Keeping the PACE with the NASA Plankton, Aerosol, Cloud, ocean Ecosystem (PACE) mission

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This presentation will showcase the current status of the NASA Plankton, Aerosol, Cloud, ocean Ecosystem (PACE) mission. PACE is a strategic climate continuity activity that will not only extend key heritage ocean color, cloud, and aerosol data records, but also enable new insight into oceanographic and atmospheric responses to Earth's changing climate. PACE’ s primary instrument is a global spectrometer that spans the ultraviolet to near-infrared region in 2.5 nm steps and also includes seven discrete shortwave infrared bands from 940 to 2260 nm. This leap in technology will enable improved understanding of aquatic ecosystems and biogeochemistry, as well as provide new information on phytoplankton community composition and improved detection of algal blooms. PACE's spectrometer will also continue many aerosol and cloud capabilities from MODIS and VIIRS, which in combination with its ocean measurements, will enable improved assessment of aerosol impacts on ocean biology and chemistry. The PACE payload will be complemented by two small multi-angle polarimeters with spectral ranges that span the visible to near infrared spectral region, both of which will significantly improve aerosol and hydrosol characterizations and provide opportunities for novel ocean color atmospheric correction. Scheduled for launch in late 2023/early 2024, this PACE instrument suite will revolutionize studies of global biogeochemistry, carbon cycles, and hydrosols / aerosols in the ocean-atmosphere system.

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