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Geospatial Solution of the Year Award 2008 for TEWC, INCOIS

Geospatial Solution of the Year 2008 was awarded to the Tsunami Early Warning Centre at INCOIS on April 25, 2008 in a ceremony held at New Delhi. Dr. Shailesh Nayak, Director, INCOIS received the award from Shri. Kapil Sibal, Hon. Minister for Science & Technology and Earth Sciences. The Tsunami Early Warning Centre (TEWC) developed by the INCOIS is a state-of-the-art information system to provide warnings for tsunami and coastal hazard mitigation. The system has all the necessary computational and communication infrastructure in place that enables the display of geographic locations of seismic sensors, tide gauges, bottom pressure sensors, i) acquisition of real-time data from all the seismic sensors, tide gauges and bottom pressure recorders and organisation in data base, ii) analysis of the data, iii) tsunami travel times by picking up the right scenario for travel time, run up and visualisation of observed data from the database, iv) generation and dissemination of bulletins following a standard operating procedure using application software developed around GIS technology.



Dr. Shailesh R Nayak, Director, INCOIS, receiving the award for Geospatial Solution of the Year 2008 conferred on the Tsunami Early Warning Centre, INCOIS

IOC/UNESCO First Advanced Leadership Workshop

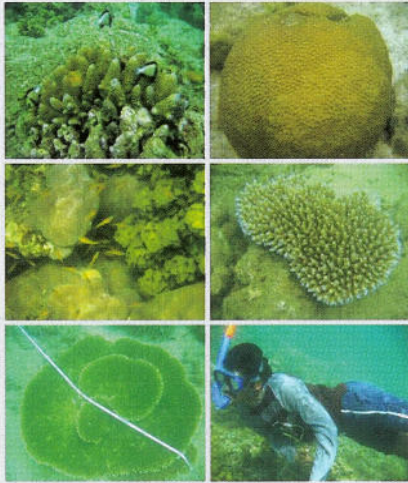
Considering the lead role played by the Indian National Centre for Ocean Information Services (INCOIS) in the Indian Ocean region and its participation in various international programmes, IOC/UNESCO chosen INCOIS to host the First Advance Leadership Workshop for the Directors of Marine Institutes in the Indian Ocean region during May 10-14, 2008. Twenty five participants from 11 countries of the Indian Ocean (Bangladesh, India, Malaysia, Maldives, Mauritius, Oman, Seychelles, Sri Lanka, Thailand, United Arab Emirates, South Africa and UNESCO officials from France) attended, most of them were directors or senior executives in their organisations. Specialisations and expertise of the participants included operational



marine meteorology, physical oceanography, marine hazards, hydrography, biological oceanography and fisheries, remote sensing, modelling and data management. The four-day workshop provided an opportunity to the participants to develop leadership qualities and to bring about change in their organizations and adapt their institutes focus to changing national and global priorities. The workshop identified priority areas for the Indian Ocean region, the urgent needs of the countries, mechanisms for regional cooperation, networking to better address these priorities and new possibilities for fruitful collaborations. The workshop also provided an opportunity to discuss about the best achievements in the marine sciences and also the future of marine sciences for the next 5 years in the Indian Ocean region.

Monitoring the health of coral reefs of India

Coral reefs are one of the most biologically diverse marine eco-systems on the Earth. Corals grow over geological time scales and have been in existence for about 200 million years. The vast diversity of animal and plant species that contributes to its system and genetic heritage that it represents are increasingly at risk, since the last few decades. To increase the awareness and importance of the coral reefs, the International Coral Reef Initiative (ICRI) has declared the year 2008 as the International Year of the Reef and also the Ministry of Environment and Forests (MoEF), Govt. of India has included the studies on coral reef under the Coastal Zone Studies (CZS).



Field campaigns at Andaman Islands launched by INCOIS

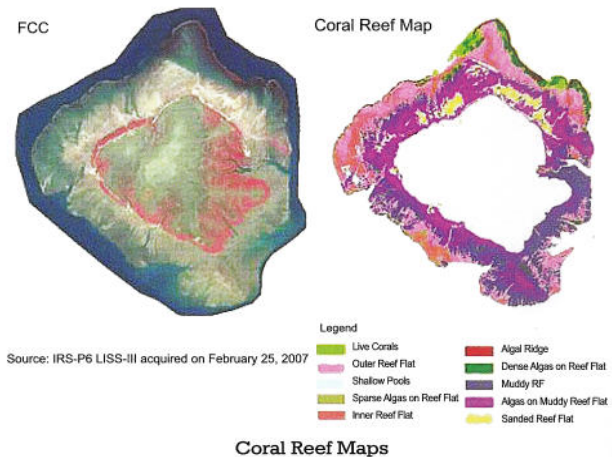


The Space Application

Centre (SAC), ISRO and INCOIS are responsible for studying the coral reefs in the following areas: Andaman and Nicobar Islands, Gulf of Kutch (Kachchh), Gulf of Mannar and Malvan. SAC, ISRO, Ahmedabad is the nodal agency and national coordinator for carrying out eco-morphological zonation of coral reef and health modeling. INCOIS is collaborating with SAC to study the reefs of India. INCOIS has state-of-the-art infrastructure and software facility to carry out the study.

The Indian Remote sensing Satellites (IRS) have provided the capability to map and monitor the coral reefs along the coasts of India. The satellite derived reef zones are validated with in situ data and frequent field trips. Based on this study, INCOIS has generated eco-morphological zone maps of coral reefs along the Indian coasts. Reef Health indicators are used in modelling to derive warning index on ecological damages. Annual health bulletins on coral reefs are being published by INCOIS. It enables to detect and quantify the changes and attribute the changes to the possible causes.

Eco-Morphological zones of Kalubhar Reef, Gulf of Kutch Gujarat



Ocean State Forecast - Value Added services

INCOIS successfully carried out a consultancy work for M/S. Cairn Energy India Pvt Ltd to simulate wave characteristics off 'Bhogat' on Arabian Sea coast. Wave simulations were carried out from last week of June to first week of August during 1998 to 2007 with an objective to find out different wind/wave conditions for tanker berthing and loading. High quality wind and bathymetry data were used in the new version of the state of the art wave model for this purpose.

Species-Specific Fishery Forecast

Indian Ocean has high resources of the commercially important species like Tuna that are not yet exploited. Keeping in view of the commercial value of the Tuna Fishes and the market demand, most of the fishing crafts are converted into Tuna Long Liners. The fishermen are yet helpless in doing the affective catching of Tuna. Proper guidance on the identification of the Tuna fish aggregation zones is utmost important for the fishermen community to do the cost effective Long lining operations. In this regard, INCOIS initiated experimental based Tuna Fishery forecast. As part of this, INCOIS is providing satellite and in-situ based information on various satellite and in-situ based parameters viz. Chlorophyll-a, Sea Surface Temperature (SST), Water Clarity, Mixed Layer Depth, Thermocline Depths, etc., that effects the movements of the Tuna fish.

INCOIS Scientists discussed with the Fishermen community operating Tuna Long-lines and other fishery departments about their requirement of the information for effective catching of tuna during the meeting held at Association of Indian Fishery Industries (AIFI), Visakhapatnam on March 14, 2008. In this regard, it is proposed to develop a comprehensive package for the Tuna Fishery Forecast System (TUFFS) at INCOIS. As per the request of the fishermen communities for providing the Tuna fishing grounds information in a similar way as that of PFZ Advisories, INCOIS initiated analysis of the tuna fish catch data for implementing a Decision Support System (DSS) in the proposed TUFFS.

PFZ User-Interaction Workshops and Review Meetings



User-Interaction Workshop at Malvan, Sindhudurg Dist., Maharashtra on January 21, 2008

An user-interaction workshop was organized on "Satellite Data on PFZ and Marine Fishery" at Malvan, Sindhudurg Dist., Maharashtra on January 21-22, 2008. INCOIS installed an Electronic Display Board during the workshop and was inaugurated by Prof. Kottapalle Nagnath, Vice-Chancellor of Dr. Babasaheb Ambedkar Marathwada University, Aurangabad. Scientist from INCOIS explained the fishermen about the usefulness of the Display board and the need for providing feedback on the PFZ Advisories.

Keeping in view of the importance of the latest trends in the fishing methods and the unawareness of the fishermen community on these modern trends, an user-interaction workshop on "Potential Fishing Zones and Marine Fishing" was organized at Ratnagiri, Maharashtra on May 29, 2008 for the benefit of the fisheries societies and fishermen from Ratnagiri. Large number of fishermen and state officials participated. In addition to these user interaction workshops, several small group awareness campaigns were organized in Kerala, Tamilnadu and Andhra Pradesh.



A Peer Review Meeting of all the PFZ Validation Projects was organized at INCOIS on April 15, 2008 for reviewing the progress of the existing projects, recommendation of new projects and for suggesting the mid-course corrections in the uniform methodology adopted for PFZ Validation Projects.



Capacity Building Workshop on Tsunami Early Warning System

Capacity building, education and training aimed at improving awareness and preparedness among public is one of the important components of the Tsunami Early Warning Project. In this regard, INCOIS organized a Workshop on Tsunami Early Warning Centre at INCOIS, Hyderabad on January 30, 2008 for the officials of the coastal states dealing with Disaster Management. Officials from Gujarat,



Maharashtra, Andhra Pradesh, Orissa, Andaman & Nicobar and Lakshadweep

Islands participated in the Workshop. Scientists of INCOIS, Hyderabad and ICMAM, Chennai described about the Indian Tsunami Early Warning System, Decision Support System, Standard Operating Procedure and Coastal Vulnerability Mapping. A demonstration of the functioning of the Tsunami Early Warning Centre was organized and discussions were held with the participants.



International Collaborations

MoU with Nansen Environmental and Remote Sensing Center (NERSC)



INCOIS signed Memorandum of Understanding (MoU) with Nansen Environmental and Remote Sensing Center (NERSC) and the University of Bergen (UoB), Bergen, Norway on January 24, 2008 to collaborate in developing an operational ocean modelling and data assimilation system for the Indian Ocean. The agreement will also be the

foundation for an extensive scientific cooperation and exchange of scientists.

Visit of the Thailand Delegation

A delegation of officials from Thailand led by Dr. Smith Dharmasaroja, chairman of Thailand's National Disaster Warning Administration visited INCOIS during June 19-20, 2008 to discuss about the collaboration with respect to Tsunami early warning system established at INCOIS. The delegates were briefed about the Standard Operating Procedure (SOP), Decision Support System (DSS), Tsunami modeling database and Dissemination process of the

MoU with Asian Disaster Preparedness Centre (ADPC), Thailand

MoU signed between the Asian Disaster Preparedness Centre (ADPC) of Thailand and the Indian National Centre for Ocean Information Services (INCOIS) on February 12, 2008 to establish linkages between the two institutions for early warning arrangement, preparedness and mitigation of coastal hazards, especially for tsunami early warning.

Indian Tsunami Warning System. The delegates also discussed a possible MoU for sharing of the tidal and BPR data, tsunami information and technical services.



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