Fabian 20030803H

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 Director1 week after the flight).

Fabian

Form E-2
Page 1 of 5

Lead Project Scientist Check List

Date 9/3/2003 **Aircraft** 20030903H **Flight ID** 42RF

A. —Participants:

HRD		AOC	
Function	**Participant**	**Function**	**Participant**
Lead Project Scientist	Chang	Flight Director	Flaherty/Shepherd
Cloud Physics		Pilots	Kennedy/Halverson/Black
Radar	Dodge/Marks	Navigator	Brakob/Newman
Workstation	Aberson	Systems Engineer	Torry/Wadd
Photographer/Observer		Data Technician	Mcmillan
Dropwindsonde		Electronics Technician	Rogers/Peck
AXBT/AXCP/Guest	Estaban/Kerr	Other	

Take-Off: 1540 Location: TISX Landing: 001234 Location: TISX

Number of Eye Penetrations: 7

B. —Past and Forecast Storm Locations:

Date/Time	Latitude	Longitude	MSLP	Maximum Wind
prog → 9/3 18Z	22°21'	62°35"	945	
9/3 1715	22 23	62 48		
9/3 2245	2256	6250	939	142kt

Teal 12
N42RF

C. —Mission Briefing:

CBLAST short pattern (Figure 3 in HFP) as drawn. IP 100nm SW of 6. N42RF 5000ft on eye runs (N43RF 5000' if possible)

IP 21°30" 64°12"

Fabian
20030903H

Form E-2
Page 2 of 5

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	↑	↑	✓	
GPS sondes	↑	↑	✓	49 26HR 0/23 NESDIS
AXBT/AXCP	↑	↑	✓	4AXBT 4 smoothing loaded by in station
Workstation	↑	↑	✓	
Videography	↑	↑	✓	

REMARKS:

full up sondes were not used on 9/2/2003
The mission was executed about as well as could be expected for N42RF
We got an excellent cross storm set of 12 drops on the SW and NE eyewalls followed by good coordination (in general) with N43RF in 4 stairsteps; 2 along wind ~60 n mi from ctr stairsteps N of the center (RF); 1 along wind SW of center (LR); and 1 crosswind stairstep NW of center (LF). We also managed 6 more penetrations for Paul Chang to get IWRAP data in the N S W eyewalls (had the heaviest rain). All legs were at 7500' altitude. Only screw up was after doing 2nd stairstep N43RF didn't alert us they were moving to the NE and we went to WOBG.

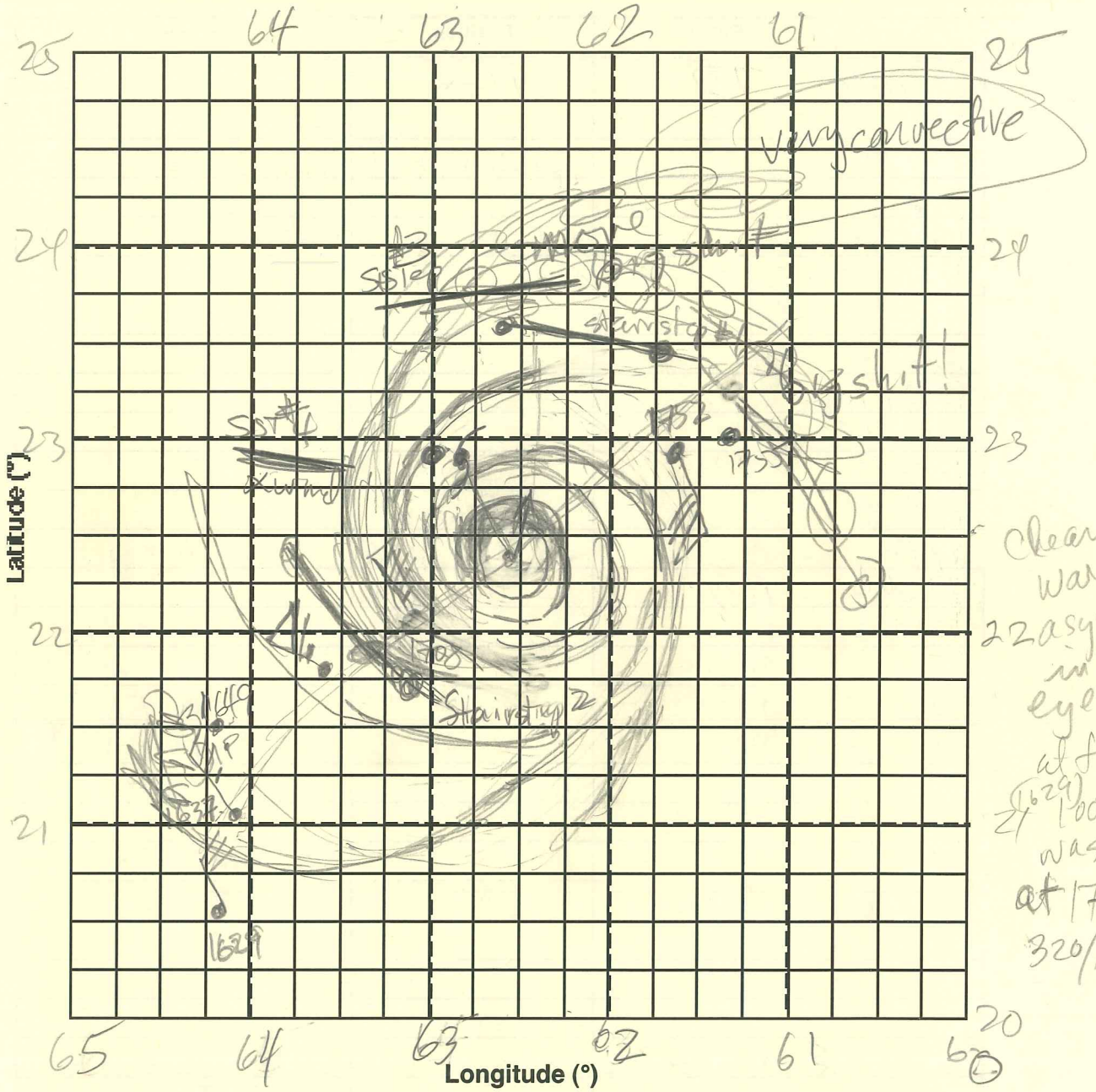
Form E-2
Page 4 of 5

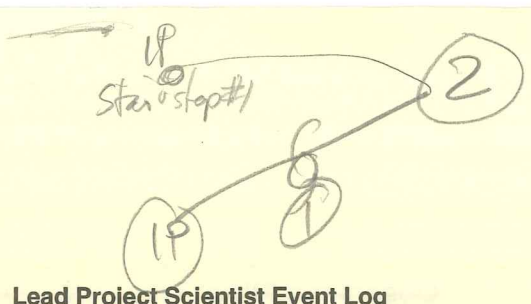
Page 1 of 2

Observer's Flight Track Worksheet

Date 9/3/2003 Flight 20030903H Observer Marks

Teal 12





Lead Project Scientist Event Log

Date 9/3/2003 **Flight** 20030903H **LPS** Chang/Manly

Time	Event	Position	Comments
2350			
154019	TO	TTSX	
164925	IP	21°28.5 64°07"	start TK 060 to 6
			100 nm out
171137	D1	full up	first drop sequence
171145	D2		from SW side
171155	D3		
171209	D4		
171217	D5		
171226	D6		
171235	D7		
171246	D8	full up	
(1) 171400	6	22°17" 62°38"	circle in eye
173400	IP 6	22°20" 62°42"	
173550	D9	TK 060	outbound drop
173600	D10		sequence
173610	D11		turn ENE 6 wall
173620	D12		TEAL 12 TK 045
173630	D13		
173640	D14		
173650	D15		at SFMR surface PK
173700	D16		before FL wind max
(2) 175500	(2)	21°30 62°30	Turn to stairstep IP
182150	IP stairstep 1		start stair step #1 TK 300°

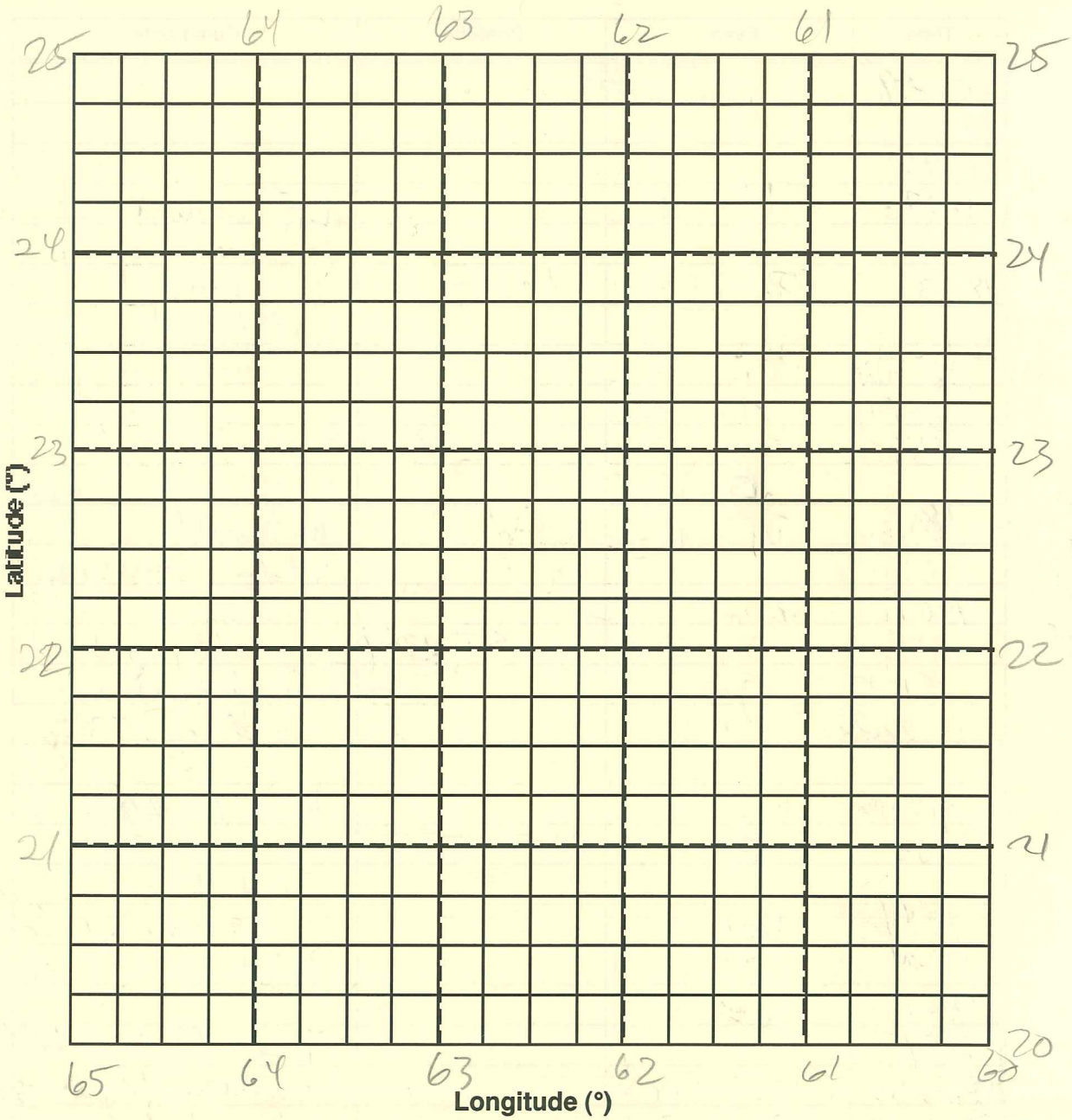
TK 15
Teal 12 fix 22°23.2 62°48.2 L

NE 6 nm NE 6

downwind first

Observer's Flight Track Worksheet

Date _____ Flight _____ Observer _____



#2

Form E-2
Page 5 of 5

Lead Project Scientist Event Log

Date 9/3/2003 Flight 20030903H LPS Marks/Chang1

Time	Event	Position	Comments
182154	stairstep D1 (AXBT)		at IP downwind leg stairstep 1
182405	D2		
182554	D3		
182730	end leg #1		LF radar rng 60 nm at 1830 UTC
			end stairstep #1
1833	(B) N of (eye)	TK180	problems?
			MN43RF
184711	D17 PC1		Paul Chang does 3 drops
184749	D18 PC2	in N	on way through N eyewall
184917	D19 PC3	eyewall	
	(eye)(2)		cross W side of (eye)
185230	D20 PC4		SW eyewall
			set up stairsteps SW of (eye)
1907	TK325 IP352		upwind
1913	D21/AXBT	SST 27.4	start upwind leg stairstep 2
191645	D22		fast fall sonde
192028	D23		end leg 192038
192506			turn TK 090 to (eye) no drops on inbound
1937	(eye)(3)	22°37' 62°45'	
			turn TK 300 to eyewall
1944	D24 PC5		194057 LF lock up
1944	D25 PC6		Paul does 3 sondes outbound
1944	D26 PC7		
1957			Turn TK100 to (eye) N43RF wants
200555	D27 PC8		Paul Chang does 2 sondes
200615	D28 PC9	fast fall	sonde on inbound leg

1845 LF ring jumped from inside 50 km to 100 nm

184611 jumped back

move stairstep N of (eye) 60 nm

#3

Form E-2
Page 5 of 5

Lead Project Scientist Event Log

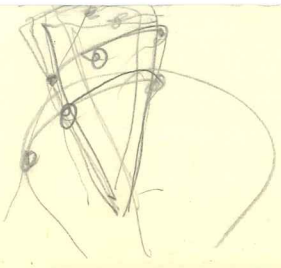
Date 9/03/2003 **Flight** 20030903H **LPS** Chang/Marks

Time	Event	Position	Comments
2008	D28 G(4)10	22 42 62 48	TK N to rendezvous with N43RF
201130	D29 PC10		in NNE eyewall
201149	D30 PC11		
203211	IPS53 D31/AXBT?		Tk downwind 330
203335	D32		
203500	D33		
203715	endleg		turn tk 090
	upwindleg		reverse it
			got great pix of 43
205000	end 2nd leg		TK 180 back to G
210526	D34 PC12		Paul Chang drops in N gwall
210547	D35 PC13		great rain data
210623	D36 PC14		full up sonde
2111			orbit in eye great eye pix
2116	G(5)		Turn TK 290
211802	D37 PC15		in WNW eyewall
211830	D38 PC16		P. Chang drops
211909	D39 PC17		
2135	reach rendezvous area		with N43RF
	move N 70 nm W NW		of eye to find clear spot for crosswind LF ring
214221	IPS54 D40	23°12" 64	TK 283 150nm
214527	D41		
2149	turn	TK 100	
215051	D42		

N43RF start leg 203130

Start stop 3 just of heavy rainband 65 nm of G

Start stop #4 Crosswind



#4

Lead Project Scientist Event Log

Date 9/03/2003 **Flight** 20030903H **LPS** Chang/Mahr

Time	Event	Position	Comments
2150			end 2nd ~~X~~ wind leg
220855	D43 PC18		TK 110 to 6 for P. Chang
220928	D44 PC19		P Chang drops in W 6 wall
220947	D45 PC20		
2212	6) (6)		
221555	D46 PC21		TK N
221552	D47 PC22	no launch detect	P. Chang drops in N 6 wall
221643	D48 PC23		
221435			Turn TK 270 to line up N last sonde
222641	start leg	23°26" 63°23"	Turn TK 135 -> 6
			2229 radar system restart
223530			
224520	D49 6)(7)	22°56" 62°50"	get fix TK 190 for TISX
			939 hPa
225830			end pattern head for TISX
001234	land	TISX	

sonde splash 03H 23.05 62.81 48"

49/23 PChang

26 HRD

18Z 22°21' 62°35'

4 BT's

42: At stairstep IP CH 12

43: One eyewall legs CH 16

IP 21°30' 64°12'

CBLAST EXPERIMENT

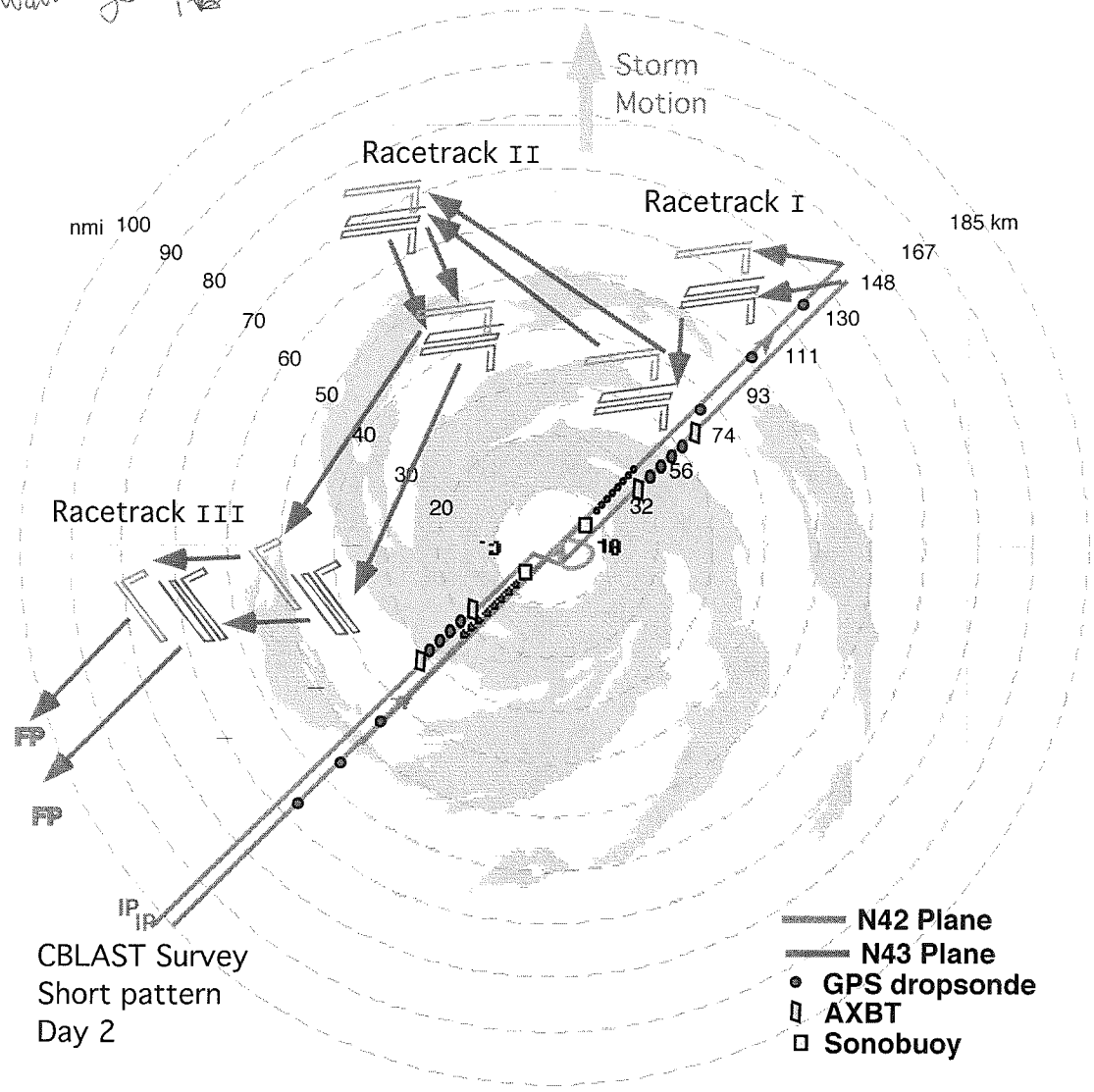
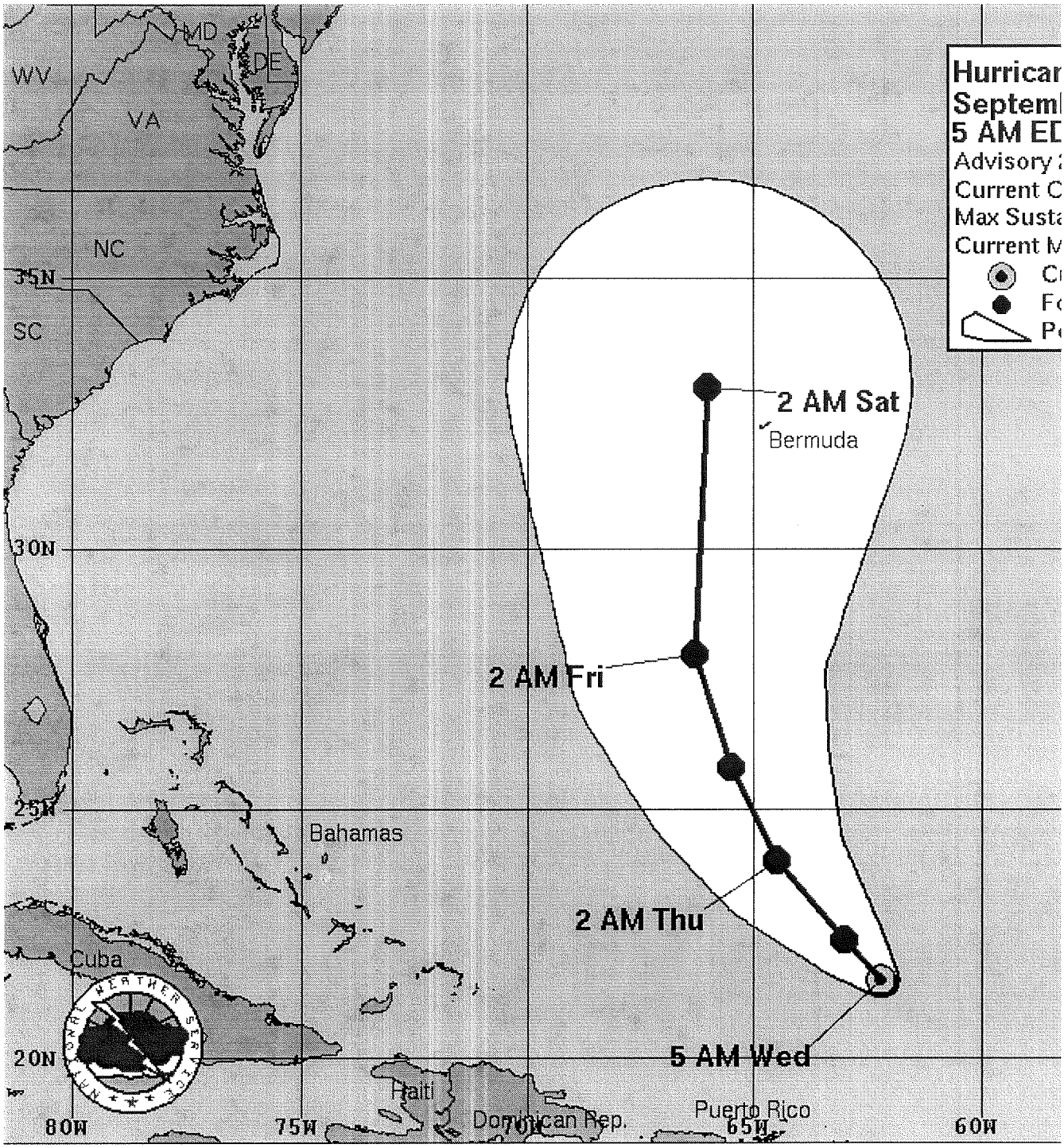


Fig. 3. CBLAST short pattern, Day 2.

• Note 1.	The pattern should be aligned 45° from storm heading. Preferred **IP** is in left-rear quadrant.
• Note 2.	The two WP-3Ds fly 'in trail' with high plane at 7,000 ft RA (12,000 ft in CAT 4 or 5) and low plane at 5,000 ft RA from **IP** to **2**, 2,500 ft RA thereafter, conditions permitting (8,000 ft for CAT 4 or 5). The lower WP-3D will lead the upper WP-3D.
• Note 3.	Aircraft should reach their respective **IP's** as simultaneously as possible, with the **IP** for upper WP-3D at a radius of 120 nm, and the **IP** for the lower WP-3D at a radius of 108 nm.
• Note 4.	The lower WP-3D will start a sequence of four near-eyewall drops on inbound legs at approximately $2R_{MAX}$. High-level aircraft should start series of 8 eyewall drops 30 s after end of low plane drops, ending at inner edge of eyewall. Orbit in the center till all drops have cleared. Reverse the sequence on the outbound leg.


MD
DE
WV
VA
NC
SC
35N
30N
25N
20N
80W
75W
70W
65W
60W
Bermuda
Bahamas
Cuba
Haiti
Dominican Rep.
Puerto Rico
2 AM Sat
2 AM Fri
2 AM Thu
5 AM Wed
Hurrican
Septem
5 AM ED
Advisory
Current C
Max Susta
Current M

Fabiola 030903 H

	62125	17:15:25	f03h1.trk	
	62427	17:20:27		
	62602	17:23:22		
9	67844	18:50:44	corp1 1838_1858	sector mode
9	70890	19:41:30	corp2 1929_1945	
	72445	20:07:25		
9	76190	21:09:50	com3 2057_21~~23~~	
	76525	21:~~1~~5:25	~~comp 2103_2123~~	
	79886	22:11:26		
9	81898	22:44:58	corp4 2232_2252	

030903 I

f03i1.trk

9	62050	17:14:10	~~corp~~ 1700_1720	cap1 1700-17~~40~~
	62930	17:28:50	1715_1735	
	63141	17:32:21		
9	67811	18:50:11	corp2 1838_1858	

1540 T/O from SAN JUAN

1631 They put the wedge on the LF. I started savekpac anyway - but the HARDWIRED software won't ~~to~~ accept the ~~the~~ sweeps with wedges. ~~If~~ If we had the code on board we could have modified the code and recompiled - but NO...

1652 nice Nose video

1709-43 started their sonde run

171026-43 last sonde out

171135 Snd #1 of ours SFMR > 45 m/s

17124? Last snd ~ 35 m/s

winds on everything but full ups

1715 - changed PRF to 2100

173549 - start eye seq 21 m/s SFMR

173800 ~~50~~ 45 m/s SFMR

NE side has broad area > 48 m/s SFMR

173816 LAST 43 drop

~~17376~~ ~~18066~~ 181745 - turning at 23°08 61°55'

for IP start of DW leg

182150 SND; BT (No Good)

182408 SND

182556 SND #3 SFMR 26 m/s

182725 turning for upwind leg (when they reset the line)

183050 got the ring again

1750 TEAL FIX

22° ~~28~~ 41'

62° ~~55~~ 43.1'

947

1834 - Change of plans - no clear area - so will go back into the eye N → S to head for clear area in SW

We will do 2,3 drops for PChung in eye wall

030903 H (2)

184711 P Chung drop #1
184749 " 2
11 m/s ↑ in eye wall

185228 3rd drop

1859 43 descending
1904 IP we doing 360° to get BEHIND 43 again 22°04' 63°34'

43 has some science instrument problems

191333 Sonde LAUNCH BT – 27.4°

191637 Drop #2 SFMR 35.8 m/s

192317 – ~~East~~ turn to head in to eye from W
(Wedge off – to do 1 composite

1942 – 1944 ½'s DOWN

194256 drop #1 (Full up)
194413 #2
194438 #3
~~194539~~ ~~194036~~ turn to head back in to catch up
with 42 as new IP 24°, 62°30' → chg 23°53' 62°40'

2004 LF FUSE

2006 3 sondes for PC

2009 Sent LF composite to ASDL from

201121 drop in N inner edge.
PRF → 2100 reset

We went through N Eyewall heading to IP
OF course we have to fly through some RB to get there

030903 H (3)

202358 – circling at 23°43' 62°41' waiting for 43 to hook up

203210 SND, BT to start → 27.7°C 23°57 62°39.9'

203337 Snd #2

203527 Snd # 3 ~~LD~~ LATE ~~730~~ 730 m/s SFMR
we turned

2048 ✈ Turn to head back into eye for Paul Chang

210526 drop SFMR 52 m/s
210550 " 54 m/s
210618 " 53.8 "
} one of these had 146 KTS

2116 maybe good video ins

Paul Flaherty's Fix
22° 46' ~1925
62° 52'

WNW eyewall

211807 PC drop ~~152~~ 55 m/s SFMR 142 KTS
211835 " 51 "
211909 " 51.8 "

2126
2132 Beautiful down looking video

2147 23°31' 64°36'

215043 23°29' 64°22' last sonde in stepped pattern

215426 43 ended leg

2203 TAIL looks speckled – especially on AFT ANTENNA

220856 DROP in W eyewall

220939 "

220948 " SFMR 37 m/s

221522 SND SFMR 50.8 m/s
221553 " 50.3
221630 " 47 m/s 43 headed Home

030903H (4)

221921
2225
2228 TAIL stopped briefly
223010 Tape started again
2234 PRF → 2100 for final eye pass.
2242 in eyewall 224250 start hunting
224501 eye mark, drop → by Tom (1.5 kts)
22° 56'
62° 50'
SFC PRESSURE 939 FROM SONDE

2250-2255
FAB2.KPAC
Sent 2 buffers to ASDL at 23:18
~~of course~~
I had a weird problem with chaser where ~~lost~~ kpac image ~~was~~ at 2250 would not respond. So I made a new kpac - and then it worked from the new file. Qui en sabé?