| **MISSION PLAN** | | | |
| --- | --- | --- | --- |
| **FLIGHT ID** | 20230826N1 | **STORM** | AL08/Franklin |
| **MISSION ID** | WC08A | **TAIL NUMBER** | (NOAA-49) |
| **TASKING** | HRD | **PLANNED PATTERN** | (Circumnavigation) |
| **MISSION SUMMARY** | | | |
| **TAKEOFF [UTC]** | 1344 | **LANDING [UTC]** | 2054 |
| **TAKEOFF LOCATION** | Lakeland | **LANDING LOCATION** | Lakeland |
| **FLIGHT TIME** | 7.2 | **BLOCK TIME** | 7.4 |
| **TOTAL REAL-TIME RADAR ANALYSES**  **(Transmitted)** | 3 (3) | **TOTAL DROPSONDES Deployed (Transmitted)** | 32 (29) 1 ob sent 2x |
| **OCEAN EXPENDABLES (Type)** | n/a | **sUAS (Type)** | n/a |
| **APHEX EXPERIMENTS / MODULES** | Exact name of the Experiment in the HFP Plan; identify relevant experiments / module even if not a research tasking | | |
| **HRD CREW MANIFEST** | | | |
| **LPS ONBOARD** | n/a | **LPS GROUND** | Kaplan |
| **TDR ONBOARD** | n/a | **TDR GROUND** | Alvey |
| **ASPEN ONBOARD** | AOC FD | **ASPEN GROUND** | n/a |
| **NESDIS SCIENTISTS** | n/a | | |
| **GUESTS (Affiliation)** | n/a | | |
| **AOC CREW MANIFEST** | | | |
| **PILOTS** | de Triquet/Varwig/Bhatnagar | | |
| **NAVIGATOR** | n/a | | |
| **FLIGHT ENGINEERS** | n/a | | |
| **FLIGHT DIRECTOR** | Henning/de Solo | | |
| **DATA TECHNICIAN** | Defeo | | |
| **AVAPS** | Dykeman/Paul | | |

| **PRE-FLIGHT** | |
| --- | --- |
| **Flight Plan** | *Circumnavigation with Figure 4 around Franklin.* |
| **Expendable Distribution** | *Equally spaced drops with a few midpoint drops on the west and southwest side of the system.* |
| **Preflight Weather Briefing** | *NHC 11 AM advisory: Position: 23.5 N 66.7 W*  *Intensity: 65 kt 989 mb*  *Heading: NNW 7 mph.*  *Franklin is getting better organized with convection increasing on the west and northwest side. There is an upper-level low to the west southwest of Franklin that has been imparting a bit of southwest shear that is forecast to move southwest providing a much more favorable environment for Franklin to intensify over the next couple of days perhaps rapidly.*      *GFS 200 mb analysis 230826 1200 UTC. Note upper-level low to west-southwest of Franklin.*  *[Copy in GIF of recent (~6 hr) satellite loops (https://www.star.nesdis.noaa.gov/GOES/index.php)]* |
| **Instrument Notes** | *Instruments working as expected* |

| **IN-FLIGHT** | |  |
| --- | --- | --- |
| **Time [UTC]** | **Event** |  |
| 1344 | Take-off from Lakeland |  |
| 1534 | Drop 1/Ob1 |  |
| 1546 | Drop 2/Obs 2 |  |
| 1553 | Drop3/Obs 3 Intermediate drop requested between drops 2 and 3 (Kelly Ryan) |  |
| 1555 | Having some difficulty running real-time TDR script. TDR is working and data is being collected though. |  |
| 1558 | Drop 4/Obs 4 |  |
| 1610 | Drop 5/obs 5 |  |
| 1623 | Drop 6/Obs 6 |  |
| 1629 | Drop 7/Obs 7 |  |
| 1635 | Drop8/obs 8 |  |
| 1640 | Drop 9/obs 9    Note cyclonic circulation and drier air near 300 mb likely reflection of upper-level low to the system's west. |  |
| 1646 | Drop 10/obs 10 |  |
| 1657 | Drop 11/obs 11 |  |
| 1702 | Drop 12/obs 12 |  |
| 1706 | Drop 13/obs 13 |  |
| 1713 | Drop 14 |  |
| 1721 | Drop 15 |  |
| 1729 | Drop 16/obs 16 994 mb sfc. pressure. Wind 185/69 kt at 15 m (AOC requested drop) |  |
| 1738 | Drop 17 |  |
| 1745 | Drop 18 |  |
| 1752 | Drop 19 |  |
| 1755 | First TDR analysis file sent to NCEP gateway |  |
| 1802 | Drop 20 |  |
| 1915 | Second TDR analysis file sent to NCEP gateway |  |
| 1814 | Drop 21/Obs 21 |  |
| 1825 | Drop 22/Obs 22 |  |
| 1832 | Drop 23/Obs 23 |  |
| 1832 | Drop 23/obs 24 (Drop 23 was sent out twice by mistake) |  |
| 1840 | Drop 24/obs 25 |  |
| 1849 | Drop 25/obs 26 |  |
| 1852 | Drop 26/obs 27. Western Eyewall. Sfc. pressure 987 mb. |  |
| 1947 | Third TDR analysis sent to NCEP gateway |  |
| 1857 | Drop 27/Obs. 28 |  |
| 1905 | Drop 28/Obs. 29 |  |
| 1913 | Drop 29/Obs. 30 Last report. |  |

| **POST-FLIGHT** | |
| --- | --- |
| **Mission Summary** | *Mission went well with a very good dataset collected. Overall the pattern was flown as planned though there was a need to deviate somewhat near the storm center due to some heavy convection. There were also some technical problems with the generation of TDR analyses initially due to scripting issues but those were ultimately resolved and 3 TDR analyses were sent to NCEP’s gateway as well as 29 dropsondes (there was 1 duplicate sonde sent) so a total of 30 total observations were sent off the plane. The transmission of sondes and Doppler analyses was quite slow at times.* |
| **Actual Standard Pattern Flown** |  |
|  | NOAA visible image of Franklin at 8/26 2000 UTC.  The 5 PM NHC estimated intensity was 75 kt and 982 mb. |
|  |  |
| **Plain Language Summary** | *The mission was designed to examine the degree to which Franklin was aligning and the impact of the alignment on the system’s potential for subsequent intensification. Franklin became better organized during the system likely due to improved alignment as the upper-level low moved southwest of the system.* |
| **Instrument Notes** | *All instrumentation worked as expected. There were some TDR scripting issues, but those were resolved.* |
| **Final Mission Track** | *See above.* |