

Floating LiDAR Buoy System

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FLOATING LIDAR BUOY SYSTEM

Floating LiDAR Buoy System Latest News

Recently, the National Institute of Ocean Technology (NIOT) has successfully tested an indigenously developed Floating LiDAR Buoy System off the coast of Muttom in Tamil Nadu.

About Floating LiDAR Buoy System

- It is a **high-tech ocean-based instrument** used to **measure wind conditions over the sea**.
- It combines a **floating platform (buoy) with LiDAR technology**, short for Light Detection and Ranging.
- It **uses laser pulses** to measure atmospheric conditions with high precision.
- **Purpose:** It is designed to **measure wind profiles and atmospheric conditions** over the ocean. It can track wind speed and direction and changes in wind at different heights.

Working of Floating LiDAR Buoy System

- The system **uses LiDAR (Light Detection and Ranging) technology**.
- The **buoy** in this floats on the **ocean surface and emits laser pulses** into the atmosphere.

- These pulses bounce back after hitting particles in the air and the returned signals are **analysed to measure wind movement and patterns.**
- This allows scientists to **gather highly accurate, real-time data from areas** where traditional instruments may struggle.
- Unlike traditional instruments, this buoy can capture **detailed wind data up to 300 metres above sea level.**
- **Significance:** Better weather prediction, improved storm and cyclone tracking and understanding climate change impact will help scientists to know how the sea works.

Source: IT

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