



## WILLIAM T. PECORA AWARD

**William B. Krabill**

**For outstanding leadership, vision, and creativity in development and application of laser altimetry**

Pioneering work by William Krabill over the past 20 years has been a driving force both technically and scientifically for the advancement of laser altimetry. In the early 1980's, his vision of airborne laser ranging measurement and the subsequent integration of kinematic Global Positioning System (GPS) algorithms, inertial navigation, and laser scanning techniques, was the seminal contribution to geodetic airborne laser mapping. His application of this remote sensing technology has revolutionized glaciology, coastal zone mapping, and measurement of land surface change. William Krabill created and leads the Airborne Topographic Mapping team of highly qualified engineers and scientists at the National Aeronautics and Space Administration's (NASA) Wallops Flight Facility that has conducted a broad range of ground-breaking studies of forest height and biomass, ocean wave structure, land surface topography, ice sheet dynamics, sea ice characteristics, coastal erosion and sediment transport.

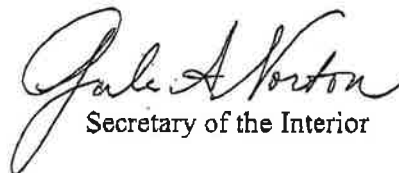
William Krabill's early leadership in combining high accuracy laser altimetry with emerging precision airborne GPS positioning provided the new capability to map large regions with decimeter level accuracy, opening new vistas in cryospheric sciences and geologic studies. As Principal Investigator for the Arctic Ice Mapping (AIM) Project, he applied this revolutionary capability to the measurement of changes in the mass of the Greenland Ice Sheet over an 11-year period of annual measurements. His publication of the AIM results yielded the first long-term, high-resolution, continental-scale view of the dynamics of the Greenland ice sheet and its apparent loss of mass. The success of the AIM Project was repeated in mapping of Antarctic and Patagonian ice sheets and inspired the development of NASA's Ice Cloud and land Evaluation Satellite orbiting laser altimeter that measures the mass balance of polar ice sheets and global topography.

William Krabill has collaborated with the National Oceanic and Atmospheric Administration Coastal Services Center and the U.S. Geological Survey (USGS) Center for Coastal Geology in repeated mapping of the East and West Coast of the United States to monitor the effects of erosion due to severe storms. The USGS Director cited this work as an important contribution to understanding the processes that shape the coastal environment and jeopardize growing coastal populations.

Our Nation's growing capability for lidar mapping of land, ice, and urban environments is a strong testament to the leadership, vision, and creativity of William Krabill. In recognition of these accomplishments, the National Aeronautics and Space Administration and the Department of the Interior take great pleasure in presenting the 2004 William T. Pecora Award to William B. Krabill.



Administrator  
National Aeronautics and Space Administration



Secretary of the Interior