

## Lead Project Scientist

Date 7/12/19

Flight ID 20190712H1

Storm or Project Barry

Experiment name TDR

Mission ID NOAA20702A ALO22019

### Pre-flight

1. Participate in general mission briefing.
2. Determine specific mission and flight requirements for assigned aircraft.
3. Determine from AOC flight director/meteorologist whether aircraft has operational fix responsibility and the mission designation.
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.
5. Meet with AOC flight director and navigator at least 3 hours before take-off for initial briefing.
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 drop times.
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. Complete Lead Project Scientist Form.
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 Barry

Experiment name FDR

Flight ID 20190712#1

Mission ID NOAA2 0702A

**A. Participants:**

Function	Participant	Function	Participant
Lead Project Scientist	<u>Marks/Alvey</u>	Flight Director	<u>Parrish</u>
Radar	<u>Alvey/Marks</u>	Pilot	<u>Kibben</u>
Workstation	<u>—</u>	Pilot	<u>Didier / Legidakes</u>
Cloud Physics	<u>—</u>	Navigator	<u>Freeman</u>
Dropsonde	<u>Aberson</u>	Systems Engineer	<u>Lynch</u>
Dropsonde	<u>Diaz</u>	Data Technician	<u>Richards</u>
AXBT/AXCP	<u>—</u>	Electronics Technicians	<u>Patel</u>
Observer/Guest	<u>—</u>	Flight Engineer	<u>Haystack / Sandberg</u>
Observer/Guest	<u>—</u>		

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

Take-Off: 0803 UTC Location: Lake land

Landing: 1525 UTC Location: Lake land

Number of Eye Penetrations: —

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

Date/Time	Latitude	Longitude	MSLP	Maximum Wind
<u>12/12 00</u>	<u>28</u>	<u>84.9</u>	<u>1004</u>	<u>45 kts</u>
<u>/</u>				
<u>/</u>				
<u>/</u>				
<u>/</u>				

**D. Mission Briefing:**

rotated flights start NE of 6  
 highest altitude possible 20-21kft  
 except maneuver demand to 12kft  
 drops at end points, mid points, 6 and mid points  
 downwind legs  
 - possible convective gust module

Storm or Project Barry Experiment name TDR  
 Flight ID 20190712H1 Mission ID NOAA2 0702 A ALO2 2019

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	✓	✓		
Doppler Radar/TA	✓	✓		6 analyses
Cloud Physics	✓	✓		
Data System	✓	✓		
GPS sondes	✓	✓		24 drops
AXBT/AXCP	—	—		
Ozone instrument	—	—		
Workstation	✓	✓		
Cameras	✓ dark	✓ dark		

REMARKS:

0852- noticed <sup>TDR</sup> sea clutter <sup>TMS</sup> radial velocity  
 0854 has gradient across track around  
 0 m/s — took photos as example

~0950 MMR  
 HWX mode crapped out just as  
 we approached major band to 51000  
 switched to NAW mode

— Flight level centers related to convection show up in satellite imagery as little swirls in low cloud

— surface center 45 nm NW of 500mb center

Excellent rotated Fig 4 pattern executed as drawn centered on NHC surface fix estimate.

Flight level center was 40 nm SE of surface center tucked up on edge of major band SE of 5

4 center fixes over surface center drop pressure 995-997

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Lead Project Scientist Event

Date 7/12/2019 Flight ID 20190712 #1 LPS Marks / Alreg

Time	Event	Position	Comments
0803	TO	Lake land	28°, 82°
0916	(1P)	29.4, 88.9 alt 21kft	TK 225 Drop #1 start TDR analysis #1
092536	mid pt	28.8, 89.6	Drop #2
0935	6	28.2, 90.3	Drop #3
0945	mid pt	27.5 91.0	drop #4
0950		descend to 14kft	MNR + WX made cropped out switched to NAW
0955	(2)	26.96, 91.66 drop #5	lightning in band to S TK 090 14kft
1012	mid pt	26.9, 90.25	drop #6
1026	(3)	26.9, 89.95	drop #7 TK 315 14kft
1036			climb to 20kft
103930	mid pt	27.65, 89.66	drop #8 out of soup
1041	FL 6)	27.7, 89.75	18kft
		40nm SE of surface center	
1050	6	28.23, 90.3	drop #9 21kft TK 315
1100	mid pt	28.85, 91.05	drop #10
1111	(4)	29.4, 91.7	drop #11 alt 21kft TK 200 to (5)

997 w/b  
997 w/b

(2)

Lead Project Scientist Event

Date 7/12/2019 Flight ID 20190712H/LPS Marks/Alveg

Time	Event	Position	Comments
1125	(5)	28.2, 92.25	TK 090 Drop #12
		alt 21 kft	
1136	mid pt	28.2, 91.28	drop #13
1147	(6)	28.2, 90.12	drop #14 TK 090
1159	mid pt	28.2, 89.25	drop #15
1209	(6)	28.2, 88.4	drop #16 TK 315
			Alt 21 kft
1219	~ mid pt	28.9, 89.12	over water drop #17
<u>1235</u>	(7)	29.86, 90.3	New Orleans no drop
			TK 180
1246	~ mid pt	28.95, 90.3	over water drop #18
			south of Barataria Bay
1255	(6)	28.2, 90.3	drop #19
1303			descend to 12 kft
1305	mid pt	27.3 90.3	In N edge of band drop #20
			nice updrafts lightning
1318	(8)	36.9 90.3	drop #21
			TK 60 to (3)
1335	IP (3)	26.9 88.9	drop #22 TK 315
			alt 13 kft
1353	EP/IP	27.93 89.8	drop #23 TK 090
1415	EP	428 ~ 87	end leg climb
			TK far have
1433	drop #24	outside system	- arc clouds around drop

rotated 9 deg

convective bursts

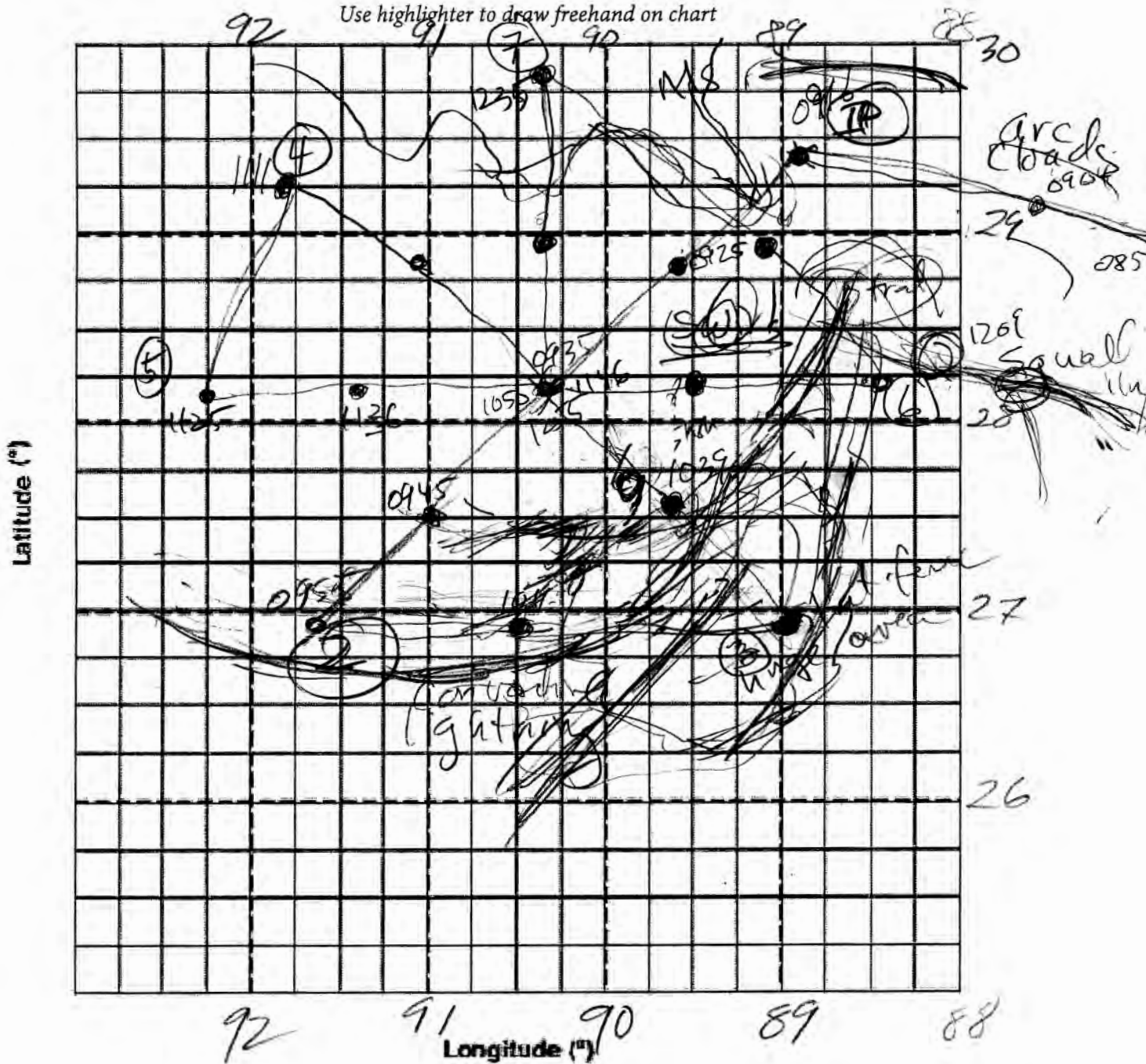


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### Observer's Flight Track Worksheet

Date 7/12/2019 Flight 20190712#1 Observer Marks

Use highlighter to draw freehand on chart



## Mission Summary

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### Scientific Crew (42RF)

Lead Project Scientist

Radar Scientist

Cloud Physics Scientist

Dropwindsonde Scientist

Boundary-Layer Scientist

Workstation Scientist

Observers (affiliation)

Marks/Alveg

Alveg

Abersom/Diaz

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—

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

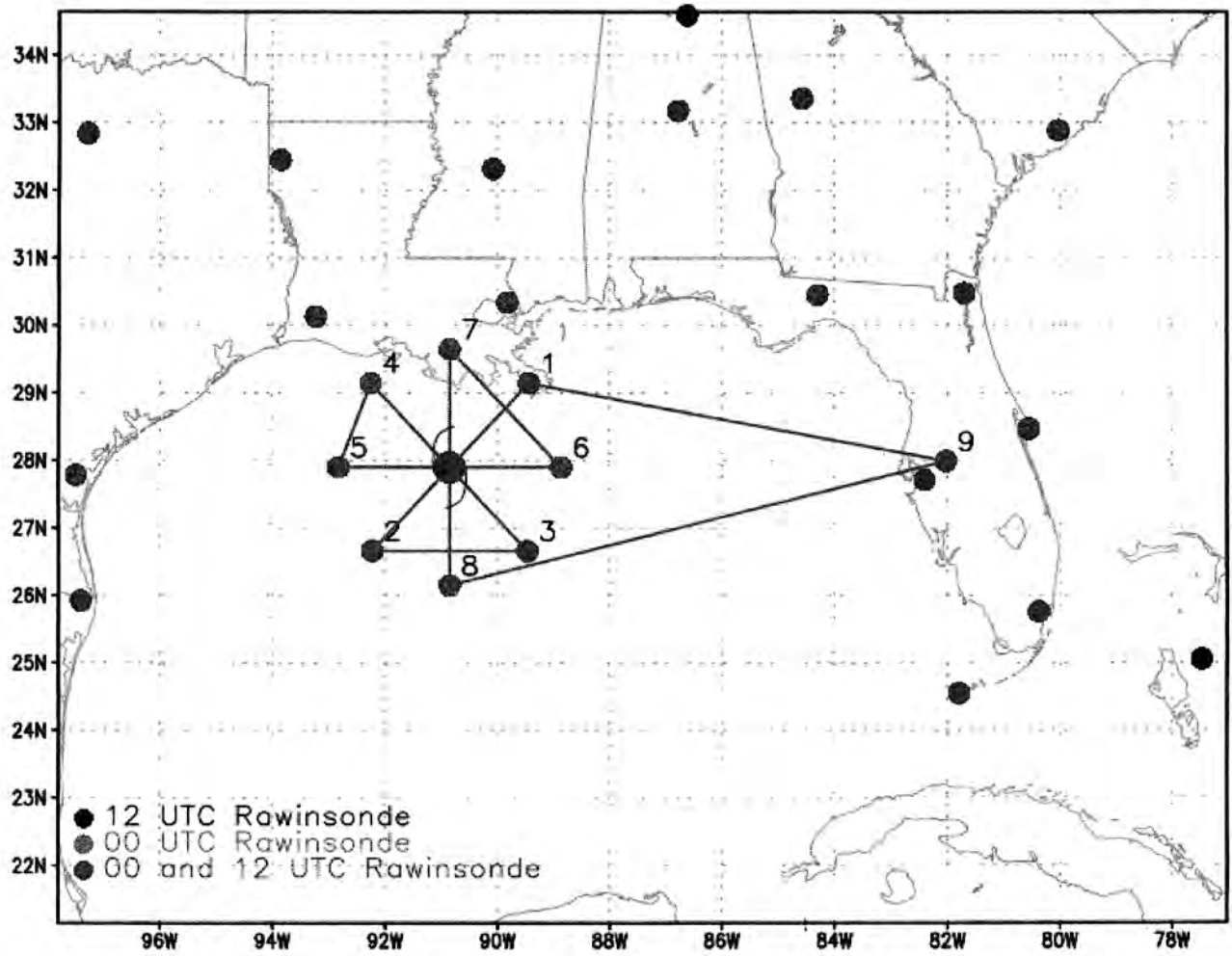
*Mission Synopsis: (include plot of actual flight track)*

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

*Problems: (list all problems)*

*Expendables used in mission:*

	Deployed	Good	Bad
GPS sondes .	24	24	0
AXBTs :	—	—	—
Sonobuoys:	—	—	—
UAVs	✓	—	—



GrADS/COLA

2019-07-10-20:35

Mission ID: NOAA 2 0702A BARRY  
 STORM ID: ALO22019