

N43RF ERROR SUMMARY  
20190928I1 WD13A LORENZO

Flight ID: 20190928I1

| Sensor or System<br>-----            | Number or Name<br>----- |
|--------------------------------------|-------------------------|
| 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/2019/MET/20190928I1

| Local Met Data       | Takeoff TBPB (1404Z) | Landing TBPB (2325Z) |
|----------------------|----------------------|----------------------|
| Dynamic Corrections  |                      | Yes                  |
| AttackAngleIntercept |                      | 0.122351             |
| AttackAngleSlope     |                      | 6.0273               |
| SlipAngleIntercept   |                      | 0.214857             |
| SlipAngleSlope       |                      | 7.10815              |

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.

ALTGPS.4 has spike during climb for transit 2032Z not used operationally or for post processing

LATGPS.4 and LONGGPS.4 are unrepresentative, not used operationally or for post processing

Data system was restarted prior to beginning science leg, there is a gap in data and a few spikes due to this restart around 1718-1722Z

TDM.3 is unrepresentative, not used operationally or for post processing

| Expendable Type<br>----- | # deployed<br>----- | # good<br>----- | # transmitted<br>----- |
|--------------------------|---------------------|-----------------|------------------------|
| Dropsondes               | 12                  | 0               | 11                     |
| Test sondes              | 0                   | 0               | 0                      |
| AXBTS                    | 0                   | 0               | 0                      |
| AXCPs                    | 0                   | 0               | 0                      |
| AXCTDs                   | 0                   | 0               | 0                      |
| UAS                      | 0                   | 0               | 0                      |

Flight Director: Lundry, Flaherty  
Phone #: 863-500-3898

ACAT-4 Version = 7.3

# U.S. Department of Commerce / NOAA / OMAO / Aircraft Operations Center - N43RF Manifest

| FLIGHT INFORMATION                                     |                    |             |       | CREW MANIFEST |              |                       |  | MISSION INFORMATION       |            |               |     |      |
|--------------------------------------------------------|--------------------|-------------|-------|---------------|--------------|-----------------------|--|---------------------------|------------|---------------|-----|------|
| FLT ID:                                                | 20190928I1         | FLT #:      | 1     | AC:           | Didier       | Scientists:           |  | Pressure                  |            | Dropsondes    |     |      |
| From:                                                  | TBPB               | ETD:        | 1400Z | CP(s):        | Rossi        | Holbach               |  | A/C Takeoff               |            | Good          | Bad | Sent |
| To:                                                    | TBPB               | ETA:        | 1900Z |               | Legidakes    | Ryan                  |  |                           |            | 12            | 0   | 11   |
| Block Time                                             |                    | Flight Time |       | Nav(s):       | Freeman      | Vilardell Sanchez, J. |  | ASOS Takeoff              |            | BTs           |     |      |
| In:                                                    | 23:31              | Land:       | 23:26 |               |              | Jelenak               |  |                           |            |               |     |      |
| Out:                                                   | 13:57              | T/O:        | 14:05 | FE(s)         | Sanchez      | Chang                 |  | A/C Land                  |            | Good          | Bad | Sent |
|                                                        |                    |             |       |               | LaLonde      |                       |  |                           |            | 0             | 0   | 0    |
| Total:                                                 | 9.6                | Total:      | 9.4   | FD(s):        | Flaherty     |                       |  | ASOS Land                 |            |               |     |      |
|                                                        |                    |             |       |               | Lundry       | Visitors:             |  |                           |            |               |     |      |
| Sponsoring Org:                                        |                    | NESDIS      |       | SEB:          | Richards (T) | Sans Souci            |  | Storm Number ID:          |            | AL132019      |     |      |
| Program:                                               |                    | PND         |       |               |              |                       |  | (ie: AL142018)            |            |               |     |      |
| Purpose:                                               | Hurricane Research |             |       | SSA:          | Naeher       |                       |  | TCPD/WSPD Mission         |            | WE13A LORENZO |     |      |
|                                                        |                    |             |       |               |              | Hlywiak, James        |  | (ie: NOAA3 0614A MICHAEL) |            |               |     |      |
|                                                        |                    |             |       | AVAPS:        | McAlister    |                       |  | OBSERVATIONS              |            |               |     |      |
| AS REQUIRED BY ORM                                     |                    |             | Y     | N             | REMARKS      |                       |  | Fix Number                | Obs Number | Fix Time      | SLP |      |
| VOLCANIC ASH                                           |                    |             |       | x             |              |                       |  |                           |            |               |     |      |
| SCIENCE MISSION WITHIN BDRY LAYER                      |                    |             |       | x             |              |                       |  |                           |            |               |     |      |
| LACK OF PRECIPITATION                                  |                    |             |       | x             |              |                       |  |                           |            |               |     |      |
| RELATIVE HUMIDITY ≥ 80%                                |                    |             | x     |               |              |                       |  |                           |            |               |     |      |
| LARGE AIR-SEA TEMP GRADIENT                            |                    |             |       | x             |              |                       |  |                           |            |               |     |      |
| HIGH SURFACE WINDS                                     |                    |             | x     |               |              |                       |  |                           |            |               |     |      |
| LONG FETCH / DURATION OF SFC WND                       |                    |             | x     |               |              |                       |  |                           |            |               |     |      |
| SEA SALT ACCRETION FORECAST                            |                    |             |       | x             |              |                       |  |                           |            |               |     |      |
| SEA SALT ACCRETION OBSERVED                            |                    |             |       | x             |              |                       |  |                           |            |               |     |      |
| *Highlighted items must be completed before departure. |                    |             |       |               |              |                       |  |                           |            |               |     |      |
| Remarks:                                               |                    |             |       |               |              |                       |  |                           |            |               |     |      |
|                                                        |                    |             |       |               |              |                       |  |                           |            |               |     |      |
|                                                        |                    |             |       |               |              |                       |  |                           |            |               |     |      |

## P-3 QC Checklist

|                     |                  |
|---------------------|------------------|
| Flight ID:          | 20190928I1       |
| Flight Director(s): | Lundry, Flaherty |
| UWZ.d mean:         | 0.02             |

| Pressure Comparison |        |        |
|---------------------|--------|--------|
|                     | T/O    | Land   |
| Aircraft            | 1010.0 | 1008.0 |
| Tower               | 1014.0 | 1012.0 |

|                                                        | Raw 1Hz Mean File Parameters                                                                                                                                                                         |                                                                                                                                                                                                      |                                                                                                                                                                                                      |                                                                                                                                            | C File Parameters                                                                                                                                                                                  |                                                                                                                                                                                  |
|--------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> Accelerometer      | <input checked="" type="checkbox"/> AccAXI.1<br><input checked="" type="checkbox"/> AccAXI.2<br><input checked="" type="checkbox"/> AccAXI-GPS.1<br><input checked="" type="checkbox"/> AccAXI-GPS.2 | <input checked="" type="checkbox"/> AccAYI.1<br><input checked="" type="checkbox"/> AccAYI.2<br><input checked="" type="checkbox"/> AccAYI-GPS.1<br><input checked="" type="checkbox"/> AccAYI-GPS.2 | <input checked="" type="checkbox"/> AccAZI.1<br><input checked="" type="checkbox"/> AccAZI.2<br><input checked="" type="checkbox"/> AccAZI-GPS.1<br><input checked="" type="checkbox"/> AccAZI-GPS.2 | <input checked="" type="checkbox"/> AccZfilter-GPS.1<br><input checked="" type="checkbox"/> AccZfilter-GPS.2                               | <input checked="" type="checkbox"/> AccZref                                                                                                                                                        |                                                                                                                                                                                  |
| <input checked="" type="checkbox"/> Altitude           | <input checked="" type="checkbox"/> AltGPS.1<br><input checked="" type="checkbox"/> AltGPS.2<br><input checked="" type="checkbox"/> AltGPS.3<br><input checked="" type="checkbox"/> AltGPS.4         | <input checked="" type="checkbox"/> AltI-GPS.1<br><input checked="" type="checkbox"/> AltI-GPS.2                                                                                                     | <input checked="" type="checkbox"/> AltPaADDU.1<br><input checked="" type="checkbox"/> AltBCADDU.1                                                                                                   | <input checked="" type="checkbox"/> AltRA.1<br><input checked="" type="checkbox"/> AltRA.2                                                 | <input checked="" type="checkbox"/> ALTref<br><input checked="" type="checkbox"/> ALTPA.d<br><input checked="" type="checkbox"/> ALTGA.d                                                           | <input checked="" type="checkbox"/> AltRA1.c<br><input checked="" type="checkbox"/> AltRA2.c                                                                                     |
| <input checked="" type="checkbox"/> Ground Speed       | <input checked="" type="checkbox"/> GsXI-GPS.1<br><input checked="" type="checkbox"/> GsXI-GPS.2                                                                                                     | <input checked="" type="checkbox"/> GsYI-GPS.1<br><input checked="" type="checkbox"/> GsYI-GPS.2                                                                                                     | <input checked="" type="checkbox"/> GsZI-GPS.1<br><input checked="" type="checkbox"/> GsZI-GPS.2                                                                                                     |                                                                                                                                            | <input checked="" type="checkbox"/> GSXref<br><input checked="" type="checkbox"/> GSYref<br><input checked="" type="checkbox"/> GSZref                                                             |                                                                                                                                                                                  |
| <input checked="" type="checkbox"/> Lat / Lon          | <input checked="" type="checkbox"/> LatGPS.1<br><input checked="" type="checkbox"/> LatGPS.2<br><input checked="" type="checkbox"/> LatGPS.3<br><input checked="" type="checkbox"/> LatGPS.4         | <input checked="" type="checkbox"/> LatI-GPS.1<br><input checked="" type="checkbox"/> LatI-GPS.2                                                                                                     | <input checked="" type="checkbox"/> LonGPS.1<br><input checked="" type="checkbox"/> LonGPS.2<br><input checked="" type="checkbox"/> LonGPS.3<br><input checked="" type="checkbox"/> LonGPS.4         | <input checked="" type="checkbox"/> LonI-GPS.1<br><input checked="" type="checkbox"/> LonI-GPS.2                                           | <input checked="" type="checkbox"/> LATref<br><input checked="" type="checkbox"/> LONref                                                                                                           |                                                                                                                                                                                  |
| <input checked="" type="checkbox"/> Pressure           | <input checked="" type="checkbox"/> PDALPHA.1<br><input checked="" type="checkbox"/> PDALPHA.2<br><input checked="" type="checkbox"/> PDBETA.1<br><input checked="" type="checkbox"/> PDBETA.2       | <input checked="" type="checkbox"/> PQALPHA.1<br><input checked="" type="checkbox"/> PQBETA.1                                                                                                        | <input checked="" type="checkbox"/> PQM.1<br><input checked="" type="checkbox"/> PQM.2<br><input checked="" type="checkbox"/> PQM.3<br><input checked="" type="checkbox"/> PQM.4                     | <input checked="" type="checkbox"/> PSM.1<br><input checked="" type="checkbox"/> PSM.2<br><input checked="" type="checkbox"/> PTM.1        | <input checked="" type="checkbox"/> PDLAPHaref<br><input checked="" type="checkbox"/> PDBETAref<br><input checked="" type="checkbox"/> PQALPHaref<br><input checked="" type="checkbox"/> PQBETAref | <input checked="" type="checkbox"/> PQMref<br><input checked="" type="checkbox"/> PQ.c<br><input checked="" type="checkbox"/> PSMref<br><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"/> lasADDU.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<br><input checked="" type="checkbox"/> PitchI.2<br><input type="checkbox"/> PitchI.3                                                                    | <input checked="" type="checkbox"/> PitchRatel.1<br><input checked="" type="checkbox"/> PitchRatel.2<br><input type="checkbox"/> PitchRatel.3                                                        | <input checked="" type="checkbox"/> RollI.1<br><input checked="" type="checkbox"/> RollI.2<br><input type="checkbox"/> RollI.3                                                                       | <input checked="" type="checkbox"/> RollRatel.1<br><input checked="" type="checkbox"/> RollRatel.2<br><input type="checkbox"/> RollRatel.3 | <input checked="" type="checkbox"/> PITCHref<br><input checked="" type="checkbox"/> ROLLref                                                                                                        |                                                                                                                                                                                  |
| <input checked="" type="checkbox"/> Temp / Dewpt       | <input checked="" type="checkbox"/> TTM.1<br><input checked="" type="checkbox"/> TTM.2<br><input type="checkbox"/> TTM.3                                                                             | <input checked="" type="checkbox"/> TDM.1<br><input checked="" type="checkbox"/> TDM.2<br><input checked="" type="checkbox"/> TDM.3                                                                  | <input checked="" type="checkbox"/> TRadD.1<br><input checked="" type="checkbox"/> TRadS.1<br><input type="checkbox"/> TRadU.1                                                                       |                                                                                                                                            | <input checked="" type="checkbox"/> TD.c<br><input checked="" type="checkbox"/> TDMref                                                                                                             | <input checked="" type="checkbox"/> TTMref<br><input checked="" type="checkbox"/> TA.d                                                                                           |
| <input checked="" type="checkbox"/> Misc. (Must check) |                                                                                                                                                                                                      |                                                                                                                                                                                                      |                                                                                                                                                                                                      |                                                                                                                                            | <input checked="" type="checkbox"/> UWZ.d<br><input checked="" type="checkbox"/> DPJ_WSZ<br><input checked="" type="checkbox"/> HUM                                                                | <input checked="" type="checkbox"/> WS.d<br><input checked="" type="checkbox"/> WD.d                                                                                             |

| 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                                     |
| n/a Miscellaneous FD Notes                                                           |

| QC Key        |                                     |
|---------------|-------------------------------------|
| Not checked   | <input type="checkbox"/>            |
| Valid         | <input checked="" type="checkbox"/> |
| Errors (note) | <input checked="" type="checkbox"/> |

### NOTES:

ALTGPS.4 has spike during climb for transit 2033Z not used operationally or for post processing

LATGPS.4 and LONGPS.4 are unrepresentative not used operationally or for post processing

Data system was restarted prior to beginning science leg, there is a gap in data and a few spikes due to this restart around 1718-1722Z

TDM.3 is unrepresentative not used operationally or for post processing

QC by Ashley Lundry

## NOAA • AOC • SED N43RF AVAPS DROP LOG

Lead Tech: Dana Naeher

Project: Hurricane 2019

Mission: Hurricane Lorenzo

Flight ID: 20190928I1

Take Off: \_\_\_\_\_

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

Flt Dir: \_\_\_\_\_

Lundry / Flaherty

| Drop # | Sonde Serial # | Rcvr # | Press Offset | Launch Time | Operator | Charge \$ To | Comments                                      | Good ? |
|--------|----------------|--------|--------------|-------------|----------|--------------|-----------------------------------------------|--------|
| 1      | 192230959      | 1      | -0.4         | 173656      | TMR      | HIRD         | FP No RH Burn                                 | ✓      |
| 2      | 191640178      | 2      | -0.1         | 175258      |          | NWS          | Center No RH Burn                             | ✓      |
| 3      | 161635012      | 1      | -1.3         | 182309      |          | AOC          | Mini 3 <sup>rd</sup> INBD No RH Burn          | ✓      |
| 4      | 161545045      | 2      | -0.8         | 182630      |          | AOC          | Mini 3 <sup>rd</sup> INBD No RH Burn          | ✓      |
| 5      | 191640171      | 3      | -0.8         | 182826      |          | NESDB        | 2 <sup>nd</sup> Inband, OUTER Eyewall         | ✓      |
| 6      | 191640176      | 4      | -0.2         | 182848      |          |              | , middle eyewall                              | ✓      |
| 7      | 191720862      | 5      | -0.5         | 182922      |          |              | , Inner eyewall                               | ✓      |
| 8      | 191640164      | 6      | -0.9         | 183100      |          |              | , Eye                                         | ✓      |
| 9      | 191720845      | 1      | -0.3         | 191730      |          |              | Late Winds 730mb                              | ✓      |
| 10     | 191720832      | 2      | -0.5         | 191803      |          |              | Late Winds, early Prop art                    | ✓      |
| 11     | 191640174      | 3      | -0.6         | 191844      |          |              | 3 <sup>rd</sup> pass, weak telemetry at 900mb | ✓      |
| 12     | 191720848      | 4      | -0.2         | 191926      |          |              | 3 <sup>rd</sup> pass INBD, Rmw (?)            | ✓      |
| 13     | 151325143      | 5      | -1.08        | 191414      |          | AOC          | Mini Red RH 3 <sup>rd</sup> pass rainband 1   | ✓      |
| 14     | 160745036      | 6      | -1.08        | 191507      |          | AOC          | Mini, 3 <sup>rd</sup> pass rainband 2         | ✓      |
| 15     | 191940557      | 1      | -0.9         | 193700      |          | NESDB        | 3 <sup>rd</sup> pass OTBD, Inner eyewall      | ✓      |
| 16     | 191640165      | 2      | -0.4         | 193721      |          |              | , middle eyewall                              | ✓      |
| 17     | 191640169      | 3      | -0.5         | 193743      |          |              | , Outer eyewall                               | ✓      |
| 18     | 191720785      | 4      | -0.4         | 193820      |          |              | , Rmw                                         | ✓      |
| 19     | 161635002      | 1      | -1.3         | 195506      |          | AOC          | 4 <sup>th</sup> pass INBD, OUTER eyewall      | ✓      |
| 20     | 152225640      | 2      | -1.5         | 195522      |          |              | , middle eyewall                              | ✓      |
| 21     | 161545065      | 3      | -1.3         | 195537      |          |              | , INNER eyewall                               | ✓      |
| 22     | 161545177      | 4      | -1.3         | 195605      |          |              | , Rmw (?)                                     | ✓      |
| 23     | 161545084      | 5      | -0.8         | 200518      |          |              | 4 <sup>th</sup> pass OTBD eyewall 1           | ✓      |
| 24     | 160745041      | 6      | -1.7         | 200613      |          |              | 4 <sup>th</sup> pass OTBD, eyewall 2          | ✓      |
| 25     |                |        |              |             |          |              |                                               |        |
| 26     |                |        |              |             |          |              |                                               |        |
| 27     |                |        |              |             |          |              |                                               |        |
| 28     |                |        |              |             |          |              |                                               |        |
| 29     |                |        |              |             |          |              |                                               |        |
| 30     |                |        |              |             |          |              |                                               |        |
| 31     |                |        |              |             |          |              |                                               |        |
| 32     |                |        |              |             |          |              |                                               |        |
| 33     |                |        |              |             |          |              |                                               |        |
| 34     |                |        |              |             |          |              |                                               |        |

Mini Sonde

