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 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).

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 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 Director1 week after the flight).

Lead Project Scientist Check List

Date 9/29/02 **Aircraft** 43 **Flight ID** 020929I

A. —Participants:

HRD		AOC	
Function	**Participant**	**Function**	**Participant**
Lead Project Scientist	Crone	Flight Director	Damiano
Cloud Physics	–	Pilots	Kent + strongstalberton
Radar	Gamache	Navigator	John Adler
Workstation	Rogers	Systems Engineer	Cuny
Photographer/Observer	–	Data Technician	~~xx~~ Tony
Dropwindsonde	MBlack	Electronics Technician	Smith D
AXBT/AXCP/Guest	Uhlhorn	Other	

Take-Off: 17:05 Location: MacDill Landing: 2 Location: _____

Number of Eye Penetrations: 2

B. —Past and Forecast Storm Locations:

Date/Time	Latitude	Longitude	MSLP	Maximum Wind

C. —Mission Briefing:

doing Track-Depended SST
Cruz HFP experiment (Crone & Uhlhorn)
Broken Engine Tachometer delayed take off 1h
(16Z→17Z)... "pre storm Initialization"
module of T-DESC

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	↑			
Data System	↑			
Dropwindsondes	↑			
AXBT/AXCP	↑			
Workstation	↑			
Videography	↑			

REMARKS:

All Systems go (once Tach replaced)

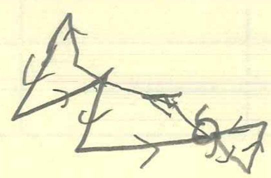
Unequivocable Success.. all system worked well and set a BT failure recal (2/35 failed)

Mission Summary
Storm name
YYMMDDA# Aircraft 4_RF

Scientific Crew (4 RF)

Lead Project Scientist	______
Radar Scientist	______
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)

See TDesc in HFP 02
as placeholder listed as last module in
("hairpin" 02)

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

absolutely... now
we need field to behave
+ hit the Pre-Sh convergence part and study

Problems:(list all problems)

engine tach... replaced... 1 h delay..

2/35 BT failed

2/21 GPS "

Note: Ch 14 +1.5 Bias (Spreadsheet used LD Tom Cook's Data TO Corrected Bias)

Form E-2
Page 5 of 5

Lead Project Scientist Event Log

Date 9/29/02 Flight 020929I LPS Clare

Time	Event	Position	Comments
17:06	Takeoff	MacDill	1h late
17:09	Air force F-X 1.1i	18.70; 77.60	~3h prior to 43 fix
18:46:48	ISI/BT/GPS (Ch 12)	20.61 81.43	winds yes; SST=28.8
18:51:08	BT (Ch 14 GB)	20.34 81.59	SST 30°, MLD? = SST Bias?
	(GPS 2)		Very warm + Deep ML all
18:55:36	BT (12 ch)	20.05 81.76	SST=28.9 ~75m MLD
18:00:20	BT (4 ch)	19.75 81.93	SST=30.5 Ch14=1.5°C Bias
19:04:00	BT (Ch 14)	19.44 82.10	SST=30.4=29.0 Corrected
19:09:46	BT (Ch 12)	19.17 82.25	SST=28.9
19:18:27	(GPS 3) BT 7 ch 14 leg 2-3	18.75 82.51	SST = 29.2 31.4 leg 2-3 +2.5 Bias
19:26:36	BT 8 ch 12	18.98 82.03	SST = 29.0 (-.20 bias)
19:34:33	BT 9 ch 14	19.23 8.54	SST = 29.1
19:40:55	BT 10 ch 12	19.47 81.09	SST = Dud...
19:45:54	BT 11 ch 12	19.62 80.80	SST = 29.2
19:49:18	BT 12 ch 14	19.71 80.63	SST = 29.4
19:57:13	BT 13 ch 12	19.95 80.16	SST = 29.0
20:00:26	gps only	20.05 79.96	all gps showing Dyn. Layer
20:04:04	BT only	20.18 79.70	SST=29
20:08:48	gps + BT 14	20.18 79.54	SST=28.9
20:12:34	BT only 16	19.93 79.67	SST=29.0
20:16:52	BT only 17	19.62 79.81	SST=28.7
20:19:12	GPS only	19.45 79.87	GPS only
20:21:24	BT only 18	19.31 79.94	SST=28.8 Ch 14
20:26:00	BT only 19	19.01 80.11	SST=29.0 Ch 12
20:30:24	gps + BT 20	18.71 80.26	SST=28.8 Ch 14
20:39:40	GPS + BT 21	18.29 80.53	SST=28.8 BAD GPS Ch 12
20:40:57	GPS only	18.26 80.41	GPS only
20:53:18	BT/GPS Combo 22	18.42 79.49	Combo.. SST=28.7 Ch 14

Note Leg 1-2... Note: high alt (10K) and high density drop rate (~20m) = lots of noise from receiver... real time issue but OK Post mission (real loss data)

295/45kts

21:15Z

1849N 7752 93

Form E-2
Page 5 of 5

Lead Project Scientist Event Log

Date 9/29/02 Flight 020929I LPS CLONE

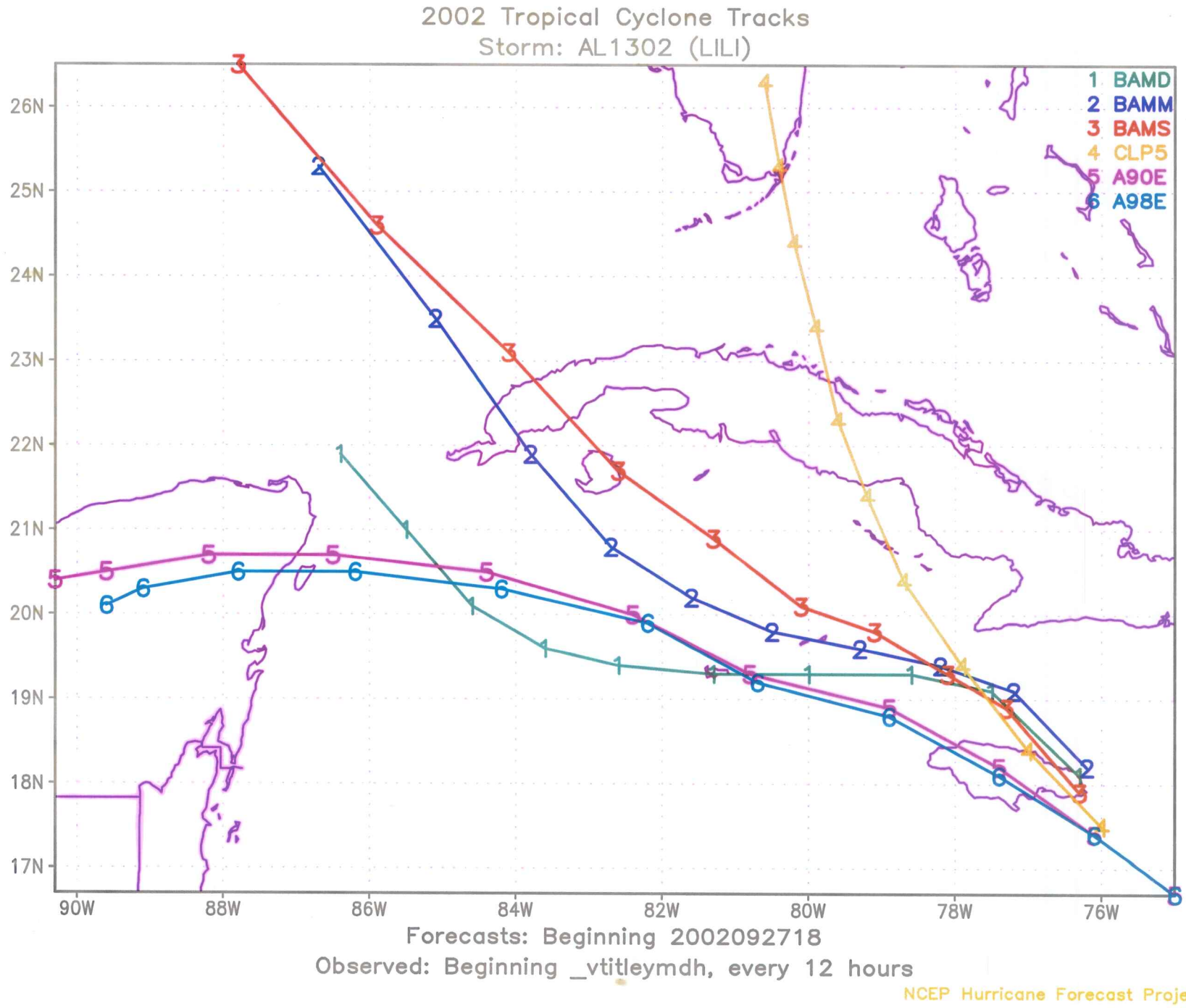
Time	Event	Position	Comments
210440	BT/Sonde 11	18.57 78.65	~50mi fm center
211600	BT 25 Combo	18.81 77.82	center MSLP
211839	BT 5 only	18.78 77.64	eyewall
211934	" 13 only	18.7 77.59	"
212106	BT 20 only	18.7 77.46	"BT eyewall" (failed)
212944	BT 26 + GPS 14	18.6 76.87	~30mi. ER Storm
214621	BT 27 + GPS 15	18.43 75.78	ER Turnpt SST=28.9
215113	BT only 28	18.56 75.76	Middle rear SST=29.1
215711	RR leg + GPS 16	19.32 75.85	RR leg SST=28.7
220103	RR leg, Midpt 30	19.10 76.90	Midpt SST=28.9
223116	GPS 17	18.94 77.8	E Eyewall
223141	GPS 18	18.94 77.82	"
223412	GPS 19	18.92 77.96	Eye drop
			28.5
224808	BT only 31	19.20 78.93	50mi ahead SST=28.7
225149	BT Sonde 32	19.29 79.01	50mi ahead GPS Sat
225617	BT only 33	19.42 79.51	90mi ahead SST=28.2
	GPS sat 18 21		SST=29.1
232019	BT only 34	19.93 81.24	"Pt 10" NOfS ~180mi
232791	" " 35	20.35 81.34	30mi NE of "10" SST=29.1

Total 35 BTs 21 GPS (7)
only 1 BT failure... only 2/21 GPS were bad...

Lead Project Scientist Event Log

Date ________________ **Flight** ________________ **LPS** ________________

Time	Event	Position	Comments


2002 Tropical Cyclone Tracks
Storm: AL1302 (LILI)
1 BAMD
2 BAMM
3 BAMS
4 CLP5
5 A90E
6 A98E
26N
25N
24N
23N
22N
21N
20N
19N
18N
17N
90W
88W
86W
84W
82W
80W
78W
76W
Forecasts: Beginning 2002092718
Observed: Beginning _vtitleymdh, every 12 hours
NCEP Hurricane Forecast Project

Li|i

020929I

— 10 { 2115 2100 – 2130 ✓
2235 2220 – 2250 ✓

020930H1

1805 1820 1800 – 1830 ✓
1920 1905 1850 – 1920 ✓ or ~~1905 – 1930~~
2150 2148

1950 1935 – 2005 ✓
2057 2040 – 2110 ✓
2125 2110 – 2140 ✓
2152 2140 – 2205 ✓

020930I

— 10 { ~~2015~~
2057 2040 – 2110 ✓
2237 2210 – 2240 ✓
2400 2340 – 2410 ✓

possible unsaydt

021002H1 —

1745
1837 1820 – 1852 ✓
1936 1920 – 1952 ✓
2139 2120 – 2150 ✓
2219 2200 – 2230 ✓
2245 2230 – 2300 ✓

0335
0405
0455 0508

021002I

0450 – 0520 ✓
0648 0630 – 0700 ✓
0950 0930 – 1000 ✓

10 { 1515 1455 – 1535 ✓
1807 1750 – 1820

021003I1