FireSense Campaign Post-Flight Report for Monday 3/17/2025

3/17/2025 Post-Flight Report

N53W (AVIRIS)

Take off @ ECP, 1726 UTC, 1226 CDT

Landing @ ECP, 1854 UTC, 1354 CDT

Total flight time: 1h 28m, 1744-1807 UTC over target

Flight Plan Report: successful pre-flight over Geneva State Forest, observation of active fire.

N801NA (MASTER/FireTIRS)

Take off @ KEDW, 1812 UTC, 1112 PT

Landing @ KEDW, 2026 UTC, 1326 PT

Total flight time: 2h 14m

Flight plan report: calibration flight

FireSense Campaign Post-Flight Report for Monday 3/18/2025

3/18/2025 Post-Flight Report

N53W (AVIRIS)

Take off @ ECP, 1348 UTC, 0848 CDT

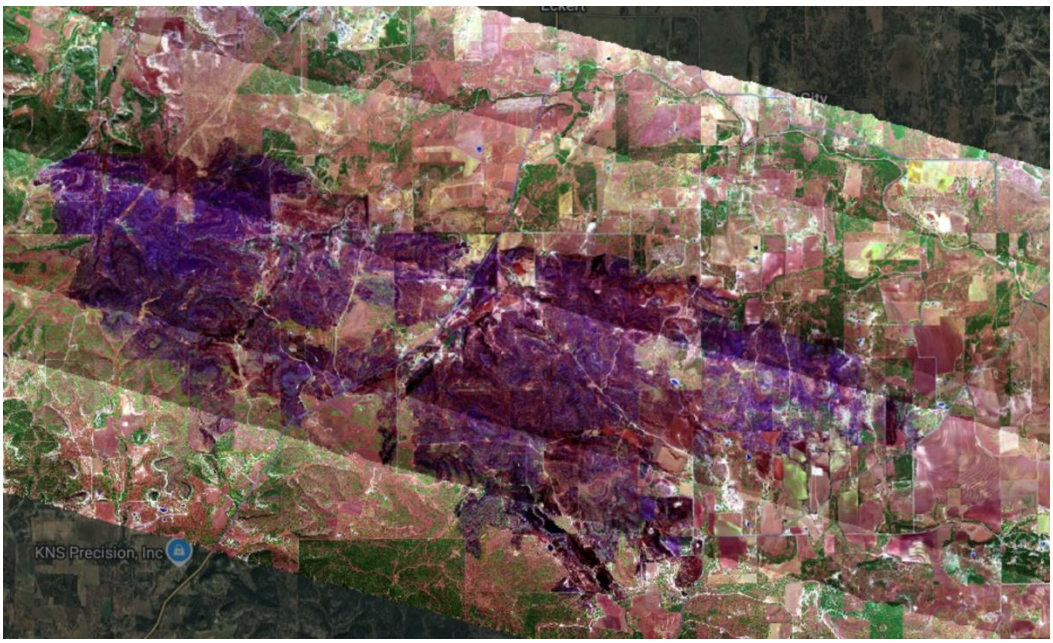
Landing @ AUS, 1657 UTC, 1157 CDT - refuel

Take off @ AUS, 1815 UTC, 1315 CDT

Landing @ ECP, 2245 UTC, 1754 CDT

Total flight time: 7h 38m

Flight Plan Report: shared geotiffs and successful perimeter map of the Crabapple fire with IAA program in KML format as used in EGP. Got a flight line of the Persimmon fire but low clouds obscured the data collection.



FireSense Campaign Post-Flight Report for Wednesday 3/19/2025

3/19/2025 Post-Flight Report

N53W (AVIRIS)

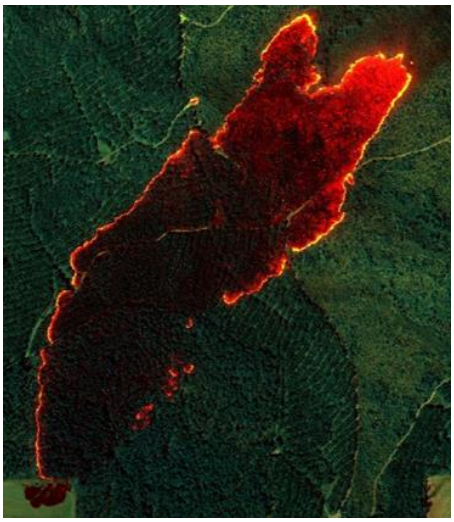
Take off @ ECP, 1807 UTC, 1307 CDT

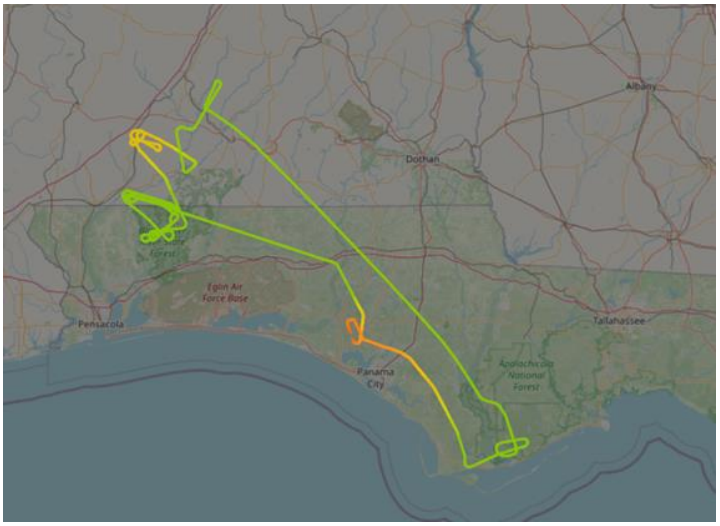
Landing @ ECP, 2108 UTC, 1608 CDT

Total flight time: 3h

Flight Plan Report: successful flight and data collection over 8 wildfires in Alabama and Florida.

Link to data quicklinks: https://popo.jpl.nasa.gov/mmgis-aviris/?mission=FireSense





N801NA (MASTER/FireTIRS)

No FireSense flights

FireSense Campaign Post-Flight Report for Friday 3/21/2025

3/21/2025 Post-Flight Report

N53W (AVIRIS)

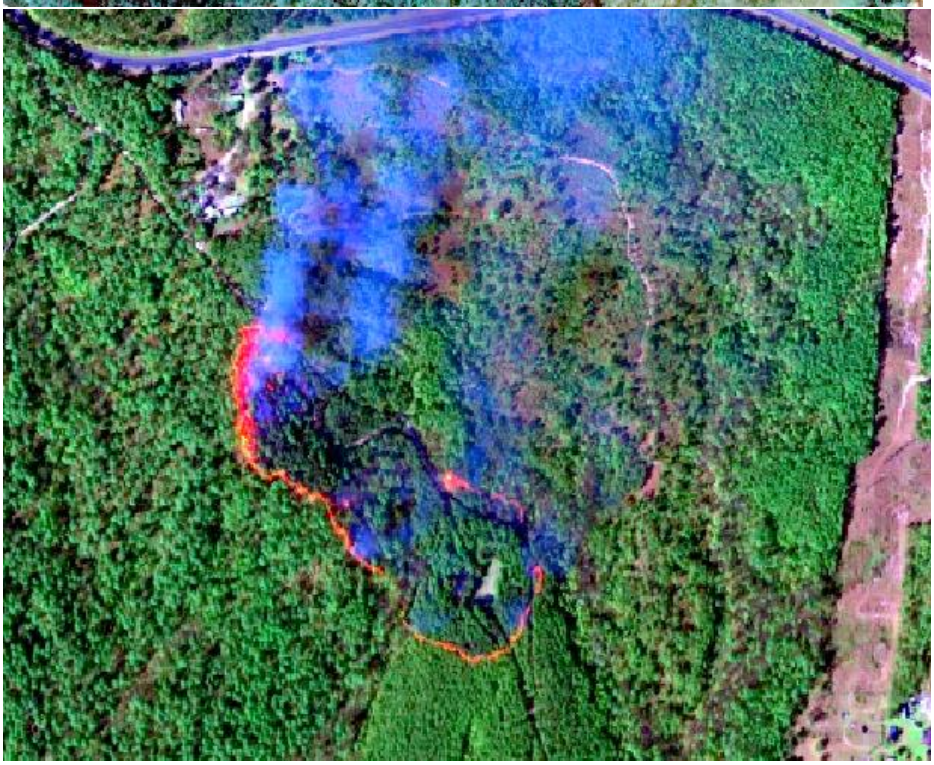
Take off @ KECP, 1714 UTC, 1214 CDT

Landing @ KECP, 2117 UTC, 1617 CDT

Total flight time: 4h

Flight Plan Report: successful flight and data collection over 7 wildfires in Alabama and 1 in Mississippi. Highlights: AVIRIS was able to size up a fire in Alabama from that provided intel to access the fire with ESTO UAS data to direct the dozer line that saved 4 occupied and 3 unoccupied structures. Additionally, the AVIRIS flight of the Greene fire in Mississippi allowed the creation of a digitized perimeter by FireSense Project staff that identified hotspots outside the containment area and Mississippi Forestry was able to respond in a timely manner to prevent the fire from spreading and maintain containment.

Link to data quicklinks: https://popo.jpl.nasa.gov/mmgis-aviris/?mission=FireSense



N801NA (MASTER/FireTIRS)

Take off @ KEDW, 1551 UTC, 1051 CDT

Landing @ KECP, 2302 UTC, 1802 CDT

Total flight time: 5.5h

Flight Plan Report: Transit for operations

N89869Y (TACFI-RS)

Take off @ KOGD, 1344 UTC, 0844 CDT

Landing @ KECP, 2313 UTC, 1813 CDT

Total flight time: 8h

Flight Plan Report: Transit for operations overflying targets of opportunity in OK.

Post-Flight Report for 3/25/2025

3/25/2025 Post-Flight Report

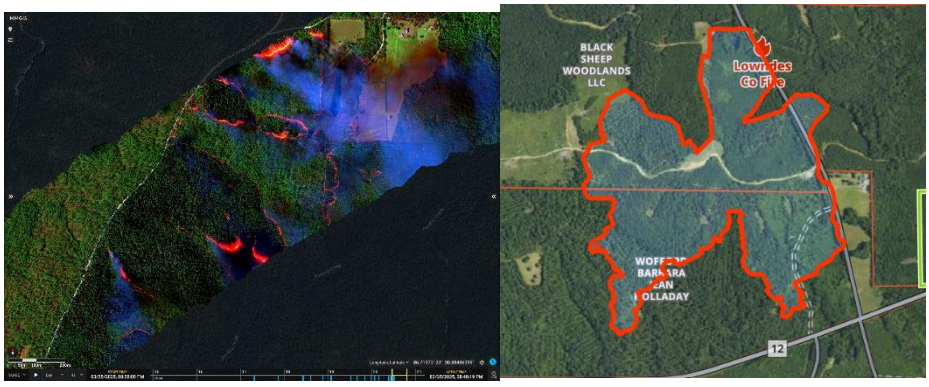
N53W (AVIRIS)

Take off @ ECP, 1716 UTC, 1216 CDT

Landing @ ECP, 2058 UTC, 1558 CDT

Total flight time: 3.6 hours

Flight Plan Report: successful flight and data collection in coordination with N801NA over 7 wildfires in Alabama and Florida. Additionally, N53W provided seamless perimeter determination and sharing via onX with fire management stakeholder for decision support.



Caption: Image 1 (Left): Standard AVIRIS RGB quicklook on second pass. Image 2 (Right): Digitized fire perimeter in onX, an application preferred by practitioners on the ground for mobile geospatial information.

N801NA (MASTER and FireTIRS):

Take off @ ECP, 1721 UTC, 1221 CDT

Landing @ ECP, 2028 UTC, 1528 CDT

Total flight time: 3 hours

Flight Plan Report: successful flight and data collection in coordination N53W over 7 wildfires in Alabama and Florida.

Caption: Image 3 (left): N801NA flight crew and personnel post-flight.

N8969Y (TACFI-RS):

Take off @ ECP, 1811 UTC, 1311 CDT

Landing @ ECP, 1842 UTC, 1342 CDT

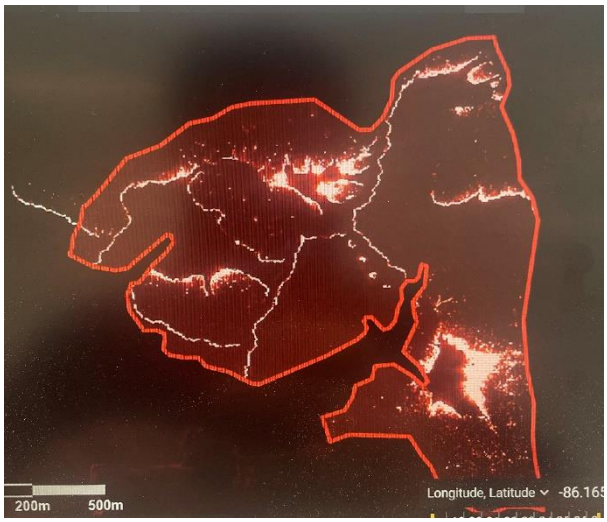
Total flight time: 0.5 hours

Flight Plan Report: Successful instrument calibration test flight, data collection over pile burning.

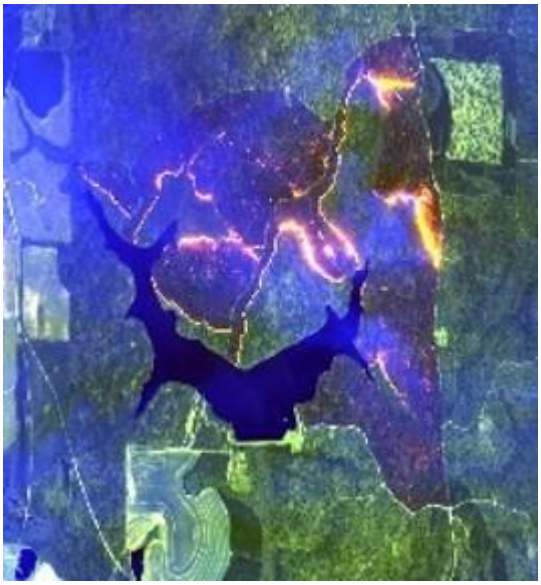
Post-flight Report for 3/27/2025

3/27/2025 Post-Flight Report

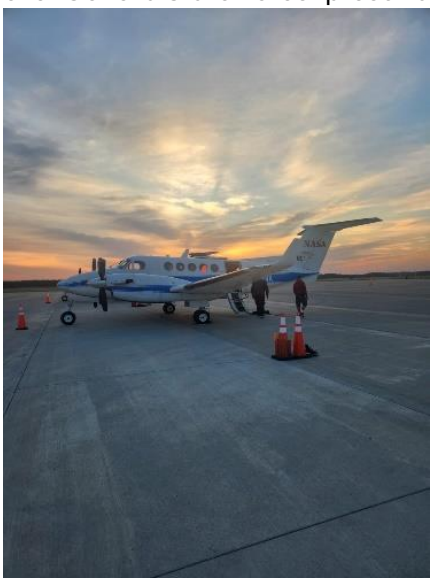
N53W (AVIRIS)
Take off @ ECP, 1400 UTC, 0900 CDT
Landing @ ECP, 1855 UTC, 1355 CDT
Total flight time: 4.9
Flight Plan Report: Successful flight and data collection in coordination with N8969Y and N801NA over Geneva State Forest prescribed burn.



Caption: Right Image, N53W and N801 side by side before flight. Left Image, AVIRIS's Fire 2400 nm product that captures active fire characteristics at the Geneva Lake Unit. Below, screen capture of MASTER over the prescribed fire at the Geneva Lake Unit.



N801NA (MASTER and FireTIRS):
Take off @ ECP, 1348 UTC, 0848 CDT
Landing @ ECP, 1828 UTC, 1328 CDT
Total flight time: 4.7
Flight Plan Report: Successful flight and data collection in coordination with N53W and N8969Y over Geneva State Forest prescribed burn.



Caption: Left, photo taken by Norm Roberson, N801 QA Lead, of N801 the morning of the burn. Right Image, Steve Pollard and Luke Majors of Trident Sensing before their flight

N8969Y (TACFI-RS):
Take off @ ECP, 1332 UTC, 0832 CDT
Landing @ ECP, 1813 UTC, 1313 CDT
Total flight time: 4.7
Flight Plan Report: Successful flight and data collection in coordination with N53W and N801NA over Geneva State Forest prescribed burn.

Post-Field Report for 3/28/2025

3/28/2025 Post-Flight Report

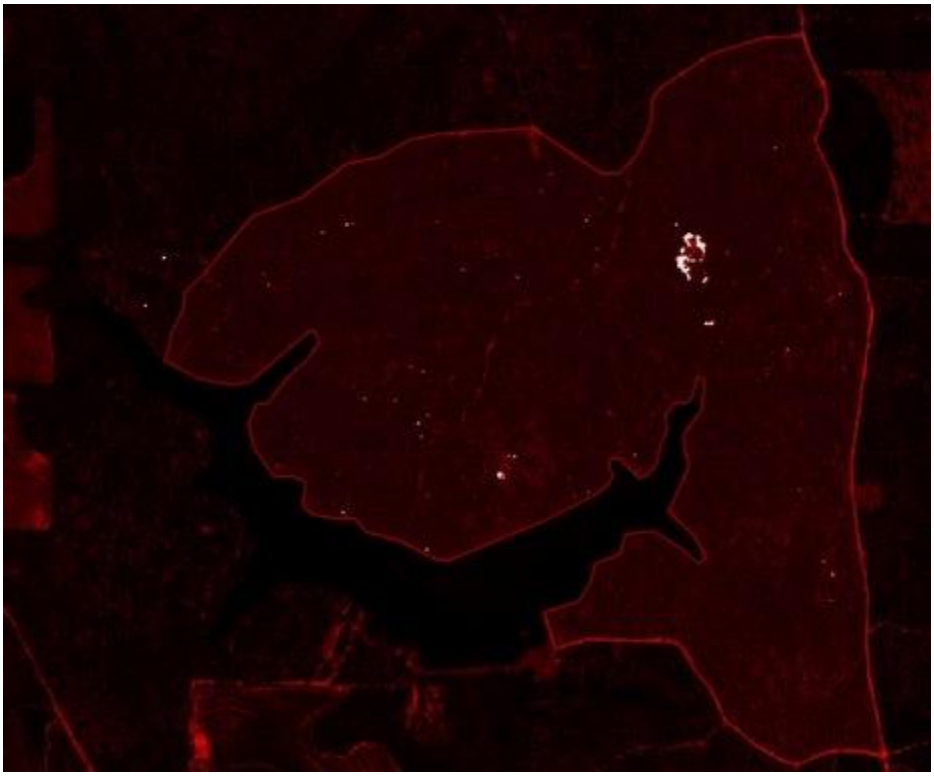
N53W (AVIRIS)

Take off @ ECP, 1732 UTC, 1232 CDT

Landing @ ECP, 1822 UTC, 1322 CDT

Total flight time: 1h

Flight Plan Report: successful post-flight over Geneva State Forest.



Caption: Screen shot of AVIRIS quick looks 2400nm RTSP. White spots indicate areas of heat from the prescribed fire the day before.

N801NA (MASTER and FireTIRS)

Take off @ ECP, 1643 UTC, 1143 CDT

Landing @ ECP, 1728 UTC, 1228 CDT

Total flight time: 45m

Flight Plan Report: successful post-flight over Geneva State Forest.

Caption: MASTER screen capture of the Geneva Lake Unit post-fire, Hot spots in yellow and orange.

N8969Y (TACFI-RS): No flights

Ground Data Collection from 3/27/2025 and 3/28/2025:

Science Targets:

- Atmospheric and micro-meteorology data collection
    - UAH setup the RaDAPS 915 Profiler from continuous monitoring; https://www.nsstc.uah.edu/data/mips/data/current/radaps/profiler/ 3/27-3/28
    - Successful vertical balloon profiles starting at 6am CDT through 1400 CDT with UAH and University of Louisiana Monroe. 3/27
    - Successful vertical UAS profiles with InterMet. 3/27/25
    - Successful vertical UAS profiles with NASA Armstrong team. 3/27/25
    - MITRE Corp was able to use the profiles and UAH LiDAR data to improve forecast confidence. 3/27
- Active and Post Fire data collection from DRI with UAS flights at Geneva State Forest Lake RX burn plots. 3/27-3/28
- Soil temperature and moisture measurements taken both during the day and post-burn, 3/27-3/29
- Fuel consumption and burn severity assessed post-burn 3-28-3/29
- POC: Ryan Wade, Tim Wallace, Alana Dachtler, Derek Abramson, Mary Ellen Miller, Conor Lewellyn, Ethan Barrett

Caption: Image above, Ground teams from the prescribed burn at Geneva State Forest pose with UAS aircraft the smoke column in the background. Image below, UAS aircraft flies at the super site to collect micrometeorology measurements.

Caption: Image above, Ethan Barrett from Alabama Forestry Commission holds his hand up at the expected flame height that passed through the area. Next to him is one of the soil moisture probes collecting soil data.

Caption: Image above, Owen from Alabama Forestry Commission launching a balloon

Caption: Right Image, Cotton Mouth snake nearby post-fire sampling plots for Geneva State Forest Lake burn. Snake gaiters in the safety plan were a good idea! Mary Ellen Miller/Michigan Tech Research Institute. Left Image, Right Image, Susannah Budd from USFS pulling last USFS thermal probe at Geneva State Forest after Lake burn. Mary Ellen Miller/Michigan Tech Research Institute.

Closing Note: March 29th marked the final day for airborne and ground research operations and the completion of Phase I of the FireSense Spring Campaign. Phase II of the Spring Campaign resumes on April 8th, with transit to Panama City to prepare for flights at MINWR/KSC, FL and Fort Stewart, GA.