

Lead Project Scientist

Storm or Project GORDON Experiment type EMC TDR
Flight ID 20180904 H1 Mission ID 0407A GORDON

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 GORDON Experiment name EMC TDR

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A. Participants:

HRD		AOC	
Function	Participant	Function	Participant
Lead Project Scientist	<u>ALAKA</u>	Flight Director	<u>HOLMES</u>
Radar/Workstation	<u>MURILLO</u>	Pilots	<u>KIBBEY</u> <u>ROSSI/DIDIER</u>
		Navigator	<u>URATA</u>
Cloud Physics		Systems Engineer	<u>DARBY/LALENDE</u>
		Data Technician	<u>RICHARDS</u>
Dropwindsonde	<u>SELLWOOD</u>	Electronics Technician	<u>PEEK</u>
AXBT/AXCP		Other	
Photographer/Observer s/Guests	<u>ALLAND</u>	<u>AVAPS</u>	<u>WARNELKE</u>

B. Take-off and Landing Times and Locations:

Take-Off: 8:33 UTC Location: LAL

Landing: 15:22 UTC Location: LAL

Number of Eye Penetrations: 5

C. Past and Forecast Storm Locations:

Date/Time	Latitude	Longitude	MSLP	Maximum Wind
<u>04/0300Z</u>	<u>26.9 N</u>	<u>84.3 W</u>		<u>50 kt</u>
<u>04/1030Z</u>	<u>28.1 N</u>	<u>86.0 W</u>		<u>55 kt</u>
<u>04/1200Z</u>	<u>28.3 N</u>	<u>86.3 W</u>		<u>55 kt</u>
<u>05/0000Z</u>	<u>30.0 N</u>	<u>88.6 W</u>		<u>65 kt</u>

D. Mission Briefing:

Flight pattern rotated 90° clockwise → IP on east side
 Altitude of 10Kft pressure for rot. butterfly
 TEAL @ 5Kft
 1st pass → NHC fix

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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				19 (17)
AXBT/AXCP				8 (5)
Ozone instrument	↓	↓		
Workstation				
Cameras				

REMARKS:

Lead Project Scientist Event Log

Date 2018-09-04 Flight ID 20180904H1 LPS ALAKA

Time	Event	Position	Comments
8:33	Takeoff	LAL	
8:55	Reached 1P	27.9°N, 83.7°W	
	DROP 01: good release		hit water
9:02	Moderate turbulence on inbound leg		
	Weaving through isolated cells in stratiform		
9:09	DROP 02	27.9°N, 84.9°W	good release
	BUOY 01		working 28°C
9:21	Center Fix	27.7°N, 85.7°W	broken eyewall to E, 1001 mb
	DROP 03		good release, hit water
	RH < 70% above 4kft → dry air from west side?		
9:34	DROP 04	27.7°N, 86.8°W	good release
	Mod. turbulence on outbound leg →		rainband developing on W side?
	Profile has RH 780% below 10kft →		column is moistening
9:45	DROP 05	27.8°N, 87.7°W	good release, hit water
	BUOY 02		
	Much smoother after midpoint		
	Potentially no scatterers on downwind SW leg		
	New rainband trying to form on W and S sides		
	→ radar returns are low and weak		
10:21	DROP 06	26.1°N, 86.0°W	good release, transmission stopped ~45
	Start of 2nd leg		
	Lots of convection in E semicircle →		this would make a
	circumnar very difficult; leaning toward convective burst		module
	Overnight COO has been persistent over center for several		
	hours now.		

Lead Project Scientist Event Log

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Time	Event	Position	Comments
10:34	DROP 07	27.1°N	good release, in water
	BUOY 03	86.0°W	
	center moving quickly NW		
10:46	Center Fix	27.9°N, 86.1°W	1004 mb, 18 kt, 12 m
	DROP 08		good release, in water
	extrap SLP = 999 mb → deepening? (This was too low)		
	perhaps a few SLP minima?		
	cellular convection, but otherwise smooth due N of center		
10:58	DROP 09	28.9°N, 86.1°W	good release, in water
	Next downwind leg → ride in "moat" between 2 developing rainbands.		
	MMR reliable for near-distance echos		
11:09	DROP 10	29.5°N, 86.0°W	good release, in water
11:10	BUOY 04		
	Added a drop for 3 rd center pass - storm could be evolving quickly		
11:27	DROP 11	29.5°N, 87.6°W	good release, in water
	BUOY 05		
	Dry 1000-4000 ft in NW → dry air from land?		
11:41	DROP 12	28.8°N, 87.0°W	good release, in water
	LLC appears to be decoupling from circulations above		
11:56	CENTER FIX	28.1°N, 86.3°W	hard to find, losing organization
	DROP 13		
	adjusted next downwind → cut short by 10-15 mi to avoid convection		
12:11	DROP 14	27.3°N, 85.4°W	
	BUOY 06		
12:17	DROP 15	27.1°N, 85.1°W	

Mission Summary

Storm name GORDON

YYMMDDA# Aircraft 42RF

180904H1

Scientific Crew (4 RF)

Lead Project Scientist ALAKA

Radar Scientist MURILLO

Cloud Physics Scientist _____

Dropwindsonde Scientist SELLWOOD

Boundary-Layer Scientist ALLAND (SUNY)

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)

- 1) MMR froze and software was rebooted
- 2) AVAPS station required a hard reset
- 3) Big track deviations to avoid convection (bad for TDR)

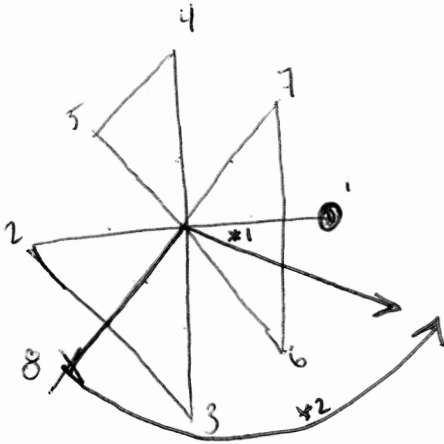
Expendables used in mission:

GPS sondes 19

AXBTs . 8

Sonobuoys: _____

(28.1°N, 86.0°W)



*1 : conv. burst option

*2 : 15kft circumnav

1st center pass - NHC fix

2nd - HRD research

3rd + : TBD