

A BRIEF HISTORY OF THE PLANKTON AEROSOL CLOUD OCEAN ECOSYSTEM (PACE) MISSION AND SOME NOTES ABOUT WHAT IS NEXT IN EARTH SYSTEM SCIENCE REMOTE SENSING

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Our ocean teems with life and many of its most vital species are invisible to us. Like on land, the ocean has deserts, forests, meadows, and jungles, providing habitats for many forms of life. The types of life in these habitats is determined by microscopic algae that float in our ocean. Known as "phytoplankton," these tiny organisms come in many different shapes, sizes, and colors. The diversity of phytoplankton types determines the roles they play in ocean habitats. It also determines how well they capture energy from the sun and carbon from the atmosphere. The Plankton Aerosol Cloud ocean Ecosystem (PACE) mission will help us better understand how the ocean and atmosphere exchange carbon dioxide. In addition, it will reveal how aerosols might fuel phytoplankton growth in the surface ocean. Novel uses of PACE data will benefit our economy and society. For example, it will help identify the extent and duration of harmful algal blooms. PACE will extend and expand NASA's long-term observations of our living planet. By doing so, it will take Earth's pulse in new ways for decades to come. More information at pace.gsfc.nasa.gov.