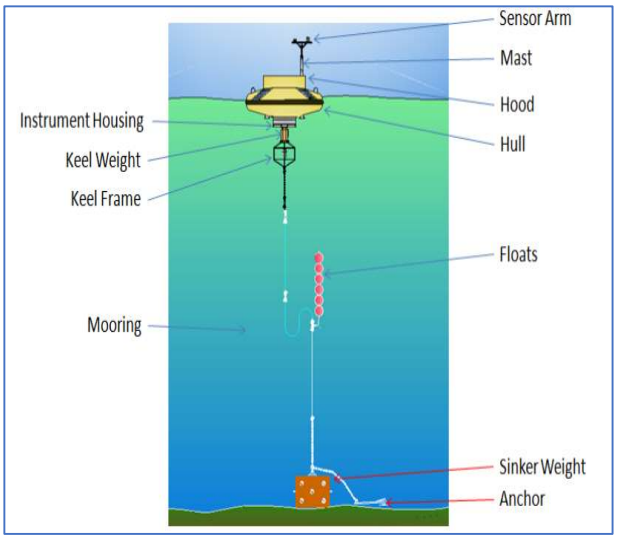
DEEP OCEAN MOORED DATA BUOY SYSTEMS

Data Buoys are moored offshore platforms, fitted with meteorological and oceanographic sensors, deployed at specific locations to observe in-situ Met-Ocean data at regular intervals. Data buoys play a primary role in providing in-situ ground-truth measurements, stands as a reference point for validating ocean related data from other observational means and provides inputs to various models to predict and forecast weather and long-term climatic changes. The deep-sea data buoys are floating platforms, which can be powered by solar cells charged battery pack and lithium battery (primary) pack.



The buoy has a discus shaped hull made of FRP and it can be split into two halves. A keel with counter weight is mounted under the hull to prevent capsizing of the buoy. In the case of deep ocean buoy system moorings, the top segment of the mooring is made out of wire rope. Six subsurface floats are added to aid the PP rope to keep the bottom level in vertical position. One number of 2T sinker weight and an anchor is used to keep the buoy in the deep location. Instrument container in the middle of buoy contains electronic modules, power packages etc. The buoy is equipped with a mast to support the meteorological sensors and other devices like antennas, beacon light and radar reflectors etc. The buoy is anchored either with Inverse Catenary Type Mooring and have the capability to measure Ocean Current, Conductivity and Temperature up to 500 m depth and transmit hourly data through satellite. At the bottom, combination of Sinker and Anchor weight is connected with mooring line.

It is a platform, bearing sensors to monitor oceanic and near surface atmospheric conditions. The data collected from the buoy system play a crucial role for improved weather forecasts, detecting climate change, understanding physical, chemical, and biological processes in coastal and oceanic waters, and understanding and predicting the effects of human activities on marine ecosystems and ultimately living resources.

This technology is developed by **National Institute of Ocean Technology**, Ministry of Earth Sciences, Govt. of India and seeks to stimulate the use of technology by commercialization under Make in India Initiative and **National Research Development Corporation** will facilitate for smooth transfer and licensing of the technology with affordable Licencing terms and conditions.

Any company or organization interested in the technical know-how and to get more details about the technology please refer the contact details below.

Contact Details:
Dr. Tata Sudhakar
Scientist – G & Head
NATIONAL INSTITUTE OF OCEAN TECHNOLOGY
Velacherry-Tambaram Main Road, Narayanapuram,
Pallikaranai, Chennai - 600 100, Tamil Nadu, INDIA.
Email: tata@niot.res.in; Mobile: 9444399844 Phone: 044 - 66783525