N42RF ERROR SUMMARY
20180910H1

Flight ID: 20180910H1

| Sensor or System | Number or Name |
|---|---|
| Static Pressure Probe | PSM.2 |
| Dynamic Pressure Probe | PQM.2 |
| Total Temperature Probe | TTM.1 |
| Dewpoint Temp. Probe | TDM.2 |
| 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/2018/MET/20180910H1

Local Met Data Takeoff TXKF (1323Z) Landing TISX (2242Z)

| | |
|---|---|
| Dynamic Corrections | Yes |
| AttackAngleIntercept | 2.31252 |
| AttackAngleSlope | 6.06758 |
| SlipAngleIntercept | 0.4295 |
| SlipAngleSlope | 7.17033 |

---

Notes:
There were no edits made in the measured parameters used to calculate meteorological and navigational parameters.

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

PDAlpha.2 Inop and PQM.1 failed after 1840Z. Niether of these parameters affected the real-time or post processed datasets as neither were selected as the source.

| Expendable Type | # deployed | # good | # transmitted |
|---|---|---|---|
| Dropsondes | 43 | 42 | 42 |
| Test sondes | 0 | 0 | 0 |
| AXBTs | 4 | 0 | 0 |
| AXCPs | 0 | 0 | 0 |
| AXCTDs | 0 | 0 | 0 |
| UAS | 0 | 0 | 0 |

Flight Director: Holmes
Phone #: 863-500-3983

ACAT-4 Version = 7.2.1

# NOAA Aircraft Operations Center - NOAA 42 Flight Manifest

## FLIGHT INFORMATION

| | | | |
|---|---|---|---|
| **FLT ID:** | 20180910H1 | **FLT #:** | 4 |
| **From:** | TXKF | **ETD:** | 1200Z |
| **To:** | TXKF | **ETA:** | 1800Z |

| **Block Time** | | **Flight Time** | |
|---|---|---|---|
| In: | 2247 | In: | 2242 |
| Out: | 1315 | Out: | 1323 |
| Total: | 9.5 | Total: | 9.3 |

| | |
|---|---|
| Sponsoring Org: | NESDIS / HRD / NWS |
| Program: | PHX |
| Purpose: | FLORENCE |

## CREW MANIFEST

| | | |
|---|---|---|
| AC: | Kibbey | **Scientists:** |
| CP(s): | Abitbol | |
| | Rossi | Paul Change (NESDIS) |
| Nav(s): | Urato | Zorana Jelenak (NESDIS |
| | Richards | Joe Sapp (NESDIS) |
| FE(s) | Darby | Jon Zawislak (HRD) |
| | Lalonde | |
| FD(s): | Holmes | Heather Holbach (HRD) |
| | | **Visitors:** |
| SEB: | Greene | Carrion |
| | | Newnam |
| SSA: | Mascaro | |
| AVAPS: | Underwood | |

## MISSION INFORMATION

| **Pressure** | | **Dropsondes** | | |
|---|---|---|---|---|
| | | Good | Bad | Sent |
| A/C Takeoff | | 42 | 1 | 42 |
| Wx Station Takeoff | | | | |
| | | **BTs** | | |
| A/C Land | | Good | Bad | Sent |
| Wx Station Land | | Ø | 4 | Ø |

| | |
|---|---|
| Storm Number ID: (ie: AL072012) | AL062018 |
| TCPOD/WSPOD Mission (ie: NOAA2 2418A SANDY) | WC06A FLORENCE |

## OBSERVATIONS

| Fix Number | Obs Number | Fix Time | SLP |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| AS REQUIRED BY ORM | Y | N | REMARKS |
|---|---|---|---|
| VOLCANIC ASH | | X | |
| SCIENCE MISSION WITHIN BDRY LAYER | | X | |
| LACK OF PRECIPITATION | | X | |
| RELATIVE HUMIDITY ≥ 80% | X | | 9 X 5 (LAT IV) Penny's |
| LARGE AIR-SEA TEMP GRADIENT | | X | #3 TDR |
| HIGH SURFACE WINDS | X | | #6 NESDIS |
| LONG FETCH / DURATION OF SFC WND | X | | |
| SEA SALT ACCRETION FORECAST | | X | |
| SEA SALT ACCRETION OBSERVED | | X | |

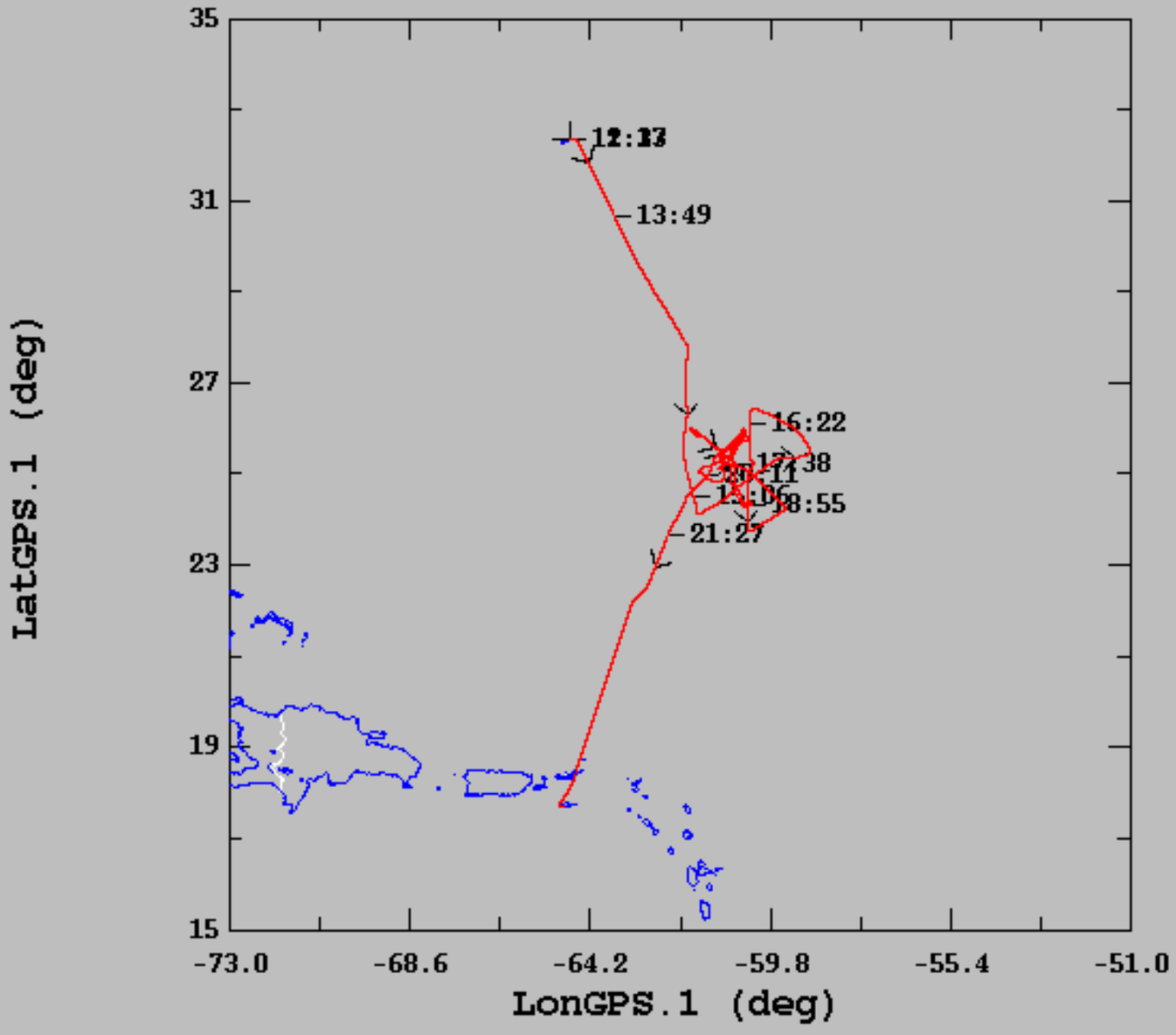
Additional Remarks:

Cockpit Gmax: Gmin:

*Highlighted items must be completed before departure.

# 20180910H1 Flight Track

09/10/2018, 11:17:14-22:43:55




| | mean | sigma | min | max |
|---|---|---|---|---|
| LatGPS.1 (deg), 1 s/sec | 26.43 | 3.70 | 17.69 | 32.37 |
| LonGPS.1 (deg), 1 s/sec | -62.00 | 1.82 | -64.95 | -58.83 |

# APPENDIX 1 – P3 QC Checklist

| | |
|---|---|
| **Flight ID:** | 20180910 H1 |
| **Flight Director(s):** | Holmes |

**UWZ.d mean:** 0.12 m/s

| Pressure Comparison | | |
|---|---|---|
| | **T/O** | **Land** |
| **Aircraft** | 1017 | X |
| **Tower** | 1016 | / |

| | Raw 1Hz Mean File Parameters | | | | C File Parameters | |
|---|---|---|---|---|---|---|
| ✓ Accelerometer | ✓ AccAXI.1 | ✓ AccAYI.1 | ✓ AccAZI.1 | ✓ AccZfilter-GPS.1 | ✓ AccZref | |
| | ✓ AccAXI.2 | ✓ AccAYI.2 | ✓ AccAZI.2 | ✓ Acc-Zfilter-GPS.2 | | |
| | ✓ AccAXI-GPS.1 | ✓ AccAYI-GPS.1 | ✓ AccAZI-GPS.1 | | | |
| | ✓ AccAXI-GPS.2 | ✓ AccAYI-GPS.2 | ✓ AccAZI-GPS.2 | | | |
| ✓ Altitude | ✓ AltGPS.1 | ✓ AltI-GPS.1 | ✓ AltPaADDU.1 | ✓ AltRA.1 | ✓ ALTref | ✓ AltRA1.c |
| | ✓ AltGPS.2 | ✓ AltI-GPS.2 | ✓ AltBCADDU.1 | ✓ AltRA.2 | ✓ ALTPA.d | ✓ AltRA2.c |
| | ✓ AltGPS.3 | | | | ✓ ALTGA.d | |
| | ✓ AltGPS.4 | | | | | |
| ✓ Ground Speed | ✓ GsXI-GPS.1 | ✓ GsYI-GPS.1 | ✓ GsZI-GPS.1 | | ✓ GSXref | |
| | ✓ GsXI-GPS.2 | ✓ GsYI-GPS.2 | ✓ GsZI-GPS.2 | | ✓ GSYref | |
| | | | | | ✓ GSZref | |
| ✓ Lat/Lon | ✓ LatGPS.1 | ✓ Lati-GPS.1 | ✓ LonGPS.1 | ✓ Loni-GPS.1 | ✓ LATref | |
| | ✓ LatGPS.2 | ✓ Lati-GPS.2 | ✓ LonGPS.2 | ✓ Loni-GPS.2 | ✓ LONref | |
| | ✓ LatGPS.3 | | ✓ LonGPS.3 | | | |
| | ✓ LatGPS.4 | | ✓ LatGPS.4 | | | |
| ✓ Pressure | ✓ PDALPHA.1 | ✓ PQALPHA.1 | ✓ PQM.1 | ✓ PSM.1 | ✓ PDALPHAref | ✓ PQMref |
| | ✓ PDALPHA.2 | ✓ PQBETA.1 | ✓ PQM.2 | ✓ PSM.2 | ✓ PDBETAref | ✓ PQ.c |
| | ✓ PDBETA.1 | | ✓ PQM.3 | ✓ PTM.1 | ✓ PQALPHAref | ✓ PSMref |
| | ✓ PDBETA.2 | | ✓ PQM.4 | | ✓ 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 | ✓ TDM.1 | ✓ TRadD.1 | | ✓ TD.c | ✓ TTMref |
| | ✓ TTM.2 | ✓ TDM.2 | ✓ TRadS.1 | | ✓ TDMref | ✓ TA.d |
| | ✓ TTM.3 | ✓ TDM.3 | ✓ TRadU.1 | | | |
| ✓ 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:**

PDAlpha.2 InoP
PQM.1 failed after 2136Z

A • AOC • SED N42RF AVAPS DROP LOG Lead Tech: Mike Mascaro

2018 Mission: Hurricane Florence Flight ID: 20180910H1

2 Landing: _____ Flt Dir : Holmes

| | Sonde Serial # | Rcvr # | Press Offset | Launch Time | Operator | Charge $$ To | Comments | Good ? |
|---|---|---|---|---|---|---|---|---|
| 1 | 163615101 | 1 | -0.6 | 1512 | NCAR | HRD | IP, inbound (IB) | ✓ |
| 2 | 163525175 | 2 | -0.3 | 1526 | ↓ | HRD | Midpoint, IB | ✓ |
| 3 | 163335065 | 3 | -1.0 | 1533 | ↓ | NESDIS | RMW, combo, IB | ✓ |
| 4 | 163525173 | 4 | -0.3 | 1535 | | NWS | Center, CPA | ✓ |
| 5 | 163525077 | 5 | +0.4 | 1537 | | NESDIS | RMW, combo, outbound (OB) | ✓ |
| 6 | 164015089 | 6 | +0.4 | 1538 | | NESDIS | 2nd RMW, OB | ✓ |
| 7 | 143315067 | 7 | -1.5 | 1546 | | HRD | Midpoint, OB | ✓ |
| 8 | 143315064 | 8 | -0.5 | 1559 | | HRD | Endpoint, OB | ✓ |
| 9 | 163525040 | 1 | -0.2 | 1620 | | HRD | Endpoint (EP), IB | ✓ |
| 10 | 163525170 | 2 | +0.1 | 1628 | | HRD | Midpoint (MP), IB | ✓ |
| 11 | 163615107 | 3 | +0.2 | 1640 | | NESDIS | RMW, IB | ✓ |
| 12 | 163525379 | 4 | +0.5 | 1642 | | NWS | Center, no PTH | ✓ |
| 13 | 163525188 | 5 | -0.9 | 1649 | | NESDIS | RMW, OB | ✓ |
| 14 | 164625057 | 6 | +0.1 | 1654 | | HRD | MP, OB | ✓ |
| 15 | 164625062 | 7 | -0.4 | 1703 | | HRD | EP, OB | ✓ |
| 16 | 163625013 | 8 | +0.3 | 1716 | | HRD | EP, IB | ✓ |
| 17 | 164625063 | 1 | +0.4 | 1727 | | HRD | MP, IB | ✓ |
| 18 | 163525182 | 2 | -0.4 | 1734 | | NESDIS | RMW, combo, IB | ✓ |
| 19 | 164445086 | 3 | -1.6 | 1736 | | NWS | Center | ✓ |
| 20 | 163525189 | 4 | +0.1 | 1738 | | NESDIS | RMW, combo, OB | ✓ |
| 21 | 164625061 | 5 | -0.2 | 1748 | | HRD | MP, OB | ✓ |
| 22 | 164625052 | 6 | 0.0 | 1757 | | HRD | EP, OB | ✓ |
| 23 | 163455086 | 7 | -0.7 | 1816 | | NESDIS | RMW, IB | ✓ |
| 24 | 164545087 | 8 | -0.7 | 1818 | | NWS | Center | ✓ |
| 25 | 164445064 | 1 | +0.4 | 1829 | | NESDIS | RMW, OB | ✓ |
| 26 | 163615104 | 2 | -0.2 | 1916 | | NESDIS | RMW, IB | ✓ |
| 27 | 164345028 | 3 | -0.9 | 1918 | | NWS | Center | ✓ |
| 28 | 163525179 | 4 | 0.0 | 1922 | | NESDIS | RMW, OB | ✓ |
| 29 | 164445166 | 5 | -0.4 | 1923 | | NESDIS | RMW #2, OB | ✓ |
| 30 | 164015075 | 6 | 0.0 | 1928 | | NESDIS | RMW, IB | ✓ |
| 31 | 143315049 | 7 | -0.7 | 1932 | | NESDIS | RMW, OB | ✓ |
| 32 | 164345026 | 8 | -0.7 | 1933 | | NESDIS | RMW, OB, #2 | ✓ |
| 33 | 163615103 | 1 | -0.4 | 1957 | | NESDIS | RMW, IB | ✓ |
| 34 | 163525183 | 2 | -0.1 | 2000 | | NWS | Center | ✓ |

| Drop # | Sonde Serial # | Rcvr # | Press Offset | Launch Time | Operator | Charge $$ To | Comments | G |
|---|---|---|---|---|---|---|---|---|
| ~~35~~ | 1445350 77 | 3 | -0.8 | 2002 | NGH | NESDIS | RMW, OB | ✓ |
| ~~36~~ | 1635250 69 | 4 | +0.2 | 2022 | ↓ | NESDIS | RMW, IR | ✓ |
| ~~37~~ | 1635251 91 | 5 | -0.5 | 2024 | | NWS | Center, CPA | ✓ |
| ~~38~~ | 1643451 34 | 6 | -0.2 | 2027 | | NESDIS | RMW, OB | ✓ |
| ~~39~~ | 1636150 58 | 7 | -0.1 | 2028 | | NESDIS | RMW, OB | ✓ |
| ~~40~~ | 1640151 59 | 8 | -0.3 | 2055 | | NESDIS | RMW, IR | ✓ |
| ~~41~~ | 1636151 25 | 1 | -0.2 | 2058 | | NWS | Center | ✓ |
| ~~42~~ | 1643450 41 | 2 | -1.2 | 2100 | | NESDIS | RMW, OB | ✓ |
| ~~43~~ | 1638451 07 | 3 | -0.3 | 2101 | | NESDIS | RMW, OB | ✓ |
| 44 | | | | | | | | |
| 45 | | | | | | | | |
| 46 | | | | | | | | |
| 47 | | | | | | | | |
| 48 | | | | | | | | |
| 49 | | | | | | | | |
| 50 | | | | | | | | |
| 51 | | | | | | | | |
| 52 | | | | | | | | |
| 53 | | | | | | | | |
| 54 | | | | | | | | |
| 55 | | | | | | | | |
| 56 | | | | | | | | |

Drop Station Operator Notes

Charge $$ To Options: AOC, NWS, NESDIS, SAT (Special NESDIS/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 20150118I1).
- Update the Frequency band allocation as required:
  Band A - W53rd, Band B - N42RF, Band C - N43RF, Band D - N49RF, Band E - not allocated
- 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 the FD Station, 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. The latest AVAPS inserts a default offset value. Adjust if pressure offset is 0.4 mB or greater
- 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 (including Winds) prior to putting sonde in launch tube
- Failure to keep good lock on GPS is likely due to the GPS antenna connector on the sonde PCB needing to be rotated away from surface mount components – do this if needed.
- Cut off about ½ of ribbon, 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