

Flight ID 120823FD **Lead Project Scientist**
Storm TS Isaac **LPS** Rogers
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.
5. 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.
6. Report status of aircraft, systems, necessary on-board supplies and crews to HFP Director.
7. Before take-off, brief the on-board GPS dropsonde operator on times and positions of drop times.
7. Make sure each HRD flight crew member has a life vest.
7. 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.
2. Confirm camera mode of operation.
3. Confirm radar recording set-up.
4. Confirm data recording rate.
5. Complete Lead Project Scientist Form.
6. 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 bag separately from other missions. Turn in to data manager at HRD.
5. Copy serial flight data, dropsonde files, and radar data onto thumb drive. Turn in with completed forms.
6. Report landing time, aircraft, crew, and mission status along with supplies (tapes, etc.) remaining aboard the aircraft to HFP Director.
7. Determine next mission status, if any, and brief crews as necessary.
8. Notify HFP Director as to where you can be contacted and arrange for any further coordination required.
9. Prepare written mission summary using **Mission Summary** form.

1540
6634

Lead Project Scientist Check List

Storm or Project TS Isaac Experiment name TOR
 Date 8/23/12 Aircraft N42RF Flight ID 120823 J2
 Mission ID _____

A. Participants:

HRD		AOC	
Function	Participant	Function	Participant
Lead Project Scientist	<u>Rogers</u>	Flight Director	<u>Williams</u>
Radar		Pilots	<u>Halverson, Fibbey</u>
Dropwindsonde	<u>Gamache</u>	Navigator	<u>Siogel</u>
Sea-Air	<u>Vukobratovic</u>	Systems Engineer	
Photographer/Observer/ Guests (give affiliation)		Data Technician	<u>Lynch</u> <u>DeK</u>
Cloud Physics		Electronics Technician	_____
		Other ()	_____

B. Take-off and Landing Times and Locations:

Take-Off: 2002 UTC Location: TBB
 Landing: 0003 UTC Location: _____

Number of Eye Penetrations: _____

C. Past and Forecast Storm Locations:

Date/Time	Latitude	Longitude	MSLP	Maximum Wind
<u>23/15 Z</u>	<u>15.6</u>	<u>65.4</u>		<u>35 kt</u>
<u>24/00 Z</u>	<u>16.1</u>	<u>67.4</u>		<u>40 kt</u>
<u>24/12 Z</u>	<u>16.9</u>	<u>70.0</u>		<u>50 kt</u>
<u>25/00 Z</u>	<u>18.0</u>	<u>72.4</u>		<u>65 kt</u>
<u>25/12 Z</u>	<u>19.3</u>	<u>74.6</u>		<u>55 kt</u>

E. — Equipment Status (Up ↑, Down ↓, Not Available —, Not Used O)

Equipment	Pre-Flight	In-Flight	Post-Flight	Number of Expendables
Radar/LF				
Doppler Radar/TA				
Cloud Physics				
Data System				
GPS sondes				
AXBT/AXCP				
Ozone instrument				
Cameras				
Other ()				

D. Mission Briefing:

Fly 3rd + DR mission into TB Isaac. ~~Setup~~ Fly butterfly pattern, set up IP on SW side, 2nd pass is NW-SE, 3rd pass is E-W, then turn 180 and do 4th and final pass. Fly at 10,000 ft, except for 2nd pass, when we descend to 5000 ft to do a 002 fix for WHC.

Drop sondes at turn points, mid points, RAW points, and first and last pass.

Lead Project Scientist Event Log

Date 8/23/12 Flight ID 12082372 LPS Rogers

Time	Event	Position	Comments
2002	takeoff	TBPB	
2204	obs	near IP on SW side	encountered some isolated convection embedded within stratiform on SE side of system
2210	pattern, drop 1	at IP SW of ctr	FL 25kt, SF var 30-35 kt
2222	drop 2	midpt on inbound leg	FL 6kt, SF 40kt, FC WD is 240deg, so looks like mid level ctr is SW of SF center; SF 40kt + greater, maybe LLC getting stronger in spite of shear, due air vortex displacement
2236	drop 3	"center" drop	FL 20, SF 40 kt; FC winds starting to come up now; perhaps LLC is turning better aligned with MLC?
2250	drop 4	midpt drop	FL 40, SF 35 kt
2258	drop 5	end of NE inbound leg	FL 45, SF 35 kt
2330	drop 6	beginning of inbound leg	FL 35, 25kt SF, descend to 5 kft
2344	drop 7	midpt inbound	FL 25, SF 25
2350	drop 8	16° 28' 68° 2'	
2356	drop 9	midw drop on SE outbound	FL 15, SF 35 kt
0012	drop 10	midpt SE drop	FL 10, SF 35 kt
0017	drop 11	endpt SE leg	FL 25

1605
67 46

Lead Project Scientist Event Log

Date _____ Flight ID _____ LPS _____

Time	Event	Position	Comments
0041	pattern	405 nm E of ctr	climbing to 106 ft, set up for in-bound leg
0042	drop 12	105 nm E of ctr	FL 40 kt, SF 30 kt
0043	drop 13	100 nm E	drop 12 failed, second drop as backup
0056	drop 14	mid pt of in-bound leg on E	FL 35 kt
0108	obs	near middle of east-west pass	FL winds Easterly
0109	drop 15	near center pos	FL 35 kt, SF 25 kt
0123	drop 16	mid pt outbound on W side	FL 35 kt
0130	drop 17	end of outbound leg on W	FL 40, SF 25 kt
0140	pattern		turn to 120, tracking FL ctr
0140	drop 18	mid pt on W side	FL 35
0147	drop 19	near in convection	FL 35 kt
0155	drop 20		FL 15 kt
0208	drop 21	mid pt on outbound to E/ESE	FL 15 kt
0209	obs	on outbound leg	on return leg toward base, detected to S to target vigorous convection + suspected mid-level center, encountered some of bumps + part of flight FL center still appeared to be to south
0220	drop 22	end of outbound leg	FL 30 kt

HRD_AWC_NCA &
HRDTW 3+3-

Mission Summary

Storm name

YYMMDDA# Aircraft 4_RF

Scientific Crew (4 RF)

Lead Project Scientist Rogers

Radar Scientist Gambale

Dropwindsonde Scientist Ulicanic

Sea-Air Scientist _____

Cloud Physics Scientist _____

Observers _____

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

See previous

Mission Synopsis: (include plot of actual flight track)

flew track as planned. On final W-E leg, deviated a bit to track 120 to try to sample FC center to south. Storm was still disorganized at start of flight, but by last 2 passes circulation center was more vertically coherent, extended over a deeper layer. Vigorous convection evident near circulation center on 5th pass.

Evaluation: (did the experiment meet the proposed objectives?) Mission did meet the objectives. Good radar and dropsonde coverage, radar analysis worked better and was able to transmit data to EIR. Perhaps sampled a disorganized tropical storm that got itself better organized, setting the stage for intensification.

Problems: (list all problems)

No major problems. Was a problem with 1 dropsonde, but that was backed up.

Expendables used in mission:

GPS sondes: 22

AXBTs: _____

Sonobuoys: _____