

OCO

A NASA observatory that will make the most precise, highest-resolution and most complete, space-based measurements of carbon dioxide in Earth's atmosphere to date has been launched in July 2014.

OCO-2 is NASA's first mission dedicated to studying atmospheric carbon dioxide and is the latest mission in NASA's study of the global carbon cycle. Carbon dioxide is the most significant human-produced greenhouse gas and the principal human-produced driver of climate change. The mission will uniformly sample the atmosphere above Earth's land and ocean, collecting between 100,000 and 200,000 measurements of carbon dioxide concentration over Earth's sunlit hemisphere every day for at least two years. It will do so with the accuracy, resolution and coverage needed to provide the first complete picture of the regional-scale geographic distribution and seasonal variations of both human and natural sources of carbon dioxide emissions as well as the places where carbon dioxide is removed from the atmosphere and stored.

Scientists will use OCO-2 mission data to improve global carbon cycle models, better characterize the processes responsible for adding and removing carbon dioxide from the atmosphere, and make more accurate predictions of global climate change.

The mission provides a key new measurement that can be combined with other ground and aircraft measurements and satellite data to answer important questions about the processes that regulate atmospheric carbon dioxide and its role in the carbon cycle and climate. The aim of this information is to help policy makers and business leaders make better decisions to ensure climate stability and retain our quality of life. The mission will also serve as a pathfinder for future long-term satellite missions to monitor carbon dioxide.

OCO-2 is managed by JPL for NASA's Science Mission Directorate, Washington. Orbital built the spacecraft and provides mission operations under JPL's leadership. The California Institute of Technology in Pasadena manages JPL for NASA.

(source: NASA Jet Propulsion Laboratory)