| **MISSION PLAN** | | | |
| --- | --- | --- | --- |
| **FLIGHT ID** | 20230916I1 | **STORM** | AL13 / LEE |
| **MISSION ID** | 4013A | **TAIL NUMBER** | NOAA 43 |
| **TASKING** | NHC | **PLANNED PATTERN** | Alpha |
| **MISSION SUMMARY** | | | |
| **TAKEOFF [UTC]** | 0829 | **LANDING [UTC]** | 1711 |
| **TAKEOFF LOCATION** | KILM | **LANDING LOCATION** | KLAL |
| **FLIGHT TIME** | 8.7 | **BLOCK TIME** | 8.9 |
| **TOTAL REAL-TIME RADAR ANALYSES**  **(Transmitted)** | n/a | **TOTAL DROPSONDES Deployed (Transmitted)** | 5 (5) |
| **OCEAN EXPENDABLES (Type)** | n/a | **sUAS (Type)** | n/a |
| **APHEX EXPERIMENTS / MODULES** | n/a | | |
| **HRD CREW MANIFEST** | | | |
| **LPS ONBOARD** | Jun Zhang | **LPS GROUND** | N/A |
| **TDR ONBOARD** | n/a | **TDR GROUND** | N/A |
| **ASPEN ONBOARD** | Jun Zhang | **ASPEN GROUND** |  |
| **NESDIS SCIENTISTS** | n/a | | |
| **GUESTS (Affiliation)** | n/a | | |
| **AOC CREW MANIFEST** | | | |
| **PILOTS** | Copare/Keith/Wood | | |
| **NAVIGATOR** | Utama | | |
| **FLIGHT ENGINEERS** | Tyson/Tufnell | | |
| **FLIGHT DIRECTOR** | Kalen/Lundry | | |
| **DATA TECHNICIAN** | Richards | | |
| **AVAPS** | Warnecke/Kotz | | |

| **PRE-FLIGHT** | |
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| **Flight Plan** | *Pattern: Alpha pattern with 105 NM legs*  *Altitude:*   * *8 or 10 kft (pressure altitude) depending on AF deconfliction requirements*   NHC tasked mission with a main purpose of center fix |
| **Expendable Distribution** | *Expendables:*   * *6 dropsondes*   + *Release at endpoints, midpoints, centers, (charged to NWS)*   + *All dropsondes transmitted to the GTS* * *May drop RMW sondes upon request by NHC* |
| **Preflight Weather Briefing** | *Lee remains a very large and dangerous hurricane as it approaches*  *the northeast United States and Atlantic Canada. The satellite*  *depiction of Lee shows that the system continues to become more*  *asymmetric, with most of the convection displaced to the north of*  *the center. An earlier SSMI/S microwave pass shows thick banding on*  *the northern and western side of the inner core, which is where the*  *Air Force Hurricane Hunters found the strongest flight-level and*  *surface winds. The initial intensity, based on aircraft*  *reconnaissance data, will remain at 70 kt for this advisory. Air*  *Force Hurricane Hunters will be investigating Lee again overnight.*  *Lee continues to wobble as it approaches the northeastern United*  *States and Atlantic Canada. The past few hours there has been a bit*  *of a north-northeast jog.*  *strong southerly vertical wind shear has displaced the convection to*  *the northern side of the system. Dry air entrainment is also*  *inhibiting convection on the southern and eastern side of the*  *circulation. These hostile environmental conditions will persist as*  *Lee moves over much cooler waters after it crosses the north wall of*  *the Gulf Stream on Saturday. Lee is already showing signs of*  *completing its extratropical transition, with displaced convection*  *and an elongated center on a recent scatterometer pass, and thus*  *this transition is now explicitly forecast to occur within the next*  *12 h. Gradual weakening is forecast throughout the period* |
| **Instrument Notes** | TDR: working  SFMR: working  MMR: working  WSRA: not working*​?* |

| **IN-FLIGHT** | |
| --- | --- |
| **Time [UTC]** | **Event** |
| 0830 | Take-off |
| 1027 | IP SW sonde#1 |
| 1028 |  |
| 1030 | Lee appears to have completed its transition to a post-tropical  cyclone. The cloud pattern is comma shaped, and there has been no  significant central deep convection for the past 12 hours or so.  The cyclone is now frontal but likely still has a warm core,  indicating that it is a warm seclusion-type of extratropical  cyclone. Despite this transition, it remains a potent cyclone, and  the initial intensity remains 70 kt since the Air Force Reserve  Hurricane Hunters measured SFMR winds as high as 66 kt about 110 n  mi southwest of the center.  Lee accelerated more than expected during the past 6-12 hours, and  the current motion is estimated to be northward (355 degrees) at 22  kt.  Lee's center has moved north of the Gulf Stream, and water  temperatures along the cyclone's path are down to 20 degrees  Celsius and decreasing. |
| 1120 | EndPT N sonde#2 |
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| 1156 | IP2 Sonde #3 |
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| 1126 | Sonde#4 center |
| 1252 | Sonde#5 EP NE science complete |
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| **POST-FLIGHT** | |
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| **Mission Summary** | *[Short description of interesting observations from the flight; what objectives were successful? What was unsuccessful? Was the planned pattern flown? What deviations occurred?*  *[Don’t forget to fill in Tables on page 1]*  *[Sonde and ocean expendable accounting: how many total of each? How many are charged to each account?]* |
| **Actual Standard Pattern Flown** | *[Butterfly, Rotated Figure-4, Lawnmower, etc]* |
| **APHEX Experiments / Modules Flown** | *[Linked to HFP Plan; fill in regardless of whether the mission was operationally or research tasked]* |
| **Plain Language Summary** | *[Boil down the above into a couple of bullet points in “plain language”. This will help us when we report to management & OAR Public Affairs and prepare storm mission summaries]* |
| **Instrument Notes** | *[Notes about instrument status from during and after the mission]* |
| **Final Mission Track** |  |