



## WILLIAM T. PECORA AWARD

### Terra Team

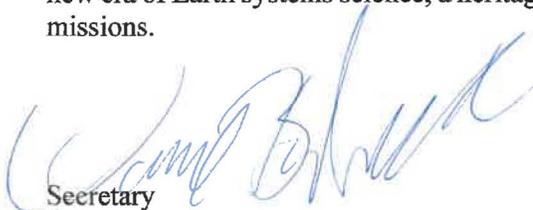
**For invaluable contributions in all areas of Earth science, with scientific impacts and a legacy that make it one of the most successful missions in the long line of Earth Observing System satellites**

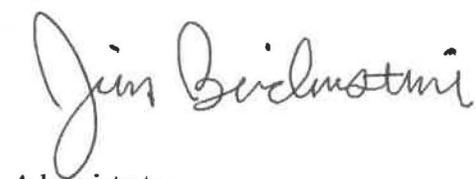
For nearly 20 years, the National Aeronautics and Space Administration's Terra team has developed innovative techniques to characterize the environmental status and health of our planet. The Terra satellite and its products have appeared regularly in news coverage of tropical storms, fires, snow storms, and air quality alerts, and other disasters such as the Deepwater Horizon oil spill. Terra data have been used by multiple Federal agencies for volcanic ash monitoring, weather forecasting, air quality mapping, forest fire monitoring, carbon management, and global crop assessment. The Terra team has shown great ingenuity and perseverance in developing new calibration methods to increase data quality, ultimately leading to a cohesive long-term record of many environmental quantities with unprecedented accuracy. Additionally, the team has provided invaluable contributions to all areas of Earth Science, and will continue to impact research and applications for years to come.

The Terra Mission has provided a suite of observations that have greatly improved understanding of the Earth-atmosphere system. Terra MODIS multispectral coverage allowed for the first global and comprehensive moderate resolution satellite observations of aerosol and cloud radiative properties. The MOPITT, the first instrument designed to observe the distribution and transport of tropospheric carbon monoxide, along with the MODIS and MISR instruments, helped advance our understanding of air quality and biomass burning emissions. The two CERES instruments on Terra first provided Earth radiative budget datasets appropriate for climate studies. The value of Terra products continues to grow as the record approaches two decades, allowing for statistically meaningful climate analysis.

The merit of the Terra team goes beyond data acquisition. The team has expeditiously and effectively made the data (and added-value data products) openly available to the scientific and applications communities. Terra is arguably one of the most successful Earth sensing satellites ever deployed. More than 19,000 publications using Terra products have been produced, and the rate of publication has been rising steadily over the years, demonstrating increased usage of Terra data products by the scientific community. These publications cover a wide range of fields, which include terrestrial ecology (vegetation indices, surface albedo, leaf area index, snow cover, and land surface temperature), natural hazards (fire and flood mapping), atmospheric science (aerosol and cloud optical and physical properties), oceanography (sea surface temperature and marine bio-optical properties), and land surface topography.

The foresight of the Terra team has led to substantial and sustained societal benefits, making the team highly deserving of the 2019 William T. Pecora Award. The lessons learned have benefitted other programs, as practices pioneered by the Terra team have been adopted by Landsat and other programs. Terra inaugurated a completely new era of Earth systems science, a heritage that continues to this day, and sets the international standard for future missions.

  
Secretary  
Department of the Interior

  
Administrator  
National Aeronautics and Space Administration