

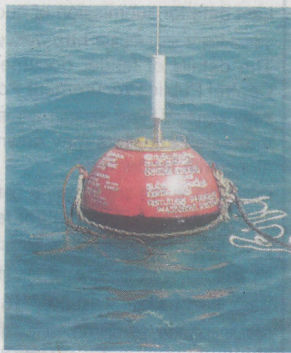
## Sea state forecasts improve vessels' operational safety at ports

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**F**orty-eight hour forecasts on sea state conditions are coming to the aid of crews and vessels in ensuring operational safety across all major and many minor ports in the country.

Based on a suite of models run on super computers, scientists from the Indian National Centre for Ocean Information Services (INCOIS) are currently providing the forecasts to 12 major and 64 of the 200 minor ports along the Indian coastline. The services launched in February this year are being utilized by 900 users from various ports. The forecast service basically provides sea state up to a distance of 50 km from the port locations.

Strategically located, the major ports with excellent infrastructure handle both regional and international



*Wave rider buoys are being used for real time data. — PHOTO: N. RAJESH*

multi cargo, while the minor ports handle around 30 per cent of the total traffic, said Dr. T.M. Balakrishnan Nair, Head of Ocean Science and Information Services Group, INCOIS.

Quoting Consolidated Port Development Plan of the Indian Ports Association, he said the total traffic in major

ports was poised to double by 2025.

Similarly, there was scope for development of minor ports into major ones, given the huge international demand for bulk transport of multi-cargo, he added. However, critical information on sea state conditions like currents, winds, waves and swell plays a crucial role in entry and exit of vessels at ports, be it a small fishing boat or a huge oil tanker.

Dr. Nair said prior knowledge of these parameters would greatly help in taking informed decisions regarding operations at the port.

He said the real time data from coastal observation systems like wave rider buoys, automatic weather stations, coastal radars, deep-sea moored buoys and satellite altimeter data were being used for validation of the forecast products and improve their quality.