isaac. We are responsible for the 11302 & 17302 fixes. On-time fix is considered T-Thour to T+30min. Plan is to fly notated Fig 4 with 75nm legs. NHC has requested EP & conter sondes on 12 Fig-4 & only centor sonders on subsequent passes. HRP has requested midpaint sonders on first 2 Fig-4. We will hunt & fix on each anter pass. Flight level is 5000' pressure.

Storm or Project ISaac	Experiment name NHC
Flight ID 2018091241	Mission ID GLOGA

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		1		
Doppler Radar/TA		4		
Cloud Physics		ſ		
Data System		7		
GPS sondes		1		
AXBT/AXCP		N/A		
Ozone instrument				
Workstation		$\uparrow$		
Cameras		Ŷ		

#### **REMARKS**:

- TWRAP power supply was not replaced before takeoff t we were told we are not allowed to use the battery charger that powered it during last mission into Florence. Therefore, not tweap data will be recorded on this mission.
- · slightly delayed takeoff due to furling + paperwork needs. scheduled takeoff was 09302.
- · Center was much further South of forecasted position, so we were slightly late for the first fix.
- · Second fix was very tricky. Flight level winds were very light. Visible imagery suggests we fixed ~ 1° south of center.
- · Pressure of wind centus seem misalighed
- Final two fixes were primarily done based on
   Visual clues from the curvature in the clouds
   <sup>1</sup> Flight level winds at 5000 ft were trying to
   take us further to the south than the
   apparent low-level center.

# Lead Project Scientist Event Log

Date 9-12-18 Flight ID 2018091241 LPS Holbach

Time	Event	Position	Comments	
69442	Takeoff	STX		
10052	TDR turned	00		
10062	SFMR turned	on		
10242	light turbulence	Between St. John's + Guadeloupe	lots of cumulanimous claude	
10222	Carcan-warren rel	ayed that updated	a "anto position is "futer"	S
1. 1. 1.		for south as 14.0 once we paint it	N. We will adjust accord with the MMR.	insig
10592	SAL	15°42N, 58° 40' W	Appears that there may be some dust present. Slightly	hazy.
11162	low douds	15° 34' N, 57° 8' W	Primarily low clouds	
11212	descending to DP	15° 32' N, 56'37'N	shill only low clouds present	
11322	Flying just above low	15° 28'N 55°53'W		
11332	Troubleshooting iss	the w/ vertical velo	ocity hisplay for flight	
11332	Sonde		IP sonde	NWS#1
11342	Inbound leg 1	15°27', 55°46'	In bound on track 135°	3 1767
11372	Tried to identif	y center on MMR	sea surface mode w/	v. Tin b
11382	Flying in clouds	15° 17' 55°36		
11432	sonde	15°4', 55°22'	midpoint sonde	HR0 \$1
11442	adjusting track	L C	track = 165° ; following	
11462	no reflectivity present	14'53' 55'18'	precipitation around us	
11492	adjusting track	14°45 55°16	frack = 155°	
11522	adjusting track		track = 140°	
11572	adjusting track		track= 125° -> 130°	
12682	mark anter	13°59',54'19'	under edge of cirrus	NWS#Z
12092	adjusting track		track = 135°	
12122	little convection		convection neers the center	
12172	sonde	13°35' 53°51'	midpoint sondle	HRO#Z
12222	adjusting track	13°24' 53°39'	track = 115° to avoid some	
12252	Sonde + begin	13°20' 53°28'	EP Sonde	NWS#3
	downwind lea			5

Lead Project Scientist Event Log

Date 9-12-18 Flight ID 20180912H1 LPS Holbach

Time	Event	Position	Comments	
12282	increase in douds	13°31' 53°18'	significantly more clouds on downwind leg	
12412	convictive cells	14°28' 53°33'	convective cells off of Cight wing, Echotops Nb	km
12472	sonde	14:53 5341	EP Sondo track=225°	Nust:
1257 2	sonde	14°33' 54°6'	midpoint sonde	HRO#3
1258.2	adjusting track	14°31' 54°9'	track = 230	
13002	adjusting track	14924' 54917'	track = 210	
13062	adjusting track	14° 3' 54° 30'	track=230	
13082	hunting centor			
13112	centur	13°52'54°38'	Forceastor doesn't believe	-
13252	Sonde	13°13' 55° 15'	midpoint sonde	HRD#21
13312	Sonde	12 58' 55'31'	EP sonde	NIOS#5
13582	Sanders	tracking 55° to E	p for S-N teg	
13532	sonde	13°46' 54°19'	EP sonde	NWS#6
13582	discending to	Flight level 1500'	go lower to hunt-center	
14032	in clouds	1427' 54919'	Plying through low level	
14142	centor	14°59'54'36		NW5#
14372	EP		climbing to 3000'	ender.
14392	climb to 5000'		to get out of clouds	1. E 11.5
1503.2	sonde	14 59 567	EP Sonde	NWS#(
10.02		tracking 90°	for W-E leg	
15132	adjusting track	140 56' 5531'	track = 85	
15172	Sonde	14°57' 55°19'	midpoint sonde	HKD#J
15252	centor	1565441	from curvature In	NUS#0
19 5 4			off our left wing a little	-
15372	rainband	159'5402	rainband main	
15412	Sonde	15°8' 53°49'	midpoint sonce	HRO#
15332	CARCAH request	for last pass	16 to come in from	
	NE 120 mm L exit outbour	eg; fix for 177	30 Z requirement;	10

16002	VIS	imagery	anto	estimate:	15,37°N	55.13°h
16152	VIS	Imagery	center	estimate "	15,40°N	55,24°W

## Lead Project Scientist Event Log

Date 9-12-18 Flight ID 20180912H1 LPS Holbach

Time	Event	Position	Comments	
15462	Sonde	15 9' 53 28'	EP Sonde	NUSHLIC
16082	EP		EP in bound track 225	
16132	adjusting track	16 71' 53° 46'	track ZIS°	
~16202	adjusting track	and the second	track = 230 Just went through a rainband	
10252	sonde	15 47' 54'17'	midpoint soncle	HRO #7
16432	cento	15°12' 55°17'	outbound 315	NWS#1
16532	sonde	15°37' 55°46	midpoint soncle	HRID#8
17022	Éb	16°5' 568 15	end science	
				4
Charles &		- Andrewski - A		-
				-
				-
				- 110
				-
		and the second second		
				-

## Mission Summary Storm name YYMMDDA# Aircraft 42RF

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 #)

Isaac is currently badtling off moderate to high shear t dry air to its west & south. It is forecast to slowly neaken over the next several days. It is noving into an area w/ warmer: SETS. There is some uncertainty in the models as to when it will dissipate or if it will fun northward while in the carnobean. Mission Synopsis: (include plot of actual flight track) SHIPS analyzed shear OUZ= 182ts 295° completed 5 cents fixes for NHC. There was a cloud shield w/ some deep convection over the center for our first pass, For Some deep convection over the center for our thirst pass, for all subsequent passes the LLC was exposed it was much firther north than the first fix. All but the 3rd fix were performed at 5000' pressure alt (3rd was at 1500' pressure, but determined to be too dangesous w/ flight level winds > 50 kts it being in the clouds?, Final 2 Evaluation: (did the experiment meet the proposed objectives?) fixes were done using a We were able to complete the combination of FLwinds, 11302 + 17302 fixes for NHC. However, DR centus, + visual examination visible satellite imagery, the 11302 fix was slightly late due to first fix location being of cloud curvature. further south than Problems: (list all problems) \_\_\_\_\_ drapped EP, midpoint + center south that - IWRAP was not operational. I while at 5000'. · Difficulties finding stc centur. · Could not transmit TOP data to EMC since the HWRF ensembles would run on Isaac instead of Florence. Expendables used in mission: GPS sondes : 9 AXBTs :

Sonobuoys: \_\_\_\_