



Looking Down on the Earth: How Satellites Have Revolutionized Our Understanding of Our Home Planet

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Abstract:

Earth is a complex, dynamic system we do not yet fully understand. The Earth system, like the human body, comprises diverse components that interact in complex ways. We need to understand the Earth's atmosphere, lithosphere, hydrosphere, cryosphere, and biosphere as a single connected system. Our planet is changing on all spatial and temporal scales. This presentation will highlight how satellite observations are revolutionizing our understanding of and its response to natural or human-induced changes, and to improve prediction of climate, weather, and natural hazards.

Bio:

MICHAEL H. FREILICH, Director of the Earth Science Division, Science Mission Directorate at NASA Headquarters. Prior to NASA, he was a Professor and Associate Dean in the College of Oceanic and Atmospheric Sciences at Oregon State University. He received Ph.D. in Oceanography from Scripps Institution of Oceanography (Univ. of CA., San Diego) in 1982.

Dr. Freilich's research focuses on the determination, validation, and geophysical analysis of ocean surface wind velocity measured by satellite-borne microwave radar and radiometer instruments. He has developed scatterometer and altimeter wind model functions, as well as innovative validation techniques for accurately quantifying the accuracy of spaceborne environmental measurements. Dr. Freilich has served on many NASA, National Research Council (NRC), and research community advisory and steering groups, including the WOCE Science Steering Committee, the NASA EOS Science Executive Committee, the NRC Ocean Studies Board, and several NASA data system review committees.

Freilich's non-scientific passions include nature photography and soccer refereeing at the youth, high school, and adult levels.