NOAA P-3 N42RF
Hurricane Ophelia Ocean Winds
KMCF - KMCF

Flight ID: H050912

Sensor or system	*Number or Name*
Inertial	*2*
Accelerometer Data	*2*
Temperature Probe	*1*
Dew Point Probe	*1*
Altitude (for vertical wind)	*Radar Altitude*
Radar Altitude	*RA-159*
Static and Dynamic Pressure	*Rosemount Fuselage*
Time Source	*Micro 99*
Constants File	*CO2054.CON*

Local meteorological data:

Take Off observation taken at 1655Z, by KMCF. Wind from W at 8 knots. Visibility 7 miles. Temperature 30 C, Dewpoint 22 C. Surface pressure1016.9 mb.

Landing observation taken at 2355Z, by KMCF. Wind NW at 11 knots. Visibility 7 miles. Surface pressure 1015.0 mb.

Notes:

File Start Time: 182801Z. End time: 003800Z.

Time, data gaps 185829-185845Z, and 220610Z-220615Z.

Used RA-232 inoperative until 202545Z.

RA-159 was inoperative before take off, after landing.

Parameter VSI2 inoperative after 213150Z.

There were several instances when the dew point temperature exceeded the ambient temperature resulting in a RH% above 100%. These times were during heavy precipitation events and were likely due to a wet-bulb effect on the total temperature sensor, and/or an artificial warming of the dew point sensor as it tried to burn off excess moisture. No corrections were made during these events unless noted above.

All other instruments worked optimally during the flight.

The aircraft INE1 positions were renavigated with respect to GPS.

Flight Director: Jack Parrish
Phone #: (813) 828-3310 ext. 3077

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

FLT ID: 050912H	From: KMCF	To: KMCF
Flt No: 05 — 045	In: 0048 Z	On: 0038 Z
ETD: 1830 Z	Out: 1813	Off: 1828
ETE: 7 +	Blk Time: 6 + 35 (6.6) Hrs	Flt Time: 6 + 10 (6.2) Hrs
Sponsoring Org: NESDIS	Program: Ocean Winds	Purpose: T.S. Ophelia

AOC Flight Crew

Aircraft Commander: Kennedy	Data System: McMillan ✓
Co-Pilot: Nelson ✓	AVAPS: Olney ✓ Kerr ✓
Navigator: Gallagher ✓	System Engineer:
Flight Eng: Wade ✓	AA:
Flight Director: Parrish ✓	AA:
Avionics:	Crew Chief:

Participating Scientists / Visitors

Name (Last, First)	Activity on Aircraft	Affiliation
Chang, P. ✓	P.I.	NESDIS
Esteban, D. ✓	IWRP	↓
Caceres, R. ✓	↓	↓
Chu, T. ✓	↓	↓
Black, M. ✓	Rainex PI	HRD
Dodge, P. ✓	Radar	↓

Remarks (Storm Name, Mission ID, Recco Times, Fix Times)

Storm Name: Ophelia

Mission ID: WX16A

249/17.2
305/11
SP 1016 fm 1K
SP 1016.2 fm 3K

24rd
1 AOC
9 Ocean Winds
6 BTs

Recco Times: 21Z

Fix #	*Fix Time*
31°45N 77°26W	2026Z 988 mb

(See reverse for additional remarks)

U.S. DEP'T OF COMMERCE / NMAO / NOAA / AIRCRAFT OPERATIONS CENTER

FLT ID: 050912H	TIME OFF: 1828 Z	TIME ON: 0038 Z

	A/C - Takeoff	WX Station - Takeoff	A/C - Land	WX Station - Land
Pressure	1016.1	1016.5	1015.2	29.98 (1015)

ATIS - Takeoff	PaPa - 16552 270/8 SKS 30/22 30.03 -89
ATIS - Land	

Data Source	Number	Data Disposition / Date / Quality
Flight Level Tapes		
Radar Tapes		
Cloud Physics Tapes / Cds		
Video Tapes		
Dropsondes	12	Good: 12 Bad: 0 Total: 12 9 Geon Winds 2 1420 1 AOC
AXBT	6	6 good (One lake)
AXCP		
AXCTD		
SONOBUOY		

REMARKS:

NOAA FORM 56-49 (2-95)

MISSION PREFLIGHT LOG

DESTINATION	MISSION	NAVIGATOR	AIRCRAFT COMMANDER	FLIGHT DIRECTOR	SCHEDULED / ACTUAL TAKEOFF Z	DATE OF TAKEOFF
KMCF	Gulf of Mexico	J Gallagher	Capt Kennedy	Parrish	1830 / 1827	12 Sep 05

	WP	LAT / LON	RTE	MH	VAR +E==>	TH	DR +R==>	TRK	GS	WD	WS	ALT	TAS	LEG / TOT DIST	LEG / TOT TIME	PROP ETA	ETA	ATA	REMARKS
1	KMCF	27-51.0 / 082-31.3														1830	1827		
2	LAL	27-59.2 / 082-00.8		077	4W	073	—	073	210	L	J	7000	270	28 / 28	+06 / +06	1835	1833	1835	
3	OTEL	28-05.8 / 081-10.2		086	5W	081	—	081						45 / 73	+10 / +16	1846	1843	1847	
4	DEARY	28-06.0 / 080-54.9		094	5W	089	—	089						14 / 87	+03 / +19	1849	1846	1851	
5	MLB	28-06.3 / 080-38.1		094	5W	089	—	089						15 / 102	+03 / +22	1853	1852	1854	
7	41009	28-30.0 / 080-10.2		052	6W	046	—	046				4000		34 / 136	+08 / +30	1900	1857	1904	
8	41010	28-57.0 / 078-28.2		079	6W	073	—	073						93 / 229	+21 / +51	1921	1910	1923	
9	IP	30-36.7 / 078-45.9		355	7W	348	—	348						101 / 330	+22 / +14	1944	1941	2000	
	OFELIA	31-48.0 / 077-24.0		05	8W	044	—	044	250		50+		250	100 / 430	+24 / +38	2008	2005	2026	
	DELAY													144 / 174	+08 / +30	2308	2302		
3	BITHO	28-37.9 / 081-03.6		235	9W	226	—	226	290	L	J	10000	290	260 / 1434	+34 / +32	0002	2352		
4	OKLA	28-22.6 / 081-20.1		256	6W	250	—	250						15 / 1449	+03 / +35	0005	0002		
5	DALES	28-21.8 / 082-15.1		263	5W	258	—	258						50 / 1499	+10 / +45	0015	0012		
6	LBARA	28-18.0 / 082-18.7		225	5W	220	—	220						5 / 1504	+01 / +46	0016	0013		
7	MCF	27-51.0 / 082-30.8		207	5W	202	—	202						29 / 1533	+10 / +56	0026	0023		

INS PERFORMANCE	INS 1	INS 2
BEGIN ALIGN TIME	1655	1655
ALIGN STATUS (0-5)	0	0
END NAV TIME	0052	0052
START NAV TIME	1804	1804
DELTA T	6+48	6+48

TERMINAL ERRORS	INS 1	INS 2
DELTA LAT	+2.4	+.7
DELTA LON	-2.8	-1.2
RGS	4	2
RADIAL ERROR	4	1

REMARKS 31-15 78-18 00

LAL

RANGE CONTROL GRAPH

TIME REMAINING

11+00 10+00 9+00 8+00 7+00 6+00 5+00 4+00 3+00 2+00 1+00

FUEL REMAINING

60K 55K 50K 45K 40K 35K 30K 25K 20K 15K 10K 5K 0

TIME	FOB	BRN	USAGE	@	ETA	CTA
TOFF	42.2					
19:30	36.4	5.8	26.4	5K	5+15	00:45
20:30	31.3	5.1	21.3	5K	4+15	00:15
21:30	25.9	5.4	15.9	5K	3+10	00:40
22:30	21.3	4.6	11.3	5K	2+15	00:45
23:30	16.9	4.4	6.9	5K	1+20	00:50

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

ENROUTE FUEL	
ENROUTE TIME	6+00
ENROUTE FUEL (6K, 5K,4.5K RULE)	31
RESERVE AT DESTINATION	10
REQUIRED RAMP	41
ACTUAL RAMP FUEL	42.2

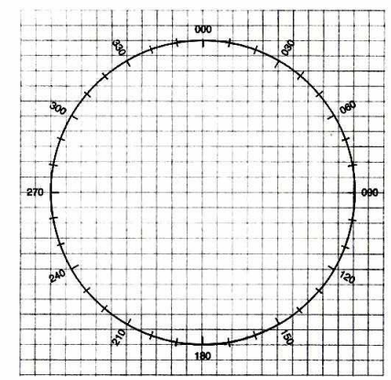
TACTICAL (OFFSTA TO DESTINATION)	4 ENG	3 ENG
DISTANCE (OFFSTA TO DEST)		
ENROUTE TIME (OFFSTA TO DEST)		
BURN RATE (LBS/HR)	4500	5500
ENROUTE FUEL REQUIRED		
RESERVE AT DESTINATION		
FUEL AT OFFSTA		

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	
ZN	



"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

4100

CLEARANCES			
FREQ	ALT	HDG	OTHER
133.71	16 00	RT 280	MLOSA/20 ex 7000@10 5371

MISSION LOG

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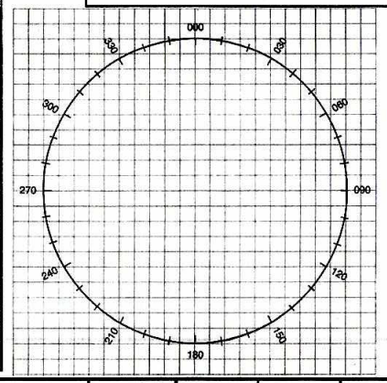

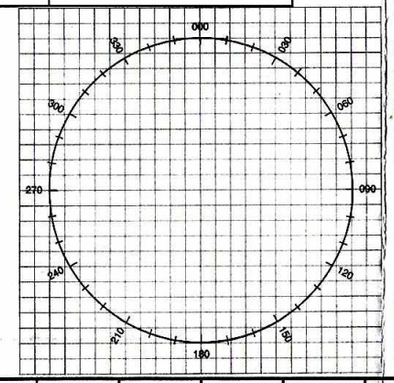

POSITION REPORT

1. POSITION
2. TIME
3. ALTITUDE
4. NEXT POSITION
5. ETA
6. NEXT POSITION

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 _____, NOAA _____, NOAA _____

- POSITION _____ N / S
_____ E / W AT _____Z
- HEADING _____ TRUE/MAG
- AT _____ KTS TRUE/INDICATED
- FLIGHT LEVEL OR ALTITUDE _____
- WE ARE A P-3 AIRCRAFT WITH _____ SOULS ON BOARD
- NATURE OF EMERGENCY
- ASSISTANCE DESIRED
- PILOT INTENTIONS
- WE HAVE _____ ENDURANCE REMAINING

TIME	FIX TYPE	POSITION	INS 1 POSITION	K ERR	INS 2 POSITION	K ERR	MH	VAR +E==>	TH	DR +R==>	TRK	GS	WD	WS	ALT	TAS	NEXT PT	DIST	TIME	ETA	REMARKS
1612 1813	GPS FIX																				
1822 1823	BLK VOR																				
1835	A	28-01.4 081-46.9	28-01.5 081-47.0	-.1 -.1	28-01.5 081-46.9	-.1 —	083	5W	078	1R	079	235	347	6	7000	236	~~OPEL~~	38	+10	1825	INS #2 PCT
1951	A	29-21.4 078-19.0	29-21.7 078-18.8	-.3 +.2	29-21.2 078-18.9	+.2 +.1	346	7W	339	5R	344	208	296	32	4000	229	1R	83	+24	1959	
2026		31-44.566 077-26.523																			
2035	A	32-05.4 077-02.4	32-05.6 077-02.1	-.2 +.3	32-05.0 077-02.3	+.4 +.1	063	7W	056	1L	045	230	137	38	4000	228	1	32	+08	2043	
2135	A	32-28.5 078-17.8	32-28.4 078-18.2	+.1 -.4	32-28.2 078-17.9	+.3 +.1	134	7W	127	1R	140	223	059	60	4000	235	~~OHCLA~~	53	+14	2149	
2152		31-47.276 077-27.968																			
2235	A	32-55.9 077-38.0	32-54.3 077-37.6	+1.6 +.4	32-54.3 077-37.7	+1.6 +.3	169	7W	162	1R	179	211	092	72	4000	224	~~OPEDT~~	61	+18	2253	
2306		31-51.362 077-34.260																			
2335	A	30-31.1 079-00.9	30-28.7 079-02.2	+2.4 -1.3	30-29.2 079-01.5	+1.9 -.6	240	6W	234	9L	225	246	315	37	12000	249	~~BITHO~~	143	+35	00 10	
00 38	GPS FIX	27-51.0 082-29.6	27-48.6 082-32.4	+2.4 -2.8	27-50.3 082-30.8	+.7 -1.2															
00 48	BLK																				

27.9 ~.8 5.6 27 48.6 32.0 0918

	MISSION LOG	PAGE ___ OF ___

FIX TYPES
(G) - GPS (I) - INS (R) - RADIO (V) - VISUAL (C) - CELESTIAL (D) - DR

	TIME	FIX TYPE	POSITION	INS 1 POSITION	K ERR	INS 2 POSITION	K ERR	MH	VAR +E==>	TH	DR +R==>	TRK	GS	WD	WS	ALT	TAS	NEXT PT	DIST	TIME	ETA	REMARKS
15	41002		32.31 75.35																			
16	41013		33.44 072.74																			

Teal 51

Flight Data Log

Flight ID: 0509121H Ocean Winds T.S. Ophelia

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Time	Lat	Long	Trk	Hdg	Wind Dir	Wind Spd	T_a	T_d	Press. Alt	Geo. Alt	Sfc Press.	Press. Sfc	Dyn. Press	Remarks
1813	2750.9	8229.6	137	134	315	8.5	31.2	18.3	-23	3	1016.4	1015.7	0	Block Out
184930	2808	8059	95	94	308	10.5	13.4	6.8	2113	2232	1015.0	783.7	76.3	
190349	2830	8010	73	70	312	20.3	19.4	11.7	1117	1200	1016.6	886.1	71.9	Buoy 1
191730	2846	7911	74	70	306	22	18.5	13.0	1137	1212	1015.8	883.8	72.3	
192705	2856	7828												Buoy 2 Lake Land. Out
1942	2939	7825	345	339	296	35	18.3	12.3	1172	1224	1012.8	881.2		
2026	3145	7726					19	16	1338			988		9
205630	3302	7614	270	261	133	51	18.5	15	1179	1206	1009.9	879.4	73.5	
2152	3148	7729					19	16				990		9
2159	3212	7729	348	357	94	37	19.5	15.1	1310	1221	995.2	865	75	
224530	3253	7739	350	006	96	62	18.7	15.5	1229	1221	1005	874		
2306	3159	7735					12					990		9
2309	3142	7741	223	229	306	21	16.5	13.6	1895	1821	993	805	-6	K 10 min leg
233305	3034	7857	225	236	309	44	9.7	7.6	2912	3038	1008	708.5	72	Start 10K leg
2342	3010	7926	224	233	310	33	5.7	2.5	3482	3655	1010.9	659	72.4	12K leg
0048	2751	8229.6					27	17	-18			1015.4	0.0	Block In

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N42RF AVAPS DROP LOG

Project : Hurricane '05 Mission : Ophelia Flight ID : 050912h

Take Off : Landing :

	Drop #	Sonde Serial #	Rcvr #	Press Offset	Launch Time	Winds Time	Operator	Comments	Good ?
OW	1	053 170 058	1	0	1927	15	Kerr	late launch (~25 sec) delay	✓
OW	2	053 170 054	1	0	2009	32			✓
AOC	3	053 166 319	1	.3	2025	22		BT	✓
OW	4	053 170 061	1	0	2038	15			✓
OW	5	053 170 057	1	.3	2116	19		BT	✓
OW	6	053 170 059	1	.3	2204	15			✓
HRD	7	051 926 052	2	0	2205	22		BT (time=2208)	✓
HRD	8	051 926 078	1	0	2218	23		BT	✓
OW	9	053 170 060	1	.3	2233	22		BT	✓
OW	10	053 170 004	2	0	2236	21			✓
OW	11	053170073	1	0	2243	26			✓
OW	12	012 615 037	1	-0.7	2328	24		BT	✓

Drop #	Sonde Serial #	Rcvr #	Press Offset	Launch Time	Winds Time	Operator	Comments	Good ?

AVAPS Pre-Flight Check:

- Apply power to computer, AVAPS fan and AVAPS chassis.
- Verify no ER status lights on the four MWG cards.
- Initiate MWG P1 capture program.
- Start AVAPS and run the hardware checks via the Utility function.
- Start Soundings and set the Project Name and Flight ID.
- Perform a prelaunch check using all four channels simultaneously reading one sonde, look for reasonable data and no CRC error status lights, winds data is not expected. All AVAPS chassis status lights should be green.

AVAPS Launch:

- Select a sonde frequency other than the default and away from other sondes or ASDL (401.8 MHZ).
- Enter sonde pressure error offset
- Do not pull the Power Enable Pin during pre-launch setup until after the Umbilical is attached
- Remove The Power Enable Pin at least two minutes prior to launch to allow for the Sonde GPS Oscillator to warm up.
- If prelaunch setup is complete, begin data collection has been selected, and more than 8 minutes remain prior to launch, replace the power enable pin until 4 or 5 minutes prior to launch
- Select "begin data collection" and verify good data (no winds yet though) prior to putting sonde in launch tube
- Unwrap ribbon until it extends 4 to 6 inches beyond the sensor end of the sonde
- Place the sonde in the launch tube, sensor arm up, with the power pin socket facing starboard
- Unwrap an additional 4 to 6 inches of ribbon, then set the free ribbon on top of the sonde