Lead Project Scientist

Storm or Project Chris **Experiment type** TDR
Flight ID 20180709H1 **Mission ID** AL32018

Preflight

X 1. Participate in general mission briefing.

X 2. Determine specific mission and flight requirements for assigned aircraft from the Field Program Director.

X 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.

X 4. Meet with AOC flight director and navigator at least 3 hours before take-off for initial briefing.

X 5. Determine from AOC flight director the mission designation and whether aircraft has operational fix responsibility.

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 drops.

X 9. Make sure each HRD flight crew member has a life vest.

X 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. Request AOC flight director to leave radar in non-sector mode for initial Figure 4.

X 5. Once at IP, request AOC flight director adjust radar tilt to minimize sea clutter.

X 6. Complete Lead Project Scientist Form.

X 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 flight

X 1. Debrief scientific crew.

X 2. Gather completed forms for mission and turn in to data manager at HRD.

X 3. Obtain a copy of the Dropsonde raw and processed files from the AVAPS operator on thumb drive.

X 4. ~~Obtain a copy of the radar LF files from the radar technician on thumb drive.~~

X 5. Obtain a copy of the tar'ed radar TA files from the radar scientist on thumb drive.

X 6. Obtain a copy of serial flight data and raw NetCDF file on thumb drive from the data technician.

X 7. Obtain a copy of SFMR data on thumb drive from the data technician.

X 8. Obtain a copy of DMT data on thumb drive from the data technician.

X 9. Report landing time, aircraft, crew, and mission status to the Field Program Director.

X 10. Determine next mission status, if any, and brief crews as necessary.

X 11. Prepare written mission summary using **Mission Summary** form.

all FL
SFMR1
SFMR2
TDR
AVAPS
microphysics
~~MMR~~

Lead Project Scientist Check List

Storm or Project Chris **Experiment name** TDR

Flight ID 20180709H1 **Mission ID** AL32018

A. Participants:

HRD		AOC	
Function	**Participant**	**Function**	**Participant**
Lead Project Scientist	Kelly	Flight Director	Mike H.
Radar/Workstation	Sim	Pilots	Kahn Mitchell Domms
	-	Navigator	Richards
Cloud Physics		Systems Engineer	Mike M. Darby
		Data Technician	Mike M. Lalonde
Dropwindsonde	Bachir	Electronics Technician	
AXBT/AXCP	-	Other AVAPS	Harsberger
Photographer/Observers/Guests	-		Greene
	-		

David Nalliman
Jeff Price
Yinnow Bueler

B. Take-off and Landing Times and Locations:

Take-Off: 8:32 UTC Location: Lakeland

Landing: 15:52 UTC Location: Lakeland

Number of Eye Penetrations: _____

C. Past and Forecast Storm Locations:

Date/Time	Latitude	Longitude	MSLP	Maximum Wind
9July18 ~~6~~ 8Z	32.5	74.5	1002	50 kt
12Z	32.4	74.5		60 kt

AF: 1000 mb @ ~8 UTC

D. Mission Briefing:

* 8 sondes expected - 20 - on board
* VWS: 11kts @ 354°
* stationary-ish 2kt @ 110
* pretty dry (~40% RH)
* center exposed
- Ships & Lgem estimate 36hrs until Cat 1 Strength
* conv. to east of center; obvi entrain. dry air (S-SW)
* signif. dry air west/north of TC
* rotated fix 4 (1@8kft, 1@10kft or higher)
* potential sonde on transit home

Storm or Project Chris **Experiment name** TDR

Flight ID 20180709H1 **Mission ID** AL32018

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	MMR	testing w/ engineers		
Doppler Radar/TA	↑	↑		
Cloud Physics	↑	↑		
Data System	↑	↑		
GPS sondes	↑	↑		
AXBT/AXCP	—	—	—	—
Ozone instrument	—	—	—	—
Workstation	↑	↑		
Cameras	↑	↑		

REMARKS:

- initial network issues due to MMR testing → resolved

~~- potential bug in aspen (WMO message saves~~

- Make sure you click save if WMO message is changed (i.e. to add "CENTER")

- lost station 2 (ASPEN) - frozen

- We need Dfiles sent to LPS station to check wmo messages & dictate splash sig & wind to FD

Lead Project Scientist Event Log

Date 9July18 Flight ID 20180709H1 LPS Kelly

Time	Event	Position	Comments
8:31	takeoff	Lakeland	
8:57	approaching IP ~10min → conv. popping up near center on south side and beginning to wrap around - long range radar depicts rain (albeit less organized) - can see south-side eyewall on nose radar		
10:05	sonde 1 (IP) {31.01 {74.5	↑ 35 kt + 13°C dpt 6.5°C	south end SFMR 22kt
10:15	satellite shows convection popping up western edge of center; there appears to be a partial eyewall SFMR 50 (RR 15)		FL 58 kts
10:23	{32.2 N {74.66 W	sonde 2 center T = 15°C dpt = 12°C	splash 999 mb
10:47	{33.71 N {74.45 W	sonde 3	north end
11:24	{32.2 N {76.45 W (slightly inside conv. cell)	sonde 4	west end

*can see partial eyewall on west side (MMR!)

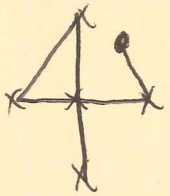
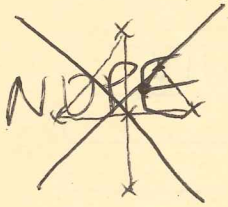
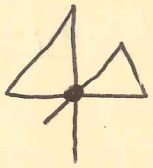
*seeing lightning

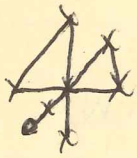
:)

Lead Project Scientist Event Log

Date 9July18 Flight ID 20180909HH LPS Kelly



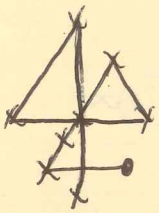




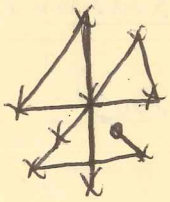


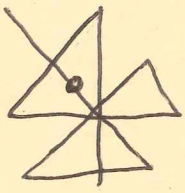
Time	Event	Position	Comments
1150	{32.18 N 74.49 W}	Sonde 5 (NWS request)	999mb splash
	north side = very clear - Hello sunshine		
12:09	{32.15 N 72.87 W}	Sonde 6	last end
12:24	{33.27 N 73.40 W}	Sonde 7	NE end
	→ Climb to 10K ft		
	* missed mdpt #1	~~Sonde 8~~ missed it	~~At end~~
~~1239~~ 1247	{ }	Sonde 8	center 999mb splash
1257	{31.68 N 75.21 W}	Sonde 9	mid SW #2
		* dropped at strongest rainband	tail end of
1308	{31.17 N 75.83 W}	sonde 10	* pretty clear out here at SW end

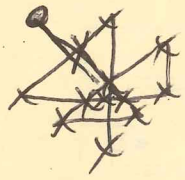
09 July 18 **Lead Project Scientist Event Log**

Date ~~2018070~~ Flight ID 201807091 LPS Kelly





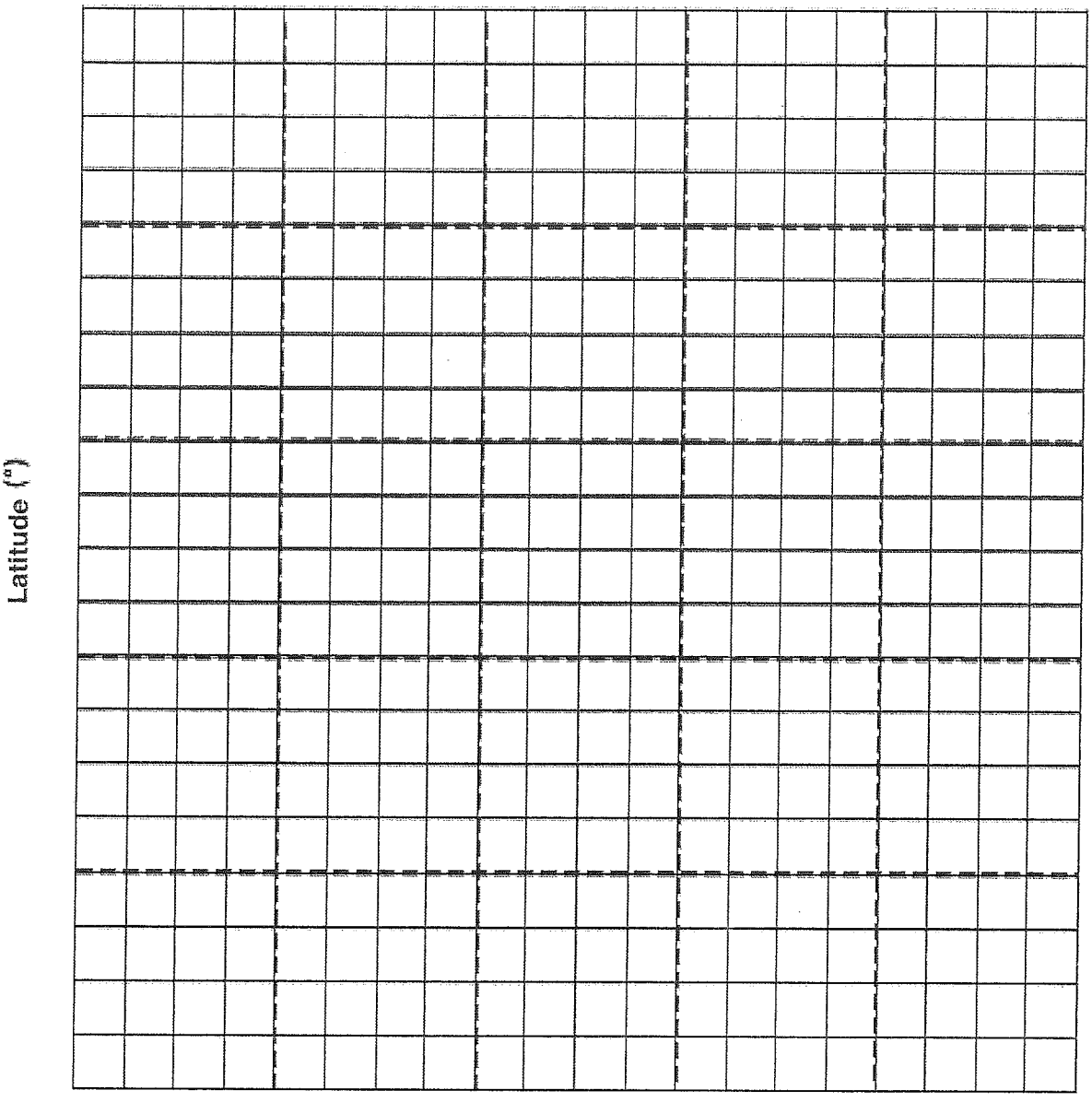




Time	Event	Position	Comments
1337	{31.18 N} {73.37 W}	sonde 11	SE end
1347	{31.68 N} {73.91 W}	sonde 12	SE mid
	*in strat rain		
NO CENTER SONDE this leg			
	{32.11 ~~30.11~~ N} {71.50 W}	center position	
	{32.68 N} {73.79 W}	sonde 13	~~mid~~ NW
1419	{75.84 W} {33.11 N}	sonde 14	end NW
1454	{31.07 N} {78.01 W}	sonde 15	@ 22kft transit
	*near dry region (according to TPW) just north of convection along boundary (SW near-TC env.)		

Observer's Flight Track Worksheet

Date _____ Flight _____ Observer _____

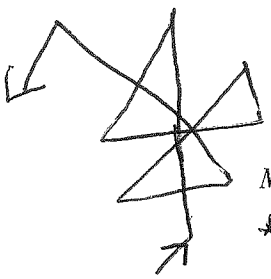


Took pics of env. conditions instead of drawing bc presentation changed significantly during flight

Mission Summary
Storm name
YYMMDDA# Aircraft 4_RF

Scientific Crew (4 RF)
Lead Project Scientist Kelly
Radar Scientist Sim
Cloud Physics Scientist —
Dropwindsonde Scientist Bachir
Boundary-Layer Scientist —
Workstation Scientist —
Observers (affiliation) —

Mission Briefing: (include sketch of proposed flight track or page #)
rotated fig4 (start S); 1@ 8kft, 1@ 10kft



Mission Synopsis: (include plot of actual flight track)
* went as expected
- 3 research sondes (mid-pt) SW SE NW
- 1 transit
* TDR & sondes successful
*MMR looks much better!

Evaluation: (did the experiment meet the proposed objectives?)
TC started (& ended) asymmetric, but changed orientation throughout mission. Begin: heavy conv w/s of center end: heavy conv. E/N of center. Saw partial rainbands throughout flight corresponding to said convection

Problems:(list all problems)
* radial 5 no good So no MMR data
* Aspen workstation froze 2x
→ LPS moved to this seat & aspen used on LPS workstation
→ using station2 for LPS is not recommended in future...
(could not load satellite or any website under 20-30 min even NHC homepage)

Expendables used in mission:
GPS sondes : 15
AXBTs : 0
Sonobuoys: 0