

JIM GROSS
1981072941 - LPS

42

SEA BREEZE

D. 6 Subproject Scientist - Air-Sea Interaction Subproject or Boundary Layer Feasibility Subproject

- 1) Has overall responsibility for the subproject.
- 2) Coordinates the objectives of the subproject with the objectives of the primary project in consultation with the lead project scientist.
- 3) Determines mode of operation of appropriate instruments for the subproject.
- 4) Assists in the selection of the mission.

D. 7 On-board Lead Project Scientist

- ✓ 1) Has overall scientific responsibility for this aircraft.
- ✓ 2) Makes in-flight decisions concerning alterations of
 - a) Specified flight patterns
 - b) Instrument operation
 - c) Assignment of duties to on-board project personnel
- ✓ 3) Acts as project supervisor on the aircraft and is the focal point for all interaction of project personnel with operational or visiting personnel.
- ✓ 4) Conducts preflight and postflight briefings of entire crew. Completes formal checklist of instrument operations, malfunctions, problems etc.
- ✓ 5) Provides written report of day's operations to the field program director at the debriefing mission.

D. 8 On-board Scientist - Cloud Physics

- 1) Has overall responsibility for the cloud physics project on the aircraft.
- 2) Briefs on-board lead project scientist on equipment status before takeoff.
- 3) Determines the operational mode of cloud physics sensors (where, when and at what rate to sample).
- 4) Operates and monitors the cloud physics sensors and data systems.
- 5) Provides a written preflight and postflight status report and flight summary of the day's operations to on-board lead project scientist at the postflight debriefing.

D. 9 On-board Scientist - Air-Sea Interaction

- 1) Operates AXBT equipment on board the aircraft.
- 2) Briefs on-board lead project scientist on equipment status before takeoff.
- 3) Determines where and when to release AXBT's within operational constraints.
- 4) Performs necessary preflight, in-flight and postflight checks and calibrations.
- 5) Provides a written preflight and postflight status report and a flight summary of the day's operations to the on-board lead project scientist at the postflight debriefing.

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.
- ✓ 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.
- N.A. 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.
- N.A. 4. Determine next mission status, if any, and brief crews as necessary.
- N.A. 5. Notify operations center as to where you can be contacted.

On-board Lead Project Scientist Checklist

DATE 7/29/81

AIRCRAFT 42

FLT 7

A. Participants

Function	Participant	Function	Participant
Lead Proj. Sci.	<u>JIM GROSS</u>	Gust Probe	<u>N. A.</u>
Cloud Physics	<u>DAVE JORGENSEN</u>	Omegasonde	<u>N. A.</u>
AXBT	<u>N. A.</u>	Sys Eng	
Hot Film	<u>N. A.</u>	Data Tech	
Radar	<u>FRANK MARK</u>	El Tech	
	<u>BOB FEINBERG</u>		
Flt Dir/Met	<u>HARLAN DAVIS</u>	Other	
Take Off	Location	Landing	Location

B. Past and Forecast Storm Position

Date	Time	Latitude	Longitude	MSLP

C. Mission Briefing

D. Equipment Status

Equipment	Pre Flt	In Flt	Post Flt	Reports Collected
Aircraft	✓	✓	✓	—
Radar	✓	①	✓	YES ②
③ Cloud Physics	✓	✓	✓	YES
Data Sys	✓	④	✓	LISTING
Omegasondes	—	—	—	—
AXBT	—	—	—	—
Gust Probe	—	—	—	—
Hot Film	—	—	—	—
Photography	✓	✓		

REMARKS

1. NO DISPLAYS ON PLANE
SOME TROUBLE RECORDING BUT GOT ALL
WE COULD

2. TAPE 3 of SET 2 MISSING, FRANK
MARKS WILL LOCATE

3. NO FORMVAR

4. CRASHED TWO OR THREE TIMES BUT
FOR SHORT PERIODS.

FOUND MISSING TAPE

Form E-1
Page 3 of 5

E. Proposed and Actual Flight Patterns

EVENT MARKER 1 : ON DURING LEGS, PROFILES, AND SOUNDINGS

EVENT MARKER 2 : COASTLINE (ONLY CAUGHT A FEW TIMES, ALSO DIFFICULT FROM HIGH ALTITUDES)

ALL ALTITUDES : RADAR ALTIMETER IN METERS

ALL TIMES : GMT

1981 sea-breeze experiment

Date: 07/29/81

Takeoff Miami: 123000 (APPROX)

Landing Miami: 215000 (APPROX)

~~True-airspeed calibration~~
~~Start:~~ ~~End:~~

Aircraft: 42 RF

~~Refuel landing:~~
~~Refuel takeoff:~~

Wind L
Start CORNER End ALT

1.	131100	131300	132200	804
2.	203200	203445	?	809
		204022		
		204358		

Temperature soundings
Start Altitude End Altitude

1.	124900	1457	125318	227
2.	152409	3494	152935	783
3.	174032	3538	174846	136
4.	212735	3515	213211	734
5.				
6.				

Leg No.	Altitude	East-to-West Legs		West-to-East Legs		
		Start	End	Altitude	Start	End
1	810	125600	131004	1921	140343	141521
2	566	141940	143016	3504	151415	152409
3	783	152935	154318	1912	162447	163517
4	813	164036	165436	3538	173107	173257
5 BOX	348	175300	180621	299	185544	190800
6	803	191337	192800	1910	206313	201337
7	804	201809	203214	3515	211733	212724
8						
9						
10						
11						

1981 Sea-breeze experiment

2-minute legs parallel to coast

[illegible]

7/29/81

SEA BREEZE NOTES

1981

TIME (GMT)

COMMENTS

1

124400

CU BUILD UP OFF SHORE AND TO SOUTH
THE FLIGHT TRACK FROM COAST TO COAST
CLOUD FREE EXCEPT FOR SMALL PATCHES
OF WISPY CUMULUS OVER THE EVERGLADES
BRIGHT DAY; NO HIGH CIRROS

125230

CLOUD BASE OF WISPY CU

125400

SPOTTED 43

TURNING TO SET UP 1ST LEG E-W AT 2500FT

125724

SMALL PATCHES OF WISPY CU

125949

CU BUILD UP OFF SHORE TO THE SOUTH
AND SOUTHWEST

130513

COASTLINE BROWN REPORTS WATER
TEMPERATURE 29.9 °C

130817

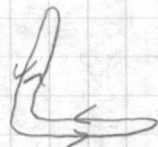
CLEAR FROM HERE TO COAST

131004

WIND L'S : THE LAST WIND LEG FLOWN
THRU CLOUDS, MISSED EVENT MARKER
ON LEGS

RADAR COMPUTER OUT

HARLEN SAYS WIND L TRACK IS



132522

AS WE APPROACH THE COAST CLOUDS
BUILDING NICELY

PROFILE 1, 1

133030

WD, WS 109 1.5 ALT 1273

TA, TD 19.5 14.9

THIS LEG AND ALL OTHERS WILL BE FLOWN
IN A STRAIGHT LINE FROM HOTEL TO THE
POINT OF FT MYERS BEACH

TIME (GMT)

COMMENTS

2

PROFILE 1, 2

133730

WD, WS 57.7 0.8

TA, TD 15.0 10.0

133941

WD, WS 30.0 0.6

TA, TD 15.2 9.4

THIS RUN INTERSECTED LAND TOO SOON
AND WAS TERMINATED

134153

NICE BUILD UP OVER LAND THICK BANK OF CU

134332

ONE CU TOWER TO THE SOUTH OVER WATER
LEANS CONSIDERABLY; MUST BE SOME
SHEAR

134613

FALSE EVENT 1

PROFILE 1, 3

134648

WD, WS 164 1.3

TA, TD 10.0 5.6

WD, WS 157 0.7 ALT 2885

TA, TD 10.2 5.1

WD, WS 75.0 1.4

TA, TD 10.4 3.5

PROFILE 1, 4

135440

WD, WS 56.5 4.8

TA, TD 4.3 -1.0

LINE OF VIGOROUS CU TO THE SOUTH OVER
LAND WITH SUPPRESSED CU NORTH OF IT

135849

RADAR RECORDING STILL OUT; WORKING ON IT
NICE CU GROWTH OVER COAST

TIME (GMT)

COMMENTS

3

140600

STARTED EVENT MARKER 1 TOO EARLY
BECAUSE WE SET UP WEST TO EAST RUN
TOO FAR OUT AT SEA

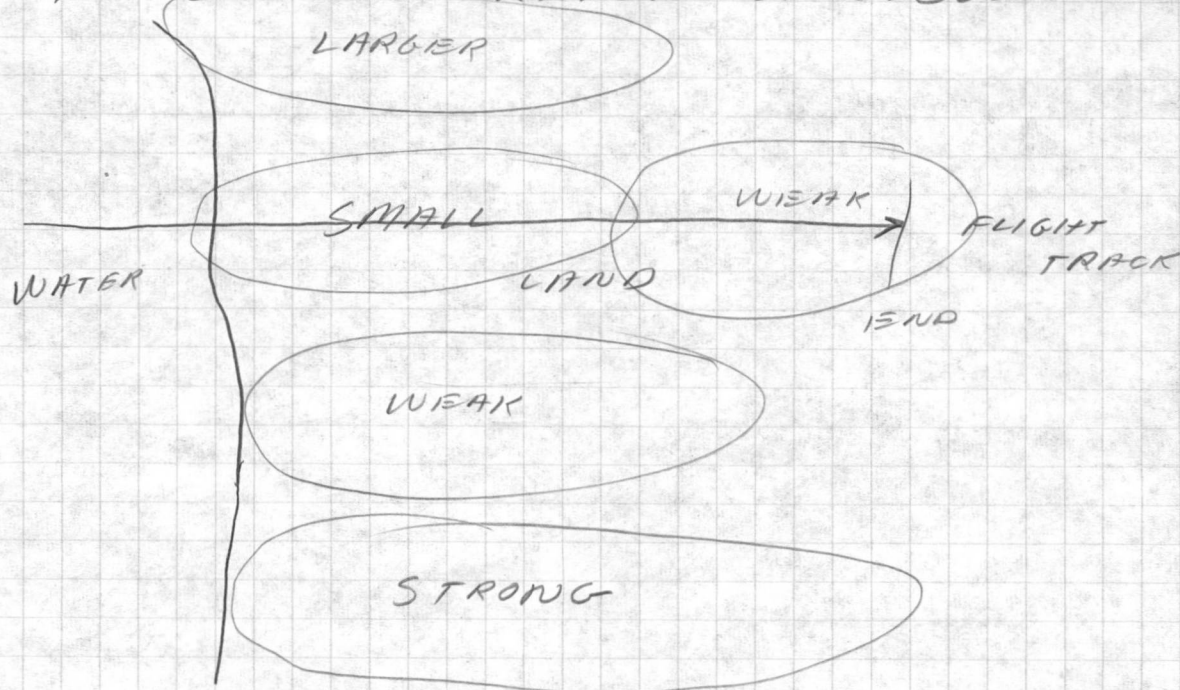
140732

WD, WS 33.5 1.0

TA, TD 14.9 12.5

140943

HORIZONTAL SKETCH OF CLOUD PATTERN



141000

WD, WS 62.7 2.4

TA, TD 15.1 11.5

TOWARDS END OF RUN AREA COVERED
BY SMALL WEAK CU, LOOK SUPPRESSED
EAST COAST IS BUILDING RAPIDLY

141521

END RUN W - E 1

141600

DESCENDING TO 2500 FT

CLOUD BASE AT 638 APPROX

141940

E - W 2 START

142000

WD, WS 140 6.1

TA, TD 23.3 19.5

FLYING JUST BELOW CLOUD BASE

TIME (GMT)

COMMENTS

4

	WD, WS	143	5.3	
	TA, TD	23.6	18.9	
142216	WD, WS	148	5.2	
	TA, TD	23.4	18.9	
142358	WD, WS	133	4.3	ALT 560
	TA, TD	23.3	20.5	
142550	WD, WS	135	3.8	
	TA, TD	23.0	21.7	
142842	OVER WATER			
	WD, WS	130	5.2	ALT 547
	TA, TD	23.9	19.3	
142938	OFF SHORE CLOUDINESS CLOUD TOPS AT 769			
	PROFILE 2, 1			
144220	WD, WS	117	2.8	ALT 1286
	TA, TD	19.4	14.4	
	WD, WS	99	3.7	ALT 1287
	TA, TD	19.4	14.9	
	STILL NO DISPLAY FOR RADAR, RECORDING RADAR STARTED LAST 1/3 OF E-W LEG			
144525	CLIMBING TO 6500 QUITE A LARGE BUILD UP AT NORTHEAST TURNING PT PROFILE 2, 2			
	WD, WS	90	3.1	ALT 2067
	TA, TD	14.0	11.6	
145030	WD, WS	68	3.2	
	TA, TD	14.4	10.8	

TIME (GMT)

COMMENTS

5

THE PROFILE LEG END (START) AT
COASTLINE CROSSING PT OF E-W LEGS

145523

CLOUDS BEGIN AT COASTLINE WITH SMALL
CU BUILDING TO A BIGGER LINE INLAND

145717

PROFILE 2, 3

WD, WS 115 3.2

TA, TD 10.3 5.4

150515

PROFILE 2, 4

150612

WD, WS 70 5.6

TA, TD 4.4 -0.5

150640

WD, WS 73 4.4

TA, TD 4.2 -1.6

150708

WD, WS 68 4.1

TA, TD 4.4 -2.3

STARTED WEST TO EAST LEG TOO EARLY
IN TERMS OF EVENT MARKER
RESTART TIME

151415

151541

WD, WS 72 3.8

TA, TD 6.7 -0.8

A FEW SMALL CB AT COAST BUILDING
HEAVIER AS PROCEEDED INLAND

ONE ISOLATED TOWER AHEAD OF US
TOP IS ABOVE US

151733

WD, WS 68 2.9

TA, TD 6.2 1.3

TOWER BREAKING APART IN MIDDLE, WE ARE
PASSING JUST TO THE RIGHT OF IT

151836

WD, WS 59 3.5

TA, TD 7.0 1.4

TIME (GMT)

COMMENTS

6

151940 WD, WS 68 4.4

TA, TD 6.6 2.2

152130 WD, WS 53 4.3

TA, TD 6.5 2.4

152344 WD, WS 66 3.8 ALT 3494

TA, TD 6.6 1.1

152409 TEMPERATURES SOUNDING AT INLAND PT
EAST TO WEST LEG 2500
CLOUD BASE MUCH HIGHER

152935 FLYING JUST BELOW CLOUD BASE

153044 WD, WS 150 2.4

TA, TD 22.8 21.2

153159 WD, WS 168 3.0

TA, TD 22.5 19.7

MOST TURBULENCE THUS FAR; MORE
DIFFICULT TO DESCRIBE THE CLOUDS
FROM BELOW

153359 WD, WS 155 2.5

TA, TD 23.1 17.5

153515 WD, WS 143.5 1.1

TA, TD 22.8 20.1

WD, WS 156 2.1

TA, TD 22.8 19.6

APPROACH END OF CLOUD

WD, WS 114 3.3

TA, TD 22.8 19.5

TIME (GMT)

COMMENTS

7

OVER WATER

153917

WD, WS 96.8 4.0

TA, TD 22.4 19.9

CLOUDS RIGHT TO SHORELINE, CLEAR
IMMEDIATELY OFF SHORE

154017

WD WS 107 3.3 ALT 780

TA TD 22.7 18.4

OVER WATER NO TURBULENCE, SMALL
WISPY CU BELOW US

154200

WD, WS 109 2.7

TA, TD 22.7 19.1

155120

START PROFILES; STAYING AWAY FROM CLOUDS
HANGING OVER THE COAST
PROFILE 3, 1

155234

WD, WS 99 3.8 ALT 1285

TA, TD 19.8 15.6

155311

WD, WS 97 4.1

TA, TD 19.6 15.0

GETTING TOO CLOSE TO CLOUDS
PROFILE 3, 2

WD WS 78. 6.2

TA TD 15.3 11.7

BECOMING TURBULENT; TOO CLOSE

155959

WD, WS 76 4.8

TA, TD 15.0 11.3

160400

MOSTLY ABOVE CLOUDS AT THIS POINT
ONE TOWER AHEAD AT THE COAST GOING S → N
PROFILE 3, 3

160506

WD, WS 113 5.8

TA TD 9.6 3.6

TIME (GMT)

COMMENTS

8

160612

PASSING TOWER

WD, WS 111 5.1

TA, TD 9.7 3.7

161154

PROFILE 3, 4

161240

WD, WS 91 5.8

TA, TD 6.0 -0.1

161332

WD, WS 88.4 5.7

TA, TD 5.9 -0.1

161407

GETTING LINED UP FOR THE WEST TO EAST RUN
AT 5500 TO 6000 FTCLOUD LAYER ON SHORE QUITE WELL
DEVELOPED, SHARP LINE BETWEEN
DEVELOPMENT AND NON-DEVELOPMENT
SOME TOWERS GROWINGDOING A CIRCLE OUT OVER WATER
BECAUSE OF CLEARANCE PROBLEMS

RESPECTABLE CU DEVELOPING ON SHORE

162447

LINED UP EARLY (FARTHER OUT TO SEA)
SO START EVENT 1 EARLY

162542

WD, WS 63 2.9 ALT 1917

TA, TD 15.4 13.1

HEAVY CLOUDS, VERY TURBULENT

162800

WD, WS 78 (VARYING WIDELY) 2.3

TA, TD 15.7 12.2

162900

WD, WS 107 2.2

TA, TD 15.5 12.7

CLOUD OPEN UP ALOT AS MOVIE INLAND

163043

WD, WS 142 2.5

TA, TD 15.8 12.6

TIME (GMT)

COMMENTS

9

163200

WD, WS 171 2.6

TA, TD 15.8 12.4

NEAR TURNING PT, NO CLOUDS

WD, WS 180 3.3

TA, TD 15.9 11.4

163517

END W-E RUN

163744

FRANK REPORTS RADAR RECORDING IS OUT

SMALL CLOUDS (NOT VERY HIGH) PRECIPITATING
TO THE SOUTH

164036

EAST TO WEST RUN BEGAN BELOW CLOUD
BASE

164130

WD, WS 189 3.1 ALT 812

TA, TD 23.0 21.1

WD, WS 207 2.8

TA, TD 23.1 21.0

164440

WD WS 172 3.3 ALT 811

TA, TD 23.3 19.0

164540

COMPUTER DOWN, DISPLAYS STOPPED

SMOKE BELOW 8 MILES FROM COAST SHOWS
SOUTH FLOW AT SURFACE, SMOKE BECOMES
MORE EASTERLY AS IT RISES

165004

COMPUTER BACK

OVER WATER

165054

WD, WS 160 3.3

TA, TD 22.7 18.5

165156

WD, WS 147 3.0 ALT 815

TA, TD 22.9 18.4

TIME (GMT)

COMMENTS

10

165344

WD, WS 144 40

TA, TD 22.5 18.3

WISPS OF CLOUD, GOOD CB BUILDUP OVER THE
WATER TO THE SOUTH

165436

E-W 15ND

170122

PROFILE 4, 1

WD, WS 95 3.3 ALT 1466

TA, TD 18.5 15.1

CLOUDS WHICH EXTEND OFFSHORE HAVE TOPS
SUPPRESSED

170320

WD, WS 86 3.0

TA, TD 18.2 15.8

PROFILE 4, 2

170840

WD, WS 86 6.1

TA, TD 15.0 11.5

PROFILE 4, 3

171717

WD, WS 87.0 6.3

TA, TD 9.5 4.9

171810

WD, WS 125 3.3

TA, TD 9.2 5.3

CLOUDS ON SHORELINE MORE SUPPRESSED

PROFILE 4, 4

172428

WD, WS 78 5.4

TA, TD 5.4 -0.8

172523

WD, WS 75.0 5.1

TA, TD 5.6 -1.1

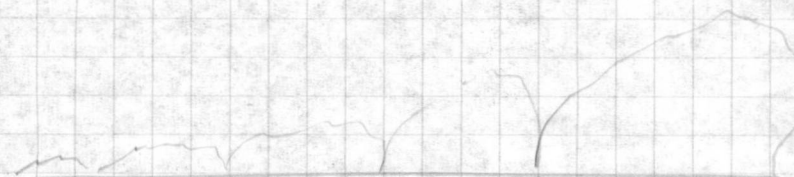
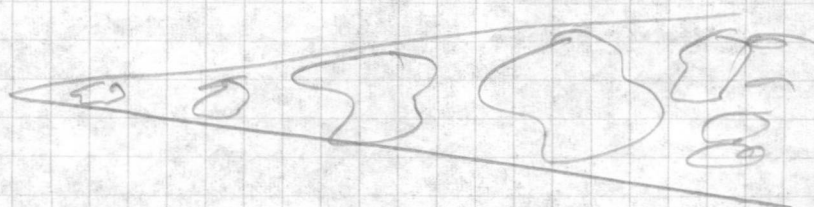
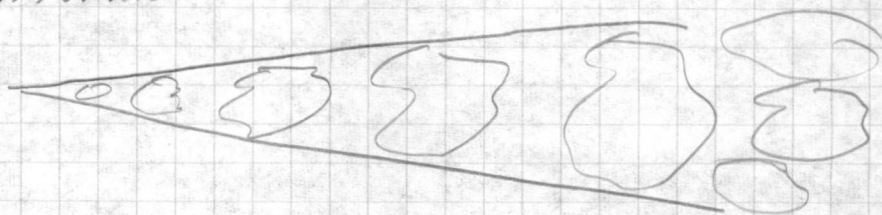
TIME (GMT)

COMMENTS

11

172708

SETTING UP FOR THE WEST TO EAST RUN
NOTICED OVER WATER TO SOUTH THE FOLLOWING
CLOUD PATTERN



173107

START WEST TO EAST RUN

173148

WD, WS 78 5.9 ALT 3539

TA, TD 6.2 0.7

173304

RAIN

173343

WD, WS 65 5.0

TA, TD 6.2 0.7

173359

STRONG TURBULENCE

173422

CLEAR

173517

CLOUD EXTENDS ABOVE US

173542

WD, WS 82 5.1

TA, TD 6.3 2.6

LARGE CELL EAST OF TURNING PT

173800

WD, WS 85.0 4.4

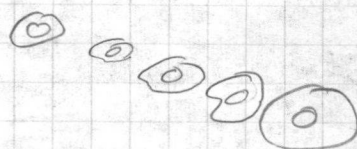
TA, TD 6.4 0.4

TIME (GMT)

COMMENTS

12

WOSIE RADAR SHOW



174125

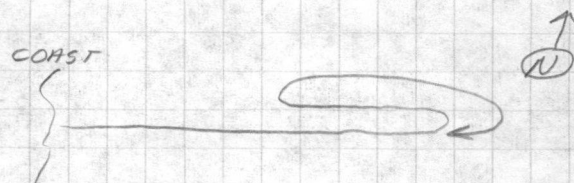
HAVE TROUBLE GETTING TO CLEAR AIR FOR THE
SOUNDING BECAUSE OF THE LARGE CELL
AT THE TURNING PT

174259

IN CLOUD

SOUNDING TRACK

COAST



BEGINNING EAST - WEST RUN FOR DOX AT 1000 FT

175342

WD, WS 185 5.1 ALT 329

TA, TD 26.6 19.4

175500

WD, WS 172 8.0 ALT 330

TA, TD 25.5 19.9

WD, WS 194 7.2

TA, TD 25.0 21.0

175857

SOME DEVIATION OF TRACK DUE TO RAIN

WD, WS 194 3.3

TA, TD 27.0 21.2

1801

WD, WS 211 5.2

TA, TD 26.9 19.1

180206

WD, WS 199 5.8

TA, TD 26.3 18.9

OVER WATER, WAVES SHOW SOUTHWEST FLOW

180358

WD, WS 170 5.2

TA, TD 26.3 18.9

TIME (GMT)

COMMENTS

13

180538

WD, WS

194

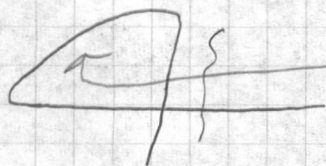
3.8

TA, TD

25.9

20.6

BRO BOX

region of descent
to 150

PROFILE 5, 1

WD, WS

194

5.8

TA, TD

28.4

22.7

WD, WS

203

5.6

TA, TD

28.1

22.8

PROFILE 5, 2

182028

WD, WS

182

7.3

TA, TD

27.2

22.9

PROFILE 5, 3

WD, WS

180

6.2

TA, TD

25.7

20.3

PROFILE 5, 4

183333

WD, WS

165

8.4

TA, TD

24.1

18.0

183424

WD, WS

198

6.8

TA, TD

23.9

18.4

PROFILE 5, 5

184043

WD, WS

105

3.4

TA, TD

17.6

16.5

PROFILE 5, 6

184558

WD, WS

102

5.8

TA, TD

14.7

12.6

TIME (GMT)

COMMENTS

14

185246

STARTING LAST PART OF THE BOX PATTERN

185718

MUST DEVIATE COURSE TO THE NORTH DUE TO
RAIN; ATTEMPTED TO KEEP STRAIGHT LINE

185929

WD, WS 173 9.6

TA, TD 26.4 21.7

190027

WD, WS 182 10.9

TA, TD 25.1 19.0

CLOUD BASE VERY DARK

190240

WD, WS 168 8.3 ALT 295

TA, TD 26.8 21.5

190625

WD, WS 186 9.2

TA, TD 26.8 18.7

CIRRUS CUTTING OFF SOLAR HEATING

AFEW SMALL CU REMAIN OVER CENTER
RAIN AND CIRRUS APPEARS TO HAVE CUT
OFF HEATING

BEGINNING EAST TO WEST LEG

191558

WD, WS 192 4.4 ALT 806

TA, TD 23.5 16.0

STILL RAINING SOME AT COAST

192223

WD, WS 19.0 4.3

TA, TD 22.5 19.6

LUNCH BREAK

193344

HEATING CUT OFF FOR THE MOST PART

PROFILE 6, 1

193544

WD, WS 138 4.0

TA, TD 18.2 15.9

TIME (GMT)

COMMENTS

15

193622 WD, WS 166 4.9 ALT 1429

TA, TD 18.2 15.5

NORTH OF AREA CONVECTION TENDS TO BE MORE ACTIVE

PROFILE 6, 2

194214 WD, WS 108 5.5 ALT 2064

TA, TD 15.5 10.7

LOOKING SHOREWARD SOME SMALL CB;
ONE RAINING OUT BEFORE REACHING
UPPER CIRRUS DECK

PROFILE 6, 3

WD, WS 115 5.0

TA, TD 9.4 4.9

195018 WD, WS 135 4.0

TA, TD 9.7 4.1

PROFILE 6, 4

195454 WD, WS 94 7.5

TA, TD 5.8 0.1

195553 WD, WS 107 4.5

TA, TD 5.7 -2.4

195638 NO SMALL CB'D JUST ONE BAND INSIDE
BUT NO ACTIVE GROWTH

200038 SETTING UP TO DO WEST TO EAST RUN

200615 WD, WS 122 6.6

TA, TD 17.2 10.4

200630 JUST PASSED BAND

TIME (GMT)

COMMENTS

16

200710

WD, WS 109 5.1

TA, TD 16.4 11.7

201030

WD, WS 126 3.0

TA, TD 16.2 11.5

201217

WD, WS 123 2.6

TA, TD 16.7 10.8

SETTING UP FOR EAST-WEST RUN

201952

WD, WS 181 4.6 ALT 807

TA, TD 23.8 15.5

MORE SUNSHINE

202107

WD, WS 192 3.9

TA, TD 23.8 15.5

202611

WD, WS 182 2.5 ALT 805

TA, TD 22.9 18.7

OVER WATER

202800

WD, WS 174 3.0

TA, TD 23.6 16.0

NO CLOUDS OVER THE WATER

WD, WS 225 2.6 ALT 806

TA, TD 23.2 17.2

DOING THE WIND L

PROFILE 7, 1

MISSED BY ME

TIME (GMT)

COMMENTS

17

PROFILE 7, 2

205902	WD, WS	115	7.0	ALT 2079
	TA, TD	16.2	9.5	

205930	WD, WS	107.0	6.6	ALT 2076
	TA, TD	16.1	9.6	

PROFILE 7, 3

210431	WD, WS	140	5.2	
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	TA, TD	10.2	2.9	
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	WD, WS	130	4.9	
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	TA, TD	10.1	3.4	
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PROFILE 7, 4

211000	WD, WS	114	6.3	ALT 3690
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	TA, TD	5.6	-2.0	
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211118	WD, WS	110	6.5	
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	TA, TD	5.5	-1.9	
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BEGINNING WEST TO EAST LEG

211805	WD, WS	122	4.8	ALT 3520
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	TA, TD	7.2	0.6	
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211923	WD, WS	130	4.8	ALT 3513
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	TA, TD	7.0	-0.9	
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212142	WD, WS	125	6.5	
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	TA, TD	6.5	0.7	
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	WD, WS	108	4.0	
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	TA, TD	7.4	-3.9	
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BEGINNING LAST SOUNDING