## E.2 Lead Project Scientist (On-Board)

### E.2.1 Preflight

___ 1. Participate in general mission briefing.

___ 2. Determine specific mission and flight requirements for assigned aircraft.

___ 3. Determine from CARCAH or field program director whether aircraft has operational fix responsibility and discuss with AOC flight director/meteorologist and CARCAH unless briefed otherwise by field program director.

___ 4. Contact HRD members of crew to:

a. Assure availability for mission.
b. Arrange ground transportation schedule when deployed.
c. Determine equipment status.

___ 5. Meet with AOC flight crew at least 90 minutes before takeoff, 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 or FGOC at remote recovery location).

### 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.

### E.2.3 Postflight

___ 1. Debrief scientific crew.

___ 2. Report landing time, aircraft, crew, and mission status along with supplies (tapes, *etc.*) remaining aboard the aircraft to the appropriate HRD operations center (MGOC or FGOC).

___ 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 the appropriate operations center (FGOC or MGOC) as to where you can be contacted and arrange for any further coordination required.

___ 7. Prepare written mission summary.

## On-Board Lead Project Scientist Check List

Date 9/1/07 Aircraft N42RF Flight ID 070901H

**A. Participants:**

| HRD | | AOC | |
|---|---|---|---|
| **Function** | **Participant** | **Function** | **Participant** |
| Lead Project Scientist | Rogers | Flight Director | Shepherd |
| Cloud Physics | — | Pilots | Strong, Newman |
| Radar | Aberson, Rogers | Navigator | Gallagher |
| Workstation | Aberson, Rogers | Systems Engineer | |
| Photographer | — | Data Technician | McMillan |
| Omegasonde | Aberson, Rogers | Electronics Technician | Olvey |
| AXBT/AXCP | — | Other | |

Take-Off: 195535 Location: St. Croix Landing: _____ Location: St. Croix

**B. Past and Forecast Storm Locations:**

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

**C. Mission Briefing:**

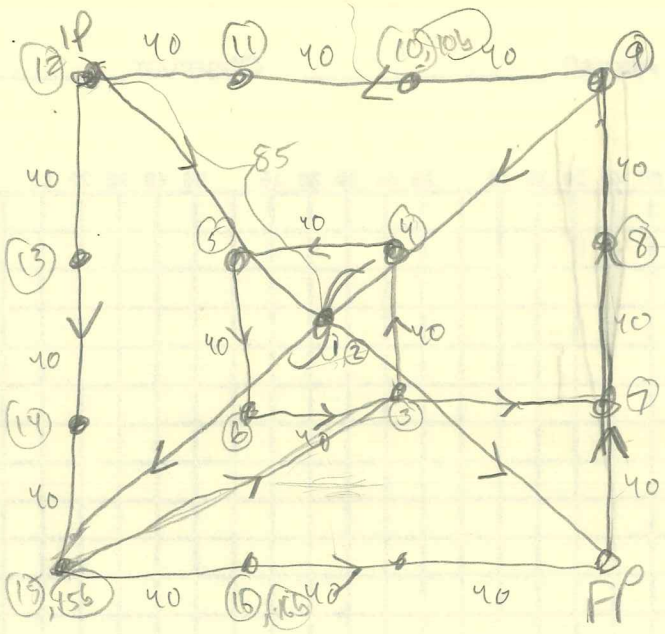
Conduct EMC-tasked 3-D Doppler winds mission into TS Felix. Fly Fig. 4 pattern, IP 85 nm NW, at end fly to point 28 nm SE of center, fly box pattern 40 nm on a side centered on storm. At end of inner box, extend leg 40 nm, fly 120 nm box centered on storm. Fly at 8000 ft. Drop sondes every 40 nm on box pattern.

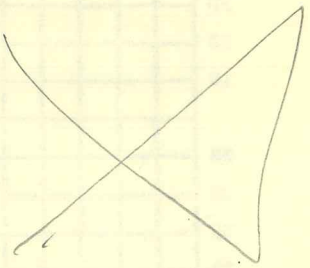
D. Equipment Status

| Equipment | Pre-Flight | In-Flight | Post-Flight |
|---|---|---|---|
| Aircraft | ✓ | | |
| Radar/LF | ✓ | | |
| Radar/TA (Doppler) | ✓ | | |
| Cloud Physics | — | | |
| Data System | ✓ | | |
| Omegasondes | ✓ | | |
| AXBT/AXCP | — | | |
| Workstation | ✓ | | |
| Photography | — | | |

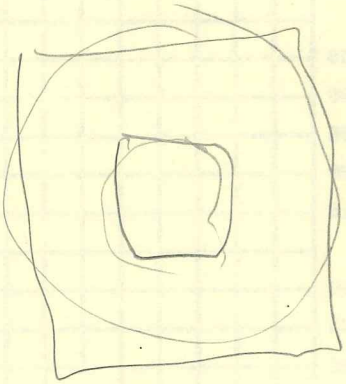
REMARKS:

**E. (I) Proposed Flight Pattern** (sketch or designate by number)



**E. (II) Actual Flight Pattern**



## Lead Project Scientist Event Log

**Date** 9/1/07 **Flight** 070901H **LPS** Rogers

| Time | Event | Position | Comments |
|---|---|---|---|
| 195535 | takeoff | ~~St~~. Croix | |
| 2046 | radar | 70 nm to IP | eye visible on LF |
| 2104 | pattern | 55 nm NW | at IP, descend to 8000 ft, track 135, begin inbound leg |
| 2108 | LF radar | 69 nm from eye | no real banding features, but a well-defined core and eye-like structure |
| 2113 | LF | 51 nm NW | solid 40+dBz on southwest side of eyewall |
| 2122 | winds | in center | peak FL winds 60kt, SF 40 kt on NW side; still cloudy in center |
| ① 212515 | fix | 12° 27′ 65° 23′ | sonde press, 996.2mb 30 kt wind at sfc |
| 2127 | pattern | | change track from 135 to 145 b/c of clearance issues |
| 2135 | pattern | 30 nm SE ctr | back to 135 track |
| 214730 | turn | 85 nm from eye | turn to track 90. |
| | | 11° 21′ 64° 22′ | |

1707 12° 27′ 64° 14′ 999 61 kt FL
70 kt SF on north s

## Lead Project Scientist Event Log

**Date** _____ **Flight** _____ **LPS** _____

| Time | Event | Position | Comments |
|---|---|---|---|
| 2151 | turn | 95 nm from ctr | turn to track 0 |
| 2203 | obs | 80 nm E of ctr | bands evident on |
| | | | LF about 60 nm to |
| | | | east, strong convective |
| | | | cores |
| 2208 | winds | 80 nm ENE of ctr | on previous leg, |
| | | | peak FL winds were 60 kt on NW |
| | | | side at 50 kt on SE side; SFMR winds |
| | | | were weaker than FL on NW side, |
| | | | stronger than FL on SE side |
| 222030 | turn | 81 nm from ctr | turn to 225 |
| 223302 | obs | 28 nm NE ctr | eye open on NE, more |
| | | | circular now |
| 223754 | winds | NE eyewall | peak FL 76 kt, SFMR 69 kt |
| (2) 224128 | ~~fix~~ | 12°29'65°43' | 993.4 drop SLP |
| 225016 | turn | 35 nm SW eye | turn to track 270, clearance |
| 2251 | obs | 50 nm SW | winds real diffuse |
| | | | on SW side, like on |
| | | | SE side, extended area |
| | | where | SFMR FL winds move |
| | | above | 65 kt and go below |

## Lead Project Scientist Event Log

Date 9/1/07 Flight 070901H LPS Rogers

| Time | Event | Position | Comments |
|---|---|---|---|
| 2303 | pattern | 30 nm S of ctr | heading toward point |
| | | | SE of eye for inner box, |
| | | | trying to stay b/w eyewall |
| | | | on left & band of strong cores on |
| | | | right. Not exactly going due east |
| | | | b/c have to avoid convection |
| 231158 | turn | 13 nm from eye | turn to track 360 |
| (3) 231209 | drop 3 | SE corner of inner box | |
| 232130 | turn | NE corner of box | turn W to 270 |
| (4) 232305 | drop 4 | NE corner | |
| 233459 | turn | NW corner | turn to track 180 |
| (5) 233618 | drop 5 | NW corner | |
| (6) 234449 | drop 6 | SW corner | |
| 235950 | pattern | SE corner of inner box | tracking to, heading out |
| | | | to outer box |
| (7) 0006 | drop 7 | E side of big box | |
| (8) 0014 | drop 8 | | |
| 0023 | turn | | turn to 270 |
| (9) 0025 | drop 9 | NE corner of big box | |
| (10) 0035 | drop 10 | N side of big box | no launch det., came late |
| (11) 0036 | drop 10b | backup | |

27 3
16 kt

ob 11

1230 6530
2316 SPL time

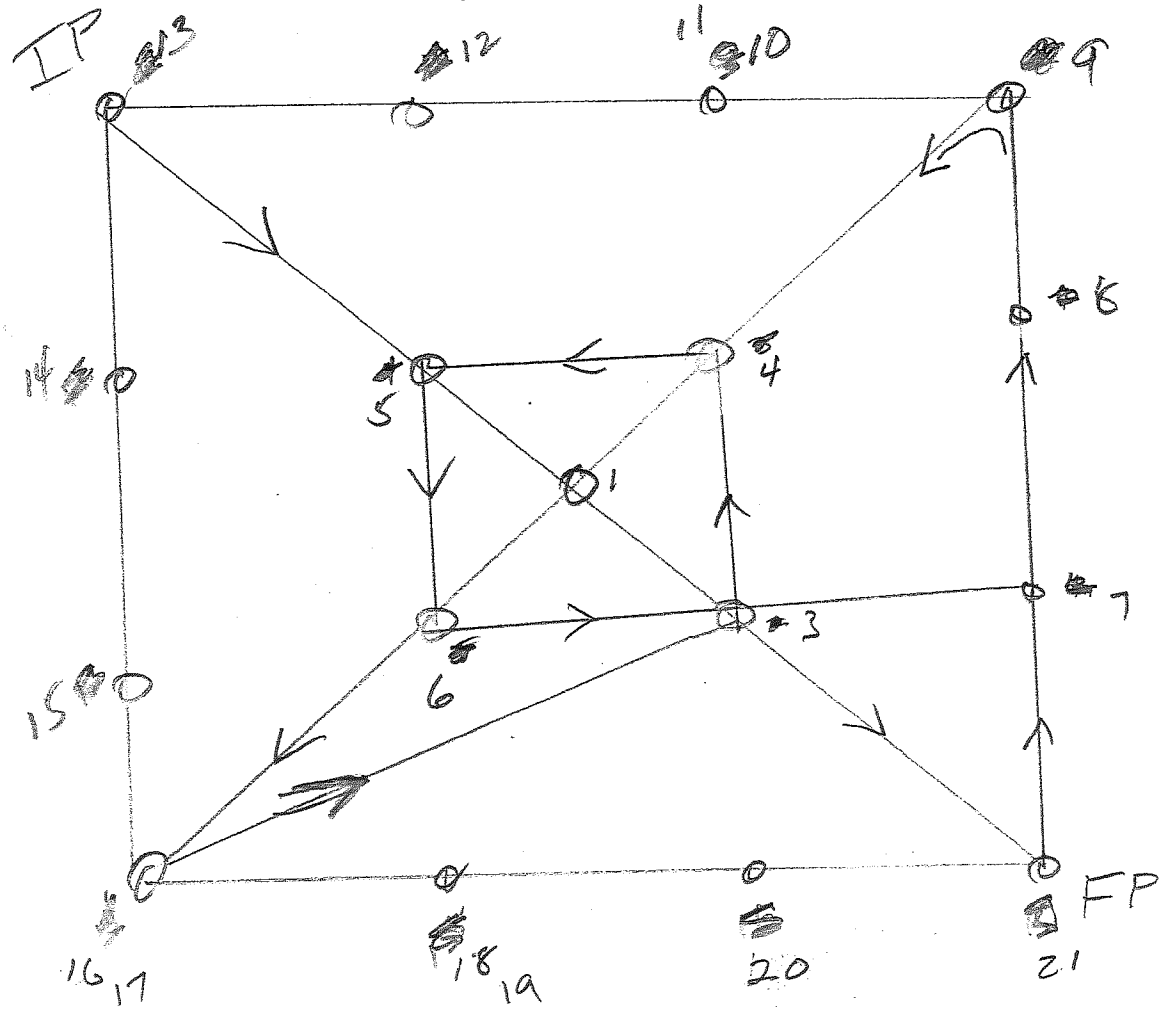
## Lead Project Scientist Event Log

Date 9/1/07 Flight 070901 LPS

| Time | Event | Position | Comments |
|---|---|---|---|
| 004953 | drop 11 | N side of big box | |
| 0046 | obs | 80 nm NNW of eye | eye looks better defined |
| | | | on LF row. Need looked bad |
| | | | on E pass of ctr. in little box |
| 005505 | turn | NW corner of big box | turn to 180 |
| 005624 | drop 12 | NW corner of big box | |
| 0113 | turn | W side of big box | turn to 120 to avoid islands |
| 0118 | turn | W side | turn back to track 180 |
| 010505 | drop 13 | W side of big box | |
| 011413 | drop 14 | " " | |
| 012551 | turn | SW corner of big box | turn to track 90 |
| 012635 | drop 15 | SW corner of big box → no winds | |
| 012843 | drop 15b | " | |
| 013543 | drop 16 | S side of big box | no PTH |
| 014048 | drop 16b | " | |
| 014457 | drop 17 | S side of big box | |
| 0156 | turn | SE corner of big box | turn to track 360 |
| 015530 | drop 18 | SE corner | FF reached, heading to TISK |
| 020627 | pattern | 80 nm E of center | descend to 5000 ft |
| 0207 | radar | 80 nm E of center | problem w/TA radar tilt |
| | has been oscillating | turn ± 5 degrees. | Don't know how long this has been happening. Confident it was working properly during fig-4 but may have been bad for portion of box pattern. Need to find that out. |

0314 RTB St. Croix Level

MESO. AN




BACK UP SONDES ~~1~~
7 - 20