

**GOVERNMENT OF INDIA  
MINISTRY OF EARTH SCIENCES  
LOK SABHA  
UNSTARRED QUESTION NO. 3095  
TO BE ANSWERED ON WEDNESDAY, 11<sup>TH</sup> MARCH, 2026**

**RESEARCH AND TRAINING PROGRAMMES**

**3095. SHRI ANUP SANJAY DHOTRE:**

Will the Minister of EARTH SCIENCES be pleased to state:

- (a) the details of initiatives undertaken to enhance human resource development in meteorology, oceanography and related fields;
- (b) the manner in which the Government engages with educational institutions for research and training programmes;
- (c) whether there are any public outreach campaigns to raise awareness about climate change, disaster preparedness and environmental conservation and if so, the details thereof;
- (d) the details of platforms used to disseminate scientific knowledge to rural and vulnerable populations; and
- (e) the manner in which the Government is fostering international cooperation in earth sciences education and research?

**ANSWER**

THE MINISTER OF STATE (INDEPENDENT CHARGE) FOR  
MINISTRY OF SCIENCE AND TECHNOLOGY  
AND EARTH SCIENCES  
(DR. JITENDRA SINGH)

- (a) The Ministry of Earth Sciences (MoES) has undertaken several initiatives to strengthen human resource development in meteorology, oceanography and allied Earth System Science disciplines. These include support for postgraduate and doctoral programmes through its research institutions, provision of fellowships such as JRF, SRF and Research Associateships, and organization of specialized training programmes, workshops and capacity-building activities. Under the REACHOUT scheme, the Ministry supports an MTech. programme in Ocean Engineering at IIT Madras. The Development of Skilled Manpower in Earth System Sciences (DESK) programme has also been launched to bridge the gap between academic knowledge and operational requirements of MoES institutions. MoES has established the International Training Centre for Operational Oceanography (ITCOcean) at INCOIS, Hyderabad, which is recognized as a UNESCO Category-2 Centre and a Regional Training Centre (RTC) under the IODE programme, to provide training to national and international participants, particularly from Indian Ocean Rim countries. The BIMSTEC Centre for Weather and Climate (BCWC) at NCMRWF conducts training, workshops and capacity-building programmes for BIMSTEC member countries. In addition, the India Meteorological Department (IMD) conducts regular training and refresher courses through its training centres at Pune, New Delhi, Chennai and Kolkata. The centres at

Pune and New Delhi are recognized by the World Meteorological Organization (WMO) as Regional Training Centres. Further, MoES supports collaborates with universities, IITs and research institutions and supports research through extramural funding in Ocean and Atmospheric Sciences, Geosciences, Hydrology & Cryosphere and Seismology.

- (b) All institutions functioning under the Ministry advertise internship opportunities for students pursuing undergraduate and postgraduate degrees twice a year. In addition, several universities and academic institutions have signed Memorandum of Understanding (MoUs) with organizations under the Ministry of Earth Sciences (MoES), facilitating joint research activities involving faculty members, research scholars, and graduate as well as postgraduate students from academia. Since each institute/centre under the Ministry has a specialized mandate, these institutes/centres organize domain-specific training programmes from time to time. Furthermore, scientists and officers of the Ministry and its affiliated institutes/centres are also deputed to participate in specialized training and skill development programmes conducted by various educational institutions. Under the IMD training centres, the Development of Skilled Manpower in Earth System Sciences (DESK), the International Training Centre for Operational Oceanography (ITCOcean), BIMSTEC Centre for Weather and Climate (BCWC) and REACHOUT program the training is imparted in various fields of Earth science.
- (c) Yes Sir. The Ministry of Earth Sciences (MoES) undertakes various public outreach and awareness initiatives to promote understanding of climate change, disaster preparedness and environmental conservation. The OUTREACH program of REACHOUT supports the awareness programs about climate change and issues related to EARTH science in various Institutes/ colleges and schools. These include organization of public lectures, workshops, exhibitions and outreach programmes by its institutions; and observance of events such as World Meteorological Day, Ocean Day, coastal cleaning drive, and Earth Science related campaigns. The Ministry also collaborates with educational institutions, State Governments and other stakeholders to enhance public awareness and preparedness for weather and climate-related hazards.
- (d) The Ministry of Earth Sciences (MoES) disseminates scientific information and advisories to rural and vulnerable populations through multiple platforms. These include web portals, mobile applications, social media platforms, television, radio, and SMS-based alert systems for timely weather forecasts and early warnings. Institutions under the Ministry, particularly the India Meteorological Department (IMD) and Indian National Centre for Ocean Information Services (INCOIS), issue location-specific forecasts and early warnings related to extreme weather events, cyclones, storm surges and ocean conditions. These advisories are shared with State Governments, disaster management authorities, fishermen and farming communities, and are further disseminated through local administration, community networks and media channels to ensure wider reach, especially in rural and coastal areas.

- (e) The Government fosters international cooperation in Earth sciences education and research through collaborations with leading global institutions, international organizations and partner countries. The Ministry of Earth Sciences (MoES) promotes joint research projects, exchange of scientists and researchers, participation in international training programmes, workshops and conferences, and sharing of scientific expertise. MoES institutions also enter into Memoranda of Understanding (MoUs) with foreign universities and research organizations to facilitate collaborative research, capacity building and academic exchanges in areas such as meteorology, oceanography, climate science, polar research and Earth system modelling. In addition, the Ministry participates in several international initiatives such as the Weather and Climate Science for Service Partnership (WCSSP) programme with the UK Met Office, the MoES–UK Momentum Partnership, and the “Monsoon Desk” collaboration under Monsoon Mission with the National Oceanic and Atmospheric Administration (NOAA), USA for enhanced monsoon research and forecasting. MoES also actively participates in international platforms such as the Belmont Forum and maintains close collaboration with global organizations including the World Meteorological Organization (WMO) and the United Nations Development Programme (UNDP). Further, the Ministry works with leading international research agencies such as the United States Geological Survey (USGS) and partner institutions in countries including Germany, Norway, France, Japan, Sweden, Australia and Switzerland for collaborative research, capacity building and knowledge exchange in Earth system sciences.

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