

19810904HI-LPS

E.1 Lead Project Scientist (On-Board)

The on-board lead project scientist is responsible for carrying out the scientific mission of his assigned aircraft. (Check off and initial when completed.)

E.1.1 Preflight

- ☒ 1. Participate in general mission briefing.
- ☒ 2. Determine specific mission and flight pattern(s) for his aircraft.
- NA 3. Determine operational fix responsibility, if any. Discuss with RFC flight director/meteorologist and CARCAH, unless briefed otherwise by field program director.
- ☒ 4. Contact NHRL members of crew to:
 - a. Assure availability for mission.
 - b. Arrange ground transportation schedule when deployed.
 - c. Determine equipment status.
- ☒ 5. Provide supplementary briefing to specific crew.
- ☒ 6. Report status of aircraft, systems and crews to appropriate NHRL operations center.

E.1.2 In-Flight

- NA 1. Confirm from RFC 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-1.

E.1.3 Postflight

- ✓ 1. Debrief crew.
- NA 2. Report landing time, aircraft, crew and mission status to NHRL operations center.
- ✓ 3. Gather completed forms for mission and turn in at the operations center.
- NA 4. Determine next mission status, if any, and brief crews as necessary.
- NA 5. Notify operations center as to where you can be contacted.

On-board Lead Project Scientist Checklist

DATE 4 SEPT 1981

AIRCRAFT NOAA 42RF

FLT SEA BREEZE

A. Participants

<u>Function</u>	<u>Participant</u>	<u>Function</u>	<u>Participant</u>
Lead Proj. Sci.	<u>BURPEE</u>	Gust Probe	<u> </u>
Cloud Physics	<u> </u>	Omegasonde	<u> </u>
AXBT	<u> </u>	Sys Eng	<u>BURLISS</u>
Hot Film	<u> </u>	Data Tech	<u>PARADIS</u>
Radar	<u>PARRISH - FARR</u>	El Tech	<u>JARVI</u>
Flt Dir/Met	<u>HAYDU</u>	Other <u>DOPPLER</u>	<u>JORGENSEN</u>

Take Off 1331 GMT Location MIAMI

Landing 2230 GMT Location MIAMI

B. Past and Forecast Storm Position

<u>Date</u>	<u>Time</u>	<u>Latitude</u>	<u>Longitude</u>	<u>MSLP</u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
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C. Mission Briefing

D. Equipment Status

<u>Equipment</u>	<u>Pre Flt</u>	<u>In Flt</u>	<u>Post Flt</u>	<u>Reports Collected</u>
Aircraft	✓	✓	✓	
Radar	✓	✓	✓	
Cloud Physics	NOT USED			
Data Sys	✓	4 SHORT CRASHES IN FLIGHT	✓	
Omegasondes	NA			
AXBT	NA			
Gust Probe	NA			
Hot Film	NA			
Photography	✓	✓	✓	
<u>DOPPLER RADAR</u>	✓	NOT RECORDING PROPERLY		

REMARKS No 10- SECOND PRINT OUT AVAILABLE DURING FLIGHT



RWB:APT:8/24/81

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
ENVIRONMENTAL RESEARCH LABORATORIES

Atlantic Oceanographic and Meteorological
Laboratories

National Hurricane Research Laboratory

Gables One Tower

1320 South Dixie Highway

Coral Gables, Florida 33146

August 24, 1981

TO: Stanley L. Rosenthal, Director, NHRL

FROM: ^{RWB} Robert W. Burpee

SUBJECT: Flight patterns for a single aircraft sea-breeze experiment in
late August or early September 1981

Second 1981 sea-breeze experiment - a single day mission

One P-3 aircraft (N42RF preferred if Doppler recorder is installed)

Initial point approximately 26°15'N, 81°25'W

Arrive at initial point ~ ~~1345~~ GMT ^{1345 GMT}

Depart initial point ~ 2115 GMT

Aircraft instrumentation - same as in first 1981 sea-breeze experiment
except that 40 Hz data are not required.

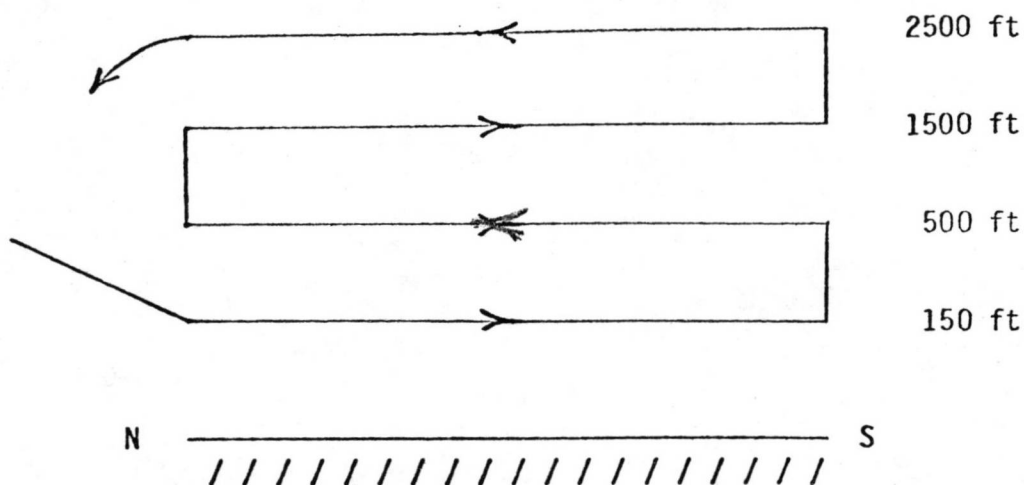
Indicated air speed ~ 220 knots

There will be two basic patterns. One pattern will be flown until the time that the sea-breeze circulation begins and the second will be flown after that time. The project scientist will decide when to switch from Pattern 1 to Pattern 2. The aircraft will do a wind L calibration at 1000 ft at the end of the first and last leg at 1000 ft over the Gulf of Mexico.

Pattern 1.

- a. Temperature sounding at the initial point between 500 and 5000 ft (total descent time about 2 minutes).
- b. East-to-west leg at 1000 ft from initial point to 5 nm offshore.
- c. Four 2-minute legs parallel to the coastline and as near to the coast as possible, 2-minute legs will be at 150, 500, 1500 and 2500 ft.

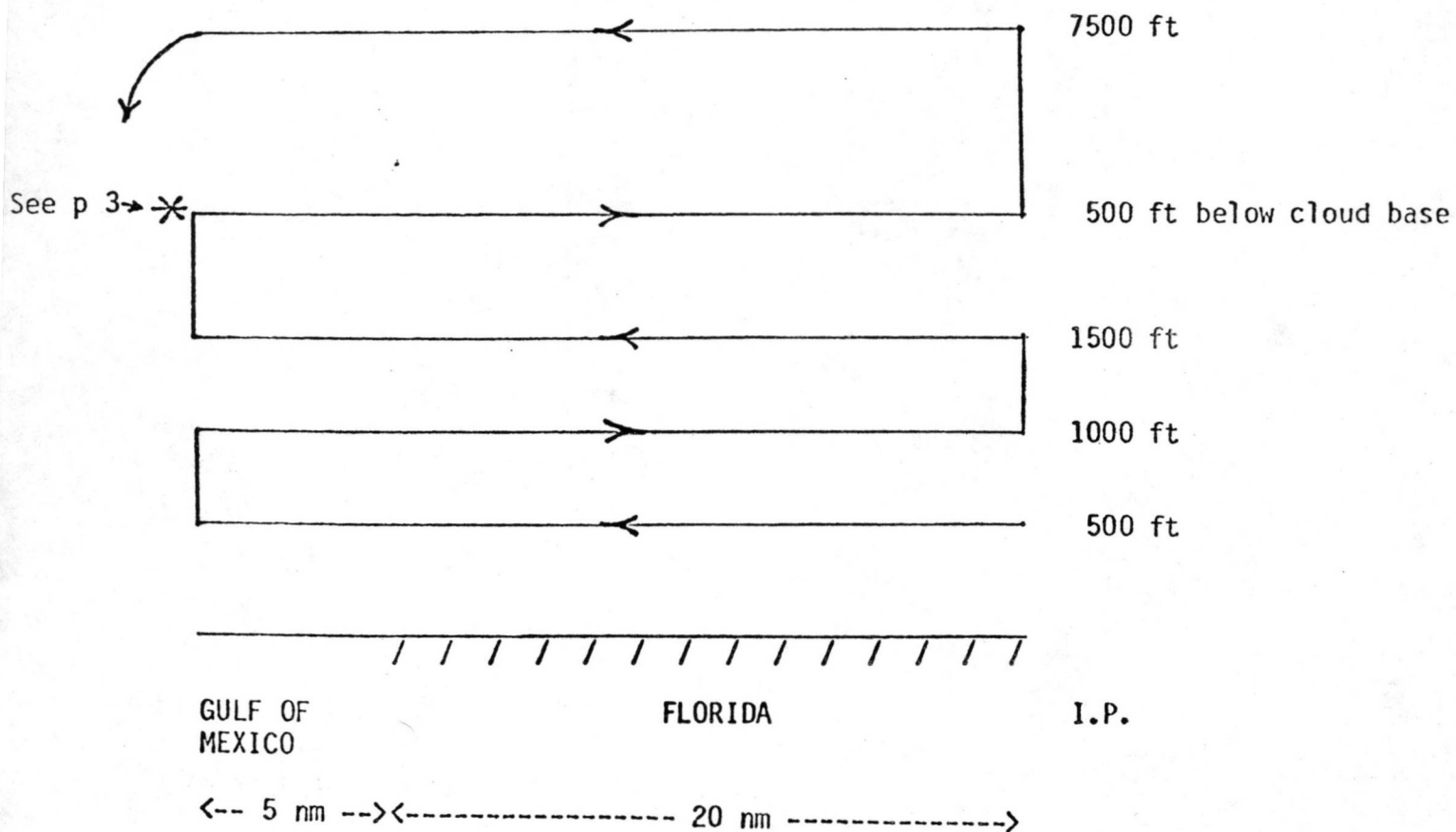




- d. West-to-east leg at 2500 ft (or 500 ft. below cloud base if clouds are too low) along same latitude from 5 nm offshore to the initial point.

Pattern 2.

Stairstep pattern perpendicular to the coastline. The stairstep is bounded by the initial point and a point 5 nm offshore and is at the latitude of the initial point



Note: Pattern 2 has an odd number of legs, the direction of the aircraft is reversed on alternate repeats of Pattern 2 but the end points remain the same.

- * 3 minute leg toward ^{South} ~~north~~ (270° turn) if Doppler recorder is working and raindrops in clouds being detected by Doppler.

1981 Sea-breeze experiment

2-minute legs parallel to coast

file	alt.	start	end	alt	start	end	alt	start	end	alt	start	end	alt	start	end	alt	start	end	Comments
1	150 ft	142210	142410	500 ft	142815	143015	1500 ft	143333	143533	2500 ft	143840	144040							
2	150	151008	151208	500	151510	151710	1500	152010	152210	2500	152510	152710							
3	150	155255 155555	155455	500	155755	155955	1500	160245	160445	2500	160730	160930							
4	150	163650	163850	500	164140	164340	1500	164640	164850	2500	165155	165355							
5	150	172050	172250	500	172540	172535	1500	173145	173345	2500	173630	173840							
6	500	175500	180245	1000	180555	181400	1500	181700	182445	3500	182820	183545	7500	183955	184555				cloud base = 4200 ft at 1836
7	500	184955	185815	1000	190120	190935	1500	191250	192000	3500	192330	193100	7500	194420	195000				cloud base = 4800 ft at 1951
8	500	195455	200130	1000	200420	201205	1500	201410	202125	4500 4000	203350	203925	7500	204250	205040				
9	500	205540	210230	1000	210540	211320	1500	212700	213545	3500	213850	214640	7500	220120	220905				
10																			
11																			

2 Doppler runs toward south along the coast
beginning at 193250 and 202435 GMT

1981 sea-breeze experiment

Date: 4 SEPTEMBER 1981

Takeoff Miami: 1331 GMT

Landing Miami: 2230 GMT

Aircraft: N42RF

Refuel landing: NA

Refuel takeoff:

True-airspeed calibration
Start: NA End:

Wind L
Start End

1. 140520 GMT 141554

2. 211320 212550

Leg No.	East-to-West Legs			West-to-East Legs		
	Altitude	Start	End	Altitude	Start	End
1	1000 FT	135715	140408	2000 FT	144345	145035
2	1000	145640	150330	2500	153020	153700
3	1000	154145	154905	2500	161300	162030
4	1000	162455	163213	2500	165740	170500
5	1000	170920	171640	2500	174230	174940
6						
7						
8						
9						
10						
11						

Temperature soundings				
	Start	Altitude	End	Altitude
1.	135000	5000 FT	135230	500 FT
2.	145350	5000	145625	500
3	153850	5000	154105	500
4	162210	5000	162425	500
5	170615	5000	170820	500
6.	175050	5000	175355	500

CLOUD
BASE
FEET

2800

3000

3400

3600

3900

1981 sea-breeze experiment

Date: 4 SEPTEMBER 1981

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Landing Miami: 2230 GMT

True-airspeed calibration
Start: NA End:

Aircraft: N42RF

Refuel landing: NA
Refuel takeoff:

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4	1000	162455	163213	2500	165740	170500
5	1000	170920	171640	2500	174230	174940
6						
7						
8						
9						
10						
11						

Temperature soundings					
	Start	Altitude	End	Altitude	CLOUD BASE FEET
1.	135000	5000 FT	135230	500 FT	
2.	145350	5000	145625	500	2800
3	153850	5000	154105	500	3000
4	162210	5000	162425	500	3400
5	170615	5000	170820	500	3600
6.	175050	5000	175355	500	3900

1981 Sea-breeze experiment

2-minute legs parallel to coast

Profile	alt.	Start	End	alt	Start	End	alt	Start	End	alt	Start	End	alt	Start	End	alt	Start	End	Comments
1	150 ft	142210	142410	500 ft	142815	143015	1500 ft	143333	143533	2500 ft	143840	144040							
2	150	151008	151208	500	151510	151710	1500	152010	152210	2500	152510	152710							
3	150	152555	155455	500	155755	155955	1500	160245	160445	2500	160730	160930	} 2 minute legs parallel to coast						
4	150	163650	163850	500	164140	164340	1500	164640	164850	2500	165155	165355							
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6	500	175500	180245	1000	180555	181400	1500	181700	182445	3500	182820	183545	7500	183955	184555				cloud base = 4200 ft at 1836
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9	500	205540	210230	1000	210540	211320	1500	212700	213545	3500	213850	214640	7500	220120	220905				
10																			
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