

Lead Project Scientist

Storm or Project TS Karen Experiment name TOR
Flight ID 13003H1 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 Karen Experiment name TDR
 Flight ID 1300341 Mission ID _____

A. Participants:

HRD		AOC	
Function	Participant	Function	Participant
Lead Project Scientist	<u>Rogers</u>	Flight Director	<u>Hemming</u>
Radar/Workstation	<u>Hazelton/Sellwood</u>	Pilots	<u>Nelson, Sweeney, Kerns</u>
		Navigator	<u>Siegel</u>
Cloud Physics	_____	Systems Engineer	<u>Bosko</u>
		Data Technician	<u>Rulos</u>
Dropwindsonde	<u>Sellwood/Hazelton</u>	Electronics Technician	<u>Lynch</u>
AXBT/AXCP	<u>Sellwood/Hazelton</u>	Other	
Photographer/Observer s/Guests	_____		

B. Take-off and Landing Times and Locations:

Take-Off: 1805 UTC Location: Kaui
 Landing: 0145 UTC Location: Kaui

Number of Eye Penetrations:

C. Past and Forecast Storm Locations:

Date/Time	Latitude	Longitude	MSLP	Maximum Wind

D. Mission Briefing: Conduct EMC-tasked TDR mission into TS Karen.
 Fly rotating fig-4, IP on W side, FP on SE. 100 nm legs. Drop sondes CBT at all turn points and first center pass. Drop sondes only at all midpoints and remaining center passes. Fly at 8000 ft. Storm is slowly intensifying, encountering moderate SW shear. Convection has waned during day, is displaced to E of NE of low-level center. Dry air also present on W side.

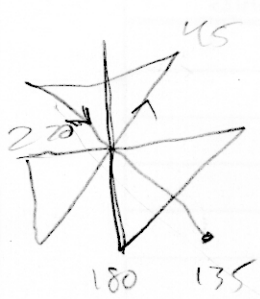




Lead Project Scientist Event Log

Date 10/3/13 Flight ID 131003 HI LPS Rogers

Time	Event	Position	Comments
1805	takeoff	KMCF	
1936	obs	North, 100 nm N of cent	clear air around, little echoes on LF, 30-35 kt on SFHP
1943	drop 1, BT	100 nm N center	FL 32, SF 32 kt, SST 29
1952	obs	~30 nm S of IP	anvil debris here, no real precip, but there is a bit of ~28-32 dBZ ahead → psbl "eyeball"?
2000	drop 2	30 nm from center, N "eyeball"	SF 50-55, FL 30-35
2006	drop 3, BT	center, 23° 13' 88° 28'	extap SCP 996, SST 28
2017	drop 4	50 nm S	FL 25, SF 20
2026	drop 5, BT	100 nm S	FL 20, SF 20, turn to downwind leg, inbound leg was only 80 nm, SST 27.5
2056	drop 6, BT	100 nm E	FL 35, SF 30, SST 27.8
2106	obs	60 nm E	mostly stratiform here on E side, haven't seen any echotops above 10 km
2112	drop 7	50 nm E	FL 45, SF 50
2123	drop 8	center, 23° 22' 88° 34'	extap SCP 997, peak FL wind on E inbound 50 kt, SF 50 kt
2136	drop 9	50 nm W center	FL 30, SF 30



center
23° 13'
88° 28'
2006Z

Radar leg 1
1943-2056

center
23° 22'
88° 34'
2123Z

329/8 - motion Yw 2 fixes



Lead Project Scientist Event Log

Date 10/31/13 Flight ID 131003H1 LPS Rogers

Time	Event	Position	Comments
2148	drop 10, BT	100 km W	FL 15, SF 10 kt, SST 29.25
2206	drop 11, BT	100 km SW	FL 15, SF 5-10 kt
2220	drop 12	50 km SW	FL 20, SF 5-10 kt
2231	drop 13	center, 23°24' 88°44'	peak FL 20, SF 30 kt on SW side, extrap SLP 998
2238	drop 14	NE "eyeball"	FL 45, SF 45 kt
2239	obs	NE outboard leg	see deep convection to our left; echo tops up to 16-17 km, highest of flight
2244	drop 15	50 km NE center	FL 35, SF 45 kt
2247	obs	20 km NE	good radar coverage; moderate stratiform, clear bright band, edges getting up to 10-12 km with some convective turrets
2255	drop 16, BT	100 km NE	FL 35-40, SF 20-25 kt
2329	drop 17, BT	100 km NW	FL 20, SF 20 kt, still clear on this side, no clouds above FL
2343	drop 18	50 km W	FL 30, SF 30 kt
2351	drop 19, center	23°28' 88°51'	extrap SLP ~999-1000 mb
2358	obs	SE of center	peak FL 35, SF 40 kt on SE side

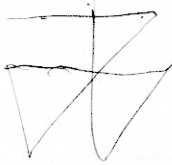
Radar leg 2
2056 - 2206

23° 24'
88° 44'
2231Z

center
23 38
88 51
2351Z

316/a not in blw 2 & 4 axes

Radar leg 3
2206 - 2328



Mission Summary

Storm name

YYMMDDA# Aircraft 4~~RF~~

Scientific Crew (4~~RF~~)

Lead Project Scientist Peters
 Radar Scientist Hazleton
 Cloud Physics Scientist _____
 Dropwindsonde Scientist Sellwood
 Boundary-Layer Scientist _____
 Workstation Scientist _____
 Observers (affiliation) _____

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

see previous

Mission Synopsis: (include plot of actual flight track) flew mission as planned.

Dropped sondes at all ends, midpoints, center; comb at endpoints and 1st center
 completed four radar analyses. Superobs did not make it in time for 18Z run though; may
 be due to processing issues at NCO. Storm is highly sheared, w/ precip well-displaced from
 MC. However, tilt is less than what would be expected given satellite presentation.
 Peak SFR winds 255 kt on N side; peak FC 50 kt on E side. During

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

mission did meet the objectives. All ops
 worked well, all radar analyses produced and transmitted
 to EMC. Observed ~~sq~~ struggling w/ SW shear and dry
 air on west side.

Problems: (list all problems)

No problems, other than delay in getting superobs to EMC w/ 18Z window.

latter half of flight convection
 started redeveloping NE and N of
 center. Saw echo tops up to 16-18 km
 on ~~N~~ side. Most scatterers were
 on NE side, with widespread
 stratiform, clear bright band, some
 convective turrets. No intensification
 during flight, likely due to shear/
 dry air on west side.

Expendables used in mission:

GPS sondes: 21

AXBTs: 9

Sonobuoys: —