

Lead Project Scientist

Storm or Project TS Berta Experiment name TOR
Flight ID 14080341 Mission ID _____

Preflight

- ☐ 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 MGOC in Miami.
- ☐ 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 MGOC.
- ☐ 7. Determine next mission status, if any, and brief crews as necessary.
- ☐ 8. Notify MGOC 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 TS Bertie Experiment name TOR

Flight ID 140803H1 Mission ID _____

A. Participants:

HRD		AOC	
Function	Participant	Function	Participant
Lead Project Scientist	<u>Rogers</u>	Flight Director	<u>Holmes</u>
Radar/Workstation	<u>Reaser</u>	Pilots	<u>Kibbey/Kerns</u>
		Navigator	<u>Collagher</u>
Cloud Physics	<u>_____</u>	Systems Engineer	<u>Bosko</u>
		Data Technician	<u>Lyach</u>
Dropwindsonde	<u>Uhlhorn</u>	Electronics Technician	<u>Richards</u>
AXBT/AXCP	<u>Uhlhorn</u>	Other	
Photographer/Observer	<u>_____</u>		
s/Guests	<u>_____</u>		

B. Take-off and Landing Times and Locations:

Take-Off: _____ UTC Location: St. Croix

Landing: _____ UTC Location: _____

Number of Eye Penetrations: _____

C. Past and Forecast Storm Locations:

Date/Time	Latitude	Longitude	MSLP	Maximum Wind

D. Mission Briefing:

Fly TOR mission into TS Bertie, located in the southern Bahamas. Bertie continues to struggle, having encountered significant westerly shear and dry mid-to-upper level air in its entire lifecycle. Fast translation speed (~20kt) + interaction with dissipating wave also hindered organization. Convection is still sporadic & transient, and primarily located on east side of circulation. Expect a broad, diffuse circulation. Mission calls for a rotating Fig 9, 1P on S side. 100 nm legs. Drop sondes at all midpoints and center fixes. Drop BT's at all turn points, mid points, and center. Fly at 10,000 ft.

Storm or Project TS Bertua Experiment name TDR

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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	N/A			
Data System	↑			
GPS sondes	↑			
AXBT/AXCP	↑			
Ozone instrument				
Workstation				
Cameras				

REMARKS:

Lead Project Scientist Event Log

Date 8/08/14

Flight ID 140803H1

LPS Rogers

Time	Event	Position	Comments
1754	takeoff	TISX	
1932	obs	near IP on SE	LF showing precip area of stratiform precip, with embedded convective elements, some 7500 ft TA radar shows only extending up to ~10 km → dry air possibly being entrained into system? will be good to see G-V drops in vicinity.
1959	BT 1	IP, 100 nm S	SST 28.8
2011	BT 2, Sunde 1		27.9
2027	BT 3, Sunde 2	23°20' 73°05'	SST 27.9 S
2040	BT 4, Sunde 3	50 nm N of center	SST 28.8
2052	BT 5	100 nm N of center	and outbound leg
2055	obs	downwind leg	missed FL center on first pass, was a little to the SE of us. Drop from that point suggested showed sfc winds of 8 kt from W, FL had 17 kt from 348, suggesting slight tilt toward E. will continue to fix based on projected FL center, and reassess if we want to anchor to sfc center for 2nd fig. 4
2125	pattern, BT 6	100 nm W	standing next inbound leg, saw next to no scatterers on downwind leg
2137	BT 7, drop 4	50 nm W	FL 40, SF 35 kt 29.2
2156	BT 8, drop 5	center, 23 deg 44 min	sfc. press 1008; extrap. 1007, SST 28.7

→ SF → SEF Sa

348

drop from (st fix)

8 kt
17 kt
sfc
FL

23°20'
73°40'

start radar leg 1

ect.
FL at 2027
and FL

23°19'
72°55'

start RL2

mark
2156

23°44'
72°40'

Lead Project Scientist Event Log

Date 8/3/04 Flight ID 140803H LPS Rogers

Time	Event	Position	Comments
2202	obs	outbound on E side	passed through some fairly significant precip. at center and just east of center. some suggestions of convective elements, with some tops to 14 km, but most of it was stratiform
2209	BT 9, drop 6	midpt E side	28.4 SST
2221	BT 10	end E side, 100 nm E	end outbound leg
2238	BT 11	100 nm NE	begin next inbound leg
2247	obs	near midpt on NE	in an extensive area of precip; mostly strat but some very deep extensive cores up to 35 dBZ up to ~12 km
2251	BT 12, drop 7	50 nm NE	SST 28.7
2259	BT 13, drop 8	convective core, 10 nm NE of center	SF winds ~ 58 kt
2303	drop 9	center, 23°54' 72°47'	Gold here
2312	obs	midpt SW	on inbound leg from NE, found deep convective towers. Some showed echo tops ~18 km, and 35 dBZ up to 16 km, also
2317	BT 14, drop 10	midpt SW	SST 28.6
			this was not a curved band, so released dropsonde, SF winds were 58 kt. LF in center showed nice

banding features, though still asymmetric, this was first clear indication of a barst, ~10 nm from marked FL center.

end RL2

begin RL3

center mark
2303
23°54'
72°47'

Lead Project Scientist Event Log

Date _____ Flight ID _____ LPS _____

Time	Event	Position	Comments
2325	Pattern, BT 15	100 nm S W	turn to downwind leg
2344	obs	downwind leg, ~90 nm S of dr	extensive precip shield here, mostly strat, but some convective elements, perhaps young convection b/c LF shows high but TA not showing full echoes
2354	BT 16	~100 nm SE	SSR 28.9
2359	BT 17, drop 11	50 nm SE	FL 40,5F40, SSR 28.3
0014	obs	hunting center	large precip area on east side, very choppy on inbound "penetration"
0017	pattern, BT 18, drop 12	center, 24°15' 73°01'	
0025	BT 19, drop 13		
0039	BT 20		end of pattern
0048	obs	center, very back to FLL	no precip on NW side, highly asymmetric storm with banded precip on E side, mostly some areas of deep convection, including a burst with echoes up to 18 km, wind field also asymm. Peak difference across storm was ~30-35 kt from WSW to ENE sides. Peak winds ~55-60 kt on NE, both sides of SFR, min press. ~1004 mb
0227	land	FLL	

0017Z
24°15'
73°01'

Mission Summary

Storm name

YYMMDDA# Aircraft 4_RF

Scientific Crew (4 RF)

Lead Project Scientist Rogers
Radar Scientist Rogers
Cloud Physics Scientist _____
Dropwindsonde Scientist Uhlhorn
Boundary-Layer Scientist Uhlhorn
Workstation Scientist _____
Observers (affiliation) _____

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

See previous

Mission Synopsis: (include plot of actual flight track)

Flight was flown essentially as planned. There was difficulty locating the center on first 2 passes. Storm continued to be asymmetric, see final comments in comments section. Still struggling with organizing, but deeper convection indicates it may be getting better organized. Collected and transmitted 4 radar analyses, 13 drops and 20 BT's.

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

Mission was a success. All radar analyses completed successfully and transmitted to EMC. Dropsondes and BT's also were successful.

Problems: (list all problems)

No launch detect.

No problems, except for an occasional late/

Expendables used in mission:

GPS sondes : 13

AXBTs : 20

Sonobuoys: _____