



Test sondes	0	0	0
AXBTs	7	4	4
AXCPs	0	0	0
AXCTDs	0	0	0
UAS	0	0	0

Flight Director: Englert/Carpenter  
Phone #: 8636066847

ACAT-4 Version = 7.4

## U.S. Department of Commerce / NOAA / OMAO / Aircraft Operations Center - Flight Manifest

FLIGHT INFORMATION				CREW MANIFEST			MISSION INFORMATION				
FLT ID:	<b>20240924H1</b>	FLT #:		AC:	<b>Abitbol</b>	Other Crew:	sUAS		Dropsondes		
From:	<b>KLAL</b>	ETD:	<b>1600L / 2000Z</b>	CP(s):	<b>Wood</b>	<b>Alvey (HRD)</b>	Type	Released	Good	Bad	Sent
To:	<b>KLAL</b>	ETA:	<b>2359L / 0359Z</b>		<b>Keith</b>	<b>Hazelton (HRD)</b>			<b>15</b>	<b>1</b>	<b>15</b>
Block Time		Flight Time		NAV(s):	<b>Utama/Dunford</b>	<b>Chang (NESDIS)</b>					
Out:	<b>19:58</b>	T/O:	<b>20:13</b>	FE(s):	<b>Wysinger</b>	<b>Judson Jones (Media)</b>	Other Expendables		Dropsonde Charge Codes		
					<b>Tyson</b>	<b>Zack Witman (Media)</b>	Type	Released	<b>NWS</b>		
In:	<b>03:52</b>	Land:	<b>3:45</b>	FD(s):	<b>Englert</b>				AXBTs		
					<b>Carpenter</b>				Good	Bad	Sent
Total:	<b>7.9</b>	Total:	<b>7.5</b>	SSA:	<b>McAlister</b>				<b>4</b>	<b>3</b>	<b>4</b>
					<b>Dykeman</b>						
Sponsoring Org:		<b>NHC</b>		IFT(s):	<b>Paul</b>		Pennies		<b>5x TS</b>		
Program:		<b>PRX</b>					Storm ID: (i.e., AL072012)		<b>AL092024</b>		
Purpose:		<b>TDR Mission + Research Module</b>		MX:			Mission ID: (i.e., NOAA2 2418A SANDY)		<b>NOAA2 0709A HELENE</b>		
AS REQUIRED BY ORM			Y	N	REMARKS		OBSERVATIONS				
VOLCANIC ASH				x			Fix Number	Obs Number	Fix Time	SLP	
SCIENCE MISSION WITHIN BDRY LAYER				x			<b>1</b>	<b>6</b>	<b>2216z</b>	<b>991 mb</b>	
LACK OF PRECIPITATION				x			<b>2</b>	<b>16</b>	<b>2324z</b>	<b>990 mb</b>	
RELATIVE HUMIDITY ≥ 80%			x				<b>3</b>	<b>17</b>	<b>0042z</b>	<b>993 mb</b>	
LARGE AIR-SEA TEMP GRADIENT				x			<b>4</b>				
HIGH SURFACE WINDS			x								
LONG FETCH / DURATION OF SFC WND				x							
SEA SALT ACCRETION FORECAST				x							
SEA SALT ACCRETION OBSERVED											

\*Highlighted items must be completed before departure.

## P-3 QC Checklist

Overall Assessment	Minor instrument issue(s) - minimal mission impact.
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Flight ID:	20240924H1
Flight Director(s):	Englert/Carpenter
Mission:	Tasked/Operational
UWZ.d mean:	0.16

Pressure Comparison		
	Pre-flight	Post-flight
Aircraft	1007.4	1010.1
Airfield	1008.3	1008.5

This form uses:	
_A.nc	

SFMR Serial Unit	2
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Parameters	Raw				Derived, Corrected & Reference	
<input checked="" type="checkbox"/> Acceleration	<input checked="" type="checkbox"/> AccAXI.1 <input checked="" type="checkbox"/> AccAXI.2 <input checked="" type="checkbox"/> AccAXI-GPS.1 <input checked="" type="checkbox"/> AccAXI-GPS.2	<input checked="" type="checkbox"/> AccAYI.1 <input checked="" type="checkbox"/> AccAYI.2 <input checked="" type="checkbox"/> AccAYI-GPS.1 <input checked="" type="checkbox"/> AccAYI-GPS.2	<input checked="" type="checkbox"/> AccAZI.1 <input checked="" type="checkbox"/> AccAZI.2 <input checked="" type="checkbox"/> AccAZI-GPS.1 <input checked="" type="checkbox"/> AccAZI-GPS.2	<input checked="" type="checkbox"/> AccZfilter-GPS.1 <input checked="" type="checkbox"/> AccZfilter-GPS.2	<input checked="" type="checkbox"/> AccZref	
<input checked="" type="checkbox"/> Altitude	<input checked="" type="checkbox"/> AltGPS.1 <input checked="" type="checkbox"/> AltGPS.2 <input checked="" type="checkbox"/> AltGPS.3 <input checked="" type="checkbox"/> AltGPS.4	<input checked="" type="checkbox"/> AltI-GPS.1 <input checked="" type="checkbox"/> AltI-GPS.2	<input checked="" type="checkbox"/> AltPaADDU.1 <input checked="" type="checkbox"/> AltBCADDU.1	<input checked="" type="checkbox"/> AltRA.1 <input checked="" type="checkbox"/> AltRA.2	<input checked="" type="checkbox"/> ALTref <input checked="" type="checkbox"/> ALTPA.d <input checked="" type="checkbox"/> ALTGA.d	<input checked="" type="checkbox"/> AltRA1.c <input checked="" type="checkbox"/> AltRA2.c
<input checked="" type="checkbox"/> Ground Speed	<input checked="" type="checkbox"/> GsXI-GPS.1 <input checked="" type="checkbox"/> GsXI-GPS.2	<input checked="" type="checkbox"/> GsYI-GPS.1 <input checked="" type="checkbox"/> GsYI-GPS.2	<input checked="" type="checkbox"/> GsZI-GPS.1 <input checked="" type="checkbox"/> GsZI-GPS.2	<input checked="" type="checkbox"/> GSXref <input checked="" type="checkbox"/> GSYref <input checked="" type="checkbox"/> GSZref		
<input checked="" type="checkbox"/> Location	<input checked="" type="checkbox"/> LatGPS.1 <input checked="" type="checkbox"/> LatGPS.2 <input checked="" type="checkbox"/> LatGPS.3 <input checked="" type="checkbox"/> LatGPS.4	<input checked="" type="checkbox"/> LatI-GPS.1 <input checked="" type="checkbox"/> LatI-GPS.2	<input checked="" type="checkbox"/> LonGPS.1 <input checked="" type="checkbox"/> LonGPS.2 <input checked="" type="checkbox"/> LonGPS.3 <input checked="" type="checkbox"/> LonGPS.4	<input checked="" type="checkbox"/> LonI-GPS.1 <input checked="" type="checkbox"/> LonI-GPS.2	<input checked="" type="checkbox"/> LATref <input checked="" type="checkbox"/> LONref	
<input checked="" type="checkbox"/> Pressure Sensors	<input checked="" type="checkbox"/> PDALPHA.1 <input checked="" type="checkbox"/> PDALPHA.2 <input checked="" type="checkbox"/> PDBETA.1 <input checked="" type="checkbox"/> PDBETA.2	<input checked="" type="checkbox"/> PQALPHA.1 <input checked="" type="checkbox"/> PQBETA.1	<input checked="" type="checkbox"/> PQM.1 <input checked="" type="checkbox"/> PQM.2 <input checked="" type="checkbox"/> PQM.3 <input checked="" type="checkbox"/> PQM.4	<input checked="" type="checkbox"/> PSM.1 <input checked="" type="checkbox"/> PSM.2 <input checked="" type="checkbox"/> PTM.1	<input checked="" type="checkbox"/> PQMref <input checked="" type="checkbox"/> PQ.c <input checked="" type="checkbox"/> PSMref <input checked="" type="checkbox"/> PS.c	
<input checked="" type="checkbox"/> Air Speed	<input checked="" type="checkbox"/> CasADDU.1	<input checked="" type="checkbox"/> TasADDU.1	<input checked="" type="checkbox"/> IasADDU.1	<input checked="" type="checkbox"/> IAS.d <input checked="" type="checkbox"/> TAS.d		
<input checked="" type="checkbox"/> Pitch / Roll	<input checked="" type="checkbox"/> PitchI.1 <input checked="" type="checkbox"/> PitchI.2 <span style="color: blue;">inop</span> PitchI.3	<input checked="" type="checkbox"/> PitchRateI.1 <input checked="" type="checkbox"/> PitchRateI.2 <span style="color: blue;">inop</span> PitchRateI.3	<input checked="" type="checkbox"/> RollI.1 <input checked="" type="checkbox"/> RollI.2 <span style="color: blue;">inop</span> RollI.3	<input checked="" type="checkbox"/> RollRateI.1 <input checked="" type="checkbox"/> RollRateI.2 <span style="color: blue;">inop</span> RollRateI.3	<input checked="" type="checkbox"/> PITCHref <input checked="" type="checkbox"/> ROLLref	
<input checked="" type="checkbox"/> Temperature, Dewpoint, Radiometers	<input checked="" type="checkbox"/> TTM.1 <input checked="" type="checkbox"/> TTM.2 <span style="color: blue;">inop</span> TTM.3	<input checked="" type="checkbox"/> TDM.1 <input checked="" type="checkbox"/> TDM.2 <span style="color: blue;">inop</span> TDM.3	<input checked="" type="checkbox"/> TRadD.1 <input checked="" type="checkbox"/> TRadS.1 <span style="color: blue;">inop</span> TRadU.1	<input checked="" type="checkbox"/> TD.c <input checked="" type="checkbox"/> TDMref <input checked="" type="checkbox"/> HUM		<input checked="" type="checkbox"/> TTMref <input checked="" type="checkbox"/> TA.d
<input checked="" type="checkbox"/> Wind and Pressure <input checked="" type="checkbox"/> SFMR	SFMR	<input checked="" type="checkbox"/> CH 1 TB <input checked="" type="checkbox"/> CH 2 TB <input checked="" type="checkbox"/> CH 3 TB	<input checked="" type="checkbox"/> CH 4 TB <input checked="" type="checkbox"/> CH 5 TB <input checked="" type="checkbox"/> CH 6 TB	<input checked="" type="checkbox"/> UWZ.d <input checked="" type="checkbox"/> PSURF <input checked="" type="checkbox"/> WS SFMR		<input checked="" type="checkbox"/> WS.d <input checked="" type="checkbox"/> WD.d <input checked="" type="checkbox"/> RAIN RATE SFMR

FLID_Mission_Documents.pdf:	
<input checked="" type="checkbox"/>	Error Summary
<input checked="" type="checkbox"/>	Crew Manifest
<input checked="" type="checkbox"/>	QC Checklist
<input checked="" type="checkbox"/>	Dropwindsonde Log(s) - AVAPS and FD, if completed
<input checked="" type="checkbox"/>	Flight Track

QC Key:	
Valid	<input checked="" type="checkbox"/>
Errors (see NOTES)	<input checked="" type="checkbox"/>
Sensor Inoperative	<span style="color: blue;">inop</span>

### NOTES:

Pitch and Roll I.3, TTM.3, TDM.3, and TRadU.1 not operational.

PQM.1 and PQM.3 deviations beginning at 0220z (approximate storm exit time) and produce erroneous data throughout remainder of the flight that should not be used.

TDM.1 positive spike 2140-2148z followed by negative to positive spike 2302-2309z. Data unrepresentative during these times.

TTM.2 data produced erroneous data throughout the flight and data should not be used.

SFMR data (all channel TB, WS, RAIN RATE) under assessment and should be used with caution.

# AVAPS Drop Log

Project: HX24

Mission: Helene

Flight ID: 20240924H1

Take Off: 2012Z

Landing: \_\_\_\_\_

Flt Dir: ENG/ear/ICRP Launcher S/N: 0345Z

Drop #	Sonde Serial #	Rcvr #	Press Offset	Launch Time	Operator	Charge \$\$ To	Comments	Good ?
ACS 1	240610936	1	-0.3	2155	SCP	NWS	IP1	✓
ACS 2	233640113	2	-0.4	2207	SCP	NWS	MP	✓
ACS 3	233350145	3	-0.2	2216	SCP	NWS	CP1-combo	✓
ACS 4	240610564	4	-0.2	2229	SCP	NWS	MP	✓
5	233340941	1	-0.3	2239	SCP	NWS	EP1-combo	✓
6	233814579	2	-0.5	2308	SCP	NWS	IP2-combo	✓
Reboot ACS server ACS 7	233640705	3	-0.6	2320	SCP	NWS	MP-no launch detect	X
ACS 8	233560228	4	-0.3	2322	SCP	NWS	MP-blw for 7	✓
9	233640108	1	-0.2	2333	SCP	NWS	CP2-combo	✓
Reboot ACS server ACS 10	233950567	2	-0.4	2344	SCP	NWS	MP02	✓
ACS 11	233640706	3	-0.5	2355	SCP	NWS	EP2-COMBO	✓
ACS 12	235051039	4	-0.4	0020	SCP	NWS	IP3-COMBO	✓
13	240610933	1	0	0032	BRD	NWS	MP13	✓
14	235124017	2	-0.3	0042	BRD	NWS	CP3	✓
15	240530780	3	-0.5	0053	BRD	NWS	MP03	✓
16	240520574	4	-0.5	0109	BRD	NWS	EP3-COMBO	✓
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								

Reboot ACS server

Reboot ACS server

DT NO XM

ACS hung after init 4

## Dropwindsonde Scientist Log

<b>Storm:</b>	Helene	<b>Flight ID:</b>	20240924H1	<b>Mission ID:</b>	0709A	<b>Takeoff:</b>	2012Z	<b>Landing:</b>	HHMMZ
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<b>Dropsonde Scientist(s):</b>	Jason Sippel/Brittany Dahl	<b>AVAPS Operator:</b>	Paul/Dykman
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### Pre-flight

- ✓ Discuss the pattern with the Lead Project Scientist (LPS) and ensure that enough dropsondes are onboard.
- ✓ Complete the appropriate pre-flight set-up of your workstation and ASPEN (see [Dropsonde Processing Guide](#)).

### In-flight

- ✓ Ensure the Flight Director is aware of upcoming drops and whether a backup is requested in case of failure.
- ✓ Ensure the AVAPS operator has determined that the dropsonde is (or is not) transmitting a good signal.
- ✓ Prioritize processing of center drops and report MSLP and surface wind speed and direction to the Flight Director.
- ✓ Fill in the Dropwindsonde Scientist log as drops are released and processed.
- ✓ Copy completed ASPEN files (e.g., FRD, netCDF, Skew-t, WMO txt, BUFR) into the “FRD” folder on the workstation desktop for automated transmission to the ground for archival.

### Once “science is complete”...

- ✓ Make synoptic map plots in ASPEN and copy them to the “FRD” folder on the workstation desktop for automated transmission to the ground for archival.
- ✓ Ensure ASPEN files have been sent to the ground by locating and verifying all files in the “FLIGHTID” folder within the “FRD” folder on the workstation desktop.
- ✓ Archive ASPEN\_DATA and RAW\_DATA into a folder named with the FLIGHTID within the “Season Dropsonde Archive” folder on the workstation desktop and upload the same directories into StormName/FLIGHTID/Dropsonde/ folder on Drive.
- ✓ Download this Dropwindsonde Scientist Log as “PDF” and upload completed PDF and Google Doc to the StormName/FLIGHTID/Dropsonde/ folder within the “Mission Reports” directory in the HFP Google Drive.

Drop #	Sonde ID	Time UTC	Lat (°N/S)	Lon (°E/W)	Sfc Pressure (mb)	Lowest Wind Direction/Speed (deg/kt)	Lowest Wind Height (m)	AXBT SST (°C)	Eye, Eyewall, Rainband, etc.	Ob #
1	240610936	2155	20.49	-86.44	1002	030/32	10		NW End-point	1
Comments:										
2	233640113	2207	20.06	-85.64	999	040/39	10		NW Mid-point	2
Comments:										
3	233350145	2216	19.80	-85.05	991	110/04	10		Center	3
Comments:										
4	240610564	2229	19.34	-84.22	998	180/31	10		SE Mid-point	4
Comments:										
5	233340941	2239	18.97	-83.60	1001	155/31	10		SE End-point	5
Comments:										
6	233814579	2308	20.69	-83.77	1002	274/18	10			7
Comments:NE inbound end point. BT combo. Good sonde. Note: VDM ob 6 cca, no issues with ob 7..										
7		2320								-
Comments: NE inbound midpoint. No launch detect. No D file.										
8	233560228	2322	20.16	-84.70	996	282/20	10			8

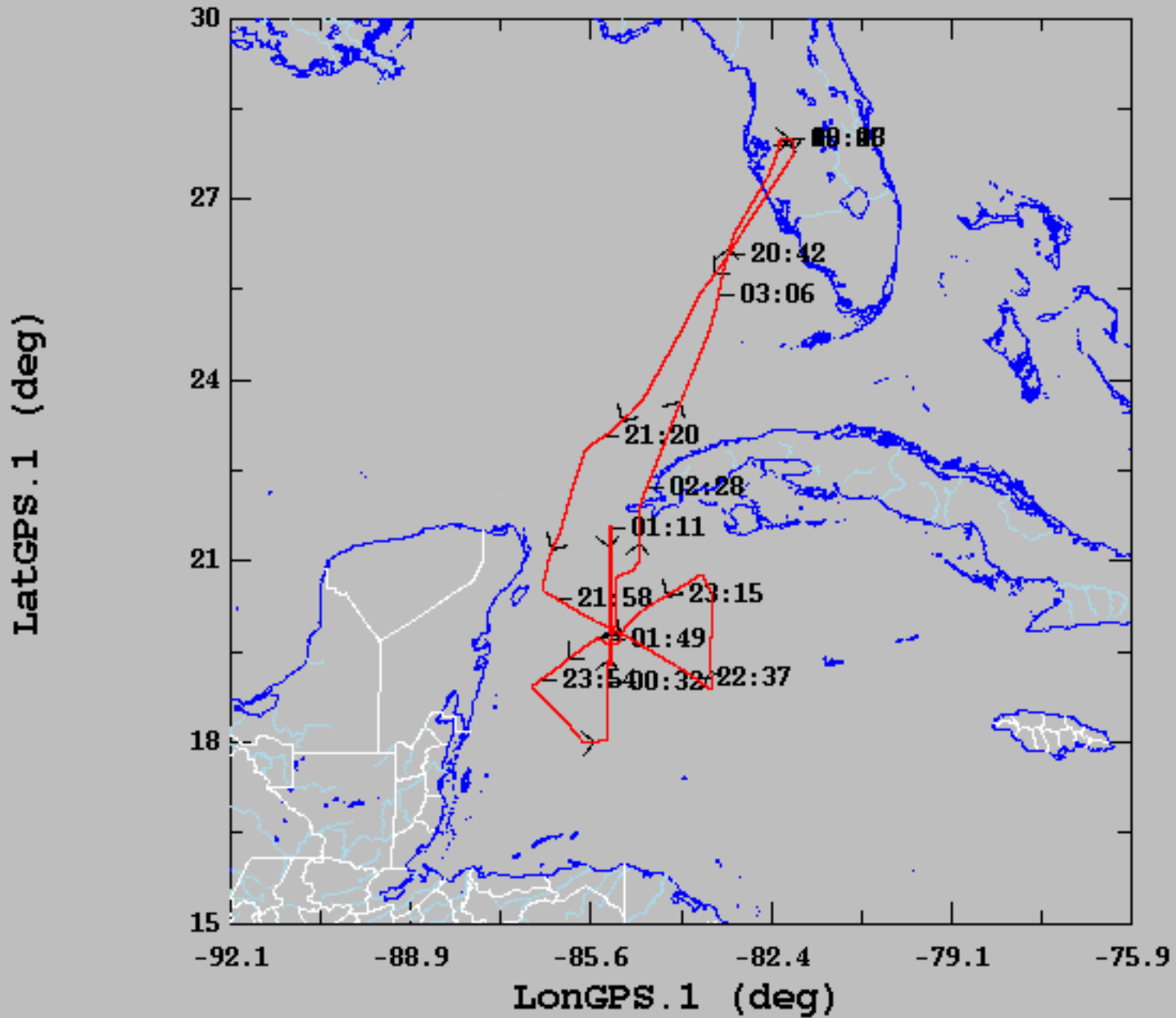
Comments: NE inbound midpoint, backup for sonde 7. Good sonde.										
9	233640108	2333	19.62	-85.22	990	190/17	10		CENTER	9
Comments: Center 2. BT combo. Set end t = 244.75 s.										
10	233950567	2349	19.25	-86.19	1000	325/27	10			10
Comments: SW outbound mid point. Set end t = 248.00 s.										

Drop #	Sonde ID	Time UTC	Lat (°N/S)	Lon (°E/W)	Sfc Pressure (mb)	Lowest Wind Direction/Speed (deg/kt)	Lowest Wind Height (m)	AXBT SST (°C)	Eye, Eyewall, Rainband, etc.	Ob #
11	233640706	2355	18.96	-86.61	1001	345/21	10			11
Comments: SW outbound end point. BT combo. Good sonde.										
12	235051039	0020	18.13	-85.30	1001	260/23	10			12
Comments: S inbound end point. BT combo, bad BT. Set end t = 221.50 s. Winds at t= 221.25 s looked reasonable, so unflagged to get a 10 m wind.										
13	240610933	0032	18.94	-85.30	999	280/28	10			13
Comments: S inbound mid point. Good sonde.										
14	235124017	0042	19.63	-85.23	993	305/19	10		CENTER	14
Comments: Center 3. Good sonde.										

15	240530780	0053	20.42	-85.22	997	075/26	10			15
Comments: N outbound mid point. Set end t = 223.00 s.										
16	240520574	0109	21.51	-85.22	1003	065/35	10	30.8		18
Comments: N outbound end point. BT combo. Fast fall flag. Flagged winds up to t = 11.0, but everything below that seemed reasonable.										
Comments:										
Comments:										
Comments:										
Comments:										

Drop #	Sonde ID	Time UTC	Lat (°N/S)	Lon (°E/W)	Sfc Pressure (mb)	Lowest Wind Direction/Speed (deg/kt)	Lowest Wind Height (m)	AXBT SST (°C)	Eye, Eyewall, Rainband, etc.	Ob #

09/24/2024, 18:46:39-27:45:09



	mean	sigma	min	max
— LatGPS.1 (deg), 1 s/sec	22.81	3.42	17.99	27.99
— LongGPS.1 (deg), 1 s/sec	-84.17	1.43	-86.67	-81.96