

NASA ER-2 aircraft continues Earth ecosystem research

June 20 2014, by Beth Hagenauer



This color infrared composite image is made from three spectral bands of NASA's MASTER instrument mounted on the agency's high-altitude ER-2. The red areas depict green vegetation in Las Vegas on May 30, 2014. Credit: NASA / Dean Neeley / Jeff Myers

A study of Earth's ecosystems and how they function is continuing in Southern California and southern Nevada in June with an early summer flight series using one of NASA's high-altitude ER-2 aircraft. This is the second year of NASA's Hyperspectral Infrared Imager, or HypIRI,

airborne campaign.

The aircraft, based at the NASA Armstrong Flight Research Center's facility in Palmdale, California, carries a suite of instruments gathering data about the health of vegetation in six diverse areas of the two states.

NASA's Jet Propulsion Laboratory developed the Airborne Visible / Infrared Imaging Spectrometer, or AVIRIS. The spectrometer's data span the visible to short wavelength infrared spectrum. The MODIS / ASTER Airborne Simulator, or MASTER, was developed jointly by JPL, NASA Ames Research Center and the Earth Resources Observation and Science Center. MASTER measurements are taken simultaneously in the thermal infrared spectrum.

All flights are conducted seasonally and under cloud-free daylight conditions.

The instruments installed in the ER-2 are a similar sensor technology as those planned for the HypsIRI satellite. Those sensors will help to determine the spectral and thermal characteristics of Earth's ecosystems.



With full flaps and speed brakes deployed, one of NASA's high-altitude ER-2 environmental science aircraft descends on final approach to the runway at Air Force Plant 42 in Palmdale, Calif. The research aircraft is based at NASA

Armstrong's Bldg. 703 adjacent to the Air Force facility. Credit: NASA / Tony Landis



NASA environmental science ER-2 aircraft No. 806 takes off from Air Force Plant 42 in Palmdale, Calif., for a mission in the skies above California's Mojave Desert. Credit: NASA / Tony Landis

Provided by NASA

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