

TDMref similarly affected since it is set to TDM.1; TD.c, HUM also affected
SFMR TB, WS SFMR, and RAIN RATE SFMR needs further assessment and data should be used with caution

Expendable Type	# deployed	# good	# transmitted
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Dropsondes	18	18	18
Test sondes	0	0	0
AXBTs	0	0	0
AXCPs	0	0	0
AXCTDs	0	0	0
UAS	0	0	0

Flight Director: Zawislak/Englert
Phone #: 305-707-4359

ACAT-4 Version = 7.4

U.S. Department of Commerce / NOAA / OMAO / Aircraft Operations Center - N42RF Manifest

FLIGHT INFORMATION				CREW MANIFEST			MISSION INFORMATION				
FLT ID:	20240706H2	FLT #:	FY24-	AC:	Copare	Scientists:	Pressure		Dropsondes		
From:	KLAL	ETD:	1600L / 2000Z	CP(s):	Palmer	Sim Aberson (HRD)	A/C Takeoff	1010.7	Good	Bad	Sent
To:	KLAL	ETA:	0000L / 0400Z		Ellis		ASOS Takeoff	1009.1	18	0	18
Block Time		Flight Time		NAV:	Utama	ASOS Land	-	BTs			
Out:	19:57	T/O:	20:05	FE(s):	Stokes			Good	Bad	Sent	
In:	03:53	Land:	03:43	FD(s):	Zawislak	ASOS Land	1011.1	0	0	0	
Total:	7.9	Total:	7.6		SSA:			McAlister	Visitors:	Storm Number ID:	
Sponsoring Org:	NHC			SEB:	Underwood	(ie: AL072012)		AL022024			
Program:	PRX				MX:		TCPOD/WSPOD Mission	NOAA2 2602A BERYL			
Purpose:	TDR Mission							(ie: NOAA2 2418A SANDY)			
AS REQUIRED BY ORM				Y	N	REMARKS	Fix Number	Obs Number	Fix Time	SLP	
VOLCANIC ASH					X	Butterfly + 1 VAM for HRD completed	1	0808 24.42N/93.58W	23:34:30	996 mb 040/26 kt	
SCIENCE MISSION WITHIN BDRY LAYER					X	16 NWS, 2 HRD sondes					
LACK OF PRECIPITATION					X		2				
RELATIVE HUMIDITY ≥ 80%				X							
LARGE AIR-SEA TEMP GRADIENT					X		3				
HIGH SURFACE WINDS				X							
LONG FETCH / DURATION OF SFC WND				X			4				
SEA SALT ACCRETION FORECAST					X						
SEA SALT ACCRETION OBSERVED					X		Pennies:	5 x TS			

*Highlighted items must be completed before departure.

Remarks:

P-3 QC Checklist

Overall Assessment	Major instrument issue(s) - significant mission impact.
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Flight ID:	20240706H2
Flight Director(s):	Zawislak / Englert
Mission:	Tasked/Operational
UWZ.d mean:	0.14

Pressure Comparison		
	Pre-flight	Post-flight
Aircraft	1010.7	Not reported
Airfield	1009.1	1011.1

This form uses:	
_A.nc	

SFMR Serial Unit	1
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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 <input style="background-color: #cccccc;" type="checkbox"/> PitchI.3	<input checked="" type="checkbox"/> PitchRateI.1 <input checked="" type="checkbox"/> PitchRateI.2 <input style="background-color: #cccccc;" type="checkbox"/> PitchRateI.3	<input checked="" type="checkbox"/> RollI.1 <input checked="" type="checkbox"/> RollI.2 <input style="background-color: #cccccc;" type="checkbox"/> RollI.3	<input checked="" type="checkbox"/> RollRateI.1 <input checked="" type="checkbox"/> RollRateI.2 <input style="background-color: #cccccc;" type="checkbox"/> 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 <input style="background-color: #cccccc;" type="checkbox"/> TTM.3	<input checked="" type="checkbox"/> TDM.1 <input checked="" type="checkbox"/> TDM.2 <input style="background-color: #cccccc;" type="checkbox"/> TDM.3	<input checked="" type="checkbox"/> TRadD.1 <input checked="" type="checkbox"/> TRadS.1 <input style="background-color: #cccccc;" type="checkbox"/> 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	<input style="background-color: #cccccc;" type="checkbox"/>

NOTES:

PTM.1 erroneous and should not be used

TAS.d, TA.d, WS.d, WD.d, UWZ.d, and PSURF drops out between ~21:47:30-21:50:17 UTC and ~22:35:11-22:36:37 UTC

TDM.2 spikes during transit (~20:43:37-20:47:16 UTC), but overall is the better and more consistently performing sensor vs. TDM.1 throughout the flight

TDM.1 spikes between ~21:40:23-21:52:24 UTC and ~22:33:30-22:37:24 UTC, then immediately after this 2nd spike oscillates erroneously until about ~0203 UTC

TDM.1 briefly returns to fairly normal behaviour at ~0203 UTC, but spikes again ~03:08:48 UTC and again oscillates afterwards until landing

TDMref similarly affected since it is set to TDM.1; TD.c, HUM also affected

SFMR TB, WS SFMR, and RAIN RATE SFMR needs further assessment and data should be used with caution

AVAPS Drop Log

Project: Beryl Mission: Beryl Flight ID: 20240706H2
 Take Off: 1600L Landing: 2400L Flt Dir: JZ Launcher S/N: 467WR

Drop #	Sonde Serial #	Rcvr #	Press Offset	Launch Time	Operator	Charge \$\$ To	Comments	Good ?
1	230940024	1	-0.6	2154Z	NGU	NWS	IP, NE	✓
2	230710618	2	0.0	2206Z			MP	✓
3	230650123	3	-1.5	2217Z			Center #1	✓
4	230931816	4	-0.6	2231Z			MP	✓
5	230940047	5	-0.8	2242Z			EP	✓
6	230710564	6	-0.6	2306Z			IP #2	✓
7	230610033	7	0.0	2318Z			MP	✓
8	230650121	8	-0.8	2330Z			Center	✓
9	230530845	1	-0.6	2334Z			Center	✓
10	230931827	2	-0.9	2346Z			MP	✓
11	230710563	3	-1.2	2359Z			EP	✓
12	230351453	4	-1.7	0026Z			IP #3	✓
13	230650054	5	-0.9	0038Z			MP	✓
14	230620829	6	-1.2	0050Z			Center	✓
15	230350132	7	-0.8	0059Z		HRD	VAM	✓
16	230740052	8	-1.5	0116Z		HRD	VAM	✓
17	230351595	1	-1.5	0136Z		NWS	MP	✓
18	230740019	2	-1.5	0150Z			EP	✓
19								
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31								

Dropwindsonde Scientist Log

Storm:	Beryl	Flight ID:	20240706H2	Mission ID:	2602A	Takeoff:	2005z	Landing:	0343Z
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Dropsonde Scientist(s):		AVAPS Operator:	Underwood
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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.

Storm: BERYL

Flight ID: 20240706H2

Mission ID: 2602A BERYL

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	230940024	215433	25.493	92.287	1006.6	065/33	10			1
Comments: NE IP (WP 1)										
2	230710618	220632	24.769	92.718	1001.2	095/37	10			2
Comments: NE-Center midpoint; flagged T and RH 0-7.5s (T drop/increase issue)										
3	230650123	221716	24.152	93.097	996.0	130/14	10			3
Comments: Center; flagged T and RH 0-7.5s (T drop/increase issue); set end at 268.00s (0 sats at bottom)										
4	230931810	223113	23.374	93.630	1004.6	290/21	10			4
Comments: Center-SW midpoint; flagged T and RH 0-11.5s (T drop/increase issue);										
5	230940047	224243	22.692	94.054	1006.9	310/21	10			5
Comments: WP 2 (SW); flagged T and RH 0-5.75s (T drop/increase issue);										
6	230710564	230646	22.921	92.310	1007.5	235/17	10			6
Comments: WP 3 (SE); flagged T and RH 0-5.5s (T drop/increase issue);										
7	230610033	231852	23.644	92.755	1003.2	220/29	10			7
Comments: SE-Center midpoint; flagged T and RH 0-7.0s (T drop/increase issue);										
8	230650121	233050	24.242	93.408	995.9	220/18	10			9
Comments: Center (almost); flagged T and RH 0-20.0s (T drop/increase issue);										
9	230530845	233451	24.443	93.600	995.7	040/26	10			10
Comments: Center; flagged T and RH 0-8.0s (T drop/increase issue); set end at 199.75s (0 sats at bottom)										
10	23091827	234652	25.183	94.059	1004.1	010/39	10			11

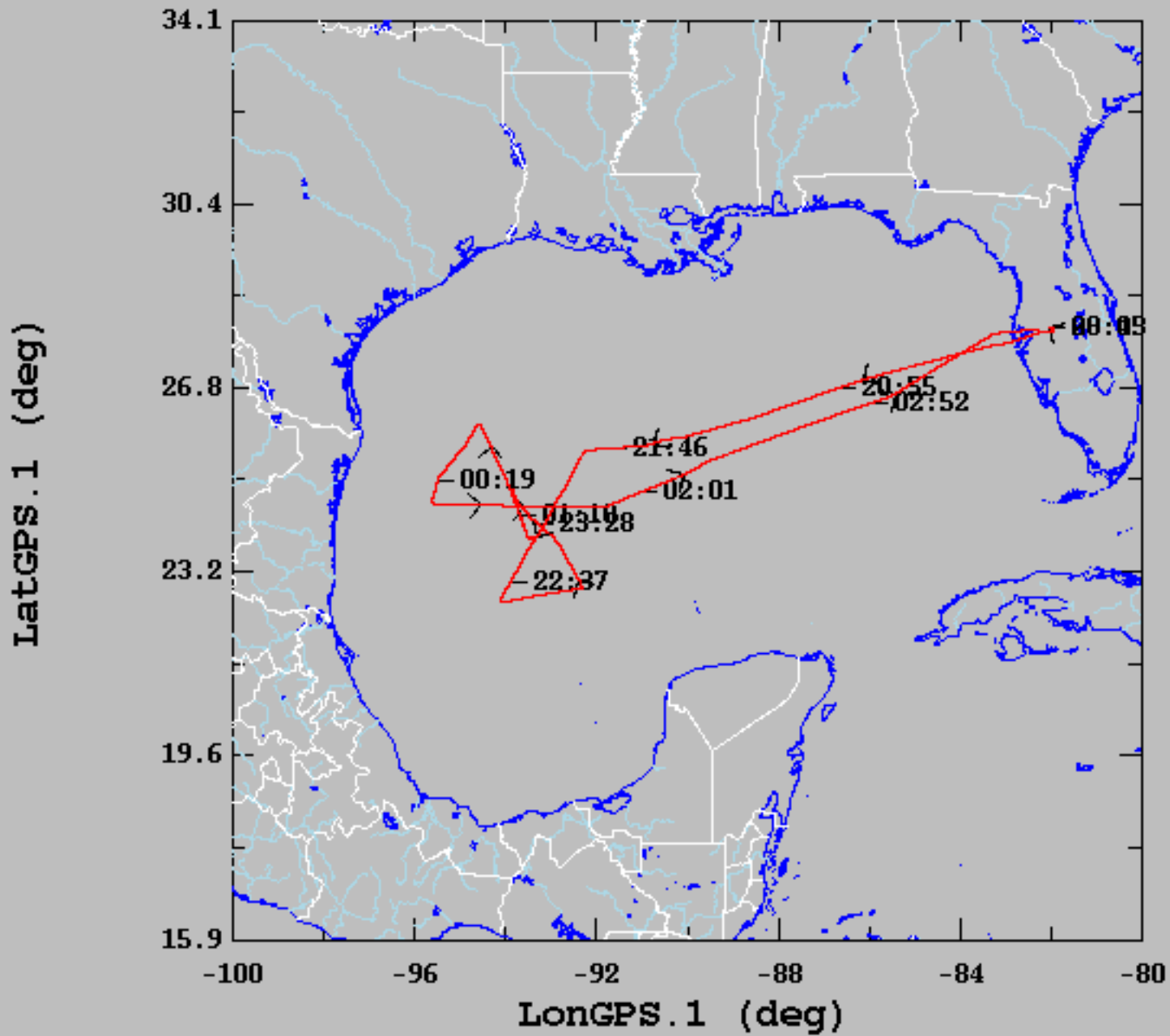
Storm: BERYL

Flight ID: 20240706H2

Mission ID: 2602A BERYL

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	230710563	235932	25.998	94.482	1009.1	035/26	10			12
Comments: WP 4 (NW); flagged T and RH 0-8.0s (T drop/increase issue);										
12	230351453	002628	24.515	95.508	1009.4	025/12	10			13
Comments: WP 5 (W); set end at 203.75s (0 sats at bottom)										
13	230650054	003804	24.518	94.644	1005.8	350/39	10			14
Comments: W-Center midpoint; flagged T and RH 0-8.5s (T drop/increase issue); set end at 193.75.s (0 sats at bottom)										
14	230620829	005024	24.455	93.761	994.8	035/14	10			15
Comments: Center; flagged T and RH 0-9.0s (T drop/increase issue);										
15	230350132	005927	23.892	93.497	1000.5	280/32	10			16
Comments: VAM sonde #1; flagged T and RH 0-6.0s (T drop/increase issue); flagged 196.25-197.25; set end at 199.0.s (0 sats at bottom)										
16	230740052	011647	24.725	93.840	999.9	n/a	n/a			17
Comments: VAM sonde #2;										
17	230351595	013657	24.466	92.765	1003.6	160/35	10			18
Comments: Center-E midpoint; flagged T and RH 0-5.0s (T drop/increase issue); set end at 192.5.s (0 sats at bottom)										
18	230740019	015002	24.464	91.828	1007.5	160/24	10			19
Comments: WP 6 (E); flagged T and RH 0-9.25s (T drop/increase issue); LAST REPORT										
Comments:										
Comments:										

07/06/2024, 20:05:00-03:43:00



	mean	sigma	min	max
— LatGPS.1 (deg), 1 s/sec	25.38	1.46	22.59	27.99
— LonGPS.1 (deg), 1 s/sec	-90.32	4.09	-95.60	-81.92