

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 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.
- ☒ 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. 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. Obtain a copy of the radar DAT tapes. Turn in with completed forms.
- _____ 6. Obtain a copy of the all VHS videos from aircraft cameras (3-4 approx.). Turn in with completed forms.
- _____ 7. Obtain a copy of CD with all flight data. Turn in with completed forms.
- _____ 8. Determine next mission status, if any, and brief crews as necessary.
- _____ 9. Notify MGOC as to where you can be contacted and arrange for any further coordination required.
- _____ 10. 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 6/28/04 Aircraft N43RF Flight ID 040628I

A. — Participants:

HRD		AOC	
Function	Participant	Function	Participant
Lead Project Scientist	<u>Rogers</u>	Flight Director	<u>Mayeaux</u>
Cloud Physics	<u>Litchendorf</u>	Pilots	<u>Smith, Chong</u>
Radar	<u>Garnache</u>	Navigator	<u>Strong</u>
Workstation	<u> </u>	Systems Engineer	<u> </u>
Photographer/Observer	<u>Jennifer?, Lasswell</u>	Data Technician	<u> </u>
Dropwindsonde	<u> </u>	Electronics Technician	<u> </u>
AXBT/AXCP/Guest	<u>Whitcomb, French (BAT), Walsh (SFA)</u>	Other	<u> </u>

Take-Off: 16:56:35 Location: MacDill AFB

Landing: 21:24:40 Location: MacDill AFB

Number of Eye Penetrations:

B. — Past and Forecast Storm Locations: Cal Flight

Date/Time	Latitude	Longitude	MSLP	Maximum Wind

C. — Mission Briefing:

This is a test and calibration flight. Depart Tampa MacDill, head south into showers to test CF-ATA radar, deploy 1 sonobuoy. Head to buoy 42003 in eastern Gulf. Launch 1 drop from altitude, then descend to 2400', launch 2 BT's + 1 sonobuoy. Begin 20 nm downwind leg of stair-step. Repeat at 1200, 900, 600, 400', dropping 2 BT's at return point after 1200', 900' legs. After stair step perform calibration maneuvers for Jeff French's BAT probe. Try to fly through shower on way home.

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

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

REMARKS:

- Modifications to flight plan:

- 1) drop 2 BT's at start of stair step
- 2) drop 1 BT upon return + descent
- 3) drop 2 BT's upon " "
- 4) drop final BT before starting 400' leg

- could not find rain to drop sonobuoy, so will look for rain after stair step and drop it

- 90-270 turns probably will take too long in storm

- could not go below 500 ft b/c missing life vest; Jeff F. said did not need data below there, plus spent considerable time looking for rain at beginning, so aborted stair step at 600 ft.

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

Buoy 42003

forecasted s/wind of 260°

$26^\circ 00' N$ buoy location
 $85^\circ 54' W$

along-wind pattern of 25 nm, turn at $25^\circ 56' N$ $2400', 1200', 900', 600', 400'$ out
 $86^\circ 19' W$ and back

At buoy, turn left 90° , out to $26^\circ 25' N$ same altitudes
(cross-wind) $85^\circ 58' W$

195 kts for stepped descents

Cal maneuvers

pitch, yaw - 170 to 240 kts, wind boxes - 1 to right, 1 to left

2 sets of 5-6 sinusoids

$3000'$ altitude for all

1 drop at buoy from 5 kft

Descend to $2400'$, drop 1 sonobuoy, 2 BT's

ch 16 - sipp' (any)

ch 14 - spartan

ch 12 - new ones w/ (settable freq. - new spartan?)

then 2 BT's each time you come back to buoy

Possible 2nd sonobuoy at buoy, or at rain shower

E (II) Actual Flight Pattern

- check on rain showers, not in convective cell for sonobuoy



Lead Project Scientist Event Log

Date 6/28/04 Flight 040628 I LPS Rogers

Time	Event	Position	Comments
16:56:35	Takeoff from MacDill		heading out, then S toward rain
17:33:00	Ascend to 3 kft		power off SW coast
17:41:35	Alt. 3100', heading 234°		
17:44:26	turn rt. to 290°	25°31' 82°42'	no rain, heading to buoy
17:53:40	turn to 270°	25°37' 83°21'	
17:59:40	turn to 280°	25°37' 83°51'	
18:01:00	radar problems, been freezing (both LFO & ATA throughout flight)		
18:18:40	turn to 250°, desc. to 2400'	25°39' 85°18'	
18:24:12	turn to 340° heading	25°34' 85°43'	
18:32:05	drop 2 BT's, 1 SB, 1 GPS, begin stair step at 2400'	25°58.8' 85°53.8'	
18:37:40	turn back to buoy, 90-270 turn	26°17.4'N 86°4.8'W, 150° track	
18:40:05	begin return leg		
18:46:08	end 2400' leg	25°58'N 85°53'W	
18:46:10	turn 90-270, descend to 1200 ft		
18:49:56	launch 1 BT		
18:50:00	begin 1200' leg		
18:53:10	about 15 s of BT data on ch. 14 only		
18:55:50	end 1200' leg, do a 90-270 turn	26°17'N 86°4'W	
18:57:49	begin 1200' return leg	26°15'N 86°4'W	
19:03:48	end 1200' return leg, 90-270 turn		
19:06:53	begin 900' leg, drop 2 BT's		
19:12:07	end leg, do a turn	26°17'N 86°5'W	
19:14:55	begin 900' return leg	26°16'N 86°4'W	
19:21:04	end 900' return leg	25°57'N 85°54'W, do 90-270 turn	
19:24:02	begin 600' leg at 315 track	25°59'N 85°54'W	
19:29:34	end 600' leg do turn	26°14'N 86°10'	
19:32:34	begin 600' return leg	26°13'N 86°8'W	

SB 10
BT 12, 16

BT 14

90-270 turns
too long during
storm

BT 12, 16

Lead Project Scientist Event Log

Date 6/28/04

Flight 04.0628 I

LPS Rogers

[illegible]

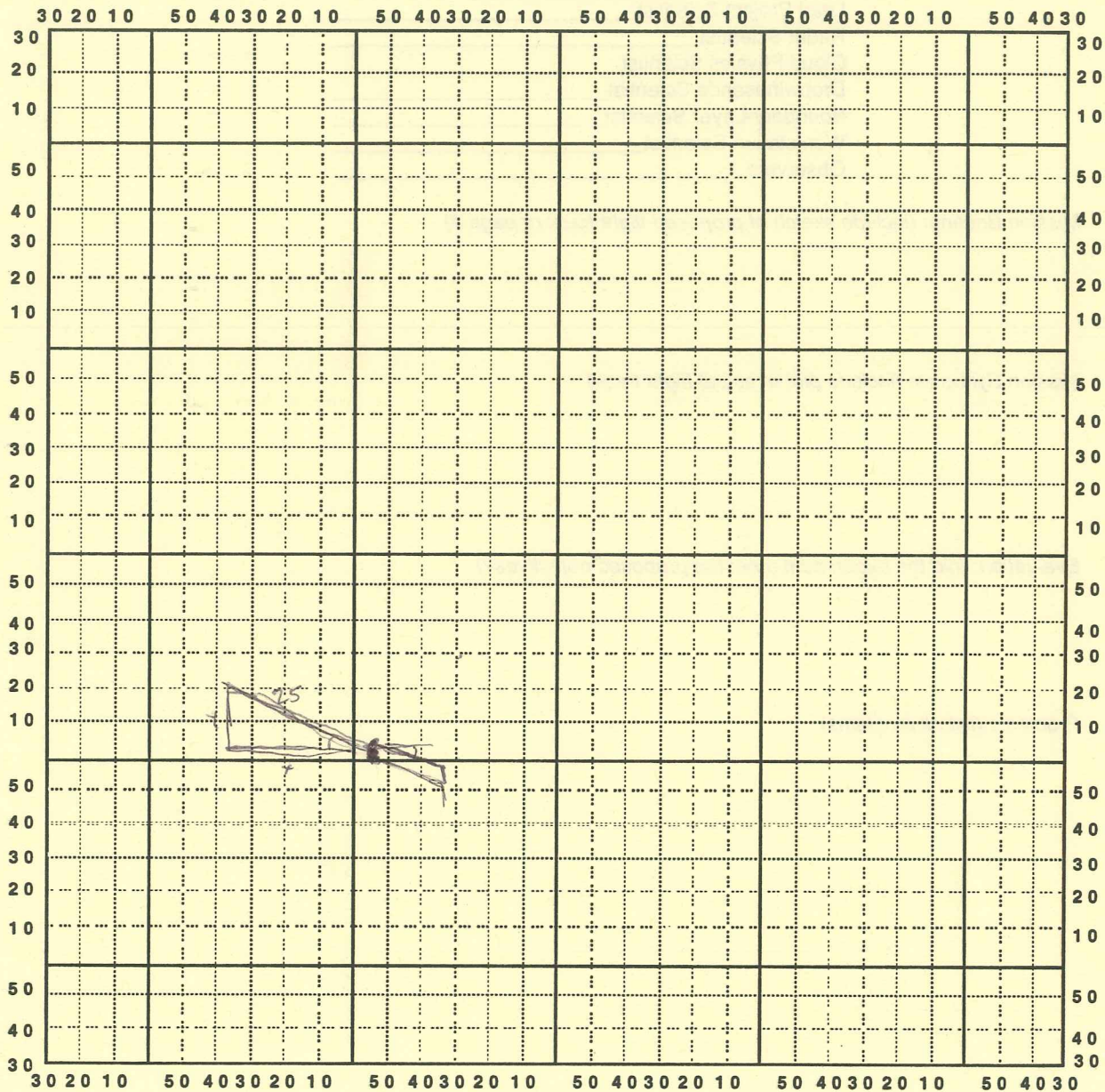
Hurricane Recco Plotting Chart

True at 25° Latitude, in Degrees and Minutes

Date _____ Flight ID _____ LPS _____

27

26



86

85

Note : Label full degrees according to location of the flight area.