

NASA Prepares For Pace Mission

Why In News

- NASA PACE mission is all set for its 2024 launch the **Plankton Aerosol Cloud Ocean ecosystem mission** with the aim of enhancing our **understanding of Earth's atmosphere**.

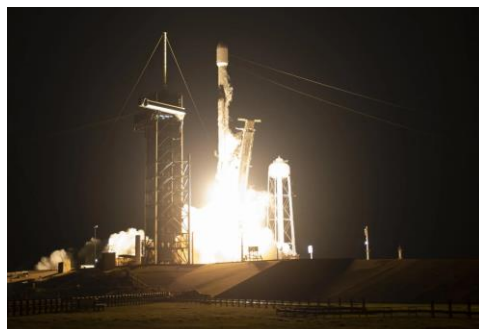


Plankton, Aerosol, Cloud, ocean Ecosystem

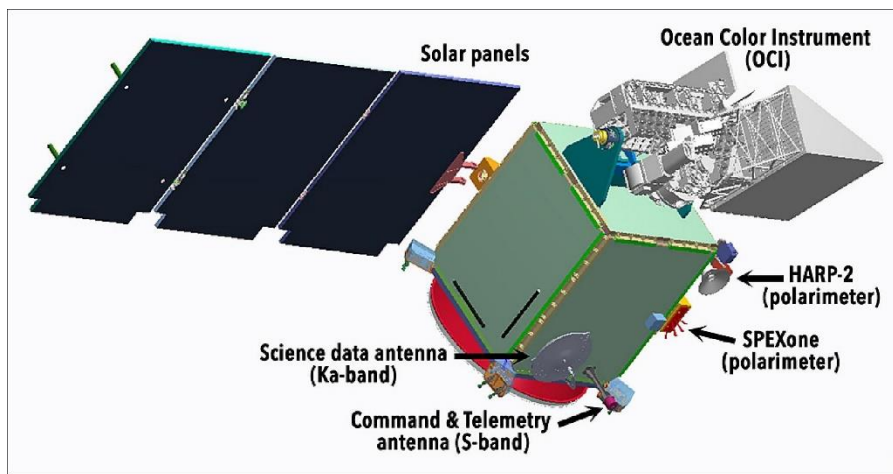
- To study the **interplay of light aerosols and clouds** contributing to a deeper comprehension of their impact on air quality and climate aerosols encompassing tiny particles like **smoke dust and pollutants** may appear inconspicuous yet they play a crucial role in influencing our climate by absorbing and scattering sunlight determining the amount of solar energy reaching Earth's surface.

PACE Mission

- The PACE mission will **continue and improve NASA's 20-year record of satellite observations of global ocean biology, aerosols, and clouds**.



- PACE will help us better understand how the **ocean and atmosphere exchange carbon dioxide**, measure key **atmospheric variables** associated with air quality and Earth's climate, and monitor ocean health, in part by studying **phytoplankton, tiny plants and algae** that sustain the marine food web.
- **Ocean Color Instrument (OCI)**, a primary science instrument on board, is specifically designed **to measure the ocean's color** across a wide spectral range, from ultraviolet to shortwave infrared.
- By analyzing the ocean color, scientists can gain **valuable insights into its health and ecosystem**.



- PACE mission will also feature two advanced polarimeters, the **Spectro-polarimeter for Planetary Exploration (SPEXone)** and the **Hyper Angular Research Polarimeter (HARP2)**.
- These instruments will **provide complementary data**, allowing for improved atmospheric correction and a comprehensive understanding of aerosol and cloud science.
- Recently, the PACE spacecraft arrived at the **Astrotech Spacecraft Operations** facility near **NASA's Kennedy Space Center in Florida**.



- Engineers and technicians are now preparing the ground equipment for processing and fuelling before the final encapsulation.
- The PACE project is managed by **NASA's Goddard Space Flight Center**, with the Launch Services Program at Kennedy Space Center overseeing the launch service for the mission.
- The PACE mission not only represents an exciting milestone in **NASA's scientific exploration** but also holds the promise of groundbreaking discoveries in aerosol, cloud, and ocean research.
- Through the collaboration of sophisticated instruments and cutting-edge technology, the world can expect a deeper understanding of **our planet's delicate ecosystem** and its role in shaping our future.

