

## Lead Project Scientist

Storm or Project Jose Experiment type TDR  
Flight ID 20170918H1 Mission ID 1212A

### 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.

PWS 170917H1

X  
✓  
✓  
✓

### Lead Project Scientist Check List

Storm or Project Jose Experiment name TDR

Flight ID 20170918 H1 Mission ID 1212A

**A. Participants:**

HRD		AOC	
Function	Participant	Function	Participant
Lead Project Scientist	<u>ZAWISLAK</u>	Flight Director	<u>WILLIAMS / SEARS</u>
Radar/Workstation	<u>ZAWISLAK</u>	Pilots	<u>KIBBY (CMDR)</u> <u>DIDIER /</u>
DWC	<u>RYAN</u>	Navigator	<u>URATO</u>
Cloud Physics	_____	Systems Engineer	_____
	_____	Data Technician	<u>RICHARDS / LYNCH</u>
Dropwindsonde	<u>ZAWISLAK / RYAN</u>	Electronics Technician	_____
AXBT/AXCP	_____	Other	<u>AVAPS: PATEL</u>
Photographer/Observer s/Guests	_____		

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

Take-Off: 0750 UTC Location: LAL

Landing: 1602 UTC Location: LAL

Number of Eye Penetrations: 4

SHIP'S SHEAR DUTC: 231°/37kt  
MOTION: 360°/8kt

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

Date/Time	Latitude	Longitude	MSLP	Maximum Wind
NHC 18/0600Z	32.6 N	71.6 W	972 mb	80 kt
12Z FCST	33.4 N	71.6 W		
NHC 18/0900Z	33.0 N	71.4 W	974 mb	75 kt
NHC 18/1200Z	33.5 N	71.2 W	976 mb	75 kt

**D. Mission Briefing:**

ROTATED FIG. 4 AT 10KFE. SONDES AT THE ENDPOINTS ON THE FIRST FIG. 4. CENTER BY REQUEST FROM NHC, THOUGH THEY DO NOT APPEAR TO WANT THEM AT THE MOMENT. WE'LL DO A SONDE ON THE OUTBOUND TRANSIT TO THE IA AT FERRY ALTITUDE, ABOUT HALFWAY. 90 MIN LEGS. GET SOME PARTIAL GOWN CHOP IN THE PREVIOUS FLIGHT.

SHEAR IS OBVIOUSLY IMPACTING THE STORM. MOST OF THE PRECIP IS DOWNSHEAR. CENTER CLOUDS NOW BE HEAVILY EXPOSED. STRONG SOUTHWESTERLY SHEAR. NO CUMULONIMBUS RESULT.

Storm or Project \_\_\_\_\_ Experiment name \_\_\_\_\_

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

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:**

TA V AND dBZ CHECK OUT. SFC RETURN, FLUF SIZES

SFMR ↑

AVAPS ↑

DWL → CONNECTION B/W STATION 2 AND DWL NOT WORKING, BUT DWL IS ON

### Lead Project Scientist Event Log

Date 20170918 W1 Flight ID                      LPS ZAWISLAK

Time	Event	Position	Comments
0750Z	T/O		
	ENROUTE TO IP		SHEAR VERY MUCH IN PUNCHING THE STORM. PRETTY MUCH NO DEEP CONVECTION AND CENTER STARTING TO BE EXPOSED.
0852Z	MIDWAY DROP	29° 23' / 76° 35'	DROP FROM 6700M AS REQUESTED BY SAC. DNL NOT WORKING YET.
0923Z	ENROUTE TO IP		ALL PRECIP DISPLACED TO THE NORTH OF THE STORM NOW. LOOKS LIKE CENTER WILL BE FULLY EXPOSED.
0950Z	IP	31° 40' / 71° 35'	SUNNY INBOUND. SO FAR WE'RE IN THE CLEAR. NOTHING ON RADARS
1016Z	TOWARD CTR	33° 19' / 71° 5'	SURE SEEMBLANCE OF A CTR ON LF. SURE PRECIP WAS TO NORTH AND WEST. STRATOSPHERE CLEAR W/ SHALLOW CLOUD INBOUND.
1019Z	APP. CTR FROM MVD60		PRECIP ISSUE RELATES TO CTR SHOR TO 700M
1017Z	CTR #1	33° 23' / 71° 03'	OUTBOUND 360° STRATOSPHERE ANVIL TOP 10-12 KM
1034Z	WR #2	34° 34' / 71° 3'	TURNING DOWNWIND PASS 1: PEAK STRAT: ~55-56K FL: 74K. ~775M3 EXPOSED
SUNNY #3	103442 162715043	34.57 / 71.06	
1057Z	WR #3	33° 34' / 72° 51'	TURNING INBOUND ANVIL 270° SUNNY #4
	INBOUND TO CTR 270°		SURE SHALLOW CLOUD. IN SOME CLOUD AT FL. MAYBE LOW STRATOSPHERE ANVIL.
	CLOSE TO CTR #2		CLEAR AT FL. LOW LEVEL STRATUS, SOME THIN ANVIL ABOVE.
1122Z	CTR #2	33° 29' / 71° 10'	→ ON INBOUND AT TURN WE HAD 60KT
	OUTBOUND 090°		LOTS OF STRATUS, SHALLOW CLOUDS AT WIL ALTITUDE AND BELOW.

Drop #1

Drop #2

Drop #3

Sunny #4

### Lead Project Scientist Event Log

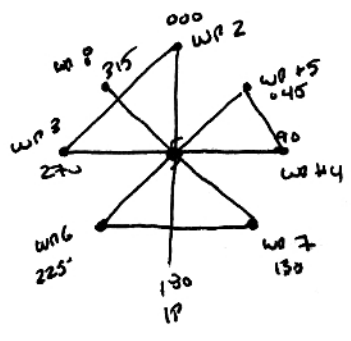
Date 9/18/17 Flight ID 207091841 LPS ZAWISLAK

Time	Event	Position	Comments
1134Z			LOOKS LIKE NEXT INBOUND WILL HAVE TO BE 045° AT 70000, SU ALSO SHUTTER
		CENTER PASS 2 INTO:	975mb, 6400' PEAK NOT OUT ON THE INITIAL INBOUND, GO AT 45 SEC SFR ON THEN INBOUND
			CLOSER TO CTR, FL PEAK, 6000' FL
			~58 BT INBOUND SFR / 78 BT SFR OUTBOUND
1144Z	WR # 4 ORON	33°29' / 69°23'	TURNING DOWNWIND
			SKYLINE SOME CUM AT TOP AT OUR ALTITUDE. WE WILL RETURN, MAYBE 2500Z IN SOME OF THE SHALLOW CONGESTION CURTAIN.
1157Z	EMERGE TO WR # 5	34°24' / 69°51'	ENTERING SOME CLOUD, MORE RARE RETURN
			SHOULD GET FULL RETURN ON THIS INBOUND.
	SUNDS: 114459	33.47 / 69.42	
	142835098	99600, 4000', 153 SM	CB # 15
			SATELLITE SHOWS A 'CONVECTIVE BUBBLE' IN THE WINDOW OF THE CENTER PASS THAT PRETTY GOOD ON LAST PASS
1210Z	ON INBOUND.		GETTING SOME RARE NOW CLOUD
			LOOKS LIKE ANvil BLW OFF TO NORTH OF PIC.
124Z		33°48' / 70°48'	NOT MUCH RETURN AT AN LEVEL
			MOST PRAEA WIND TO NW, WEST OF CTR.
			NOTHING MUCH IN THE QND NOW, JUST SOME ANvil ABOVE. STRONG ON OUR FL.
1220Z	CTR # 3	33°34' / 71°14'	VERY BEAM WIND FROM W PRAEA MORE THAN 2000 FROM CTR.
124Z	TURNING DOWNWIND TO WR # 7	WR # 6	TURNING DOWNWIND FOR WR # 7 → FULL FAIRLY CLEAR TO 195°

PROB # 5

SU FAR PRODUCE 2 FULL ANALYSES.  
INBOUND ON PASS 1 TRUNCATED.

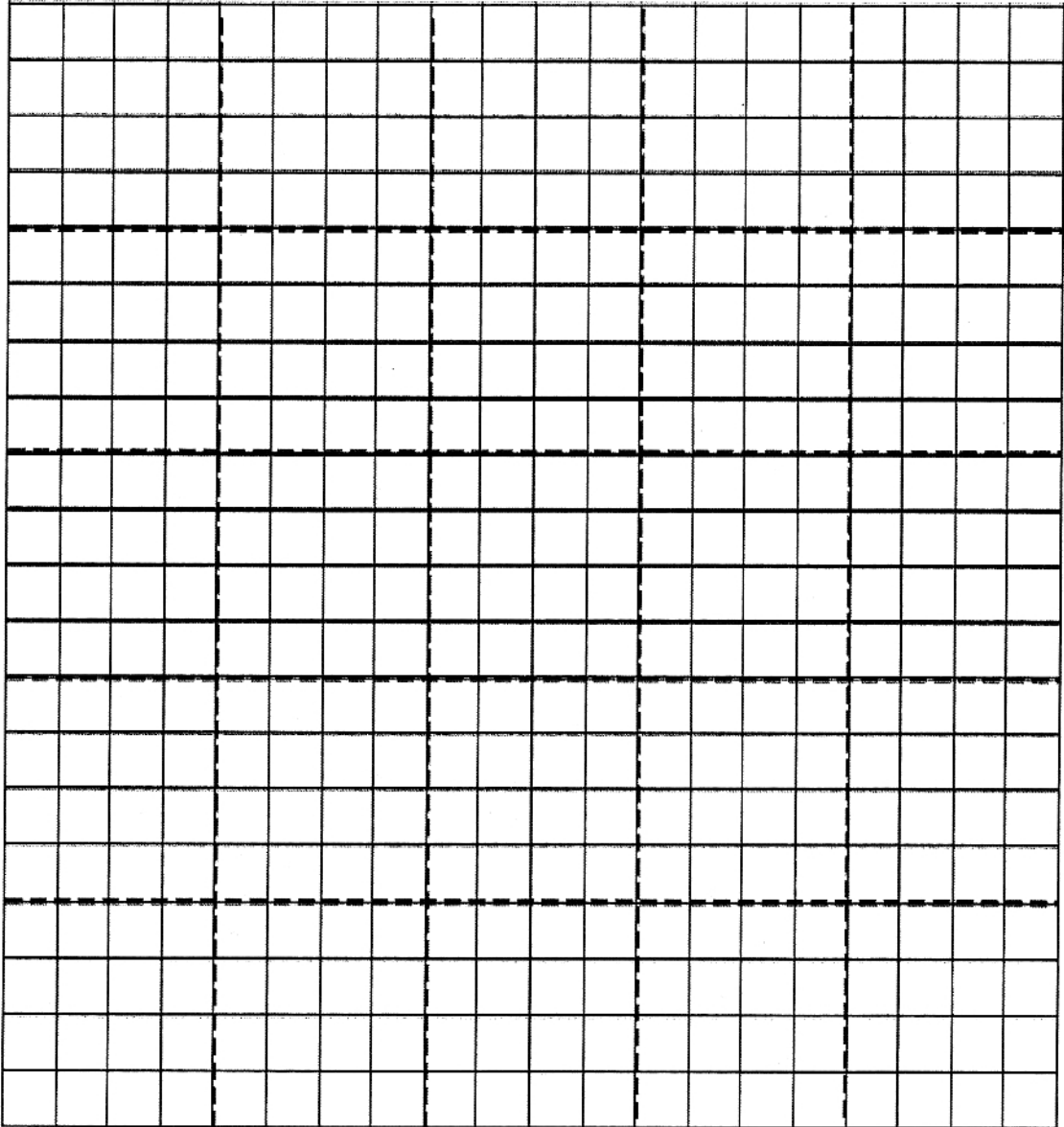




### Observer's Flight Track Worksheet

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

Latitude (°)



Longitude (°)

# Mission Summary

## Storm name

YYMMDDA# Aircraft 42 RF

### Scientific Crew (4 RF)

Lead Project Scientist ZAWISLAK  
 Radar Scientist ZAWISLAK (GROUND: GARNACHE)  
 Cloud Physics Scientist \_\_\_\_\_  
 Dropwindsonde Scientist ZAWISLAK / RYAN  
 Boundary-Layer Scientist \_\_\_\_\_  
 Workstation Scientist \_\_\_\_\_  
 Observers (affiliation) \_\_\_\_\_  
 OWL RYAN

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

PLAN IS FOR A ROTATED FIG. 4 AT 10KFT (DENTJUCH @ 10K) MORE LIKELY  
 WE TALK ON MATH. SONDES AT END POINTS OF FIRST FIG. 4 OR, THEN  
 NHC CHANGE AT REQUESTED. 90 AND LEGS, THOUGH PART OF THE SOUTHERN LEG  
 WILL BE IN CLEAR. ALSO DROP A SONDE ON OR IN BURN FORM, HALFWAY TO THE IR

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

ASCR WAS GRADUALLY CLIMBING. 9720 WHEN WE TOOK OFF ACCORDING TO NHC,  
 UP TO 9760 ON 2ND PASS. SO MUCH CLOUD CONDENSATION GOT TO SOME JUST STRATU,  
 SMALL CW (NOT REALY BAKING), SOME ANVL CLOSER TO THE NORTH PRECIP  
 SHELF. GOT SOME DEEPER CONNECTION TO PIA UP JUST N/W OF CTR, BUT OTHERWISE  
 STRATIFORM TO WEST / NW / WEST. JUST NOT MUCH AT OUR FL. PROBLE AT THE CLUD TOPS  
 EXPOSED LOW-LEVEL SWIRL. TOUGH TO GET GOOD TOR ANALYSIS. BEST PLACE NW AND W, BUT  
 OTHERWISE OUR STRATU CW, STRATU  
 AT FL  
 AND BELOW.

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

FIRST PASS TOR ANALYSIS, INBOUND TRUNCATED DUE TO POSSIBILITY OF CUTTER/NOISE  
 SECOND PASS WAS FULL. THIRD PASS: TRUNCATED, NO DOWNWARD LEG (BAD PASS (LOSS OF NOISE))  
 FOURTH PASS: NO RAIN INBOUND, BUT UNIFORM HAZ PUNCTA, THEN WE EVEN  
 GOT A GOOD DOWNWARD OF 210° BUT TO GET RISE INTO TOR ANALYSIS  
 ↳ FOURTH PASS TRUNCATED 3 MIN FROM CTR, INCLUDES DOWNWARD LEG, GOOD ANALYSIS  
 OTHERWISE  
 SO TOR MET, OWL HAD ISSUE, DROPT  
 SOME MISSION OBJECTIVES MET.

### Problems: (list all problems)

OWL WAS NOT SWANNING, BUT AT NAIR AND COLLECTING OSA. COULD BE A  
 GOOD CASE FOR THEN CONSIDERING THE HIGH WINDS. ALSO, CLOUDS USE THE WAY FLIGHT  
 TO WORK ISSUES.

### Expensables used in mission:

GPS sondes: 6 (5 HELP, 1 NHC)

AXBTs: 0

Sonobuoys: 0

JOSE IS  
 WEATHERING,  
 INITIAL NHC  
 ADVISORY AT  
 THE HAD  
 9720 WE  
 FINDS MORE  
 LIKE 9770MB  
 OBVIOUSLY THESE  
 CANTING WIND  
 AT 11 METERS IN  
 WIND FROM  
 RAM DIS.