

Biography: David O'C. Starr, TC4 Mission Scientist

Dr. David O'C. Starr, Chief of the Mesoscale Atmospheric Processes Branch at NASA's Goddard Space Flight Center, is one of two Mission Scientists for TC4, responsible for leading the planning and execution of the field mission.

He was born in Maryland, graduated Suma Cum Laude from the Catholic University of America in Washington, D.C., and received a Ph.D. degree in Atmospheric Science from Colorado State University in 1982. He was an assistant professor at Saint Louis University and at the State University of New York at Albany before joining the Climate and Radiation Branch of the Laboratory for Atmospheres at NASA in 1987. As Branch Chief, Dr. Starr leads a team of 75 scientists and support personnel, and which includes key science and management aspects of two current space missions, the Tropical Rainfall Measurement Mission (TRMM) and atmospheric elements of the Geoscience Laser Altimeter System (GLAS), as well as formulation activities for the Global Precipitation Measurement (GPM) mission. His team also has significant expertise in the areas of cloud system and mesoscale modeling, active remote sensing via lidar (clouds, aerosols, water vapor and winds) and millimeter- and centimeter- wavelength doppler radar, as well as satellite data analysis, and boundary layer and atmosphere-surface interaction studies. He published the first detailed numerical model simulations of cirrus clouds that included all the key physical processes.

Dr. Starr has had extensive experience in leading complex field missions. He was Lead Scientist for the FIRE Cirrus Intensive Field campaigns in 1986 and 1991, Mission Scientist for the 1996 joint AEAP/FIRE Subsonic Assessment: Contrail and Cloud Effects Special Study (SUCCESS), and co-Mission Scientist for the Cirrus Regional Study of Tropical Anvils and Layers – Florida Area Cirrus Experiment (CRYSTAL-FACE) in 2002. He has participated in other airborne measurement programs, including the 1974 GARP Atlantic Tropical Experiment (GATE) and NASA's TOGA-COARE mission in 1993 and in the 2006 DoE ARM Tropical West Pacific International Cloud Experiment (TWP-ICE) from Darwin, Australia. He presently serves on the International Commission on Clouds and Precipitation, serving as Secretary since 2000. Dr. Starr chaired the GEWEX Cloud System Study (GCSS) Working Group on Cirrus Cloud Systems from 1995 to 2002, and organized three international workshops on cirrus cloud modeling. In 1998, he helped organize and served as general co-chair for the Cirrus-98 Conference that produced a wide-ranging review of current knowledge of cirrus clouds. He has authored or co-authored more than 40 articles in the refereed literature. Dr. Starr has served as Validation Scientist for the NASA Earth Observing System (EOS) Project Science Office since 1995. He was awarded the NASA Exceptional Scientific Achievement Medal in 1993 for his contributions to understanding cirrus clouds and their effects in the climate system, and was awarded the NASA GSFC Exceptional Achievement Award in 2003 for his performance in developing and executing CRYSTAL-FACE.