



WILLIAM T. PECORA AWARD

Compton J. Tucker

C. Cline 11/7/97
L. L. Amos for Dick Wilm. 11-7-97
B. Ryan 11-7-97
M. Scholtz 11-22-97

For outstanding leadership in the use of remotely sensed data for ecology, and in recognition of his pioneering applications of meteorological satellite data to study global vegetation dynamics.

Dr. Compton J. Tucker has provided sustained, innovative leadership in the study of the Earth's vegetation from space, and his research has focused international attention on global environmental change phenomena. His early work on vegetation reflectance and in developing field radiometers established a new line of endeavor for ecologists. Based on this work, he developed the Normalized Difference Vegetation Index (NDVI) and the break-through application of data from a sensor designed for meteorological applications, the Advanced Very High Resolution Radiometer (AVHRR), which monitors global land-surface vegetation. Dr. Tucker's pioneering work yielded new insights into seasonal and interannual global vegetation dynamics, desertification in the Sahel, tropical deforestation, biomass burning, habitat fragmentation and biodiversity loss, and continental land cover patterns that have had major impacts throughout the past two decades. His data products have graced the covers of many scientific journals, including *Science*, *Nature*, *Bioscience*, and the *International Journal of Remote Sensing*, and his work has been widely recognized and reported in the popular media.

Dr. Tucker's vegetation data products have been extensively used by the earth science community, and inspired creation of AVHRR Pathfinder 8-km and International Geosphere-Biosphere Programme 1-km data products. The NDVI has been widely adopted as the standard for monitoring vegetation abundance and productivity. His work has led to important practical applications within the U.S., with international organizations, and in the developing world. Dr. Tucker has collaborated with the United Nations to integrate the use of AVHRR NDVI data into global food security programs, and he has worked with the U.S. Agency for International Development to develop the Famine Early Warning System. He and other collaborators also have explored the use of satellite data to detect and monitor disease vector habitat.

Dr. Tucker has been influential in defining specifications for new satellite sensors and spacecraft. He provided definitive input for the selection of Landsat Thematic Mapper band 4 in the late 1970's. More recently, he influenced the design of NASA's Moderate Resolution Imaging Spectrometer (MODIS) and future versions of the System Probatoire d'Observation de la Terre (SPOT) and Landsat.

In recognition of these accomplishments, the National Aeronautics and Space Administration and the Department of the Interior take great pleasure in presenting the 1997 William T. Pecora Award to Dr. Compton J. Tucker.

NOV 17 1997

Administrator
National Aeronautics and Space Administration

Secretary of the Interior

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