

# NASA explores Earth's upper atmosphere

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NASA scientists are conducting field experiments to more closely explore the Earth's upper atmosphere to better predict future climate changes.

The experiments are being conducted at an altitude of about 54,000 feet, a few miles higher than commercial aircraft can fly and one of the main pathways where the lower part of the atmosphere, known as the troposphere, flows into the stratosphere.

High-altitude flights by a NASA aircraft based in Costa Rica during the month-long field campaign are being coordinated with the orbits of Aura, NASA's latest Earth-observing spacecraft.

Launched in 2004, Aura helps scientists understand how atmospheric composition affects and responds to Earth's changing climate. The satellite helps to reveal the processes that connect local and global air quality, and also monitors the condition of the Earth's protective ozone layer.

The new Costa Rica Aura Validation Experiment is tackling some of the remaining puzzles about how ozone-destroying chemicals get into the stratosphere and how high-altitude clouds affect the flow of one of the most powerful greenhouse gases -- water -- into the critical region.

The project is an integrated science and satellite validation campaign sponsored by NASA's Science Mission Directorate.

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