Lead Project Scientist

Date 10/8/20 **Flight ID** 20201008I1

Storm or Project [illegible] **Experiment name** TDR + kitchen sink

Mission ID

~~Pre-flight~~

- ☐ 1. Participate in general mission briefing.
- ☐ 2. Determine specific mission and flight requirements for assigned [illegible]
- ☐ 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 Delta **Experiment name** TDO

Flight ID ~~20201008I1~~ **~~Mission ID~~**

A. Participants:

Function	Participant	Function	Participant
Lead Project Scientist	Rogers, Aunion	Flight Director	Landry
Radar	Gamache	Pilot	Rossi
Workstation	Rogers	Pilot	Doremus
Cloud Physics		Navigator	Freeman
Dropsonde	Aunion, Rogers	Systems Engineer	Richards
Dropsonde		Data Technician	McAllister
AXBT/AXCP		Electronics Technicians	
Observer/Guest			
Observer/Guest		Flight Engineer	

B. Take-off and Landing Times and Locations:

Take-Off: 2102 UTC Location: KLAL

Landing: 0617 UTC Location: KLAL

Number of Eye Penetrations: _____

C. Past and Forecast Storm Locations:

Date/Time	Latitude	Longitude	MSLP	Maximum Wind
/				
/				
/				
/				
/				

D. Mission Briefing: TDR mission into Delta. Delta has slowly strengthened in the western Gulf. Environment is still somewhat favorable, with ~10 kt of SW shear and warm waters. Current satellite images showing deep convection firing inside RMW on the N side. AF found FL winds of ~120 kt. So likely strengthening.

Rotated fig-4, IP on N side, FP on SE side. EMC drops at end, mid, 1st pt center. IR sonde 2nd center drop. Gravity wave module out from S upon pt. Rapid-fire TCR drops on RMW SW, NE; TCR single RMW drop NW, SE. IR sonde dropped diagonally endpts. BT drop at E endpt. Overfly buoy 42360 on ferry, fly straight/level for 250s prior to reaching buoy, then 90° turn, dropsonde (IP) then 250s.

Storm or Project_____ **Experiment name**

Flight ID **Mission ID**

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				
Cloud Physics				
Data System				
GPS sondes				
AXBT/AXCP				
Ozone instrument				
Workstation				
Cameras				

REMARKS:

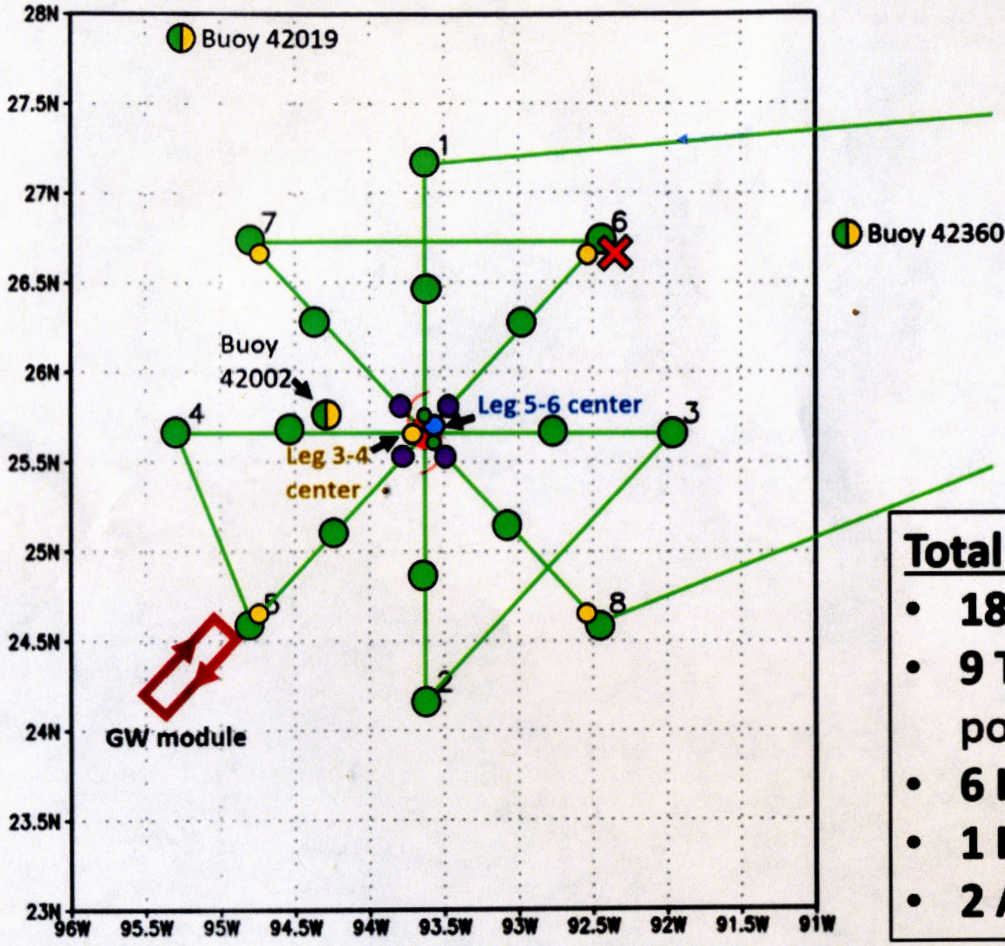
Also overfly buoy 42002 near center, drop sonde. Fly 8 kft. until AF leaves storm, then climb to 10 kft. 105 nm leg/1½

Lead Project Scientist Event

Date 10/8/20 **Flight ID** 20201008I1 **LPS** Rogers, Dunion

Time	Event	Position	Comments
2102	takeoff	KLAL	
2246	obs	approaching IP	WSRA down. Chiller is down, missing fan replacement, As a result ~~coolant~~ did not overfly buoy.
2308	pattern	at IP	
0001	obs	1st downwind leg,	highly asymmetric; FL winds ~ 35 kt greater on N side, both FL & SFC; open eyewall on S, SE; nearly precip-free on outbound to S → obvious SW shear structure
0118	flight	lost internet	
~~0121~~	obs	~~over~~ W end pt	on LPSL, precip-free
0135	pattern	at SW end pt	begin gravity wave module, go outward to SW, then return
0153			begin reciprocal leg of gravity wave module
0206	pattern	end gravity wave	
0338	obs	inbound NW	radar analyses show vortex is resilient. Very little if any tilt, but shear is ~15 kt and radial flow and precip. distribution
0534	obs	ferry home	Good mission, almost all objectives accomplished. Flew pattern, 4 radar analyses, 33 expendables in all. Failure of WSRA prevented buoy overflights. About 2/3 of radar analyses made it in time for 00Z cycle; rest will be there for 06Z. All sonde worked except for second (NLO). Neither BT worked. IR sondes generally worked well; but IR drop on NE had 25.3 SST, which may have been contaminated by precip. IR sonde on SE also showed 25.2. That may be real, in right rear quad. Storm is resilient. Even though profiles of radial flow and precip dist. are consistent w/ SW shear, vortex is nearly vertically aligned. Open eyewall on S, stadium precip-free on S side of storm. But it is still intensifying. W/ SW

NOAA43: October 8, 21Z takeoff



- EMC drop (16 end/midpoint+2 center)
- IR drop (5)
- Buoy drop (IR drop if no precip) (1)
- TCRI center drop: leg 5-6 (1)
- TCRI RMW drop: legs 5-6, 7-8 (4)
- AXBT double drop: point 6 (2)
- Gravity Wave module: 10kft for 40-60nm southwest from point 5, turn around and continue pattern. (also possible from point 8)

Total expendable payload:

- **18 EMC drops** (16 end/mid, 2 center)
- **9 TCRI drops** (4 RMW, 1 Center, 4 for possible rapid sequence on leg 5-6)
- **6 IR drops** (4 end, 1 center, 1 buoy)
- **1 HRD drop** (for buoy drop, if not IR)
- **2 AXBT** (for double drop at point 6)