



WILLIAM T. PECORA AWARD

CERES International Team

For the successful deployment of a series of satellite instruments that provide a crucial long-term dataset on the Earth's energy balance

The Clouds and the Earth's Radiant Energy System (CERES) Team, led from the National Aeronautics and Space Administration (NASA) Langley Research Center with members from other Government agencies, universities, and international institutions, has provided a critical dataset for climate monitoring and climate model verification. The dataset, fused from five instruments on three spacecraft, is being used to improve our understanding of the natural and anthropogenic changes in the climate through accurate measurements of the Earth's radiative energy balance. The CERES 15 data products, along with measurements of oceans, land, snow, ice, clouds, aerosols, and meteorological parameters, provide a sound scientific basis for developing global environmental policies and support the conclusions of the Intergovernmental Panel on Climate Change (IPCC).

The CERES instruments provide highly accurate measurements of radiative fluxes from the ground to the top of the atmosphere. A comprehensive algorithm development and validation activity, organized, led, and implemented by the CERES Team, was a crucial component for developing the accurate fluxes among the five instruments. The CERES Team employed state-of-the-art radiative transfer models and 4-D data assimilation of multiple surface and atmospheric parameters to calculate the energy balance at multiple layers in the atmosphere. In addition, the CERES Team developed the rapid-response, Fast Longwave And SHortwave Radiative Fluxes (FLASHFlux) product with sufficient accuracy to be applicable to energy management and renewable energy users.

The CERES Team's contribution to understanding the Earth system is outstanding. Hundreds of papers have been published with thousands of citations demonstrating the value to the science and applications communities. Because of this crucial contribution to Earth science, the CERES measurements will be continued in the future from both research and operational satellites.

A handwritten signature in black ink that reads "Ken Salazar".

Secretary
Department of the Interior

A handwritten signature in black ink, appearing to be "A. B. ...".

Administrator
National Aeronautics and Space Administration