

Lead Project Scientist

Date **Aug. 31, 2019**
Storm or Project **DORIAN**
Mission ID

Flight ID **20190831H1**
Experiment name **EMCTOR**

Pre-flight

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 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 **DORIAN**

Experiment name **EMC TOR**

Flight ID **20190831H1**

Mission ID **2205A DORIAN**

A. Participants:

| Function | Participant | Function | Participant |
|------------------------|---------------|-------------------------|--------------------------|
| Lead Project Scientist | ALAKA | Flight Director | HOLMES |
| Radar | SIPPEL | Pilot | DIDIER |
| Workstation | | Pilot | MITCHELL, DOREMUS |
| Cloud Physics | | Navigator | FREEMAN |
| Drosonde | DAHL | Systems Engineer | |
| Drosonde | | Data Technician | NAHER |
| AXBT/AXCP | | Electronics Technicians | |
| Observer/Guest | CHANG | | |
| Observer/Guest | | Flight Engineer | LALONDE, HEYSTEK |

B. Take-off and Landing Times and Locations:

Take-Off: **0853** UTC Location: **KLAL**

Landing: **1607** UTC Location: **KLAL**

Number of Eye Penetrations: **5**

C. Past and Forecast Storm Locations:

| Date/Time | Latitude | Longitude | MSLP | Maximum Wind |
|------------------|---------------|--------------|------|---------------|
| 31 / 0300 | 25.5N | 71.4W | | 120 kt |
| 31 / 1200 | 25.9N | 72.8W | | 130 kt |
| 01 / 0000 | 26.3°N | 74.5W | | 130 kt |
| 01 / 1200 | 26.6°N | 76.0W | | 125 kt |
| / | | | | |

D. Mission Briefing:

Not hunting center → straight lines

No AXBTs today

Standard drops (CTR/MID/END)

Ocean winds + RMW drops

Teal 75 @ 10k'

10-12 kft

Add drops to ferry

IN: 76.0W

OUT: 76.0W, 78.5W

Storm or Project DORIAN Experiment name EMC TDR

Flight ID 20190831H1

Mission ID 2205A

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:

Lead Project Scientist Event

Date Aug. 31, 2014 Flight ID 20190831 HI LPS ALAKA

| Time | Event | Position | Comments |
|-------|--|-------------------|--------------|
| 0853Z | Takeoff from | KLAL | |
| | Added ferry drops: | IN → | 76.0W |
| | | OUT → | 76.0W, 78.5W |
| 0914Z | TDR is up & running | | |
| | SFMR is up | | |
| 1008Z | DROP01 FERRY | 25.5N 76.0W | EMC BD ✓ |
| | 10kft now. 8kft when Teal 75 enters storm | | |
| 1030Z | DROP02 END | IP | EMC BD ✓ |
| 1050Z | Mark Center | 25.78N 72.75W | |
| | DROP03 CTR | | EMC BD ✓ |
| 1052Z | DROP04 RMW | | NESDIS BD ✓ |
| | Stratiform precip much more widespread today | | |
| 1101Z | DROP05 MID | 1007mb 41@120° | EMC GA ✓ |
| | Peak SFMR of ~130kt in NE eyewall | | |
| 1112Z | DROP06 END | | EMC BD ✓ |
| 1133Z | DROP07 END | | EMC BD ✓ |
| 1143Z | DROP08 MID | 1006mb 4k@80° | EMC GA ✓ |
| 1153Z | DROP09 RMW | | NESDIS BD ✓ |
| 1156Z | Mark Center | 25.84N 72.91W | |
| | DROP10 CTR | | DEAD EMC |
| | DROP11 CTR | | EMC BD |
| 1158Z | DROP12 RMW | 1005mb, 35kt@230° | NESDIS BD |
| 1207Z | DROP13 MID | | EMC GA |
| 1220Z | DROP14 END | | EMC |
| 1241Z | DROP15 END | | EMC BD |
| 1256Z | DROP16 MID | 1006mb, 47kt@175° | EMC GA |
| 1305Z | DROP17 RMW | | NESDIS |

Lead Project Scientist Event

Date Aug. 31, 2019 Flight ID 20190831141 LPS ALAKA

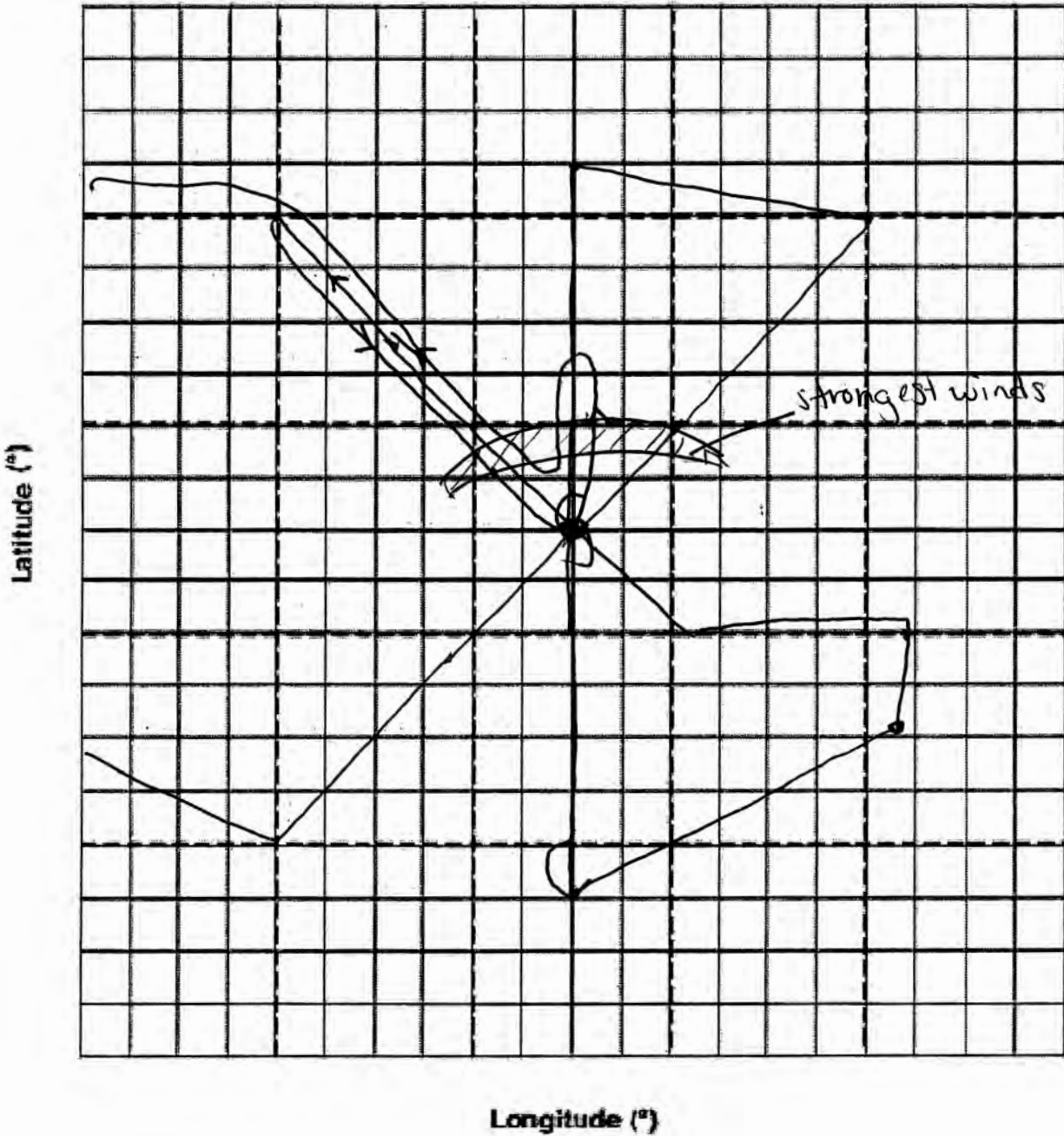
| Time | Event | Position | Comments |
|-------|---|-------------------------------|--------------------|
| 1307Z | DROP18 CTR | 946mb | EMC BD |
| 1309Z | DROP19 RMW | | NESDIS BD |
| 1307Z | Mark Center | 25.88N 73.09W | |
| 1319Z | DROP20 MID | 1008mb, 33kt @ 25° | EMC GA |
| 1327Z | DROP21 END | | EMC BD |
| 1357Z | DROP22 RMW | | NESDIS BD |
| 1358Z | DROP23 RMW | | N BD |
| 1359Z | DROP24 CTR | 25.93N 73.25W | E BD |
| 1401Z | DROP25 RMW | | N BD |
| 1402Z | DROP26 RMW | | N BD |
| | TDR coverage is spotty on S side. Maybe because of the plane deviations. How do we want to handle this situation | | |
| 1425Z | DROP27 RMW | | N BD |
| 1427Z | DROP28 RMW | | N BD |
| 1432Z | DROP29 RMW | | N BD |
| | Adding 2 FERRY drops at 76.0W and 78.5W | | |
| 1508Z | DROP30 FERRY | 30.0N 76.5W | E GA |
| 1528Z | DROP31 FERRY | ↓ | E GA BD |
| | | 1018 101 kt @ 160° | |
| | 30 sondes total | | |
| | TDR data too large to copy. Will leave on radar workstation | | |
| | SFMR ✓ | | |
| | DROPSONDE ✓ | | |
| | FLIGHT LEVEL ✓ | | |

Observer's Flight Track Worksheet

Date

Flight 20190831H1 Observer

Use highlighter to draw freehand on chart



Mission Summary

Scientific Crew (4 RF)

Lead Project Scientist

Radar Scientist

Cloud Physics Scientist

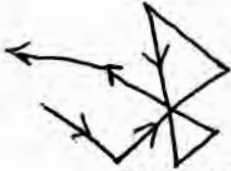
Dropwindsonde Scientist

Boundary-Layer Scientist

Workstation Scientist

Observers (affiliation)

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



Prep for Ocean Winds after final leg.

Mission Synopsis: (include plot of actual flight track)

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

Problems: (list all problems)

Expendables used in mission:

| | Deployed | Good | Bad |
|--------------|----------|------|-----|
| GPS sondes : | 31 | 30 | 1 |
| AXBTs : | — | — | — |
| Sonobuoys: | — | — | — |
| UAVs | — | — | — |