

## E.2 Lead Project Scientist

### E.2.1 Preflight

- \_\_\_\_\_ 1. Participate in general mission briefing.
- \_\_\_\_\_ 2. Determine specific mission and flight requirements for assigned aircraft.
- \_\_\_\_\_ 3. Determine from field program director whether aircraft has operational fix responsibility and discuss with AOC flight director/meteorologist unless briefed otherwise by field program director.
- \_\_\_\_\_ 4. Contact HRD members of crew to:
  - a. Assure availability for mission.
  - b. Review filed 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 appropriate HRD operations center (MGOC in Miami).
- \_\_\_\_\_ 7. *Before take-off*, brief the on-board GPS dropsonde operator on times and positions of drop times.
- \_\_\_\_\_ 8. Perform a radio check with headsets. Make sure everyone's headsets is work properly.
- \_\_\_\_\_ 9. Collect "mess" fee (\$2.00) from all on-board HRD flight crew members

### E.2.2 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 Form E-2.
- \_\_\_\_\_ 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).

### E.2.3 Post flight

- \_\_\_\_\_ 1. Debrief scientific crew.
- \_\_\_\_\_ 2. Report landing time, aircraft, crew, and mission status along with supplies (tapes, etc.) remaining aboard the aircraft to MGOC.
- \_\_\_\_\_ 3. Gather completed forms for mission and turn in at the appropriate operations center. [Note: all data removed from the aircraft by HRD personnel should be cleared with the AOC flight director.]
- \_\_\_\_\_ 4. Obtain a copy of the 10-s flight listing from the AOC flight director. Turn in with completed forms.
- \_\_\_\_\_ 5. Determine next mission status, if any, and brief crews as necessary.
- \_\_\_\_\_ 6. Notify MGOC as to where you can be contacted and arrange for any further coordination required.
- \_\_\_\_\_ 7. Prepare written mission summary using form E-2 p.3 (due to Field Program Director 1 week after the flight).

Lead Project Scientist Check List

Date 19 AUG 2003 Aircraft N42RF Flight ID 030819H

A. —Participants:

| HRD                    |             | AOC                    |             |
|------------------------|-------------|------------------------|-------------|
| Function               | Participant | Function               | Participant |
| Lead Project Scientist |             | Flight Director        |             |
| Cloud Physics          |             | Pilots                 |             |
| Radar                  |             | Navigator              |             |
| Workstation            |             | Systems Engineer       |             |
| Photographer/Observer  |             | Data Technician        |             |
| Dropwindsonde          |             | Electronics Technician |             |
| AXBT/AXCP/Guest        |             | Other                  |             |

Take-Off: 151430 Location: MAC DILL Landing: 190710 Location: MAC DILL

Number of Eye Penetrations: NONE

B. —Past and Forecast Storm Locations:

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

C. —Mission Briefing:

CALIBRATION/TEST/PRACTICE CBLAST FLIGHT  
FLYING TO BOOY 42030, which will serve as  
"HURRICANE CENTER" WILL PRACTICE EMANUEL  
INSPIRED RAPID DROP SEQUENCE. 43 DOES  
EXTERIOR FOUR DROPSONES (LOW AIRCRAFT)  
42 DOES INTERIOR EIGHT, BUT WE ONLY MARK  
MOST LOCATIONS. 42 BT AT INTERIOR POINTS, AND  
REAL SONDE AT OUTERMOST SWITCHOFF POINT  
WITH 43RF TO TEST HOW WELL TWO AIRCRAFT  
SONDE PATTERNS MAP ONTO EACH OTHER

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

| Equipment          | Pre-Flight   | In-Flight | Post-Flight | # of DATs or Expendables |
|--------------------|--------------|-----------|-------------|--------------------------|
| Aircraft           | ←            | GOOD      | →           |                          |
| Radar/LF           |              |           |             | 13                       |
| Radar/TA (Doppler) |              |           |             | 13                       |
| Cloud Physics      | NOT USED     |           |             |                          |
| Data System        | WORKED       | WELL      |             |                          |
| GPS sondes         |              |           |             | 2                        |
| AXBT/AXCP          |              |           |             | 2 BT's                   |
| Workstation        | NOT ON PLANE |           |             |                          |
| Videography        |              |           |             |                          |

REMARKS:

COORDINATION IN CLEAR AIR APPEARED TO GO PRETTY WELL. WE WILL SEE FOR SURE LATER.

THE PACE OF DROPS WAS PRETTY INTENSE DURING EMANUEL SONDE LOG.

EVEN TOM SHEPHERD WASN'T KEEPING UP WITH THE NOTE TAKING (APPARENTLY FROM THE REMARKS

Lead Project Scientist Event Log

Date 19 AUG 2003 Flight 030819H LPS P. CHANG  
FOR ITRD: ANDERSON  
GAMACHE

| Time              | Event             | Position               | Comments                                  |
|-------------------|-------------------|------------------------|-------------------------------------------|
| 154240            | TURN TO SW        | CIGAR 2730' 848'       |                                           |
| 160130            |                   | 2657' 8542'            | DESCENT TO 8,000 FT                       |
| 160745            | IP                | 2850' 8558'            | HEAD SON DROP SONDE RUN                   |
| 161044            |                   |                        | 1ST 43 DROP                               |
| 1616(20?)         | SONDE DROP        | 2617' 8557'            | <del>BT</del> <del>BT</del> GPS SONDE OUT |
| 161650            |                   |                        | SIM DROP                                  |
| 161720            | SIM DROP          | 2693' 8557'            | SIM DROP                                  |
| 161745            | " "               | 2691' 8557'            | SIM DROP                                  |
| 161805            | " "               |                        | " "                                       |
| 161820            |                   | 2690' 8557'            | " "                                       |
| 161835            |                   | 269' 8557'             | " "                                       |
| 161850            | " "               | 2605' 8557'            | ABX SONDE BODY, GPS SIM DROP              |
|                   |                   |                        | SST 29°C FROM BT                          |
| 162810            | CIRCLING IN "EYE" | 2608' 8558'            |                                           |
| 163220            | BUOY "G"          | 260' 8555'             |                                           |
| 163336            |                   | 2555' 8554'            | BT SIM <del>GPS</del>                     |
| 163350            |                   | 2553' 8554'            | SIM GPS                                   |
| 163405            |                   | 2553' 8554'            | " "                                       |
| 163420            |                   | 2552' 8556'            | " "                                       |
| 163435            |                   | 2550' 8554'            | " "                                       |
| 163450            |                   | 2550' 8554'            | " "                                       |
| <del>163505</del> |                   | <del>2549' 8554'</del> | <del>" "</del>                            |
| 163520            |                   | 2548' 8554'            | " "                                       |
| 163550            |                   | 2546' 8554'            | REAL GPS DROP                             |
| 163650            |                   |                        | BT GOOD AT 29°C                           |

Lead Project Scientist Event Log

Date 19 AUG 2003 Flight 030819H LPS P. CHANG  
GAMACHE/ABERSON

| Time              | Event        | Position      | Comments                           |
|-------------------|--------------|---------------|------------------------------------|
| 170137            | TRACK 320°   | 25°47' 84°52' | BEGIN ALONG WIND PASS              |
| 170716            | TURN TO 140° | 26°04' 85°08' | SIM BUOY SPLASH RACE TRACKS        |
| 171710            |              | 25°36' 84°50' | END PATTERN                        |
|                   |              |               | DO P. CHANG'S STUFF                |
| 172040            |              |               | P. CHANG MANEUVER                  |
|                   |              |               | 8100 FT ROLLS                      |
|                   |              |               | AT 20° BACK & FORTH                |
| 172246            |              | 25°53' 85°21' | DESCENT TO 5,000 FT                |
| 172634            |              | 25°40' 85°01' | 10 MIN STRAIGHT                    |
| <del>172113</del> |              |               | & LEVEL FOR P. CHANG               |
| 173613            |              | 25°03' 85°10' | END STRAIGHT LEVEL                 |
| <del>174120</del> |              |               | HEADING X1                         |
| 174120            |              |               | CLIMBING BACK TO 8,000 FT TO BEGIN |
| <del>174207</del> |              |               | CROSSWIND COORD                    |
| 175007            |              | 25°45' 85°18' | MANEUVERING TO REVERSE             |
| 175331            | TRACK 040    |               | AT 1P                              |
| ↓                 | ↓            |               | BEGIN <del>COR</del> CROSSWIND LEG |
| 175540            | 040° TRACK   | 25°49' 85°55' | BEGIN COR CROSSWIND LEG            |
| 180222            |              | 26°09' 84°48' | SIM BUOY SPLASH                    |
|                   |              |               | TURNING TO 220°                    |
| 180430            |              | 26°10' 84°51' |                                    |
| 180500            |              | 26°17' 84°53' | START LEG                          |
| 181008            |              | 25°50' 85°55' | <del>END</del> PATTERN END PATTERN |
| 181255            |              | 25°56' 85°53' | RETURN HOME                        |

### Mission Summary

#### Storm name

YYMMDDA# Aircraft 4\_RF

#### Scientific Crew (4 RF)

Lead Project Scientist P. CHUNG (FIR HRD ABELSON)  
Radar Scientist GAMACHE  
Cloud Physics Scientist NONE  
Dropwindsonde Scientist NONE  
Boundary-Layer Scientist NONE  
Workstation Scientist NONE  
Observers NONE

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

DANNY FETERAU  
BETH KERR  
FROM UM ASS  
FOR IWRAD

*Mission Synopsis: (include plot of actual flight track)*

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

*Problems: (list all problems)*

## E.2 Lead Project Scientist

### E.2.1 Preflight

- ☒ 1. Participate in general mission briefing.
- ☒ 2. Determine specific mission and flight requirements for assigned aircraft.
- ☒ 3. Determine from field program director whether aircraft has operational fix responsibility and discuss with AOC flight director/meteorologist unless briefed otherwise by field program director.
- ☒ 4. Contact HRD members of crew to:
  - a. Assure availability for mission.
  - b. Review filed 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 appropriate HRD operations center (MGOC in Miami).
- ☒ 7. *Before take-off*, brief the on-board GPS dropsonde operator on times and positions of drop times.
- ☒ 8. Perform a radio check with headsets. Make sure everyone's headsets is work properly.
- ☒ 9. Collect "mess" fee (\$2.00) from all on-board HRD flight crew members *none*

### E.2.2 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 Form E-2.
- ☒ 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).

### E.2.3 Post flight

- ☐ 1. Debrief scientific crew.
- ☐ 2. Report landing time, aircraft, crew, and mission status along with supplies (tapes, etc.) remaining aboard the aircraft to MGOC.
- ☐ 3. Gather completed forms for mission and turn in at the appropriate operations center. [**Note:** all data removed from the aircraft by HRD personnel should be cleared with the AOC flight director.]
- ☐ 4. Obtain a copy of the 10-s flight listing from the AOC flight director. Turn in with completed forms.
- ☒ 5. Determine next mission status, if any, and brief crews as necessary.
- ☐ 6. Notify MGOC as to where you can be contacted and arrange for any further coordination required.
- ☐ 7. Prepare written mission summary using form E-2 p.3 (due to Field Program Director 1 week after the flight).

Lead Project Scientist Check List

Date 19/05/03 Aircraft N42RF Flight ID 030819 H

A. —Participants:

| HRD                    |                            | AOC                    |                               |
|------------------------|----------------------------|------------------------|-------------------------------|
| Function               | Participant                | Function               | Participant                   |
| Lead Project Scientist | <u>Sam Abersen / Chang</u> | Flight Director        | <u>Shepherd / Flaherty</u>    |
| Cloud Physics          | <u>Camache</u>             | Pilots                 | <u>Kennedy / Strong</u>       |
| Radar                  | <u>John Gamache</u>        | Navigator              | <u>Newman / Brakob</u>        |
| Workstation            | <u>Not yet installed</u>   | Systems Engineer       | <u>Lorrey</u>                 |
| Photographer/Observer  | <u>—</u>                   | Data Technician        | <u>McMillan</u>               |
| Dropwindsonde          | <u>—</u>                   | Electronics Technician | <u>Abelardo</u>               |
| AXBT/AXCP/Guest        | <u>B. Kerr / S. Wade</u>   | Other                  | <u>Esteban / Selah / Peck</u> |

Take-Off: 151420 Location: MacDell Landing: 190711 Location: MacDell 4.1 h.

Number of Eye Penetrations: 0

B. —Past and Forecast Storm Locations: N/A

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

C. —Mission Briefing: Test mission for CBLAST / Ocean Winds in vicinity of Mexico  
Test drop sequence inbound outbound, flight step descents, ocean winds  
module

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

| Equipment          | Pre-Flight | In-Flight | Post-Flight | # of DATs or Expendables |
|--------------------|------------|-----------|-------------|--------------------------|
| Aircraft           | ↑          | ↑         | ↑           | —                        |
| Radar/LF           | O          | ↑         |             | —                        |
| Radar/TA (Doppler) | O          | ↑         |             | —                        |
| Cloud Physics      | O          | ↑         |             | —                        |
| Data System        | ↑          | ↑         |             | —                        |
| GPS sondes         | ↑          | ↑         |             | 2                        |
| AXBT/AXCP          | O          | ↑         |             | 2                        |
| Workstation        | N/A O      | O         |             | —                        |
| Videography        | ↑          | ↑         |             |                          |

charged to NESMS

REMARKS: No workstation

Coordination of planes had only minor problems. Simulated drops went very well, though it would be easier for LPS to keep track of drops if they were real and made noise.

Reed tracks modified because convection moved. This may make this pattern difficult in a real storm.

Lead Project Scientist Event Log

Date 19/08/03 Flight 080319 H LPS Aberson/Chang

| Time          | Event                                               | Position            | Comments                           |
|---------------|-----------------------------------------------------|---------------------|------------------------------------|
| 151420        | Takeoff                                             | MacDill             |                                    |
| 151845        | Turn to 270° (240°)                                 | 27° 37' N 82° 35' W |                                    |
| 152035        | Radar up                                            | 27° 31' N 84° 20' W |                                    |
| 152230        | Turn to 1P                                          | CIGAR (700-)        | Turn to 244° demand to receipt     |
| 155603-155723 | Turn around cell                                    | 27° 1' N 83° 19' W  | Convection at FL                   |
| 160017-160107 | Turn around cell                                    | 27° 0' N 83° 37' W  | Convection at FL                   |
| 160133        | Descent to 8000ft                                   | 26° 57' N 83° 41' W |                                    |
| 160314        | Show for coordination                               | 26° 54' N 83° 51' W |                                    |
| 160503-160738 | Outside turn to 185°                                | 26° 51' N 83° 57' W | To 100 minutes for coordination 1P |
| 160945        | Turn to 180°                                        | 26° 46' N 83° 52' W |                                    |
| 161044        | 43 start to drop sequence                           |                     |                                    |
| 161415        | Turn to 185°                                        | 26° 24' N 83° 56' W | To be 1 km downwind from 42        |
| 161622        | Drop - real                                         | 26° 18' N 83° 57' W |                                    |
| 161658        | Drop - not real                                     | 26° 15' N 83° 57' W |                                    |
| 161727        | Drop - not real                                     | 26° 13' N 83° 57' W |                                    |
| 161757        | Drop - not real                                     | 26° 11' N 83° 57' W |                                    |
| 161823        | Drop - not real                                     | 26° 9' N 83° 57' W  |                                    |
| 161840        | Drop - not real                                     | 26° 8' N 83° 57' W  |                                    |
| → 161909      | Missed one! Drop - not real<br>Drop / BT / Semobuoy | 26° 6' N 83° 57' W  | Channel 112 BT 290° + C            |
| 162120        |                                                     | 25° 57' N 83° 57' W | BT / Semobuoy splash               |
| 162229        | Right turn to 90°                                   | 25° 53' N 83° 57' W | Stop sign pattern                  |
| 162328        | Turn to 350°                                        | 25° 51' N 86° 1' W  |                                    |
| 162657        | Turn to 040°                                        | 26° 5' N 86° 3' W   |                                    |
| 162830        | Turn to 120°                                        | 26° 8' N 85° 58' W  |                                    |
| 163012        | Turn to 240°                                        | 26° 5' N 83° 51' W  |                                    |
| 163155        | Turn to 185°                                        | 26° 1' N 83° 53' W  |                                    |
| 163336        | BT                                                  | 25° 55' N 83° 54' W | Channel 16 BT 290° + C             |

Lead Project Scientist Event Log

Date 19/08/03 Flight 080319H LPS Abersom/Change

| Time          | Event                       | Position            | Comments                                        |
|---------------|-----------------------------|---------------------|-------------------------------------------------|
| 163350        | Drop - not real             | 25° 53' N 83° 54' W |                                                 |
| 163405        | Drop - not real             | 25° 52' N 83° 54' W |                                                 |
| 163420        | Drop - not real             | 25° 52' N 83° 54' W |                                                 |
| 163455        | Drop - not real             | 25° 49' N 83° 54' W |                                                 |
| 163500        | Drop - not real             | 25° 48' N 83° 54' W |                                                 |
| 163520        | Drop - not real             | 25° 47' N 83° 54' W |                                                 |
| 163554        | Drop - real                 | 25° 45' N 83° 54' W |                                                 |
| 163720        | 43 - lost BT                | 25° 38' N 83° 54' W |                                                 |
| 164420        | Turn to 060° (altitude)     | 25° 10' N 83° 55' W | endpoint                                        |
|               |                             |                     | 25° 45' N 84° 50' W proposed IP near connection |
| 170040        | Turn to 320° for 20 miles   | 25° 43' N 84° 52' W | connection out right side                       |
| 170130        | 43 - start log              |                     |                                                 |
| 170204        | start 2nd log               |                     |                                                 |
| 170417        | Turn right to 140°          | 26° 04' N 83° 8' W  |                                                 |
| 170705        | 43 - end log                |                     |                                                 |
| 170930        | 43 - leveled at 2500'       |                     | race track, into connection                     |
| 171235        | Turn to 150°                | 25° 52' N 84° 52' W | avoid connection                                |
| 171320        | Break off pattern           | 25° 50' N 84° 51' W | avoid connection Turn to 180°                   |
| 171620        | Turn to left 320°           | 25° 36' N 84° 49' W | LF out, being reentered                         |
| 172040-172150 | wingwags 30°                | 25° 47' N 84° 56' W | 8000ft                                          |
| 172230        | descend to 5000ft, turn     | 25° 53' N 85° 1' W  | 150° heading                                    |
| 172526        | turn to 180° for 10 minutes | 25° 44' N 84° 59' W |                                                 |
|               |                             |                     | 25° 45' N 83° 00' W IP for next legs            |
| 173515        |                             |                     | 25° 40' N 83° 15' W new IP                      |
| 173605        | turn around for wingwags    | 25° 3' N 85° 9' W   | head to IP right turn                           |
| 173813        | slow wingwags               | 25° 9' N 85° 11' W  |                                                 |
| 174100        | Turn to 8000ft              | 25° 19' N 83° 13' W |                                                 |

Will be easier with real sondes - can hear.

[illegible]

**Mission Summary**  
**Storm name**  
**YYMMDDA# Aircraft 4\_RF**

**Scientific Crew (4 RF)**

Lead Project Scientist Abrson / Chang / Gamache  
Radar Scientist Gamache  
Cloud Physics Scientist —  
Dropwindsonde Scientist —  
Boundary-Layer Scientist —  
Workstation Scientist —  
Observers —

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

*Mission Synopsis: (include plot of actual flight track)*

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

See remarks on P2

*Problems: (list all problems)* No clip boards in bag

See remarks on P2.