| **MISSION PLAN** | | | |
| --- | --- | --- | --- |
| **FLIGHT ID** | 20230806N1 | **STORM** | AEWs |
| **MISSION ID** | WAWXA MAGPIE1 | **TAIL NUMBER** | NOAA 49 |
| **TASKING** | HRD | **PLANNED PATTERN** | Lawnmower |
| **MISSION SUMMARY** | | | |
| **TAKEOFF [UTC]** | 2226 | **LANDING [UTC]** | 0604 |
| **TAKEOFF LOCATION** | Barbados | **LANDING LOCATION** | Barbados |
| **FLIGHT TIME** | 7.6 | **BLOCK TIME** | 8.0 |
| **TOTAL REAL-TIME RADAR ANALYSES**  **(Transmitted)** | n/a | **TOTAL DROPSONDES Deployed (Transmitted)** | 36 (35) |
| **OCEAN EXPENDABLES (Type)** | n/a | **sUAS (Type)** | n/a |
| **APHEX EXPERIMENTS / MODULES** | Genesis Experiment, Collaboration With MAGPIE Field Experiment | | |
| **HRD CREW MANIFEST** | | | |
| **LPS ONBOARD** | n/a | **LPS GROUND** | Hazelton |
| **TDR ONBOARD** | n/a | **TDR GROUND** | n/a |
| **ASPEN ONBOARD** | AOC FD | **ASPEN GROUND** | n/a |
| **NESDIS SCIENTISTS** | n/a | | |
| **GUESTS (Affiliation)** | n/a | | |
| **AOC CREW MANIFEST** | | | |
| **PILOTS** | Nardi, Bhatnagar, Cozart | | |
| **NAVIGATOR** | N/A | | |
| **FLIGHT ENGINEERS** | N/A | | |
| **FLIGHT DIRECTOR** | Henning, Timmers | | |
| **DATA TECHNICIAN** | Defeo | | |
| **AVAPS** | Dykeman, Patel | | |

| **PRE-FLIGHT** | |
| --- | --- |
| **Flight Plan** |  |
| **Expendable Distribution** | *36 dropsondes, equally spaced along the flight track.* |
| **Preflight Weather Briefing** | *Not much convection, but there is a moisture gradient along the flight track.* |
| **Instrument Notes** | *Everything seems to be working correctly* |

| **IN-FLIGHT** | |
| --- | --- |
| **Time [UTC]** | **Event** |
| 2225 | Take-off from Barbados |
| 2238 | IR image shortly after takeoff |
| 2244 | *Sonde 1*    *Very dry mid levels* |
| 2259 | Sonde 2 |
| 2314 | Sonde 3 |
| 2325 | Sonde 4 |
| 2337 | Sonde 5 |
| 2340 | Noted a glitch with the Skew-Ts on the ASPEN directory  Passed it along to the flight director |
| 2348 | Sonde 6 |
| 0000 | Sonde 7 |
| 0011 | Sonde 8 |
| 0022 | Sonde 9 |
| 0033 | Sonde 10    Still some dry layers above 600 hPa |
| 0045 | Sonde 11 |
| 0057 | Sonde 12 |
| 0108 | Sonde 13 |
| 0119 | Sonde 14 |
| 0131 | Sonde 15    Slightly deeper moisture here |
| 0143 | Sonde 16 |
| 0156 | Sonde 17 |
| 0208 | Sonde 18 |
| 0219 | Sonde 19 |
| 0230 | Sonde 20 |
| 0242 | Sonde 21 |
| 0253 | Sonde 22 |
| 0304 | Sonde 23 |
| 0315 | Sonde 24    Little bit more moist - still some dry layers |
| 0328 | Sonde 25 |
| 0341 | Sonde 26 |
| 0354 | Sonde 27 |
| 0438 | MTS IR snapshots near end of pattern |
| 0407 | Sonde 28 |
| 0418 | Sonde 29 |
| 0429 | Sonde 30 |
| 0441 | Sonde 31 |
| 0453 | Sonde 32 (Bad Sonde No Backup) |
| 0505 | Sonde 33 |
| 0517 | Sonde 34 |
| 0528 | Sonde 35 |
| 0536 | Sonde 36 |
| 0606 | Landed at Barbados |

| **POST-FLIGHT** | |
| --- | --- |
| **Mission Summary** | *The mission was executed successfully, with a lawnmower pattern across a weak wave east of the Antilles.*  *The environment was very dry overall, although we did see some gradients in low-level moisture.*  *Interestingly, the upper winds were very light throughout much of the flight, confirming that much of the hostile environment was thermodynamically driven.* |
| **Actual Standard Pattern Flown** | *Lawnmower East of the Antilles* |
| **APHEX Experiments / Modules Flown** | *Research mission into a gradient of SAL and moisture associated with a wave east of the Antilles, in collaboration with the MAGPIE field experiment.*  *APHEX Genesis Experiment* |
| **Plain Language Summary** | *We flew a research mission into a tropical wave in collaboration with partners studying areas of moist and dry air and their scientific importance.* |
| **Instrument Notes** | *Instruments were fine - turns out the ASPEN version on the G-IV was old (3.4.8) so the Skew-Ts were not being saved properly - they will fix on the ground.* |
| **Final Mission Track** |  |