| **MISSION PLAN** | | | |
| --- | --- | --- | --- |
| **FLIGHT ID** | 20230909I1 | **STORM** | AL13/LEE |
| **MISSION ID** | LEE | **TAIL NUMBER** | NOAA-43 |
| **TASKING** | EMC | **PLANNED PATTERN** | Butterfly |
| **MISSION SUMMARY** | | | |
| **TAKEOFF [UTC]** | 0834 | **LANDING [UTC]** | 1244 |
| **TAKEOFF LOCATION** | St. Croix | **LANDING LOCATION** | St. Croix |
| **FLIGHT TIME** | 4.2 | **BLOCK TIME** | 4.4 |
| **TOTAL REAL-TIME RADAR ANALYSES**  **(Transmitted)** | 2 (2) | **TOTAL DROPSONDES Deployed (Transmitted)** | 7 (7) |
| **OCEAN EXPENDABLES (Type)** | 1 (1) AXBT | **sUAS (Type)** | n/a |
| **APHEX EXPERIMENTS / MODULES** | SEF (partial) | | |
| **HRD CREW MANIFEST** | | | |
| **LPS ONBOARD** | Aberson | **LPS GROUND** | Alaka |
| **TDR ONBOARD** | Aberson | **TDR GROUND** | Reasor |
| **ASPEN ONBOARD** | J. Zhang/Ko | **ASPEN GROUND** | n/a |
| **NESDIS SCIENTISTS** | n/a | | |
| **GUESTS (Affiliation)** | Kelly Ryan (UM CIMAS), DAvid Nolan (UM), Patrick Duran (NASA MSFC) | | |
| **AOC CREW MANIFEST** | | | |
| **PILOTS** | Copare/Keith/Wood | | |
| **NAVIGATOR** | Utama | | |
| **FLIGHT ENGINEERS** | Tyson/Tufnell | | |
| **FLIGHT DIRECTOR** | Kalen/Lundry | | |
| **DATA TECHNICIAN** | Richards | | |
| **AVAPS** | Kotz/Warnecke | | |

| **PRE-FLIGHT** | |
| --- | --- |
| **Flight Plan** |  |
| **Expendable Distribution** | *[Describe planned dropsonde, ocean buoy, sUAS deployment locations; e.g., “Dropsondes/AXBT combo drops at endpoints, midpoints, and center”* |
| **Preflight Weather Briefing** | *[Notes from the Flight Crew Preflight Briefing and other relevant notes about the current and forecasted storm state from the most recent NHC advisory (location, intensity, MSLP, movement, possible intensity change during the flight)]*  *[Briefly describe the relevant environmental drivers.]*  *[Copy in GIF of recent (~6 hr) satellite loops (https://www.star.nesdis.noaa.gov/GOES/index.php)]* |
| **Instrument Notes** | *[What instruments are working, not working, not functioning nominally, not installed?]* |

| **IN-FLIGHT** | |
| --- | --- |
| **Time [UTC]** | **Event** |
| 0833 | Take-off from TISX |
| 0928 | Begin descent to IP |
| 0932 | Going through first outer band. Will be included in TDR analysis. |
| 0944 | Latest SSMIS pass (from 0722Z) shows an outer eyewall forming at low levels (cyan ring in 37GHz) and healthier upper levels on the west side of the circulation compared with previous passes |
| 0945 | IP sonde release |
| 0947 | Tiny eye on MMR, may make doing in-out legs difficult |
| 0954 | Tiny eye somewhat apparent on IR |
| 0958 | Midpt sonde |
| 1012 | features in eyewall look like mesovortices, spiral shape in mmr |
| 1012 | RMW sonde 1, could not get more out |
| 1013 | Combo out, sst=29.15, tiny, slanted eye. Sonde had 38 kt at surface, 957 mb |
| 1015 | Two RMW sondes, LPS to take over calling RMW sondes |
| 1018 | Eye is tiny and elliptical, 2x5 n mi, ragged |
| 1019 | Through primary rainband |
|  | 2/3 RMW rapid sondes. One with 93 kt at surface,the other with 20 kt |
| 1027 | Midpt sonde |
| 1040 | Decision to abort. Gen light engine 4. Heading north around the storm to STX. This part is reminiscent of a SEF module. |
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| **POST-FLIGHT** | |
| --- | --- |
| **Mission Summary** | Lee has a very small eye, down to 2 n mi across. Smaller eye, but weaker than the previous day. |
| **Actual Standard Pattern Flown** | One pass, return to base |
| **APHEX Experiments / Modules Flown** | Accidental SEF |
| **Plain Language Summary** | AOML/HRD is supporting operationally tasked NOAA NHC/EMC P-3 Tail Doppler Radar missions into Hurricane Lee. Hurricane Lee is now a Category 3 hurricane and is located about 300 miles northeast of the northern Leeward Islands. The APHEX-HRD, ONR, NESDIS, AOML/PHOD, Global Ocean Monitoring and Observing (GOMO) Program, and University of Washington science teams are also collaborating to conduct research modules to collect supplemental atmospheric and oceanic data in the storm environment. One pass through the hurricane, then a return to base due to mechanical issues |
| **Instrument Notes** | Only forward camera recording works. No down, left, or right. ASPEN computer had a very old version of ASPEN. |
| **Final Mission Track** |  |