| **MISSION PLAN** | | | |
| --- | --- | --- | --- |
| **FLIGHT ID** | 20231020H1 | **STORM** | AL20/TAMMY |
| **MISSION ID** | 0720A | **TAIL NUMBER** | NOAA 42 |
| **TASKING** | NHC-EMC TDR | **PLANNED PATTERN** | Rotated Figure-4 |
| **MISSION SUMMARY** | | | |
| **TAKEOFF [UTC]** | 2122 | **LANDING [UTC]** | 0114 |
| **TAKEOFF LOCATION** | Barbados | **LANDING LOCATION** | Barbados |
| **FLIGHT TIME** | 3.9 | **BLOCK TIME** | 4.2 |
| **TOTAL REAL-TIME RADAR ANALYSES**  **(Transmitted)** | 3 (3) | **TOTAL DROPSONDES Deployed (Transmitted)** | 21 (20) |
| **OCEAN EXPENDABLES (Type)** | 2 (0) AXBTs | **sUAS (Type)** | n/a |
| **APHEX EXPERIMENTS / MODULES** | n/a | | |
| **HRD CREW MANIFEST** | | | |
| **LPS ONBOARD** | Hazelton | **LPS GROUND** | None |
| **TDR ONBOARD** | Hazelton | **TDR GROUND** | Gamache |
| **ASPEN ONBOARD** | Sellwood | **ASPEN GROUND** | n/a |
| **NESDIS SCIENTISTS** | Chang, Jelenak, Sapp | | |
| **GUESTS (Affiliation)** | n/a | | |
| **AOC CREW MANIFEST** | | | |
| **PILOTS** | Compare/Gaston/Palmer | | |
| **NAVIGATOR** | Utama | | |
| **FLIGHT ENGINEERS** | Stokes/Kiddo | | |
| **FLIGHT DIRECTOR** | Kalen/Englert | | |
| **DATA TECHNICIAN** | McAlister | | |
| **AVAPS** | Warnecke | | |

| **PRE-FLIGHT** | |
| --- | --- |
| **Flight Plan** |  |
| **Expendable Distribution** | *28 dropsondes (8 endpoints, 8 midpoints, 4 centers, 8 RMWs depending on RMW definition), 2 AXBTs (Points 1 and 2)* |
| **Preflight Weather Briefing** | *The eye that had formed earlier in Tammy appears to have eroded some as a dry slot works in from the SW. Much of the stronger convection is in the feeder band to the SE. The storm is forecast to continue slowly intensifying as it lifts off to the NW.* |
| **Instrument Notes** | *Instruments appear to be working as expected* |

| **IN-FLIGHT** | |
| --- | --- |
| **Time [UTC]** | **Event** |
| 2122 | Take Off From Barbados |
| 2130 | Planning to turn inbound slightly early due to a building band |
| 2149 | Combo drop endpoint SE, Sonde 1, BT 1. BT was a dud - no data. |
| 2157 | Midpoint SE sonde 2 |
| 2206 | Eyewall open sw |
| 2208 |  |
| 2209 | RMW SE Sonde 3 |
| 2111 | Center Sonde 4 |
| 2213 | RMW NW Sonde 5, 81 kt surface wind |
| 2221 | Midpoint NW Sonde 6 |
| 2233 | Endpoint NW Combo Drop, Sonde 7, turning downwind |
| 2306 | Endpoint SW Sonde 8 |
| 2317 | Midpoint SW Sonde 9 |
| 2322 |  |
| 2323 | Lightning off the left side |
| 2324 | RMW SW sonde 10 |
| 2325 | Center sonde 11 |
| 2328 | RMW NE sonde 12 |
| 2333 | Radar shows a bit of residual tilt to the east |
| 2338 | Midpoint NE sonde 13 |
| 2350 | Endpoint NE sonde 14 |
| 0005 | Discussing making the N-S pass the final due to concerns over weather in Barbados |
| 0014 | Endpoint N Sonde 15 |
| 0026 | Midpoint N Sonde 16 |
| 0035 | RMW N Sonde 17 |
| 0038 | Eye has basically fallen apart again |
| 0039 | Center Sonde 18 |
| 0039 | Center Sonde 19 (Backup) |
| 0042 | RMW S Sonde 20 |
| 0052 | Midpoint S Sonde 21, science complete |
| 0114 | Landed Barbados |

| **POST-FLIGHT** | |
| --- | --- |
| **Mission Summary** | *We flew a slightly truncated rotated Figure 4 TDR mission into Hurricane Tammy. The storm had become a little more aligned since earlier, although the eyewall was very transient, pulsing up towards the start of our mission and down on the last leg. The pressure generally remained steady through the flight.*  *We landed early due to weather over Barbados.* |
| **Actual Standard Pattern Flown** | *Rotated figure 4 with final E-W leg cut off* |
| **APHEX Experiments / Modules Flown** | *None (VAM removed due to early landing)* |
| **Plain Language Summary** | 1. We flew a successful mission collecting tail Doppler radar in Hurricane Tammy. 2. The storm has continued to organize from earlier in the day. 3. We landed a little early due to weather concerns for landing later. |
| **Instrument Notes** | *Instruments seemed to work normally* |
| **Final Mission Track** |  |