

INCOIS GLIDERS TO CHECK CHANGES IN OCEAN ECO-SYSTEM

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Gliders along with tide gauges fitted with GPS sensors will give a rounded data to understand the oceanic ecosystem better because the movements of the sea along with the atmospheric systems control monsoons, cyclonic storms and wave surges besides tsunamis.

Indian National Centre for Ocean Information Services (INCOIS) has successfully tested the first deep sea long range 'Slocum' gliders under the recently launched Deep Ocean Mission to monitor the seas round the year and for an accurate assessment of impact of climate change on coastal waters.

The first two such Slocum gliders were deployed off the Chennai coast for the trial runs. The gliders are named after Joshua Slocum, said to be the first man to sail across the world. These gliders are pre-programmed to move to specific locations and depths to move both horizontally and vertically.

Data transmission

"Modern bio-geo chemical sensors are attached to these gliders to measure the sea temperatures, pressure, salinity, chlorophyll and other such parameters in a controlled manner. Data can be transmitted in real time and more exhaustive information stored can be obtained after a few months on retrieval," explained INCOIS director T. Srinivasa Kumar, in an exclusive interaction.

The Centre has given its nod to the five-year Rs. 4,000 crore Deep Ocean Mission to assess climate change, sea warming, impact on coastal regions and the marine ecosystem. "We will be working with our sister organisations like the Indian Institute of Tropical Meteorology, Pune, National Institute of Ocean Technology, Chennai, National Centre for Coastal Research, Chennai, National Centre for Earth System Sciences, Thiruvananthapuram, and others for ocean exploration to harness its vast resources," he explained.

"We are planning to have eight such gliders in two years, and each can be run for six months. Initially, we want to take them 1,000 km off the Chennai coast with the help of Ocean Research Vehicle 'Sagar Nidi' and launch. We are also planning to pick them up before the monsoon," chipped in head of Ocean Observations and Data Management Group E. Pattabhi Rama Rao.

While the trial runs had just five dives up to 15 metres deep, these gliders are also capable of going underwater up to 1,000 metres deep and move about eight centimetres per second. Gliders along with tide gauges fitted with GPS sensors will give a rounded data to understand the oceanic ecosystem better because the movements of the sea along with the atmospheric systems control the monsoons, cyclonic storms, wave surges besides tsunamis, pointed out Mr. Srinivasa Kumar.

Oceans are carbon sinks and data being collected could help us understand the 'coupling' of atmospheric and ocean systems for a more accurate climate forecasting, he averred. This apart, INCOIS is also sourcing data from about 300 Argo floats placed every 300 km around the coastline reading the surface and undercurrents along with temperature and salinity.

These are placed 2,000 metres deep and keep floating to the surface every 10 days with data transmitted every five days. The plan is to launch 50 such floats every year as they have a life span of four years, added Mr. Rama Rao.

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E. Pattabhi Rama Rao,

Head of Ocean Observations and Data Management Group, INCOIS

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