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

FLT ID: 20171006N1	From: KLAL	To: KLAL
FLT #:	Blk In: 1432 Z	Lnd Time: 1426 Z
ETD: 0530Z Z	Blk Out: 0549 Z	T/O Time: 0557 Z
ETE: 8+	Total Blk: 8:43 (8.7)	Total Flt: 8:29 (8.5)
Sponsoring Org: OHC	Program: Surveillance	Purpose: TS Date

AOC Flight Crew

Aircraft Commander: MacIntyre	SSA: C. Lynch
Co-Pilot: Fritzler / Cowan	AVAPS: /
Navigator: /	Scientists:
Flight Eng: /	Scientists
Flt Director: Parrish / Belson	Scientists
SEB: Miller / Hartberger / Delgado	Scientists:
Crew Chief: Visitors: / /	

	A/C - Takeoff	Wx Station - Takeoff	A/C - Land	Wx Station - Land
Pressure	1009.5	1011.8	1011.2	1010.2

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	39	Good: 38	Bad: 1	Sent: 38	1 good early termination
AXBT	Ø	Good:	Bad:	Sent:	

List other data sources in Remarks section

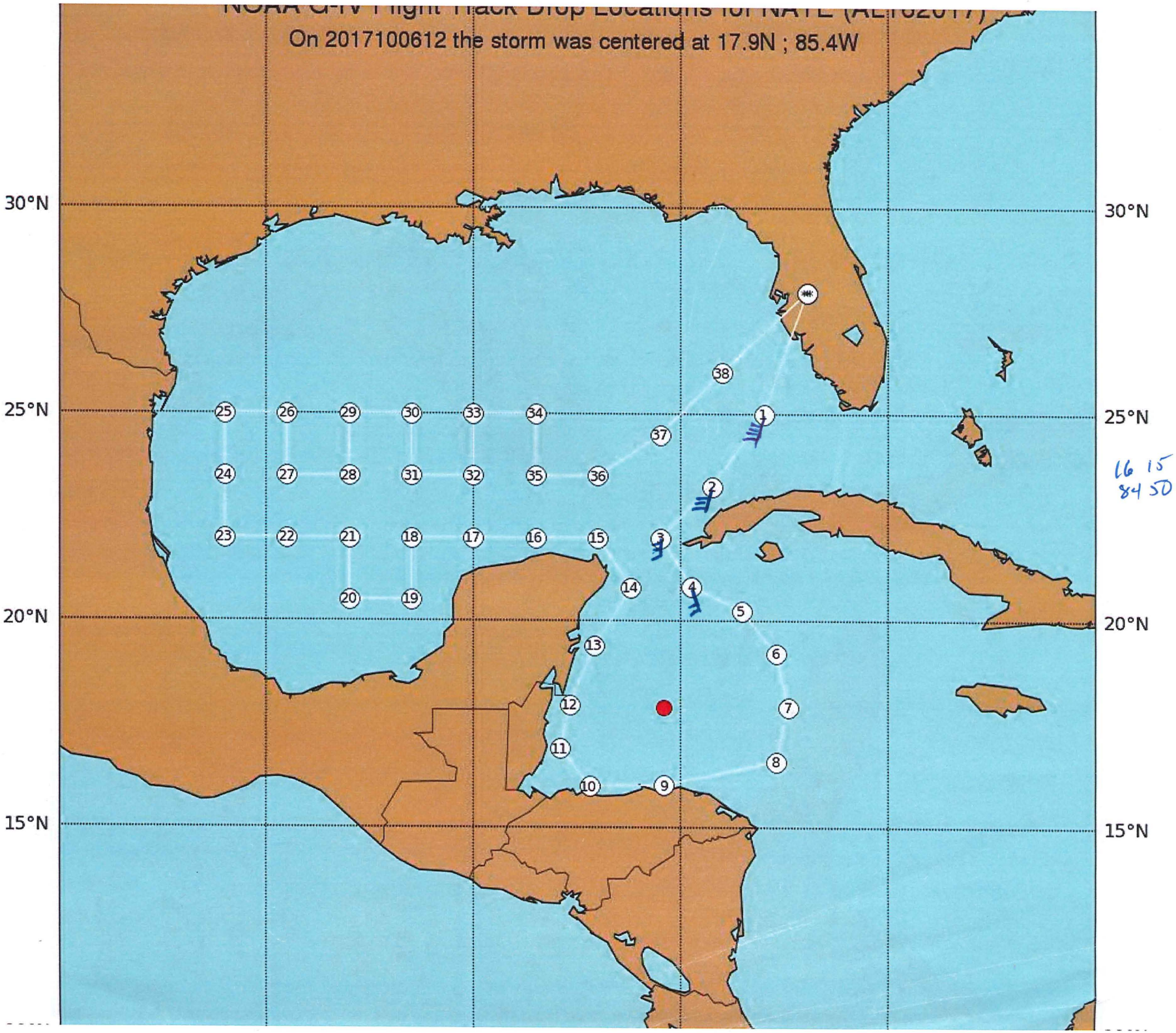
Remarks (Storm VDM Identifier, Mission ID, Fix Times)

Fix #	VDM Ob Num	Fix Time / SLP

Storm Number Identifier (VDM): AL162017
(ie: AL072012)

TCPOD/WSPOD Mission ID: NOAA9 0416A NATE
(ie: NOAA2 2418A SANDY)

Remarks:
Delay due to GPS prob w/ sondes + AVAPS
Dp #9 terminated early - 94 mb.
Dp #22 - No signal, backed up.


NOAA G-IV Flight Track Drop Locations for NATE (AL162017)
On 2017100612 the storm was centered at 17.9N ; 85.4W
30°N
25°N
20°N
15°N
16 15
84 50

N49RF AOC GPS Dropwindsonde Log (updated 9/2017)

Flight ID: 20171006N1 Flight Director(s): Belson / Parrish

Mission ID: 0416A Storm Name/Track: Nate PG 1 of 1

Sonde #	Obs #	Sonde ID (Last 5)	Drop Time (UTC)	Ch #	Lat (°N)	Lon (°E) (W)	Wx Cond.	SFC Prs (mb)	250 Comments / Issues / ASPEN Edits	KWBC #	Bad Sonde?
1	1	163015091	0628	1	25 00	83 00	UNK	1009	098	0648	
2	2	35057	0646	2	23 13	84 16	UNK	1008	097	0705	
3	3	15117	0701	3	21 56	84 25	UNK	1006	096	0719	
4	4	15194	0712	4	20 49	84 42	UNK	1006	097	0731	
5	5	15119	0723	1	20 08	83 32	CONV	1005	098	0740	
6	6	15027	0734	2	19 10	82 42	CDO	1005	097	0752	
7	7	25016	0745	3	17 52	82 32	CONV	1004	099 / Some interference	0803	
8	8	35001	0755	4	16 39	82 45	UNK	1004	096	0815	
9	9	15210	0817	1	16 21	82 25	UNK	—	/// / early termination	0836	
10	10	55013	0830	2	16 04	87 09	UNK	1006	095	0851	
11	11	35253	0839	3	16 54	87 51	UNK	1004	094	0859	
12	12	45029	0848	4	17 58	87 39	UNK	1005	095	0907	
13	13	55044	0900	1	19 24	87 03	UNK	1004	095	0919	
14	14	15166	0912	2	20 49	86 16	UNK	005	095	0933	
15	15	15165	0923	3	21 57	87 02	UNK	006	096	0950	
16	16	55019	0935	4	22 00	88 32	FEW	006	093	0954	
17	17	15247	0947	1	22 00	90 01	OVC	006	091	1007	
18	18	15169	0958	2	21 52	91 25	SCT	008	090	1024	
19	19	35317	1010	3	20 34	91 38	FEW	007	090	1031	
20	20	15176	1020	4	20 36	92 54	FEW	008	088	1046	
21	21	15172	1031	1	21 54	93 07	SCT	009	088	1052	
22	22	351963	1042	2	22 00	94 31	FEW	—	No signal		Y
23	22	15021	1043	3	22 00	94 39	FEW	009	089	1110	
24	23	35015	1052	4	22 06	95 54	FEW	010	092	1121	
25	24	35093	1105	1	23 31	96 00	SCT	011	094	1124	
26	25	35264	1118	2	24 54	95 52	BKN	011	096	1139	
27	26	15035	1130	3	24 48	94 31	UNK	011	094	1154	
28	27	25012	1139	4	23 37	94 24	FEW	010	091	1206	
29	28	55049	1151	1	23 35	93 06	FEW	010	091	1211	
30	29	25013	1202	2	24 54	92 53	FEW	010	093	1229	
31	30	15093	1214	3	24 54	91 36	OVC	009	093	1234	
32	31	35319	1225	4	23 36	91 24	OVC	008	092	1250	
33	32	15039	1236	1	23 35	90 06	SCT	007	094	1300	
34	33	55188	1247	2	24 54	89 52	BKN	007	095	1308	
35	34	55033	1257	3	24 54	88 36	SCT	007	097	1318	
36	35	15043	1309	4	23 36	88 23	OVC	007	096	1329	
37	36	15124	1320	1	23 30	86 59	SCT-OVC	007	097	1340	
38	37	55147	1333	2	24 25	85 36	SCT	009	100	1353	
LAST 39	38	15023	1348	3	25 47	84 10	TCU	011	101	1408	

COMMENTS:

NOAA • AOC • SED

N49RF AVAPS DROP LOG Lead Tech: Gabe Defeo

Project : Hurricane 2017 Mission : TS Nate Flight ID : 20171006N1

Take Off : 0557 Landing : _____ Flt Dir : Patrick Launcher S/N: _____

Drop #	Sonde Serial #	Rcvr #	Press Offset	Launch Time	Operator	Charge $$ To	Comments	Good ?
1	163815089	1	-1.3	0628	JED	NWS		✓
2	162735057	2	-1.6	0646	JED			✓
3	163615117	3	-1.8	0701				✓
4	162715194	4	-1.2	0712				✓
5	163815119	1	-1.4	0723				✓
6	163815027	2	-1.1	0734				✓
7	163325016	3	-0.2	0745				✓
8	162735001	4	-0.5	0755				✓
9	162715210	1	-1.5	0816			ended at 941mb.	✓
10	162655013	2	-1.9	0830				✓
11	163335253	3	-2.4	0839				✓
12	162745029	4	-1.3	0847				✓
13	163255044	1	-0.8	0900				✓
14	162715166	2	-1.4	0912				✓
15	162715165	3	-1.1	0923				✓
16	163255019	4	-1.0	0935				✓
17	162715247	1	-1.9	0947				✓
18	162715169	2	-0.9	0958				✓
19	163335317	3	-0.8	1010				✓
20	162715176	4	-1.0	1020				✓
21	162715172	1	-1.0	1031				✓
22	163335196	2	-1.1	1042			Lost at launch	✗
23	163815021	3	-0.9	1043				✓
24	163835015	4	-1.9	1052				✓
25	162735093	1	-1.8	1105				✓
26	163335264	2	-1.2	1118				✓
27	163815035	3	-1.2	1130				✓
28	163525012	4	-1.2	1139				✓
29	163255049	1	-1.0	1151				✓
30	163025013	2	-1.5	1203				✓
31	163815093	3	-1.0	1214				✓
32	163335319	4	-0.9	1225				✓
33	163815039	1	-1.1	1236				✓
34	162655188	2	-1.0	1247				✓

Drop #	Sonde Serial #	Rcvr #	Press Offset	Launch Time	Operator	Charge $$ To	Comments	Good ?
35	163255033	3	-0.9	1257	VED	NWS		✓
36	142715043	4	-1.1	1309	↑	↑		✓
37	162715124	1	-1.3	1320				✓
38	162655147	2	-1.1	1333				✓
39	163815023	3	-0.9	1348	↓	↓		✓
40								
41								
42								
43								
44								
45								
46								
47								
48								
49								
50								
51								
52								
53								

Drop Station Operator Notes

Charge $$ To Options: AOC, NWS, HFIP, HRD, IR/SST or HRD ONLY– Do not use funding codes!

AVAPS Pre-Flight Check:

- If time-permits, verify cabin pressure sensor w/ lab standard
- Start AVAPS., then start Soundings and set the Project Name and Full Flight ID (example: 20120823N2).
- Verify the Frequency band allocation as required:
- Band A - W53rd, Band B - Research, Band C - N43RF, Band D - N49RF, Band E – Global Hawk
- Select the **GPS Reference** tab from the **Soundings Displays** page and verify good GPS data
- Perform a prelaunch check on each channel, look for reasonable data and no CRC error status lights. Verify data is available on Remote AVAPS at R1 and L1, then terminate the sonde by selecting **Abort** to cancel the sonde initialization. Verify the AVAPS Data mission folder has been created
- Verify AVAPS PC Time is correct
- Early launch detects are caused usually by remanufactured sondes with the chute riser line not properly coiled between the PCB ears. This may also cause fast falls. If this is suspected, repack the riser line as time permits
- Eyewall drop performance is improved when using sondes manufactured after 7/2016
- Perform RH Regeneration on all sondes – this must be done prior to sonde initialization -

AVAPS Launch:

- Select a sonde frequency in the Green band and away from other sondes
- Enter sonde pressure error offset if 0.4mB or greater using cabin pressure sensor – warning, this can not be used during a climb
- If the Cal lab pressure standard and the cabin pressure standard match, apply pressure offset +/- 0.1 mB
- Select "begin data collection" and verify good data with winds prior to putting sonde in launch tube
- Do not shorten the ribbon on N49
- Loosen ribbon and extend end of ribbon to near, but not over, the sensor end of the sonde
- Place the sonde in the launch tube, sensor arm up, with the power pin socket facing starboard
- Verify the sonde is actively tracking GPS data prior to launch and no early launch detect

APPENDIX 2 – GIV QC Checklist

Flight ID:	20170006N1
Flight Director(s):	Parrish / Benson

Pressure Comparison		
	T/O	**Land**
Aircraft	1009.5	1011.2
Tower	1011.8	1010.2

UWZ.d mean: 0.173

DPJ WZ-WSZ mean: 0.174

	Raw 1Hz Mean File Parameters				C File Parameters	
✓ Accelerometer	✓ AccAXI.1	✓ AccAYI.1	✓ AccAZI.1		✓ AccZref	
	✓ AccAXI.2	✓ AccAYI.2	✓ AccAZI.2			
	✓ AccAXI.3	✓ AccAYI.3	✓ AccAZI.3			
✓ Altitude	✓ AltGPS.1	✓ AltI.1	✓ AltPaADDU.1	✓ AltBCADDU.1	✓ ALTref	
	✓ AltGPS.2	✓ AltI.2	✓ AltPaADDU.2	✓ AltBCADDU.2	✓ ALTPA.d	
	✓ AltGPS.3	✓ AltI.3	X AltRA.1		✓ ALTGA.d	
✓ Ground Speed	✓ GsXI-GPS.1	GsXI.1	✓ GsGPS.1	✓ GsXGPS.1	✓ GSXref	
	✓ GsXI-GPS.2	✓ GsXI.2	✓ GsGPS.2	✓ GsXGPS.2	✓ GSYref	
	✓ GsYI-GPS.1	✓ GsXI.3		✓ GsYGPS.1	X GSZref	
	✓ GsYI-GPS.2	✓ GsYI.1	✓ GsZI.1	✓ GsYGPS.2		
	✓ GsZI-GPS.1	✓ GsYI.2	✓ GsZI.2	✓ GsZGPS.1		
	✓ GsZI-GPS.2	✓ GsYI.3	✓ GsZI.3	✓ GsZGPS.2		
✓ Lat/Lon	✓ LatGPS.1	✓ LatI.1	✓ LonGPS.1	✓ LonI.1	✓ LATref	
	✓ LatGPS.2	✓ LatI.2	✓ LonGPS.2	✓ LonI.2	✓ LONref	
	✓ LatGPS.3		✓ LonGPS.3			
✓ Pressure	✓ PDALPHA.1	✓ PQALPHA.1	✓ PQM.1	✓ PSM.1	✓ PDALPHAref	✓ PQMref
	✓ PDALPHA.2	X PQALPHA.2	✓ PQM.2	✓ PSM.2	✓ PDBETAref	✓ PQ.c
	✓ PDBETA.1	✓ PQBETA.1			✓ PQALPHAref	✓ PSMref
	X PDBETA.2	✓ PQBETA.2			✓ PQBETAref	✓ PS.c
✓ Air Speed	✓ CasADDU.1	✓ TasADDU.1	IasADDU.1		IAS.d	✓ TAS.d
✓ Pitch/Roll	✓ PitchI.1	✓ PitchRateI.1	✓ RollI.1	✓ RollRateI.1	✓ PITCHref	
	✓ PitchI.2	✓ PitchRateI.2	✓ RollI.2	✓ RollRateI.2	✓ ROLLref	
	✓ PitchI.3	✓ PitchRateI.3	✓ RollI.3	✓ RollRateI.3		
✓ Temp/Dewpt	✓ TTM.1	✓ TTM.4	X TDM.1		✓ TD.c	✓ TTMref
	TTM.2		✓ TDM.2		✓ TDMref	✓ TA.d
	✓ TTM.3					
✓ Miscellaneous (must check)					✓ UWZ.d	✓ WS.d
					✓ DPJ_WSZ	✓ WD.d
					✓ HUM	

FLID_Mission_Documents.pdf:

	Error Summary
	Crew Manifest
	QC checklist
	Dropwindsonde Log(s) – AVAPS and FD if completed
	Flight Track
	Miscellaneous FD notes

NOTES:

* ALTRA1 intermittent TOC.
* PDBeta2 → +2 mb offset
* PQ Alpha.2 → dropout before landing
* TDM.2 colder at altitude