

**GOVERNMENT OF INDIA
EARTH SCIENCES
LOK SABHA**

UNSTARRED QUESTION NO:504

ANSWERED ON:02.03.2007

OCEAN AND ATMOSPHERIC SCIENCE AND TECHNOLOGY CELLS

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Will the Minister of EARTH SCIENCES be pleased to state:

- (a) the details of universities where Ocean and Atmospheric Science & Technology cells are available in the country, State-wise ;
- (b) the manner by which the Ministry is supporting Ocean and Atmospheric Science and capacity building programmes in these universities ;
- (c) the research projects undertaken by the Indian National Centre for Ocean Information Services, Hyderabad during the last three years, year-wise; and
- (d) the outcome of the research projects ?

Answer

MINISTER OF SCIENCE & TECHNOLOGY AND MINISTER OF EARTH SCIENCES (SHRI KAPIL SIBAL)

(a)&(b) The Ministry of Earth Sciences has been implementing a programme on Marine Research and Capacity Building through a set of 9 Ocean Atmospheric Science and Technology Cells(OASTC), established in various Universities/Institutes, which are located in 8 different States viz., Berhampur University, Berhampur, Orissa;

Bhavnagar University, Bhavnagar, Gujarat; Andhra University, Visakhapatnam, Andhra Pradesh;

Cochin University of Science & Technology, Kochi, Kerala; Goa University, Goa;

Annamalai University, Parangipettai, Tamil Nadu; Tamil University, Thanjavur, Tamil Nadu ;

Mangalore University, Mangalore, Karnataka and IIT, Kharagpur, West Bengal. Two Centres of Excellence (CoE) were established at Annamalai University, Parangipettai (Marine Biology) and at Goa University, Goa (Marine Microbiology) which have now become full-fledged centres. The projects are being monitored by a Steering Committee and functioning of OASTC/CoEs is governed by the respective Management Boards.

(c)&(d) The Indian National Centre for Ocean Information Services (INCOIS) has been implementing 3 basic research projects specifically in the area of development of Ocean Atmospheric Modeling for the last 3 years viz., Indian Ocean Modelling and Dynamics Studies (INDOMOD), Satellite Coastal Oceanographic Research

(SATCORE) and Indian Argo Project .

The details of results are given below :

The INDOMOD project, being carried out by 10 reputed national institutes is designed primarily for development of a suite of wide range ocean-atmospheric models, specifically to address various aspects relating to

- (i) ocean and climate,
- (ii) Coastal ocean,
- (iii) Hazardous weather events,
- (iv) Data assimilation and atlas

(v) Observations for validation. Under the project, several experiments were conducted using Ocean and atmospheric General Circulation models (GCMs) for understanding Indian Monsoon variability. Besides, sediment transport models were also customized for Hooghly and Gulf of Khambhat. As part of the programme, 3 current meter arrays were deployed along the equator

(at longitudes 93° E , 83° E and 76° E) in the Indian Ocean and obtained valuable data for a period of 4 years and deployed over 60 drifters in the Bay of Bengal and the Arabian Sea for obtaining surface meteorological and upper ocean data. The results obtained from the project have resulted in 90 international publications in the reputed Journals. While under these SATCORE Project several

regional algorithms were developed for retrieval of satellite parameters (e.g. Sea surface temperature, winds, waves chlorophyll, aerosol, water vapour and clouds) from both Indian and foreign satellites. Some of these parameters have already been implemented for the use of operational services at INCOIS.

Under the Indian Argo project, a high resolution Indian Ocean Model based on Modular Ocean Model (MOM) and a Regional Ocean Modeling System (ROMS) for the Indian Ocean.