

"Viewing the Earth's Climate from Space"

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The vantage point of space provides a unique opportunity to see all the elements of the global Earth system – atmosphere, ocean, land surface, ice, biosphere – and how they interact with each other. The ability to characterize both natural processes and those caused by humans, as well as the ability to study processes on a range of time scales from days to decades, helps scientists characterize and understand earth system variability and its causes and effects, as well as allowing for improvements in predictive capability. With this information, Earth system scientists can work with partners in other federal and international agencies, academia, industry, and the non-profit sector to help anticipate and respond to both naturally-occurring and human-induced changes in the Earth system. In this talk, a review of how satellite-derived information, integrated together with complementary data from aircraft and surface based measurements and used in the context of Earth system models, is advancing our knowledge of the Earth and how the resulting information is being used by NASA and its interagency partners will be presented.