Lead Project Scientist

Date **7/11/2019**   Flight ID **20190711H1**

Storm or Project **AL92**   Experiment name **TDR**

Mission ID **NOAH20302A PTC02**   **AL022019**

Pre-flight

- [x] 1. Participate in general mission briefing.
- [x] 2. Determine specific mission and flight requirements for assigned aircraft.
- [x] 3. Determine from AOC flight director/meteorologist whether aircraft has operational fix responsibility and the mission designation.
- [x] 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.
- [x] 5. Meet with AOC flight director and navigator at least 3 hours before take-off for initial briefing.
- [x] 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.
- [x] 7. Report status of aircraft, systems, necessary on-board supplies and crews to Field Program Director.
- [x] 8. Before take-off, brief the on-board GPS dropsonde operator on times and positions of drop times.
- [x] 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

- [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.
- [x] 4. Complete Lead Project Scientist Form.
- [x] 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 Field Program Director
- [ ] 7. Determine next mission status, if any, and brief crews as necessary.
- [ ] 8. Notify Field Program Director 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 **AL92**   Experiment name **TDR**

Flight ID **20190711H1**   Mission ID **NOAA2 0302 A**

A. Participants:

Function	Participant	Function	Participant
Lead Project Scientist	Marks/Alvey	Flight Director	Parrish
Radar	Alvey/Marks	Pilot	Kibbey
Workstation		Pilot	Didier
Cloud Physics	—	Navigator	Freeman
Dropsonde	Aberson	Systems Engineer	Lynch (Akshar)
Dropsonde	Diaz	Data Technician	Patel Dean
AXBT/AXCP	Johnson (Nicoles)	Electronics Technicians	Legidaleos
Observer/Guest			
Observer/Guest		Flight Engineer	Heystak/Sanchez

B. Take-off and Landing Times and Locations:

Take-Off: **0807** UTC Location: **Lakeland/Linder**

Landing: **1443** UTC Location: _____

Number of Eye Penetrations: _____

C. Past and Forecast Storm Locations:

Date/Time	Latitude	Longitude	MSLP	Maximum Wind
/				
/				
/				
/				
/				

D. Mission Briefing:

Butterfly, 105 nm radius legs
start E → W 15 KFt
possible convective burst module

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

Equipment	Pre-Flight	In-Flight	Post-Flight	# DATs / CDs /Expendables/ Printouts
Radar/LF	✓	HWX mode failed	✓	
Doppler Radar/TA	✓	✓	✓	8 analyses completed
Cloud Physics	✓	✓	✓	
Data System	✓	✓	✓	
GPS sondes	✓	✓	✓	18 sondes
AXBT/AXCP	✓ extend	2 of 5 worked	✓	2/5 BTs
Ozone instrument	—	—	—	—
Workstation	✓	✓	✓	
Cameras		✓	✓	✓

REMARKS:

— Shortly after TO MMR HWX mode failed

— MMR HWX mode came back for burst module

— of the 5 bts dropped in SW quadrant the last two worked - hopefully near cool eddy

— butterfly pattern at 15kft (40nm legs) Convective burst module had 5 legs 4 E→W and 1 at Tk 120° at Hi RKft

— not much convection on N side

— plenty of deep convection S side

— low-level swirl seen in satellite 30-40nm N of our mid-level center tracking W to Ms Delta

Lead Project Scientist Event

Date 7/11/2019   Flight ID 20190711#1 LPS Marks/Alvey

Time	Event	Position	Comments
TO	0807	Lakeland	
① IP	085653	28N 86W drop#1	MMR HWX mode stopped working
	15Kft	TK 270	on ferry in NAW mode
	T=21°C		in NAW mode
midpt	090841	28N 87W drop#2	hence, no MMR on KARML
⑥	092030	28N 88W drop#3	0918 28 87.9 FL 9
midpt	093211	28N 89W drop#4	
	15Kft T=310°C		
②	095315	28N 90.5W drop#5 AXBT#1 (failed)	extend leg 20nm
	TK 150°		intern. lightning on downwind leg
	100010	AXBT #2 (failed)	
	100510	AXBT#3 (failed)	
	101507	AXBT #4	29.32°SST good
③	102620	26.6N 88.75W	
	TK 030		
	102815	AXBT #5/drop#6	ΔT partial 29.7
midpt	1040	27.35 88.25	drop#7
⑥	105142	28.1 87.9	drop#8
midpt	1101		drop#9
④	111310	29.5 87.05	drop#10
	TK 270		
⑤	1134	29.5 89.0	drop#11 not much convection in N quadrants
	TK 150		

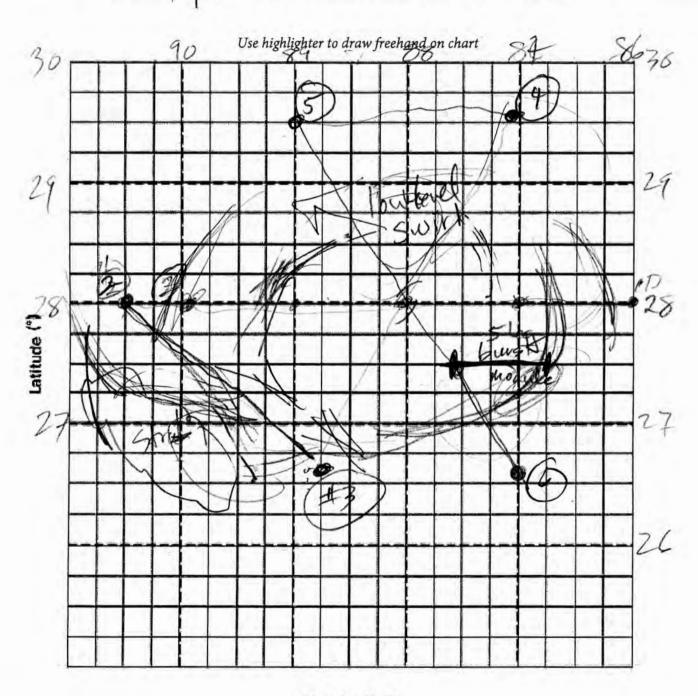# Lead Project Scientist Event

Date 7/11/2019   Flight ID 20190711#1   LPS Mark & Alveg

Time	Event	Position	Comments
midpt		38.75N 88.45W	drop #12
		Tk 150	
5		28°N 88W	drop #13
midpt		27.2 87.5	drop #14
6	1220	26.45 87.00	drop #15
	TK 300		12kft
Convective burst module			MMR HU two backn
IP	1242	TK 020 drop #16 leg #1	
EP	1250	TK 270 drop# 17 leg2	
IP	1259	TK 090 leg3	TDR
EP	130930	TK 270 leg4 end B270 short puke dBZ
IP	132915	TK 120 leg5	is definitely
EP	1350	end pattern 26.9N 86.3W	lower
	climb out		
135745	Sonde #18 on ferry		

Observer's Flight Track Worksheet

Date 7/11/19   Flight 20190711H1   Observer Marks

Use highlighter to draw freehand on chart

Latitude (°)

Longitude (°)

Mission Summary

Scientific Crew (42RF)
Lead Project Scientist Marks/Alvey
Radar Scientist Alvey
Cloud Physics Scientist
Dropwindsonde Scientist Albers M/Diaz
Boundary-Layer Scientist N. Johnson
Workstation Scientist
Observers (affiliation)

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

Mission Synopsis: (include plot of actual flight track)

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

Problems:(list all problems)

Expendables used in mission:

	Deployed	Good	Bad
GPS sondes :	18	18	0
AXBTs :	5	2	3
Sonobuoys:	—	—	—
UAVs	✓	—	—