

OCEAN SERVICES, MODELLING, APPLICATIONS, RESOURCES AND TECHNOLOGY (O-SMART) SCHEME OF THE MINISTRY OF EARTH SCIENCES

Relevant for: Environment | Topic: Disaster and disaster management

The objectives of O-SMART (Ocean Services, Modelling, Applications, Resources and Technology) scheme of Ministry of Earth Sciences (MoES), Govt. of India are

- (1) To generate and regularly update information on Marine Living Resources and their relationship with the physical environment in the Indian Exclusive Economic Zone (EEZ),
- (2) To periodically monitor levels of sea water pollutants for health assessment of coastal waters of India, to develop shoreline change maps for assessment of coastal erosion due to natural and anthropogenic activities,
- (3) To develop a wide range of state-of-the art ocean observation systems for acquisition of real-time data from the seas around India,
- (4) To generate and disseminate a suite of user-oriented ocean information, advisories, warnings, data and data products for the benefit of society,
- (5) To develop high resolution models for ocean forecast and reanalysis system,
- (6) To develop algorithms for validation of satellite data for coastal research and to monitor changes in the coastal research,
- (7) Acquisition of 2 Coastal Research Vessels (CRVs) as replacement of 2 old CRVs for coastal pollution monitoring, testing of various underwater components and technology demonstration,
- (8) To develop technologies to tap the marine bio resources,
- (9) To develop technologies generating freshwater and energy from ocean,
- (10) To develop underwater vehicles and technologies,
- (11) Establishment of Ballast water treatment facility,
- (12) To support operation and maintenance of 5 Research vessels for ocean survey/monitoring/technology demonstration programmes,
- (13) Establishment of state of the art sea front facility to cater to the testing and sea trial activities of ocean technology,
- (14) To carryout exploration of Polymetallic Nodules (MPN) from water depth of 5500 m in site of 75000 sq.km allotted to India by United Nations in Central Indian Ocean Basin, to carryout investigations of gas hydrates,
- (15) Exploration of polymetallic sulphides near Rodrigues Triple junction in 10000 sq. km

of area allotted to India in International waters by International Seabed Authority/UN and,

(16) Submission of India's claim over continental shelf extending beyond the Exclusive Economic Zone supported by scientific data, and Topographic survey of EEZ of India.

The Indian Tsunami Early Warning Centre (ITEWC) was established at Indian National Centre for Ocean Information Services (INCOIS), Hyderabad, an autonomous body under Ministry of Earth Sciences which continues to provide timely tsunami advisories to stake holders and has functioned flawlessly since its establishment in October 2007. The ITEWC is also providing tsunami services to 25 Indian Ocean Countries as part of the Intergovernmental Oceanographic Commission (IOC) of UNESCO framework. INCOIS has introduced several innovative concepts in tsunami modeling, mapping of coastal inundation, Decision Support System, SOPs to meet the emerging challenges and provide accurate and timely tsunami early warnings. INCOIS has established a Global Navigation Satellite System (GNSS) & Strong Motion Accelerometers in Andaman and Nicobar Islands for quick and reliable estimation of source parameters for near source earthquakes. In addition, INCOIS has carried out Multi-hazard Vulnerability Mapping (MHVM) along the mainland of Indian coastland MHVM atlas has been prepared. The ITEWC, INCOIS regularly conducts workshops, training sessions and tsunami mock exercises to create awareness and preparedness about the tsunamis. In addition to workshops and trainings for disaster managers, ITEWC is also coordinating with coastal States/UTs to implement Tsunami Ready Programme, a concept introduced by UNESCO, at community level. Odisha has implemented the programme in two villages (Venkatraipur and Noliasahi) and based on the national board recommendation, IOC (UNESCO) recognized these villages as Tsunami ready communities.

We have better Tsunami prediction models at ITEWC and INCOIS is continuously working towards improving its accuracy.

This information was given by the Union Minister of Science and Technology, Earth Sciences and Health and Family Welfare, Dr Harsh Vardhan in a written reply in Rajya Sabha on September 20, 2020.

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