

## Lead Project Scientist

### Preflight

1. Participate in general mission briefing.
2. Determine specific mission and flight requirements for assigned aircraft. *NHC-Tasked*
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. *1800 & 2100 fixes*
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.
7. Make sure each HRD flight crew members have life vests
7. Perform a headset operation check with all HRD flight crew members. Make sure everyone can hear and speak using the headset.
8. Collect "mess" fee (\$2.00) from all on-board HRD flight crew members.

### 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. 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. *FLT DATA*
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 Mission Summary form (due to Field Program Director a week after the flight).

*FLIGHT  
DAT  
JHS*

### Lead Project Scientist Check List

Storm or Project T.S. Cindy Experiment name T.S. Cindy / IFEX Deployment  
 Date 5 Jul 05 Aircraft 42rf. Flight ID 0050705H1

#### A. Participants:

HRD		AOC	
Function	Participant	Function	Participant
Lead Project Scientist	<u>Paul Leighton</u>	Flight Director	<u>Paul Flaherty</u>
Radar	<u>Paul Leighton</u>	Pilots	<u>P. Kennedy, M. Silan &amp; Chase</u>
Workstation	<u>Paul Leighton</u>	Navigator	<u>Gallagher</u>
Cloud Physics	<u>Eric Uhlhorn</u>	Systems Engineer	<u>Klippel, Wade, Torrey</u>
Photographer/Observer		Data Technician	<u>S. Macmillan</u>
/Guests		Electronics Technician	<u>J. Hill, M. Rogers</u>
Dropwindsonde	<u>Paul Leighton</u>	Other	
AXBT/AXCP			

#### B. Take-off and Landing Times and Locations:

Take-Off: \_\_\_\_\_ UTC Location: San Jose Costa Rica

Landing: \_\_\_\_\_ UTC Location: Key West, FL

Number of Eye Penetrations: 0

#### C. Past and Forecast Storm Locations:

Date/Time	Latitude	Longitude	MSLP	Maximum Wind
<u>18:00Z</u>	<u>27.3 Dec</u>	<u>90.7 Dec</u>		
<u>updated 18:00</u>	<u>27.3 Dec</u>	<u>90.3 Dec</u>		

D. Mission Briefing: Tasted 18:00 and 21:00 responsibility w/ 6 Sander reg eda  
modified to only 4 Sander center and NR (expend) center  
and SE (expend)



E. —Equipment Status (Up ↑, Down ↓, Not Available —, 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	↑	↑		
Videography	↑	↑		

REMARKS:

Approx. Curb time  
18:10

2.53 w/s

999.29

T.S. Cindy

# Lead Project Scientist Event Log

Date 2005 07 05 Flight 050705H1 LPS Paw / Leighan

~~0503A~~ Cindy

Time	Event	Position	Comments
13:43:52	Take OFF	989.4 84°13.1	San Jose, Costa Rica
16:21:50	Mr	20.84 86.58	location up date near (see note 1)
16:34:30	Mr	21.54 87.56	clearing Mexican Coast
17:31	IP <del>98</del> 54	24.70 91.72	start descent to 5000 850mb
17:46	IP in tooth	26.0 91.66	5000' Hering 45°
18:10			WS look up
18:11			Sonde launch
18:47	Center ?	27.67 90.34	
	Break to take care of WS		
19:00		20.87 90.64	west hand down wind Co,
19:30			loiter @ 10000
19:40			turn in on leg 2
19:42			descent to 5000
19:46			5000' SE leg 2
20:10	Center #2	28.01, 90.56	
20:41:50	Climb out	26.66, 89.09	
			Cindy back to Bata-Raye
21:17	@t1	27.41 90.22	down 1000.0mb
20:10	@t2	28.01 90.35	deg. min 997.3mb
22:21	landed	Keywest	24.58 81.69

Keywest

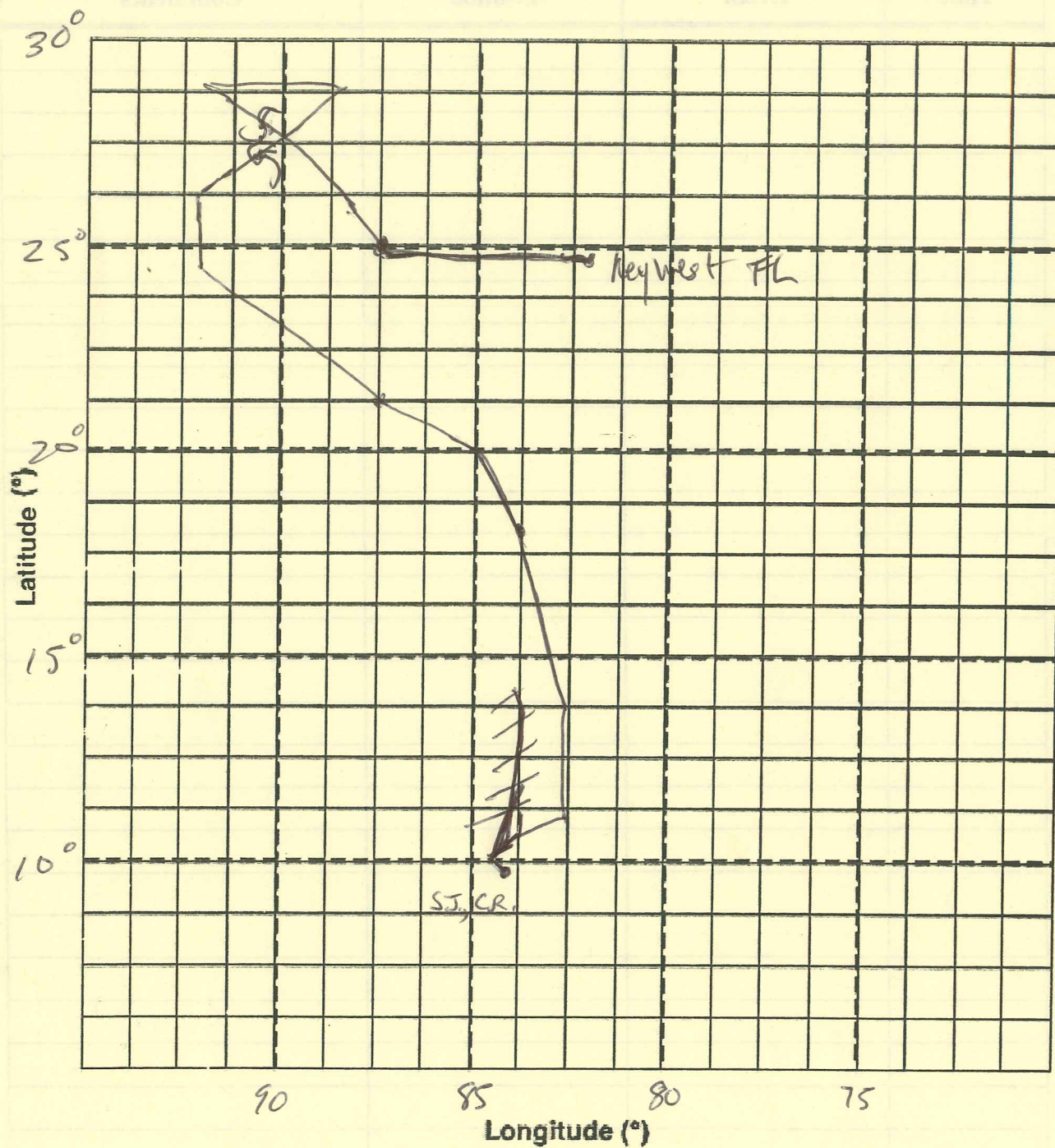
040925066

040925066  
042115187



# Observer's Flight Track Worksheet

Date 5 Jul 05 Flight 20050705H Observer Paul A. Leighton



## Mission Summary

### Storm name

YYMMDDA# Aircraft 4 RF

### Scientific Crew (4 RF)

Lead Project Scientist Paul Leighton  
Radar Scientist Paul Leighton  
Cloud Physics Scientist PA N/A  
Dropwindsonde Scientist Paul Leighton  
Boundary-Layer Scientist Eric Willhorn  
Workstation Scientist Paul Leighton  
Observers \_\_\_\_\_

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

Fig 4 w/six drops 18:00 & 21:00 2 Fix responsibility  
Waiter NE for timing second leg  
Drop 1 inbound, 1 center, 1 outboard, each leg

Mission Synopsis: (include plot of actual flight track)

As planned 101 ft to NW instead of NE.  
5 drops 1st inbound not dropped

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

Found ~~not~~ 75 mph winds @ surface ← Hurricane  
SFMR ~~showing~~ 35 kts w/s or ~ 60 kts  
Sonde wind 64 kts at 950 mb

Problems: (list all problems) was locked up @ 18:11 just before drop. Receiver didn't get into until a re-send from HAPS.

Expendables used in mission:

GPS sondes: 5

AXBTs: 0

Sonobuoys: 0

$$1 \text{ kt} = .5148 \text{ m/s}$$

$$1 \text{ kt} = 1.15 \text{ mph}$$

$$\frac{35}{.5148} \times 1.15 = \sim 78 \text{ mph (Hurricane?)}$$

(See ship report ~ 1 hr earlier.)

1.882 1kt, 5148 <sup>ms</sup> 1.94  
1kt = 1.15 mph 1.869

20050705H1

## Mission Summary:

NOAA N42RF flew an NMC-tasked (OSO3A Cindy) SFMR mission into Tropical Storm Cindy. The P3 left San Jose, Costa Rica at 13:43 UTC (09:43 <sup>Am</sup> EDT) and recovered at Boca Chica NAS, FL (key west FL) at 22:21 UTC (6:21 pm EDT). A Figure 4 pattern was flown with the initial leg from the SW to the NE acquiring the 1PZ fix at 18:17 UTC (27.67N, 90.34W). There were 2 sonde drops along this leg one in the center and one in the NE eyewall, ~~Three~~ sonde drops were made on the NW to SE leg for the 21Z fix made at 20:10 UTC (28.43N, 90.56W). The first drop on this leg was near the NW ~~Eye Wall~~ Eye Wall, the second in the eye, and the third in the SE eyewall. SFMR winds peaked at 35 m/s (~68 kts - or 78 mph <sup>3</sup> [Hurricane?]). Instrument accuracy to  $\pm 5$  kts.



Paul Houghton