

19910907H1-LPS

Claudette 910907H1

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 OAO 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 OAO 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 OAO flight director/meteorologist 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 OAO flight director.]
- ☐ 4. Obtain a copy of the 10-s flight listing from the OAO 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.

On-Board Lead Project Scientist Check List

Date 9/7/91 Aircraft 42RF Flight ID 91090741

A. Participants

HRD		OAO	
Function	Participant	Function	Participant
Lead Proj. Sci.	<u>Markes</u>	Flight Director	<u>Parrish</u>
Cloud Physics	<u>Willis</u>	Pilots	<u>Turner/Philipsborn</u>
Radar ^{work} station	<u>Black/Leighton</u>	Navigator	<u>Strong/Nokutis</u>
Doppler	<u>Griffin/Gumpel</u>	Sys. Engr.	<u>Moore</u>
Photographer		Data Tech.	<u>B.J. Williams/Gonzalez</u>
Omegasonde	<u>Burpee</u>	El. Tech.	<u>Roles</u>
AXBT/AXCP		Other	

Take-Off 1443 Location Bermuda Landing _____ Location _____

B. Past and Forecast Storm Locations

Date/Time	Latitude	Longitude	MSLP	Max. Wind
<u>sat 7/930Z</u>	<u>27.1</u>	<u>61.8</u>		<u>120kts.</u>
<u>sat 7/1030Z</u>	<u>27.1</u>	<u>61.6</u>	<u>~940 mb</u>	<u>good eye</u>
<u>07/1800Z</u>	<u>27.5</u>	<u>62.3</u>		
<u>08/0600Z</u>	<u>28.7</u>	<u>63.2</u>		

C. Mission Briefing

Eye wall Evolution Exp. p. ops plan.

D. Equipment Status

Equipment	Pre-Flight	In-Flight	Post-Flight	tapes
Aircraft	✓	✓	✓	
Radar	✓	✓	✓ TA crashed out (9)	
Cloud physics	only 2D-C	only 2D-C	no data taken	
Data system	✓	✓	RAMTEK crash crashed once	slow fast
Omegasondes	receive only	✓	received 203	
AXBT/AXCP	✓	✓	all bad	
Doppler	✓	✓	TA down	
Photography	✓	✓	✓	

REMARKS:

TAS & LE radars seem low on reflectivity
 TA has intermittent dropouts (slip rings?) TA failed
 no 2D-C, no Clphys recorded
 data system crash ~2059 - 2103
 Radar system crashed
 AXBT's bad
 good coordination with 43RF & TBAAL 48
 pattern and storm excellent.
 took some ~~fast~~ data to check gust probe
 workstation worked great!!
 RAMTEK failed halfway thru flight
 on last pass thru eye.

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

See attached Fig.

E. II. Actual Flight Pattern

as planned

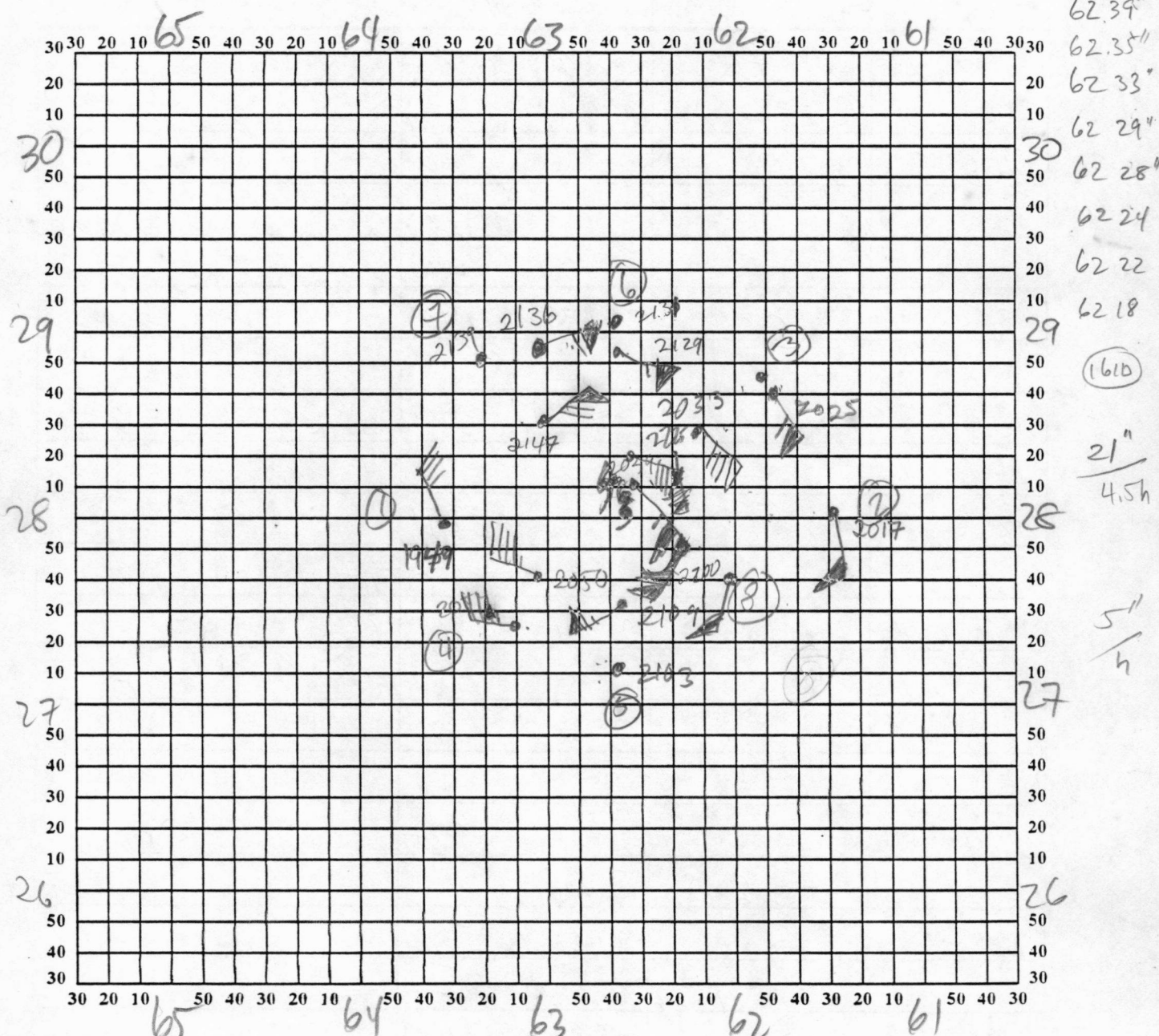
#3

Hurricane Recco Plotting Chart

True at 25° Latitude, in Degrees and Minutes of ϕ and λ .

Date 9/7/91 Longitude 91090741 Observer Marlin

2041
28.21"
28.04
28.01
27.55
27.49
27.43
27.41
27.38
27.32
27.21
27.10
32"
4.5h
27.21
7.1
h



#2

Lead Project Scientist Event Log

Date 9/7/91 Flight 910907H1 LPS Mauler

TEAL 961 mb

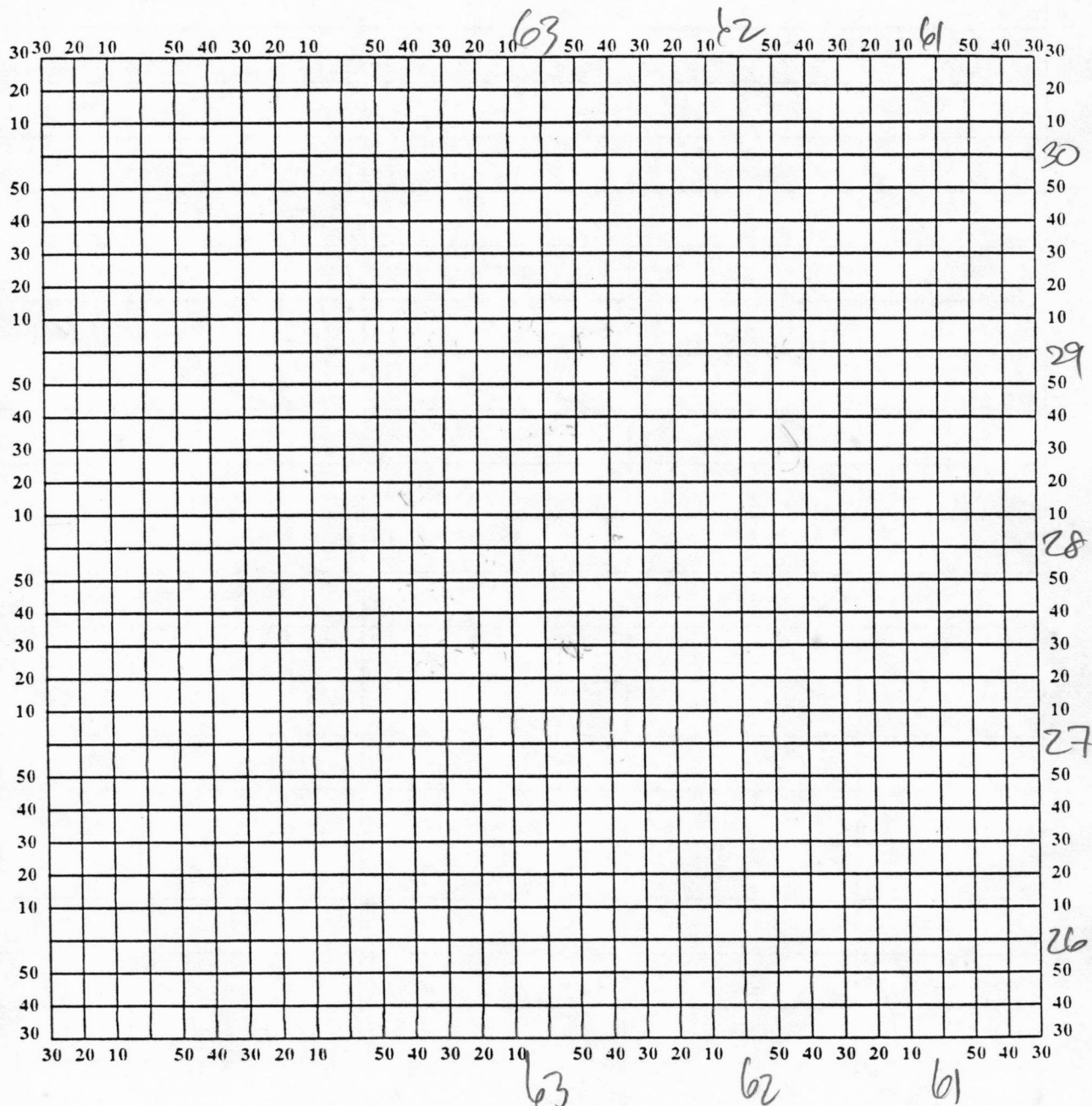
Time	Event	Position	Comments
174630	(7)	28°16" 63°41"	TK 135 eye open on this side
175845	6	27°43 62°28'	extremely heavy rain on outbound radars (LF STA) are suspect leg
181333	(8)	27°12' 61°41'	on reflectivity
182048	27 (246)	27°46" 61°33"	TK 270 Pattern (2)
		182500	43 doing circle at ~40km radius
183448	6	27°49" 62°29'	intermittent tail dropouts this leg.
		AXBT #1	bad
184803	(1)	27°49" 63°27"	check slip rings at end of this leg.
190436	(5)	27°02" 62°26"	Jim changed circn + board was better but still intermittent
1911-191630		27°24" 62°29"	AF in eye - orbit S of 6
	TK 348 406	30nm S	doing drop 23° left EVAD data
1927	6	27°55" 62°33"	TK 360 turn
	192225 AXBT #2		good bad
1933	(6)	28°41" 62°31"	Turn TK 225°
			Jim Roles looking at

teal drop
961 mb

Slip rings.
checked them
still intermittent.

True at 25° Latitude, in Degrees and Minutes of ϕ and λ .

Date 9/07/91 Longitude 910907H1 Observer Markus



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

1600 27.4N 62.3 W 295/08

110 Kts -135

Form E-2
Page 5 of 508/00002 27.9N 63.3W ~~28~~ #1
08/12002 29.4 64.0W

Lead Project Scientist Event Log

09/00002 31.4 64.0W
09/1200 33.2 63.0W

10/0200

Date

9/7/91

Flight

910907H1

LPS

Manly

36.0

58.5W

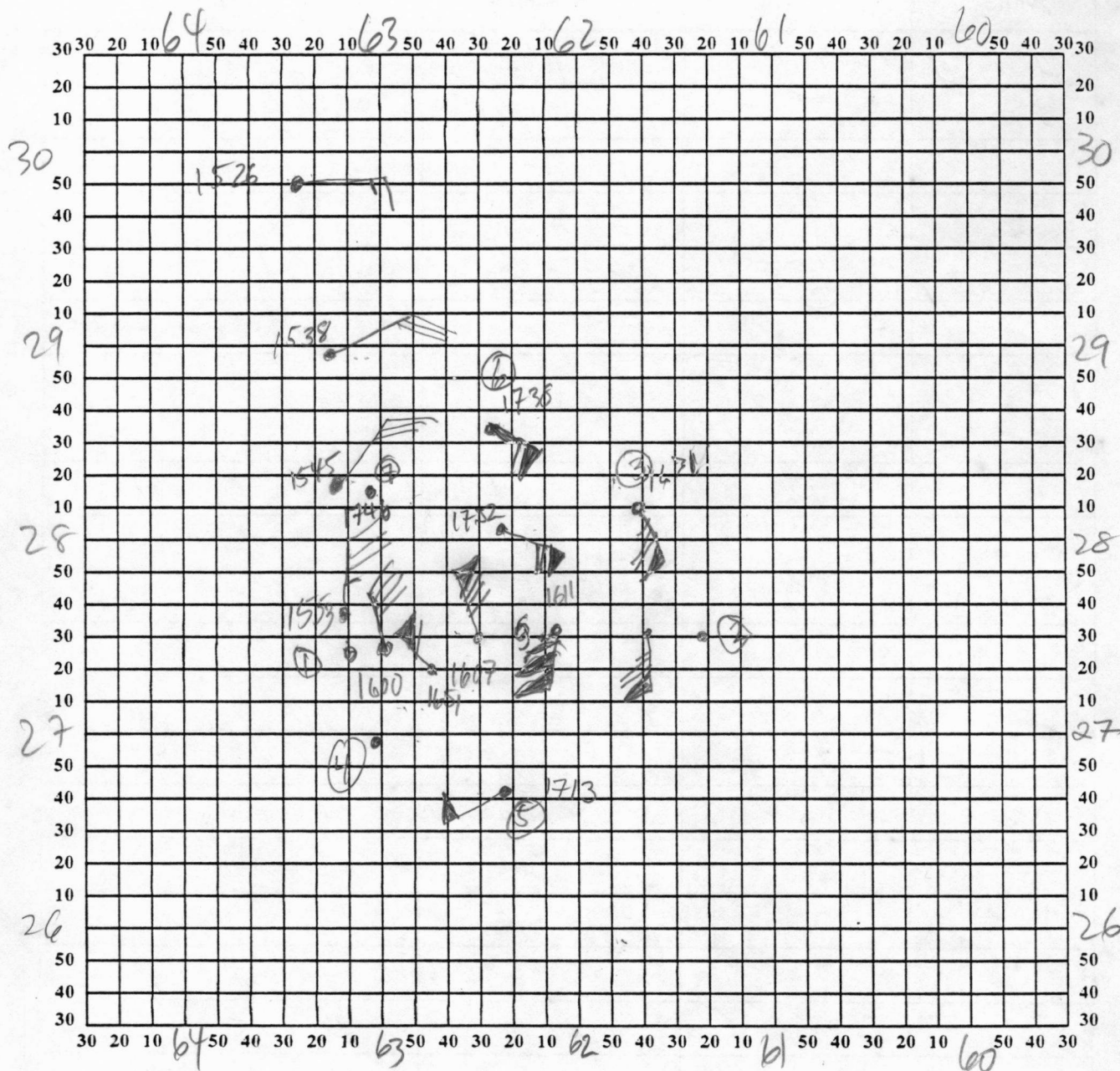
Time	Event	Position	Comments
1443	TO	Bermuda NAFS	1 1/2 h delay because of
1549			start descent to fuel.
155840	IP ①	27°26" 63°09"	50 nm west of 6 8000" TK090
1610 27°32 62°18		43 drop	bad (955mb 3RF)
161000	6	27°32 62°18	115 kts 960 mb on E side
1622	②	27°33 61°23	TK 337°
			SN ODW
163020	③	28°11 61°40"	TK 180°
		163024	radar down in turn TR fixing. ① 21443
1644 15	6	27°38 62°22	radar pick on radar down. ② 21438 on 63700" radar down. 5.5 mi. h.
		43 RF ODW	in 6 → 961 mb 163746
1657	④	26°58" 63°05"	
			43 RF 6 27°38 6 "62°23"
1707	⑤	26°44" 62°23"	TK 360°
		1712	changed R/T on TA
1725 39	6	27°40" 62°24"	10 nm 6, weak FAST-type this leg.
			950.5 est. N. eye wall
1738	⑥	28°34" 62°27"	TK 240 m avoid bands cells on this FAST leg.

#1

Hurricane Recco Plotting Chart

True at 25° Latitude, in Degrees and Minutes of ϕ and λ .

Date 9/7/91 Longitude 910907H1 Observer Markus



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

TEAL 48

NO MORE

BT's something wrong
with system

#3

Lead Project Scientist Event Log

Date 9/7/91

Flight 910907H1

LPS Mauls

RAMTEK DOWN

Time	Event	Position	Comments
194850	①	27°58" 63°31"	TK 090 to ②
	1955	43 S 4 9	TK to S to pick of pattern
200128	6	28°01" 62°35"	TK 090
201530	②	28°09" 61°29"	TK 337°
		2022 TEAL South bound to 6	expect 6 at 2045
202535	③	28°45" 61°51"	TK 225
2039 43RF			43RF 28°02" 62°36" 959
2041	6	28°04" 62°39"	TK 225 961mb
205422	④	27°30" 63°19"	TK 112
			data system down 205905
210347	⑤	27°12" 62°35"	data system up 210350
211837	6	28°10" 62°39"	TK 360°
		28°10" 62°40"	43RF
213050	⑥	29°04" 62°39"	
	43	ODW 2132 23	CH#3 E of 6
213911	⑦	28°51" 63°21"	TK 135
215230	6	28°13" 62°43"	TK 135

definite see wind max NW of 6

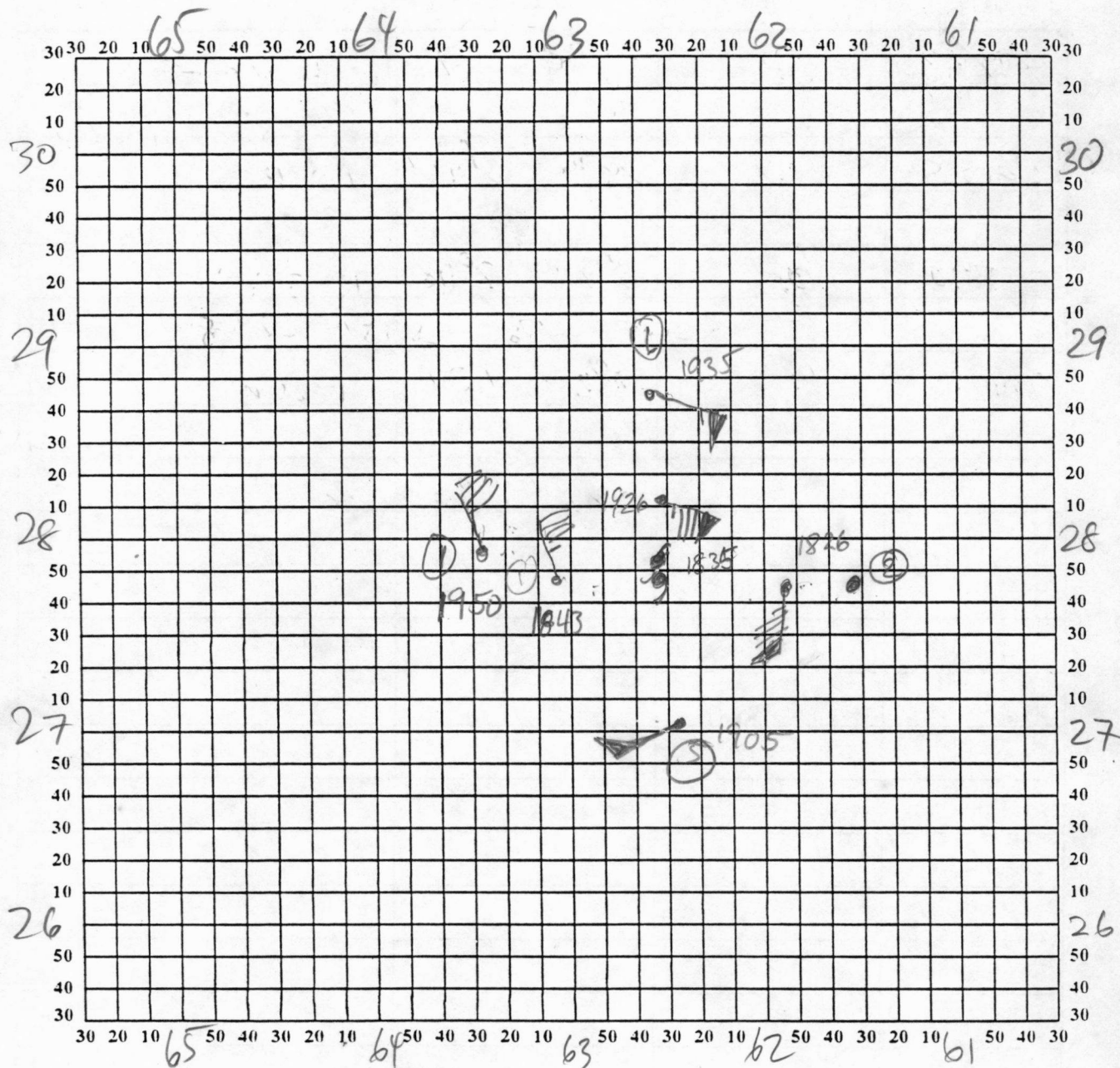
2155 43RF 28°10" 62°44"

#2

Hurricane Recco Plotting Chart

True at 25° Latitude, in Degrees and Minutes of ϕ and λ .

Date 9/7/91 Longitude 910907H1 Observer Manly



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

Date 9/7/91 Flight 910907H1 LPS Marks

[illegible]

7P
271
61.8

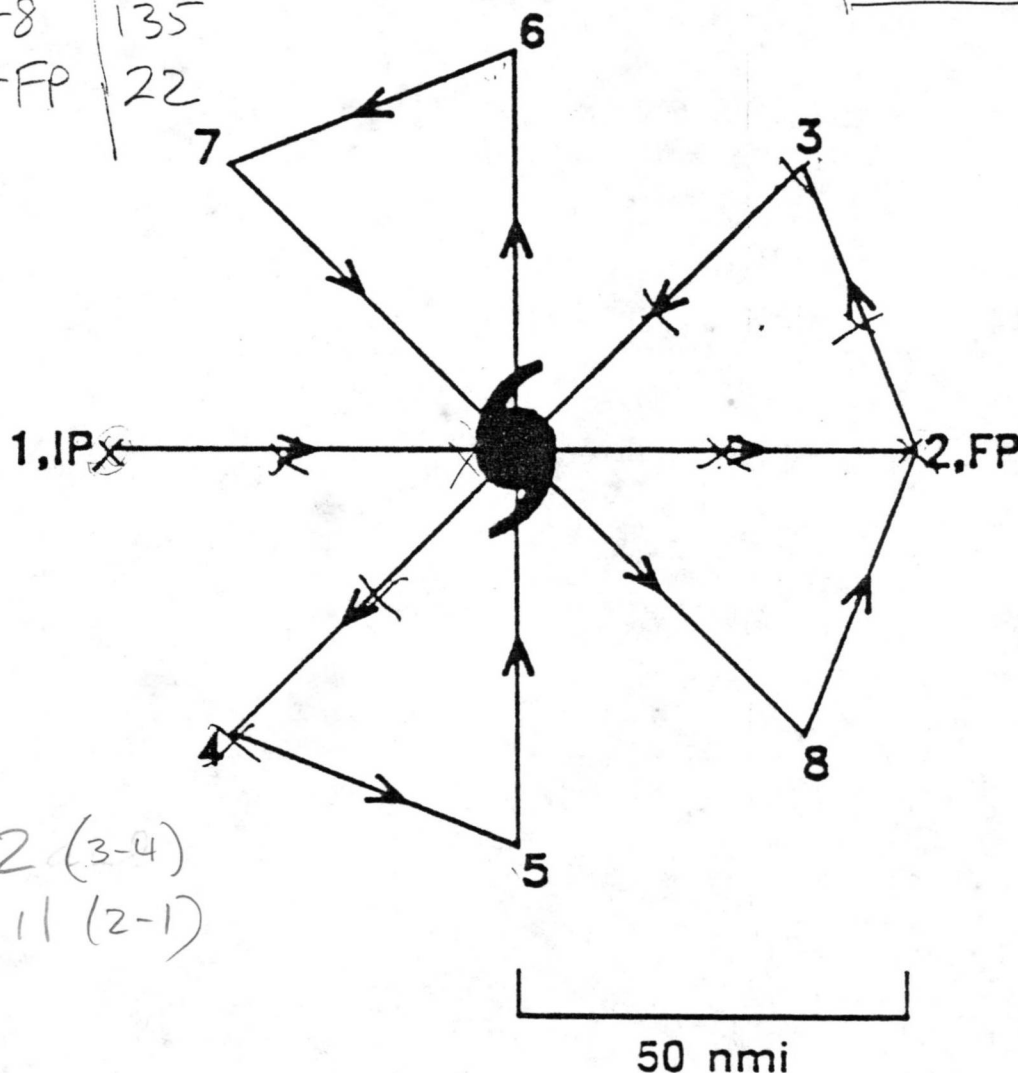
①	
Pts	Track
1-2	090
2-3	337
3-4	225
4-5	112
5-6	0
6-7	247
7-8	135
8-FP	22

②	
Pts	TRACK
2-1	270
1-5	135
5-6	360
6-1	225
1-2	090*

③	
Pts	Track
2-3	337
3-4	225
4-5	112
5-6	0
6-7	247
etc.	

EYEWALL EVOLUTION

Low
42RF



TA
missed legs
across eye 2 (3-4)
and 11 (2-1)

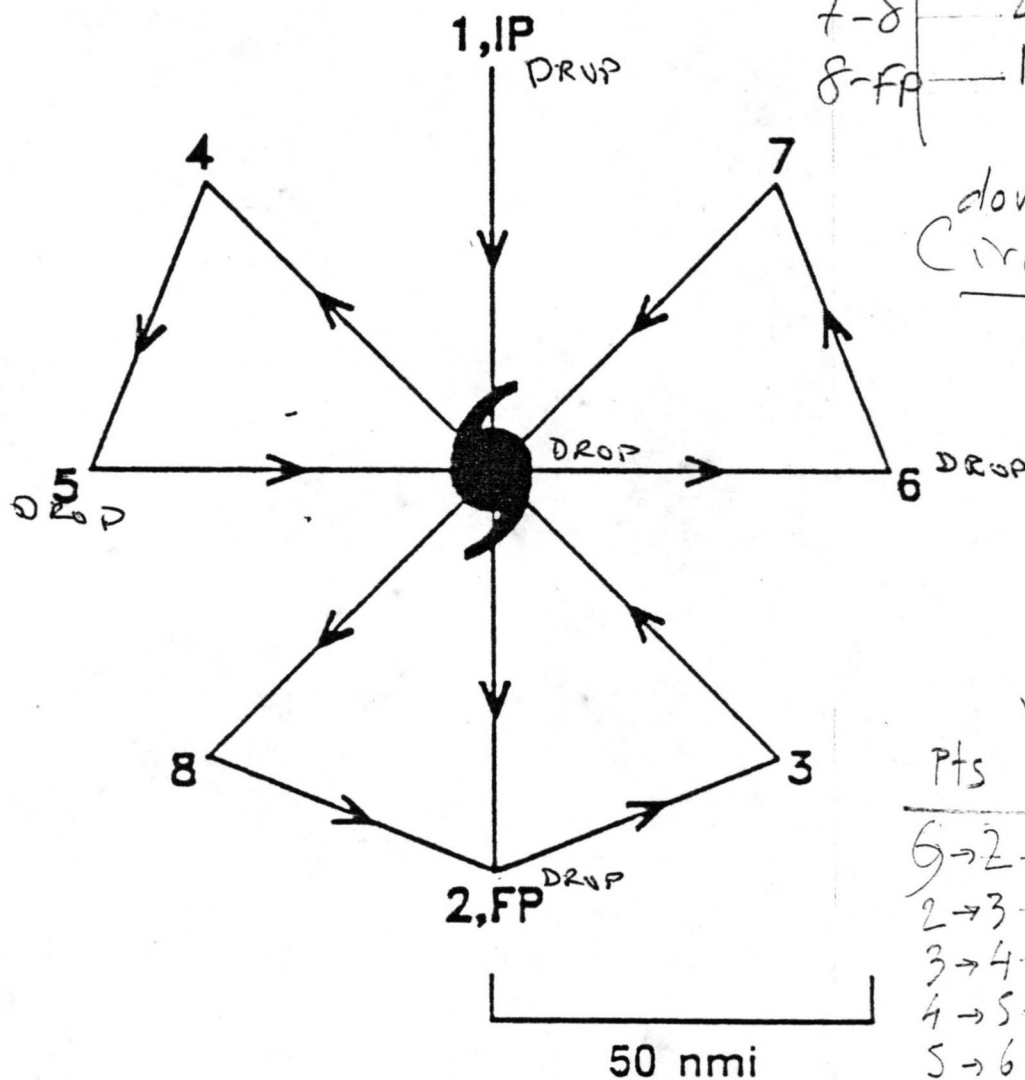
Fig. 20. Eyewall Evolution Experiment:
Upper aircraft pattern.

JN EXPERIMENT

High
43 RF

Pts	Track
1-2	180
2-3	68
3-4	315
4-5	203
5-6	90
6-7	338
7-8	225
8-FP	113

downwind
Circle



Pts	track
6→2	180
2→3	68
3→4	315
4→5	203
5→6	90
6→7	338
7→8	225
8→IP	113

21. Eyewall Evolution Experiment:
Lower aircraft pattern.