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NASA to Radar Image Mississippi River Levees

06.03.11

At the request of the U.S. Geological Survey and the U.S. Army Corps of Engineers, NASA is planning to conduct a radar-imaging mission by its Gulfstream III environmental research aircraft over areas of the lower Mississippi River that are nearing flood stage on Tuesday, June 7.



NASA's G-III research aircraft carrying the pod-mounted synthetic aperture radar on takeoff. (NASA photo)

The modified G-III business jet, carrying a synthetic aperture radar developed by NASA's Jet Propulsion Laboratory, is slated to depart its base at the NASA Dryden Aircraft Operations Facility in Palmdale, Calif., early Monday and fly to New Orleans to acquire data over the Mississippi's levee system. A mid-day refueling stop is planned at Naval Air Station New Orleans during the mission.

The flights had been requested by Gerald Bawden of the U.S. Geological Survey as part of a multi-agency collaborative effort on levee stability and situational awareness development for those agencies. These flights complement a multi-year Levee Assessment by Remote Sensing project led by Mississippi State University professor James Aanstoos and with a similar levee stability project in California. The study is intended to rapidly assess the condition of levees and to identify, classify, and prioritize potential problems, according to Aanstoos.

A prior mission by the G-III to obtain baseline data on the levees was conducted in April, and the second mission was scheduled for late June. The mission in early June was added due to the imminent risk to the levees due to the current high river levels.

The G-III is equipped with a NASA-developed Precision Platform Autopilot that enables it to fly within 16 feet of the flight path flown on earlier missions while the aircraft is flying above 40,000 feet altitude. That accuracy allows the L-band radar, mounted in a pod below the aircraft's fuselage, to accurately record any displacement of the terrain beneath that may have occurred since the earlier imaging mission.

NASA's Airborne Science program, Earth Science Division in Washington, funds operation of the G-III research aircraft and its synthetic aperture radar, along with other NASA environmental research aircraft.

[Levee mission fact sheet](#)

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