

CERES

Clouds and the Earth's Radiant Energy System

Mission

Measures reflected sunlight and thermal radiation emitted by the Earth

Instrument Contractor

Northrop Grumman Aerospace Systems (NGAS), Redondo Beach, California

3 Channels Spectral Coverage

0.3 to 5 μm
8 to 12 μm
0.3 to >50 μm

Resolution

20 km

Mass

54 kilograms

Average Data Rate

10,520 bps

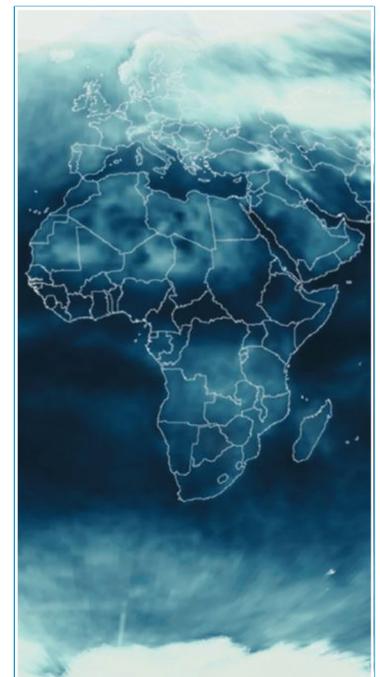
What is CERES?

The Clouds and the Earth's Radiant Energy System instrument measures reflected sunlight and thermal radiation emitted by the Earth.

CERES FM5 is currently flying on the Suomi NPP satellite mission, and CERES FM6 will fly on the JPSS-1 spacecraft. The Radiation Budget Instrument (RBI) is scheduled to fly on the JPSS-2 satellite mission. CERES helps provide measurements of the spatial and temporal distribution of Earth's Radiation Budget (ERB) components. This further develops a quantitative understanding of the links between the ERB and the properties of atmosphere and surface that define it.

Earth's climate system tries to balance radiant energy from the sun that reaches the Earth with the energy that is emitted from Earth back to space. Measurements from CERES help scientists understand the links between the Earth's incoming and outgoing energy and the properties of the atmosphere that affect that energy.

CERES builds on the highly successful Earth Radiation Budget Experiment scanners flown on legacy NOAA polar satellites and on NASA's Earth Observing System (EOS) missions.



Earth's reflection of sunlight: "albedo" - 2001
Credit: NOAA

Benefits

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