

Lead Project Scientist

Storm or Project FS Arthur Experiment name TOR
Flight ID 140702H1 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 Arthur Experiment name TDR

Flight ID 14070241 Mission ID _____

A. Participants:

HRD		AOC	
Function	Participant	Function	Participant
Lead Project Scientist	<u>Rogers</u>	Flight Director	<u>Damiano</u>
Radar/Workstation	<u>Bucci</u>	Pilots	<u>Kibbey, Kerns</u>
		Navigator	<u>Siegel</u>
Cloud Physics	<u>_____</u>	Systems Engineer	<u>Bosco</u>
		Data Technician	<u>Lydon, Sam, Ganci</u>
Dropwindsonde	<u>Chen</u>	Electronics Technician	<u>Rehder</u>
AXBT/AXCP	<u>_____</u>	Other	
Photographer/Observer	<u>Nyström</u>		
s/Guests	<u>_____</u>		

B. Take-off and Landing Times and Locations:

Take-Off: _____ UTC Location: KNOF

Landing: _____ UTC Location: _____

Number of Eye Penetrations: 1

C. Past and Forecast Storm Locations:

Date/Time	Latitude	Longitude	MSLP	Maximum Wind

D. Mission Briefing:

Conduct TDR pattern in TS Arthur, which is nearly stationary off the east coast of Florida. Arthur is experiencing northerly winds near, and likely some dry air on west side. As a result convection is significantly displaced to east of low-level center. Mid-level center appears displaced ~30 nm to east of low-level center. Fly rotating fig. 4, 10 nm S side of storm. 105 nm legs, at 12 kft. Upon completion of 1st fig. 4 on E side, turn around and begin circumnavigation at ~1.5x R_{max}. Drops at turn points. Then fly last fig. 4 on NE side. Drops on fig. 4 at turn, R_{max} center.

AF fix

28°09'

79°06'

Lead Project Scientist Event Log

Date 7/2/14

Flight ID 14070241

LPS

Rogers

Time	Event	Position	Comments
0604	to left	KMCP	
0654	pattern	near IP	AF fix was N and E of where we thought, so have adjusted pattern to account for new position
0658	obs	at near IP, ~ 65 nm SE of center	some isolated convective cells here, tops ~ 12-14 km
0657	pattern	105 nm SSE center	don't have drop yet
0702	drop 1	~ 85 nm SSE	
0715	drop 2, RMW	~ 30 nm SSE center	near estimated peak FC winds ~ 43 kt
0716	obs		peak winds ~ 50-52 kt
0719	drop 3, 1st RMW	~ 15 nm SSE	some dropped b/c SFMR showed strongest winds here
0723	center, drop 4	28°13' 79°02'	center at 12 kt in 5 nm to E and W of 5 kt center
0732	drop 5, 1st RMW obs	~ 40 nm NNW	FC 45-50 kt motion estimate from AF & US is 30/4, but going w/ NHC discussion w/ AF / NOAA at 2 altitudes
0738	obs	~ 65 nm NNW	void of precip on this side
0748	drop 6, turn	~ 105 nm NNW	FC 15 kt, end of northern leg

28°13'

79°02'

Lead Project Scientist Event Log

Date 2/2/04 Flight ID 140702MU LPS Rogers

Time	Event	Position	Comments
0813	drop 7, turn	~45 nm WSW	FL 25 kt, turn to next inbound leg
0820	drop 8, R/W		25 kt
0825	drop 9, center	28°21' 78°0'	
0832	drop 10	~40 nm center ^{ENE}	50 kt
0835	obs	~50 nm ENE	in extensive preiph
0850	drop 11	~65 nm	
0859	obs	~70 nm ENE	lit heavy convection, turbulence, graupel, lightning
0908	pattern	~50 nm ENE	begin octagon pattern
0911	drop 12		begin octagon drops
0919	drop 13	2 nd turn	2nd oct. drop
0927	drop 14	3 rd turn of oct	FL 40 kt
0935	drop 15	4 th turn	FL 25 kt
0943	drop 16	5 th turn	FL 29 kt
0951	drop 17	6 th turn	FL 37 kt
0959	drop 18	7 th turn	FL 41 kt
1006	drop 19	8 th turn	FL 40 kt
1011	pattern	end of octagon	heading to NE for Fig. 4
1027	obs	near NE point	
1027	drop 20	105 nm NE	FL 30 kt
1042	drop 21	45 nm NE	FL 35 kt
1047	drop 22, center	28°37' 78°0'	
1101	drop 23	in SW leg	FL 33 kt
1107	drop 24	105 nm SW	FL 34 kt

[illegible]

Mission Summary

Storm name

YYMMDDA# Aircraft 4_RF

Scientific Crew (4 RF)

Lead Project Scientist Logg3
Radar Scientist Bucci
Cloud Physics Scientist _____
Dropwindsonde Scientist Chen
Boundary-Layer Scientist _____
Workstation Scientist _____
Observers (affiliation) Nyström / UIUC

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

see previous

Mission Synopsis: (include plot of actual flight track) flew track as planned. Storm is still

highly asymmetric, no precip on N + W sides, fairly significant precip w/ some embedded
deep convection on SE side. Storm is tilted from 5-12 kft, 12 kft center displaced to
NE based on center drop. Major problems w/ radar comms, processing software caused
us to fail at getting 1st 2 passes transmitted. 30 drops

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

Pattern was flown successfully, but major problems w/ radar processing &
transmission caused failure in data transmission. Dropsondes worked well once
directory issue was resolved. First 6 drops not found yet.

released.

Problems: (list all problems)

- radar software & comms
- dropsonde data directory at beginning

Expendables used in mission:

GPS sondes: 30

AXBTs: _____

Sonobuoys: _____