

Flight ID: 20140702I1

<u>Sensor or system</u>	<u>Number or Name</u>
Static Pressure Probe	PSM.2
Dynamic Pressure Probe	PQM.2
Total Temperature Probe	TTM.1
Dewpoint Temp. Probe	TDM.2X
Vertical Accelerometer	AccZfilterI-GPS.1
Altimeter	AltGPS.3
INE Selection	1
Differential Attack Pressure Probe	PDALPHA.1
Differential Sideslip Pressure Probe	PDBETA.1
Dynamic Attack Pressure Probe	PQALPHA.1
Dynamic Sideslip Pressure Probe	PQBETA.1
Flight Directory	acdata/MET/2014/20140702I1

Local Met Data:	<u>Takeoff (1812Z)</u>	<u>Landing (0127Z)</u>
Aircraft Static Pressure	1013.6 mb	1012.8mb
Tower Pressure (corrected)	1013.6 mb	1013.6 mb

Notes:

The Edgetech dewpoint sensor (TDM.2) erroneously recorded unrealistic spikes in temperature at the following times: 20:11:57Z-22:12:38Z, 20:33:00Z-20:33:13Z, and 21:29:31-21:29:45Z. TDM.2 was manually corrected between these periods. Also, a number of anomalous -100m to -200m drops in the uncorrected Novatel (ALTGPS.4) data were observed throughout the flight. These anomalies were not present in the corrected Novatel (ALTGPS.3) data and therefore ALTGPS.3 was used as the altitude source for the entire mission. All other instruments performed nominally.

Takeoff/Landing data: Data during landing and takeoff are potentially suspect. It is recommended that ground data not be used for scientific analysis.

Supersaturation: It is common when flying through heavy precipitation in tropical environments to observe dewpoint temperatures that exceed the ambient temperature and generate relative humidity values that exceed 100%.

SPECIAL NOTE!!! The variable names dpj_wgs, dpj_was, and dpj_wz in the netCDF file represent vertical ground, vertical air, and vertical wind speeds respectively, computed using Dave Jorgensen's vertical wind algorithm. It is recommended that these values be used for vertical wind analysis.

Expendable Type	Number deployed	Number good	Number of messages transmitted
GPS dropwindsonde	22	21	21
AXBT	0	0	0
Test Sondes	0	0	0

Flight Director:
Phone #:

Mike Holmes
(813) 828-3310 ext. 3140

U.S. Dep't. of Commerce / OMAO / NOAA / Aircraft Operations Center

FLT ID: 20140701I1 From: KMLF → TS Arthur To: KMLF
 FLT #: 1 Blk In: 0137 Z Lnd Time: 0527 Z
 ETD: 18Z Z Blk Out: 1803 Z T/O Time: 1812 Z
 ETE: 03/02Z Total Blk: 7.6 Total Flt: 7.3
 Sponsoring Org: HRD Program: 0801A/Cyclon Purpose: TS. Arthur

AOC Flight Crew

Aircraft Commander: CAPT Halverson SSA: Nachir
 Co-Pilot: LCDR Martin 1 LCDR Didier AVAPS: Wernecke 1
 Navigator: LCDR Sloan 1 Scientists: Sim Aberson
 Flight Eng: Hystek 1 Lalonde Scientists: Jun Zhang
 Flt Director: Holmes 1 Sears Scientists: Kathryn Selwood
 SEB: T Lynch 1 Scientists:
 Crew Chief: Visitors: Joseph Patton / Kelly Nunez Ocasio 1 Randall Hargett

	A/C - Takeoff	Wx Station - Takeoff	A/C - Land	Wx Station - Land
Pressure				

AS REQUIRED BY ORM	YES / NO	REMARKS
VOLCANIC ASH	✓	
SCIENCE MISSION WITHIN BOUNDARY LAYER	✓	
LACK OF PRECIPITATION	✓	
RELATIVE HUMIDITY AT OR ABOVE 80%	✓	
LARGE AIR-SEA TEMPERATURE GRADIENT	✓	
HIGH SURFACE WINDS	✓	
LONG FETCH AND/OR DURATION OF SFC WIND	✓	
SEA SALT ACCRETION FORECAST	✓	
SEA SALT ACCRETION OBSERVED	✓	

Dropsondes	22	Good: 21	Bad: 1	Sent: 21
AXBT	0	Good:	Bad:	Sent:

List other data sources in Remarks section

Remarks (Storm VDM Identifier, Mission ID, Fix Times)	Fix #	VDM Ob Num	Fix Time / SLP
Storm Number Identifier (VDM): (ie: AL072012)			
TCPOD/WSPOD Mission ID: (ie: NOAA2 2418A SANDY)			

Remarks:

22 sondes 1 bad

$\begin{array}{r} 9 \\ 8 \overline{) 364} \\ \underline{32} \\ 44 \end{array}$
 $\Phi\Phi 5 / 9445$
 $\begin{array}{c} \text{TLT} \\ \text{MOTION} \end{array}$

EMERGENCY MESSAGE

TRANSMIT THE FOLLOWING MESSAGE TO ANY AGENCY ON THE AIR-GROUND
FREQUENCY IN USE. IF UNABLE TO ESTABLISH COMMS, ATTEMPT CONTACT ON
ANY OF THE FOLLOWING EMERGENCY FREQUENCIES:

UHF/VOICE	VHF/VOICE	MF/VOICE	HF/CW	MF/CW
243.0	121.5	2182 KHZ	8364 KHZ	500 KHZ

MAYDAY, MAYDAY, MAYDAY
THIS IS NOAA 43, NOAA 43, NOAA 43

- POSITION _____ N / S
E / W AT _____ Z

- HEADING _____ TRUE/MAG

- AT _____ KTS TRUE/INDICATED

- FLIGHT LEVEL OR ALTITUDE 120

- WE ARE A P-3 AIRCRAFT WITH 17 SOULS ON BOARD *Bru*

- NATURE OF EMERGENCY

- ASSISTANCE DESIRED

- PILOT INTENTIONS

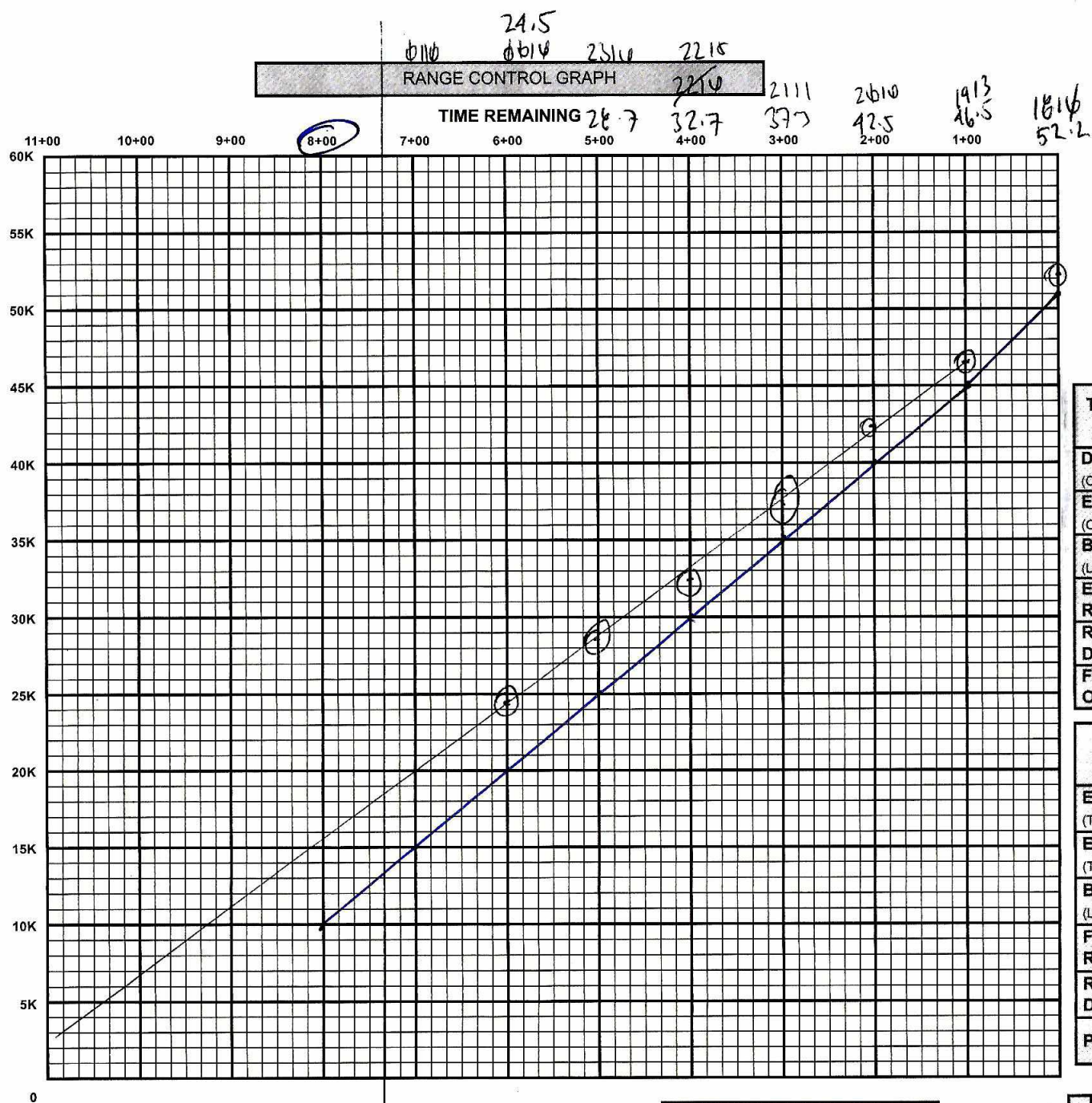
- WE HAVE _____ ENDURANCE REMAINING *1000/157*

[illegible]

INS PERFORMANCE		
	INS 1	INS 2
BEGIN ALIGN TIME		
ALIGN STATUS (0-5)		
END NAV TIME		
START NAV TIME		
DELTA T		

TERMINAL ERRORS		
	INS 1	INS 2
DELTA LAT		
DELTA LON		
RGS		
RADIAL ERROR		

[illegible]



ENROUTE FUEL	
ENROUTE TIME	8+00
ENROUTE FUEL (6K, 5K, 4.5K RULE)	41k
RESERVE AT DESTINATION	10k
REQUIRED RAMP	51k
ACTUAL RAMP FUEL	52.2

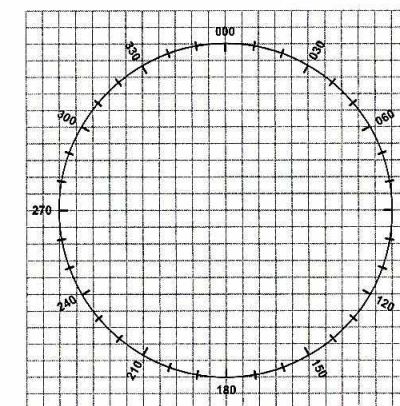
TACTICAL (OFFSTA TO DESTINATION)		
	4 ENG	3 ENG
DISTANCE (OFFSTA TO DEST)		
ENROUTE TIME (OFFSTA TO DEST)		
BURN RATE (LBS/HR)	4500	5500
ENROUTE FUEL REQUIRED		
RESERVE AT DESTINATION		
FUEL AT OFFSTA		

POINT OF SAFE RETURN		
	4 ENG	3 ENG
ETP DISTANCE (TO DEPARTURE)		
ENROUTE TIME (TO DEPARTURE)		
BURN RATE (LBS/HR)	4500	5500
FUEL REQUIRED		
RESERVE AT DEPARTURE		
PSR FUEL		

CEX - TRUE BEARING METHOD			
COMPASS TYPE	INS1	INS2	WET
MCH (READING)			
- MTH (SEXTANT)			
CE			
- VAR			
DEV			

CEX - ERB METHOD			
COMPASS TYPE	INS1	INS2	WET
MERB (DIAL 000)			
+ ZN			
= MTH			
MCH (READING)			
CE			
- VAR			
= DEV			

CEX SIGHT	
GMT	
GHA	
CORR	
GHA	
LONG +W -E	
EXACT LHA	
LAT	
BODY	
DEC	
HC / D	
CORR	
HC	
Z	
ZM	



DISTANCE REMAINING

ETP = .5(TOTAL DISTANCE x OUTBOUND WIND FACTOR)

WIND FACTOR		
WINDSPEED	HEADWIND	TAILWIND
10	1.03	.97
20	1.06	.94
30	1.10	.92
40	1.14	.89
50	1.18	.87
60	1.22	.85

"F" FACTOR	PRESS ALT	200	250	300	350
	10,000	1.0	1.0	.99	.99
	20,000	.99	.98	.97	.97
	30,000	.97	.96	.95	.94
	40,000	.96	.94	.92	.90

TRUE AIRSPEED CROSS-CHECK							
TIME	IAS	PRESS ALT	"F" FACTOR	EAS	OAT	TAS	ITAS

