



Mission Summary: Orbit Carbon Observatory 2 (OCO-2)



Salient Features

- Category 3 mission; Risk classification C
- High-resolution, three-channel grating spectrometer (JPL)
- Industry contractor is Orbital Sciences Corporation (OSC)
- High heritage spacecraft, flies in formation with the A-Train
- Launch date: 01 Jul 2014 on a Delta II from VAFB, CA
- EoPM: October 2016; Currently in extended mission

- Project Manager: PJ Guske
- NASA Program Executive: Charles Webb, HQ
- NASA Program Scientist: Ken Jucks, HQ
- ESSP Program Manager: Greg Stover, HQ-LaRC



Mission Science Objective: Collect the first space-based global measurements of atmospheric CO₂ with the precision, resolution, and coverage needed to characterize its sources and sinks on regional scales and quantify their variability over the seasonal cycle .

Key Science Products: Retrieve estimates of the column-averaged CO₂ dry air mole fraction (X_{CO_2}) on regional scales (≥ 1000 km) from space-based measurements of the absorption of reflected sunlight by atmospheric CO₂ and O₂, collected in cloud-free scenes over $\geq 80\%$ of range of latitudes on the sunlit hemisphere at monthly intervals for 2 years.