

19900828HI-LPS

E.2 Lead Project Scientist (On-Board)

900828H
Gustav

E.2.1 Preflight

- jm 1. Participate in general mission briefing.
- jm 2. Determine specific mission and flight requirements for assigned aircraft.
- jm 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.
- jm 4. Contact HRD members of crew to:
 - a. Assure availability for mission.
 - b. Arrange ground transportation schedule when deployed.
 - c. Determine equipment status.
- jm 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.
- jm 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. Determine next mission status, if any, and brief crews as necessary.
- 5. Notify the appropriate operations center (FGOC or MGOC) as to where you can be contacted and arrange for any further coordination required.

29J-1485800991

On-Board Lead Project Scientist Check List

Date 8/28/90 Aircraft 42RF Flight ID 900828H

A. Participants

HRD		OAO	
Function	Participant	Function	Participant
Lead Proj. Sci.	<u>Marks</u>	Flight Director	<u>Bogert</u>
Cloud Physics	<u>R. Blach</u>	Pilots	<u>McLennan/Ticknor</u>
Radar	<u>M. Blach</u>	Navigator	<u>Henderson</u>
Doppler		Sys. Engr.	<u>Steve</u>
Photographer		Data Tech.	<u>Raines</u>
Omegasonde	<u>Willoughby/Burpee</u>	El. Tech.	<u>Roles</u>
AXBT/AXCP		Other	<u>Gonzalez</u>

Take-Off Location SJU Landing Location

B. Past and Forecast Storm Locations

Date/Time	Latitude	Longitude	MSLP	Max. Wind
<u>28/10Z</u>	<u>19.6</u>	<u>58</u>	<u>-972</u>	
<u>28/16Z</u>	<u>20.7</u>	<u>58</u>		
<u>29/06Z</u>	<u>22.3</u>	<u>57.7</u>		
<u>29/18Z</u>	<u>24</u>	<u>58</u>		

C. Mission Briefing

eyewall evolution experiment
high plane 10kft - 12kft if Air Force
comes out

D. Equipment Status

Equipment	Pre-Flight	In-Flight	Post-Flight	Tapes
Aircraft	✓	✓	✓	+
Radar	✓	Tape Drive #1 out for half the flight	✓	7
Cloud physics	No ZDCP	— ZDC ok	— ZDC ok	13
Data system	✓	✓	✓	1
Omegasondes ^①	✓	✓	✓	8 {50K 3-bad
AXBT/AXCP	none	none	none	
Doppler	✓	✓	✓	
Photography	✓	✓	✓	

REMARKS: ① NOTE: Main Data system clock times 65 SEC Faster than OAW clock times. SEE NOTE on OAW SCIENTIST LOG SHEET, J. Kaplan 2/27/91

1730 Radar MTD #1 flakey
didn't use it the first half of the flight,
1845 Kingprobe out for rest of flight
2046 MTD #1 came back
something funny about it. Somehow LOS (Drive 1)
was down couldn't get it to come back up.
restarted radar system at 2046 cleared the problem
used Drive 1 the rest of the flight. Jim Roles thinks
the radar system got hung up with all the I/O error
messages tying up the CPU (Mike Black says something
similar happened on 43 yesterday 8/27/90). Should check into
cleaning up the software so the error messages can't
strangle the Radar program. Maybe lower their priority?
AXBT on 43 didn't work. A Godstein thinks they were
bad.

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

see attached sheet

E. II. Actual Flight Pattern

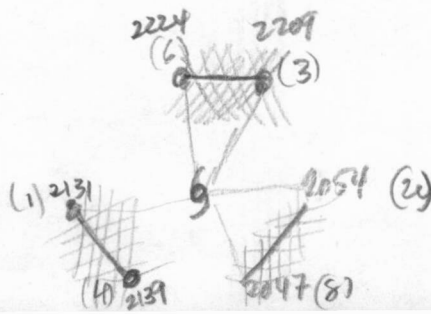
flew as planned completed 1.5 patterns
6.5 legs across the eye (14 penetrations)
last half leg not completely in pattern
because we had to depart for STU

Arbom EVAD orbits:

IP(1)	181225-1818	2 orbits
(3)	1851-1856	2-3 orbits
(5)	1924-1928	1.5 orbits
(7)	20050 200845	2 orbits radar system down just before

FAST legs:

once we had
2 tape drives



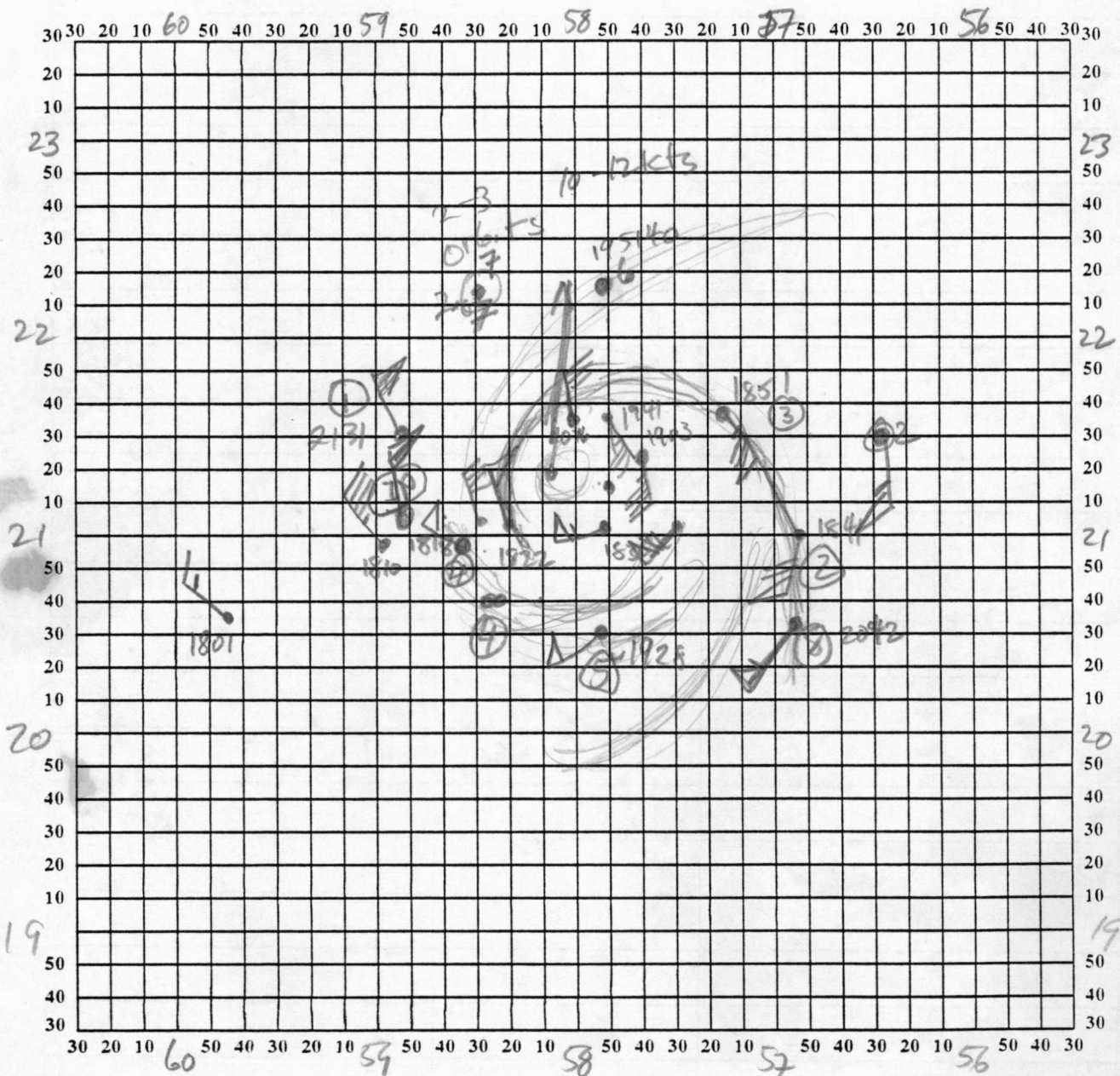
2047-2054
2131-2139
2209-2224

①

Hurricane Recco Plotting Chart

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

Date 8/28/90 Longitude Gustav 900828H Observer Manlio



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

Lead Project Scientist Event Log

Date _____ Flight _____ LPS _____

[illegible]

(2)

Lead Project Scientist Event Log

Date 8/28/90 Flight 900828H LPS Manlis
Gustav

Time	Event	Position	Comments
195140	6	22°26' 57.535"	60nm Nub 9 legs from here on ave 60nm
			1845 King probe out
		21°23' 57.54"	42RF 9 1941 978mb
1957	7		ODW
2000	7	22°94' 58.29"	orbit radar system down 2445 min left.
2007		2006 radar system	EVAD orbit 2-3 orbits
200845			TK 135 to (8)
204157	8	2036" 56.52.	TK 22.5
			2047 FAST in rainband SE of 9
205351	2	21°30' 56°28.5"	turn just inside rainband E of 9 stop FAST on reblot TK270
		21062 21°38' 57.47"	~978mb 43 fix
2131	1	21°29' 58°53"	TK 157 ODW sonde is good FAST on
213845	4	2057" 58°38"	TK 045 to (3)
	436215330	21°45' 57.45"	FAST on downward leg in stratiform rain
215335			ODW close to 9
220935	3	22°30.4' 56.535"	TK 292 FAST along outside turn along inside edge of rainband downward leg inside rainband

Lead Project Scientist Event Log

Date _____ Flight _____ LPS _____

[illegible]

135.0
112.5
28.5
382.5
112.5
270

(1)

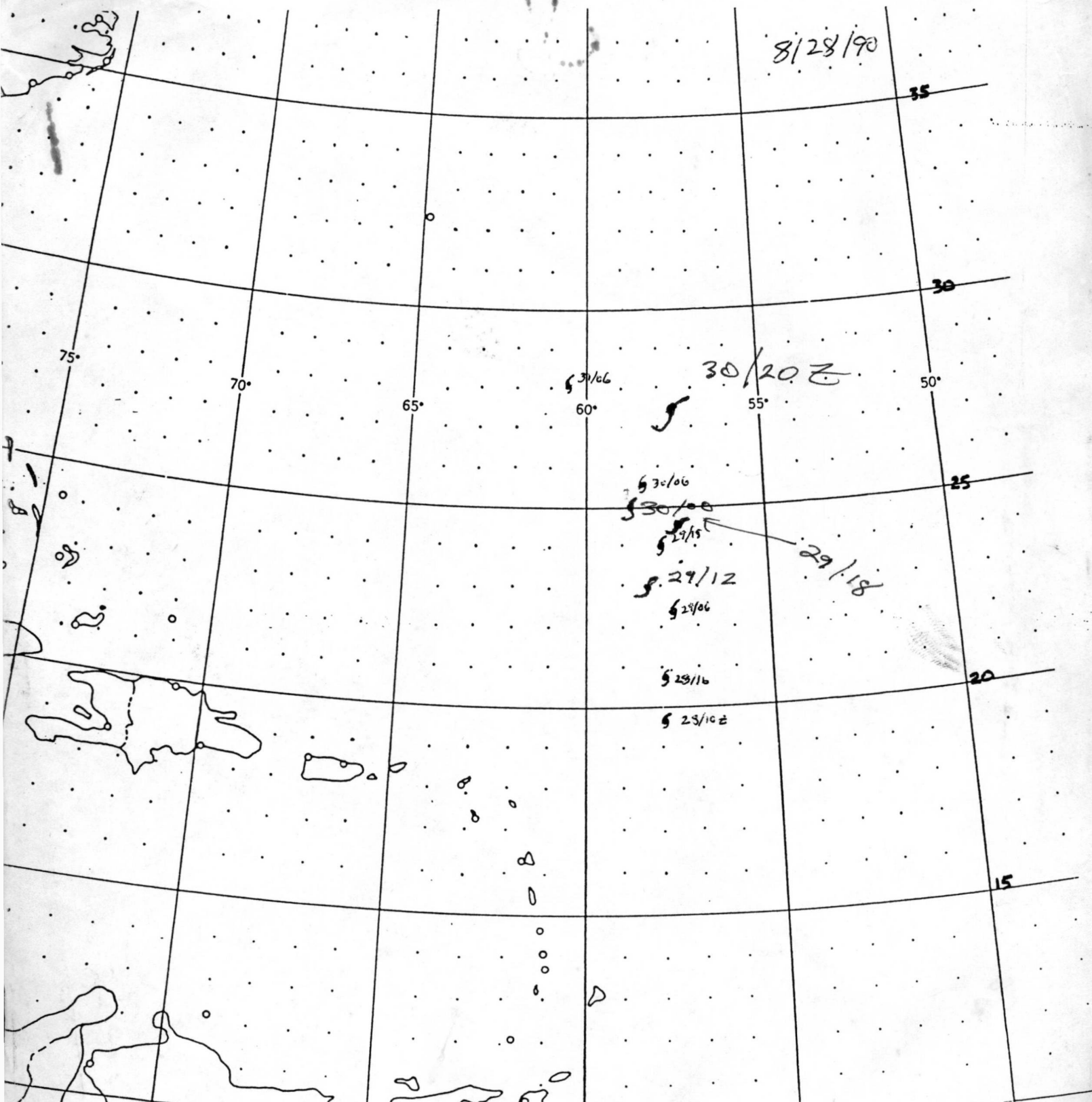
Lead Project Scientist Event Log

Date 8/28/90 Flight 900828H LPS Marlin
Gustav

Time	Event	Position	Comments
1625	T.O.	SJU	
175920	20° 31' 59" 40"		start descent to IP
			MTD#1 down recording on #2 and
181225	IP	21° 6' 58" 52"	doing EVAD at IP in Shat Cam 22-24° turn precip
181500			43 inbound N (181550)
181800	IP	21° 8' 58" 48"	TK 090 ODW drop (bad) 57° 51'
	1705 1831 G	21 16' 57" 55"	G 978mb 43RF
1841:50	2	21° 00' 56" 52"	TK 337 One orbit EVAD (no Doppler) ODW drop (100kg good)
185153	3	21° 39' 57" 15"	EVAD orbit ~240
185634			TK 225
	G	21 20" 57 55"	190630 43RF
1910			ODW # 3 in G
1912			call John extend legs?
1913			43RF BT troubles no signal 60mm may be bad BT's
1917	20 4	20° 41' 58" 20"	
1924	5	20° 38' 57" 53"	Doppler EVAD 1 orbit
1928			TK 360°

Date 8/28/90 Flight 900828H LPS Manly

[illegible]



8/28/90

35

30

75°

70°

65°

30/16

60°

30/20 E

55°

50°

25

30/10

30/10

29/15

29/12

28/16

29/18

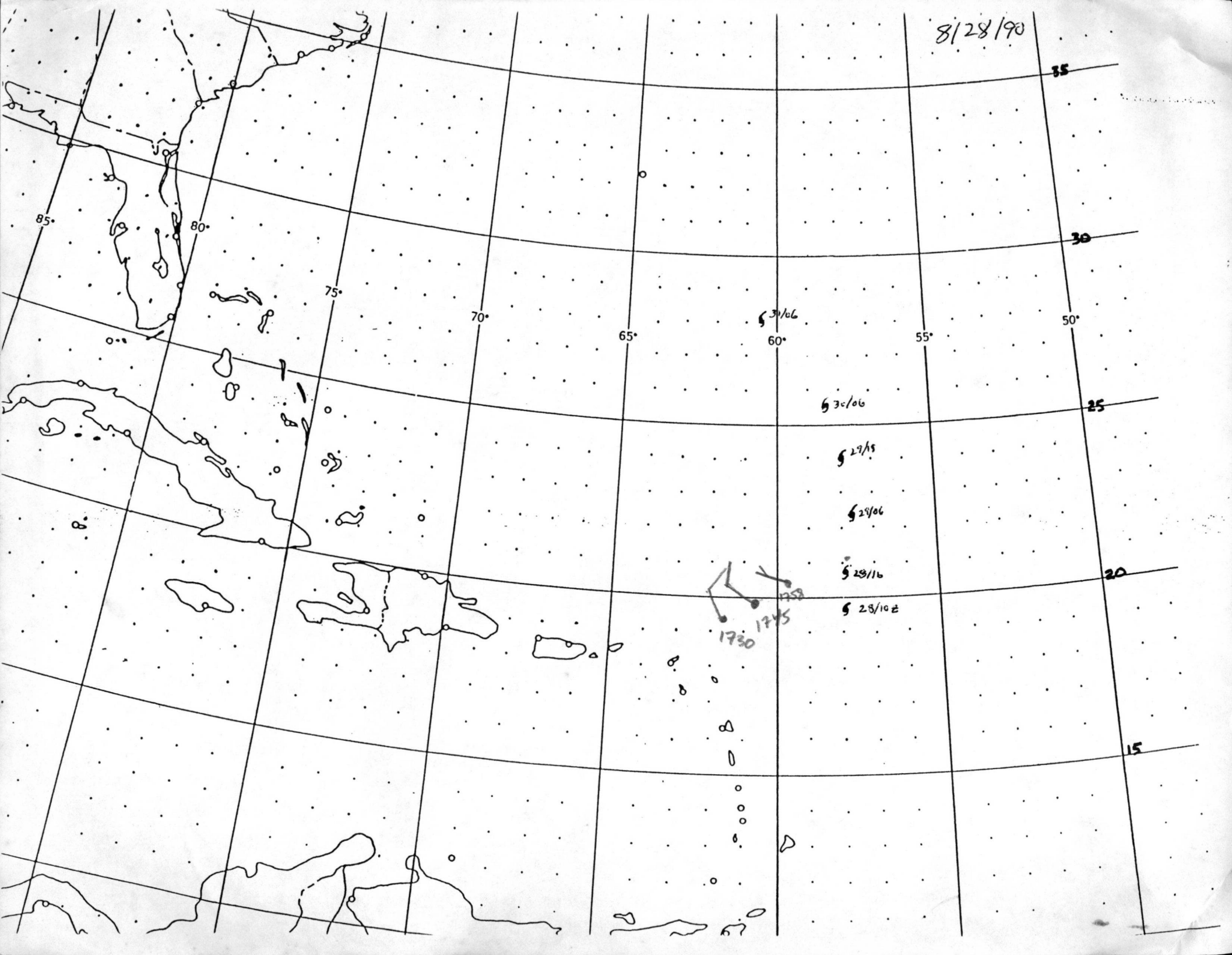
29/16

20

29/10 E

15

8/28/90



PTS	TK	PTS	TK
1-2	90	2-1	270
2-3	337.5	1-4	157.5
3-4	225	4-3	45
4-5	112.5	3-6	292.5
5-6	360	6-5	180
6-7	247.5	5-8	67.5
7-8	135	8-7	315
8-FP	22.5	7-1	200.5

(42) 10,000'

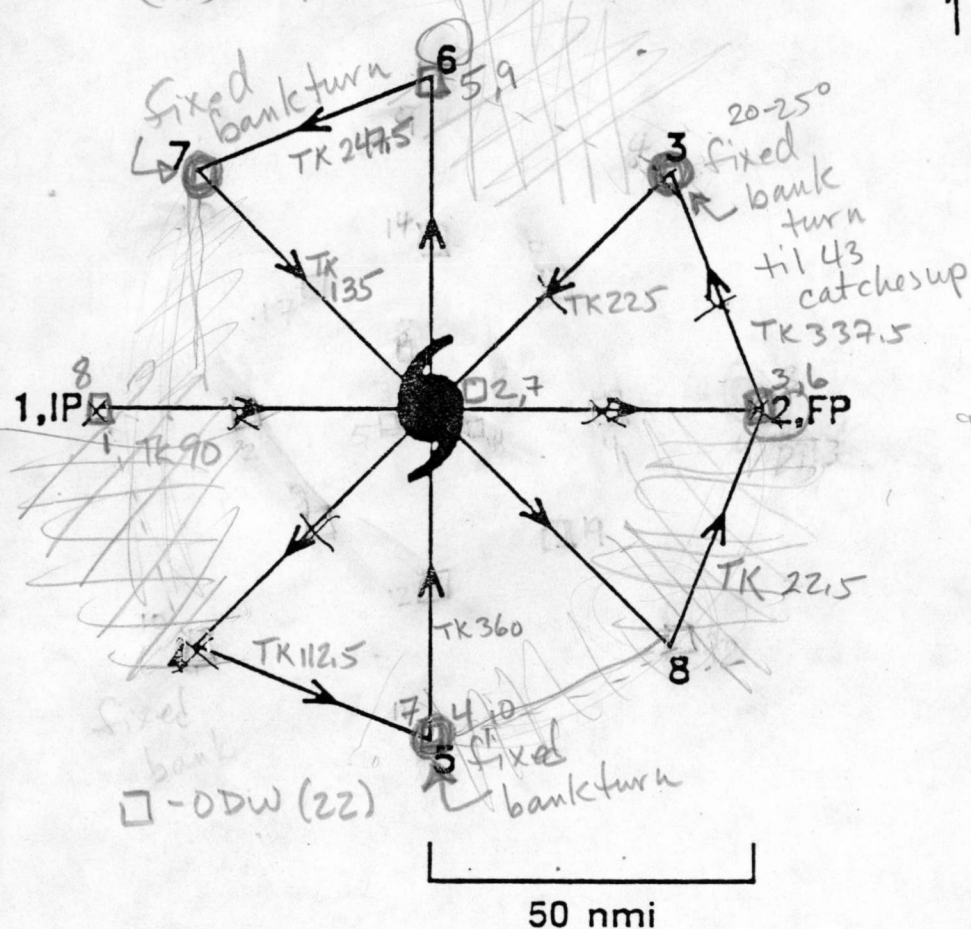


Fig. 20. Eyewall Evolution Experiment: Upper aircraft pattern.

118 km

EYEWALL EVOLUTION EXPERIMENT

(43) 5,000'

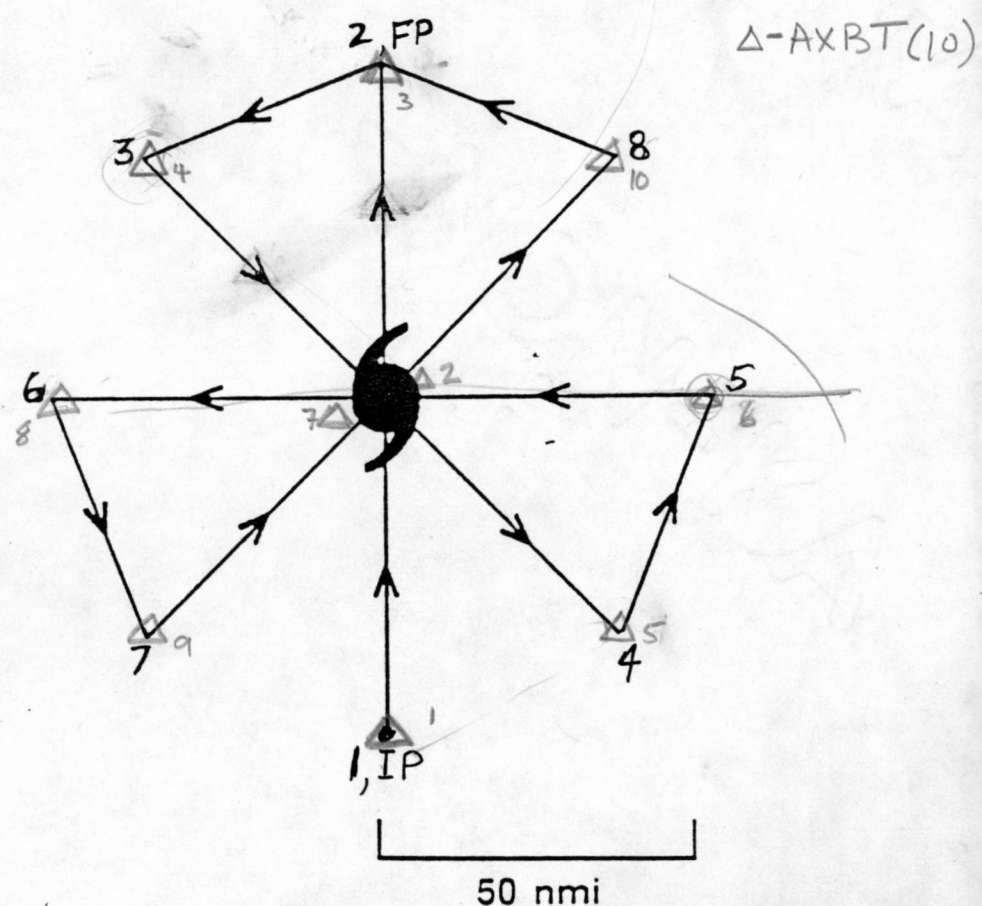
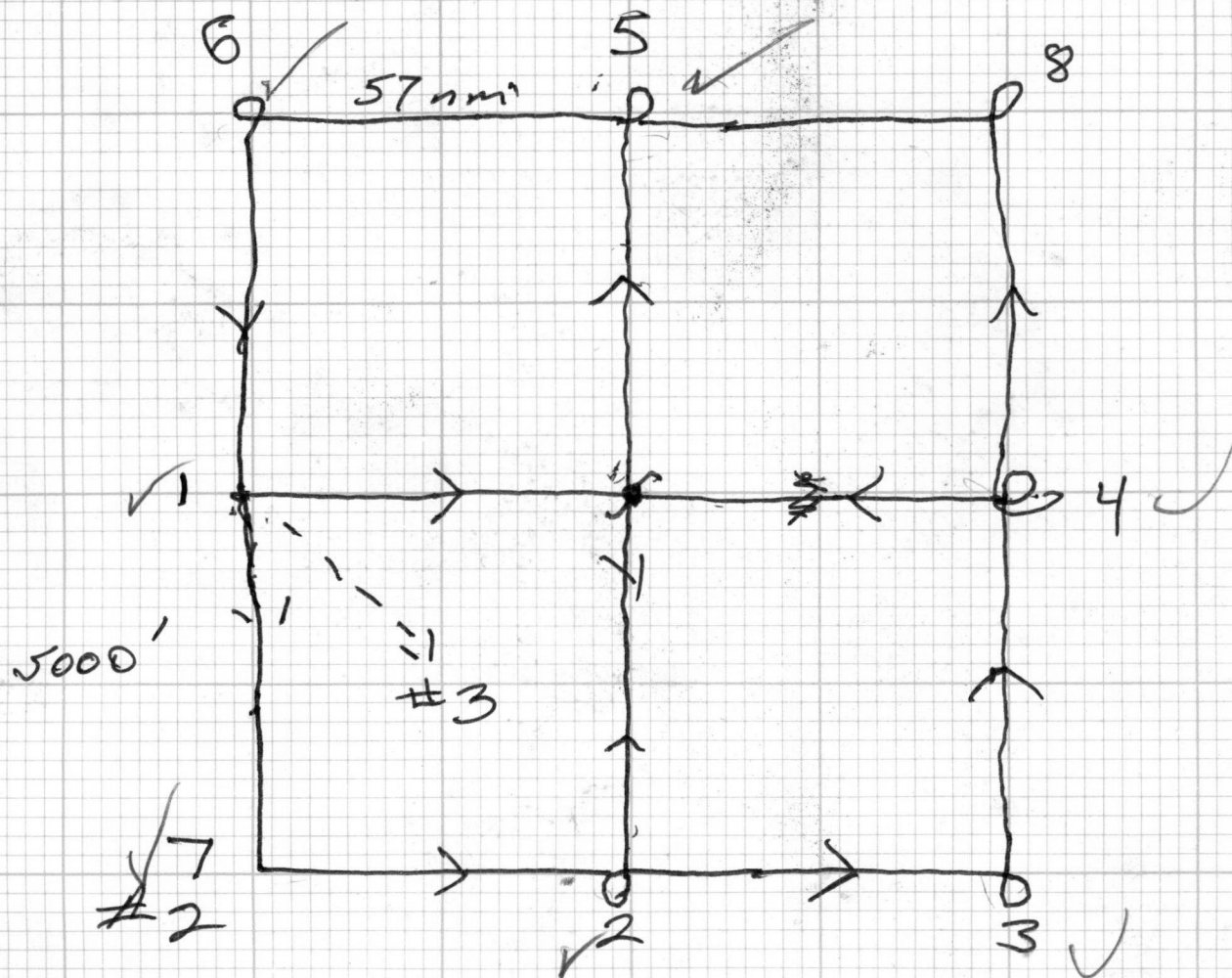
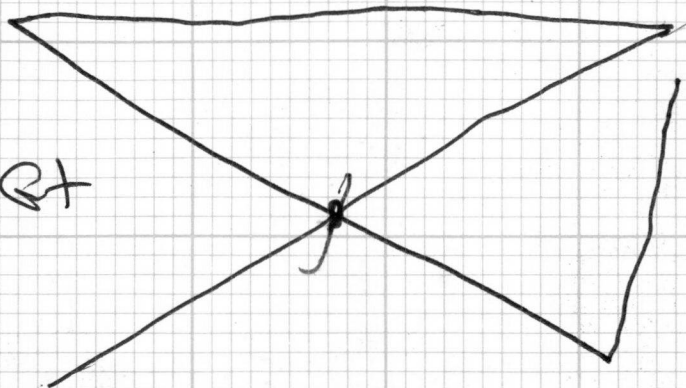


Fig. 21. Eyewall Evolution Experiment: Lower aircraft pattern.

10000 St



5000 St



AUG 28 1990

EYEWALL EVOLUTION EXPERIMENT

N
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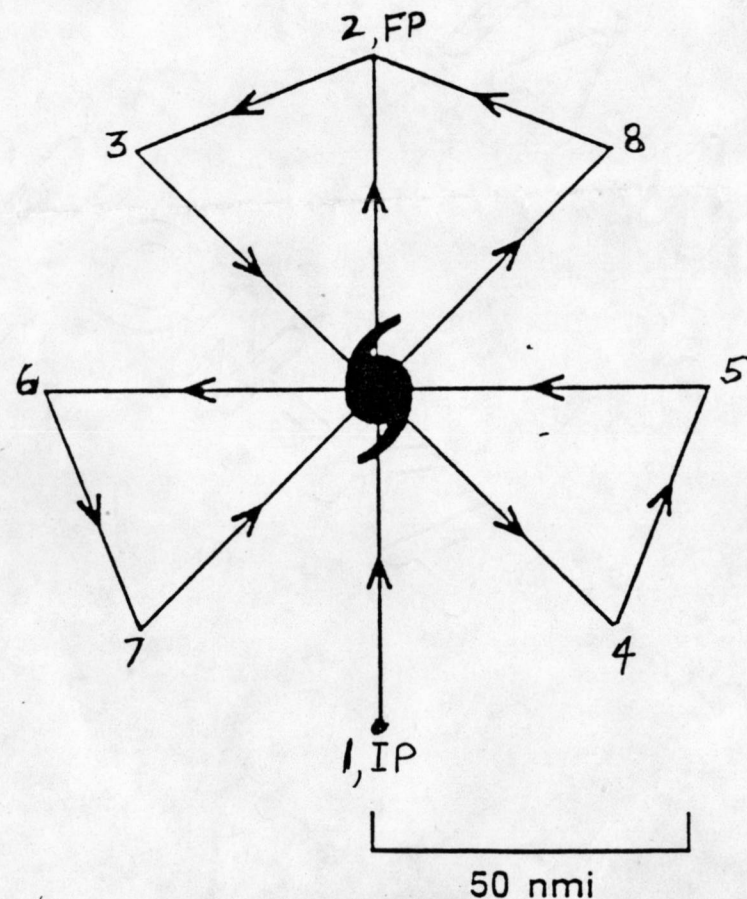
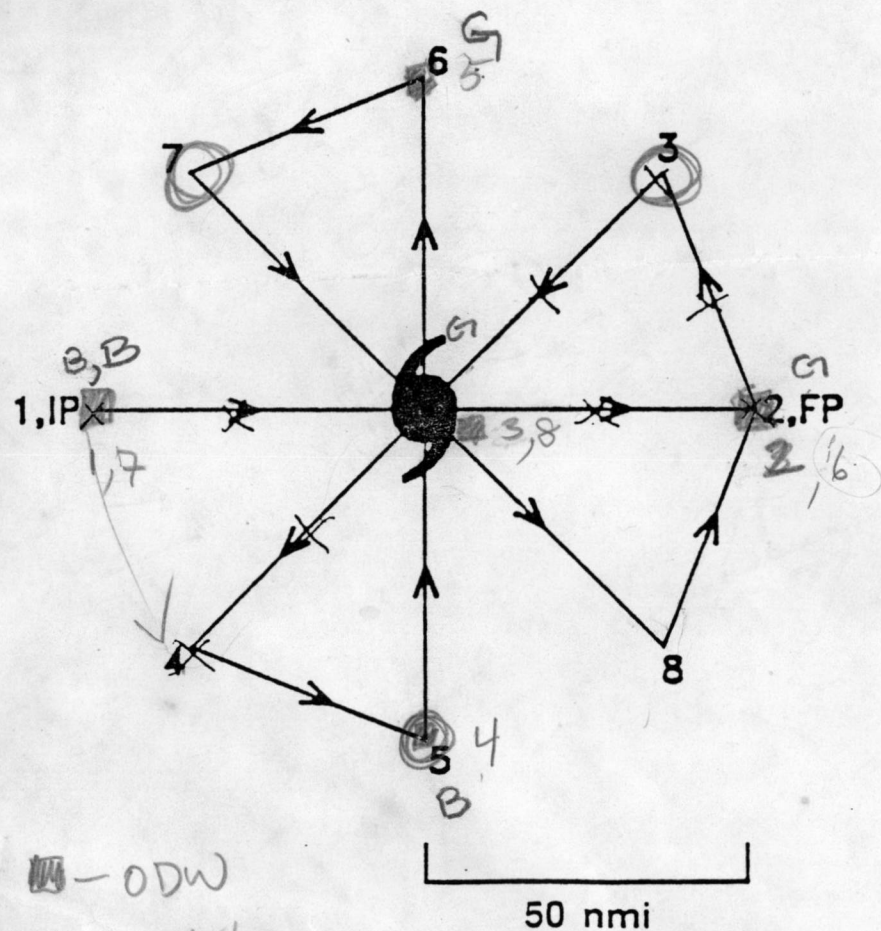


Fig. 20. Eyewall Evolution Experiment:
Upper aircraft pattern.

Fig. 21. Eyewall Evolution Experiment:
Lower aircraft pattern.

PTS	Track	(#2) PTS	Track
1-2	90	2-1	270
2-3	337	1-4	157
3-4	115	4-3	45
4-5	112	3-6	292
5-6	0	6-5	180
6-7	247	5-8	67
7-8	135	8-7	315
8-FP	22	7-1	200
(1)			

EYEWALL EVOLUTION EXPERIMENT

N
↑

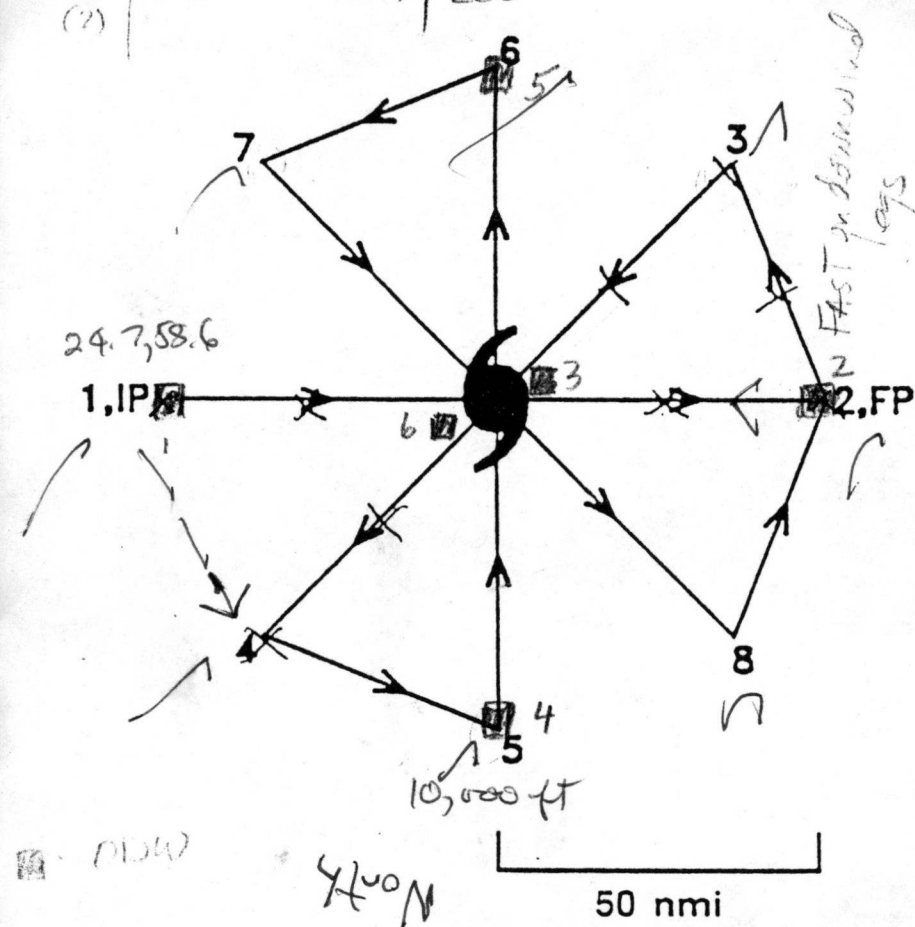


Fig. 20. Eyewall Evolution Experiment: Upper aircraft pattern.

(#1) PTS	Track	(#12) PTS	Track
1-2	0	2-1	180
2-3	247	1-4	67
3-4	135	4-3	315
4-5	22	3-6	200
5-6	270	6-5	90
6-7	157	5-8	337
7-8	45	8-7	225
8-FP	292	7-1	112
(4)			

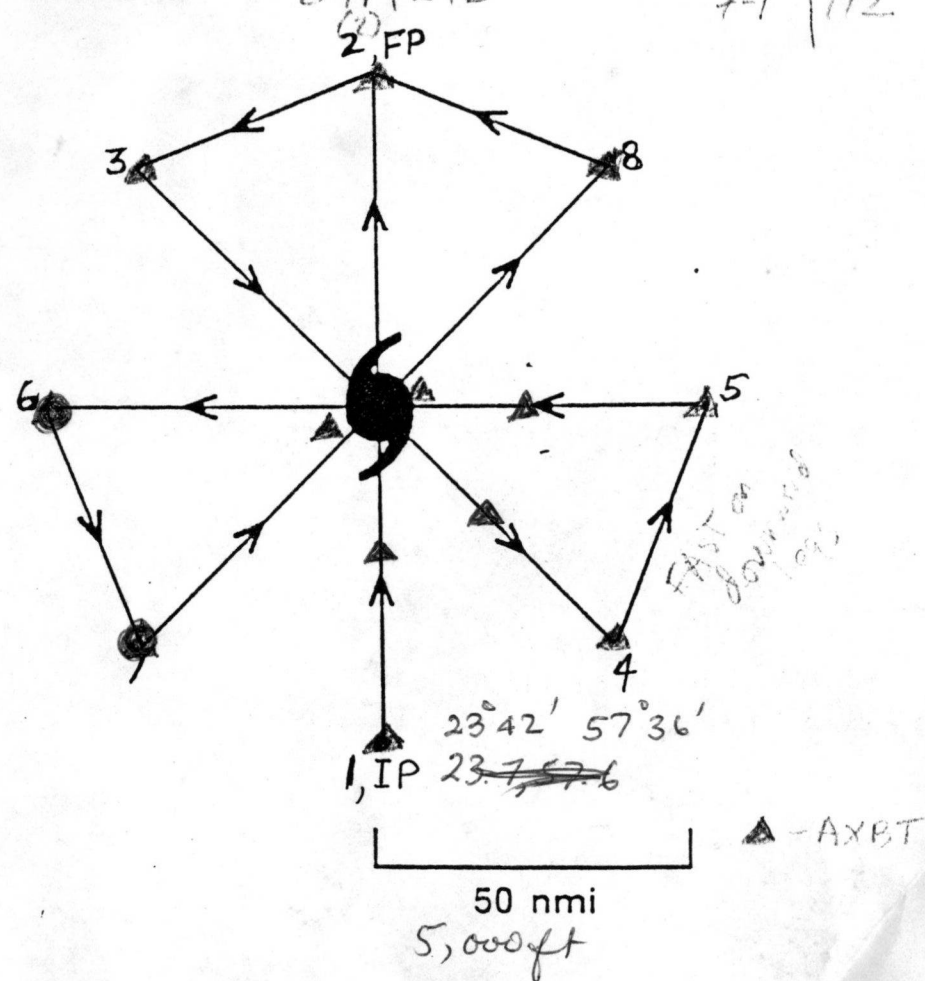


Fig. 21. Eyewall Evolution Experiment: Lower aircraft pattern.

(24.0, 58.3)