



## WILLIAM T. PECORA AWARD

### Total Ozone Mapping Spectrometer Team

**For developing innovative techniques for providing unique atmospheric ozone, sulfur dioxide, and aerosol data for more than 25 years**

The Total Ozone Mapping Spectrometer (TOMS) sensors have provided some of the most critical and influential environmental data ever produced, documenting the long-term decline of global atmospheric ozone and the emergence and development of the Antarctic "ozone hole." The TOMS has provided unique ozone, sulfur dioxide, and aerosol data for more than 25 years, with only a small gap, enabling hundreds of researchers to quantitatively monitor the ozone-layer losses and recovery of the Earth's atmosphere. The TOMS sensors have flown successfully on four different satellites beginning in 1978: U.S. Nimbus-7 (1978-1993), Russian Meteor-3 (1991-1994), Japanese ADEOS (1996-1997), and U.S. Earth Probe (1996-present).

The TOMS Team has shown the enduring value of building simple sensors that are very well understood, and very carefully designed to make critical observations for application to global change research. In order to achieve these results, the Team demonstrated extraordinary perseverance and ingenuity, developing new algorithms to make absolute measurements of ozone from space. The TOMS is an unqualified success because the TOMS Team achieved every mission goal, including instrument and software development, quality control, calibration, and data archiving and dissemination.

Although many people are aware of the contribution TOMS has made in the study of the ozone layer and in introducing the term "ozone hole" to the popular culture, a comparable achievement of the Team has been to extract information from the instrument of important geophysical significance for which the instrument was not designed. For example, for many years TOMS has provided images of the volcanic sulfur dioxide and ash for aviation hazard warning. This was possible only because of the dedication and hard work of the Team over several decades in accurately characterizing a series of TOMS instruments on four different satellites, and in the resourceful extraction of weak signals from the data.

In recognition of these accomplishments, the Department of the Interior and the National Aeronautics and Space Administration take great pleasure in presenting the 2006 William T. Pecora Award to the TOMS Team.

Secretary  
Department of the Interior

Administrator  
National Aeronautics and Space Administration