Ministry of Earth Sciences

PARLIAMENT QUESTION: VIKSIT BHARAT

Posted On: 05 DEC 2024 3:28PM by PIB Delhi

Functions of the Ministry are to augment and sustain long-term observations of the atmosphere, ocean, cryosphere, and solid earth to record the vital signs of the Earth System and change; and to build prediction system for weather climate and hazards to explore polar and high seas regions of the Earth towards the discovery of new phenomena and resources; to translate knowledge and insights from Earth systems science into services for societal, environmental and economic benefit; and development of ocean technology for exploration of oceanic resources and societal applications.

Last five years following efforts have been taken towards achieving the vision to make India a developed nation by 2047:

- Augmentation of Doppler Weather Radar network to 39
- Establishment of Lightning Sensor Network
- Implementation of Heat Action Plans in coordination with NDMA
- Accurate and timely prediction of tropical cyclones
- An overall 40 % improvement in forecast accuracy
- Development of state-of-the-art dynamical prediction systems for short range to medium, extended range and seasonal forecasts
- Providing district level agromet advisories to farmers
- Development of India’s first Earth System Model for climate projections
- Cloud Aerosol Interaction Precipitation Enhancement Experiment (CAIPEEX) undertaken to understand the science of weather modification
- Establishment of Atmospheric Research Testbed for better understanding on the processes governing monsoon convection and land-atmosphere interaction
- Establishment of indigenously developed Low Temperature Thermal Desalination technology in Lakshadweep Islands to generate potable water
- Beach restoration in Puducherry and Tamil Nadu coasts
- Development of web-based shoreline change maps for the Indian coast (1990-2018) for better coastal management
- Launching of the Deep Ocean Mission, India’s ambitious plan to explore and harness deep-oceanic resources
- Initiation of development of manned submersible
- Conducted Locomotion trials of the Deep Sea Mining System were successfully conducted in the Central Indian Ocean at depth of 5270 m
- Potential Fishing Zone advisories to about 7 lakh fishermen
- Forecast on state of the ocean to about 9.45 Lakh stake holders in India
- Provision of Tsunami Early Warnings for India and to 25 Indian Ocean Rim Countries
- National Seismological Network has been upgraded to 168 seismological observatories
- Initiation of seismic microzonation of various Indian cities to generate a set of seismological, geophysical, and geotechnical parameters for development of earthquake-risk-resilient infrastructure
- Drilling a pilot hole of 3 km depth to understand the reservoir induced earthquakes
- The Antarctic Bill was passed by the Parliament on August 01, 2022
- Release of Indian Arctic Policy 2022 entitled ‘India and the Arctic: Building a partnership for sustainable development’

- Operating and upkeeping two year-round stations in Antarctica (Maitri and Bharati), one station in Arctic (Himadri), facilitating R&D activities by more than 100 Indian scientists per year.
- Launching of an Earth System Science Data Portal which hosts the data collected and maintained under different programs implemented by MoES
- Launch of several mobile applications for services rendered by the Ministry

Viksit Bharat by 2047 Goals for the Ministry are the following:

- Weather forecast to Weather Management
- To double the Blue Economy contributions to the National GDP
- To emerge as a leader in polar and ocean studies and uphold India's strategic interests in a global framework.
- Earthquake early warning

Toward achieving the above goals following pathways are identified:

1. Weather forecast to Weather Management

- Develop technologies and implement observations for weather and climate predictionTechnologies for weather management and interventionMulti-hazard assessment and warning systemsMission "Mausam" to make Bharat "weather ready and climate smart"

2. To double the Blue Economy contributions to the National GDP

- Sustainable utilization of Blue economy resources, both living and non-living, for economic growth of the country through

- Energy from the Ocean
- Freshwater from the Ocean
- Food from the Ocean
- Marine Spatial Planning and coastal Eco Tourism
- Optimum Ship Navigation
- Digital Ocean & Climate Change

- Inter-ministerial decision-making system of Marine sector projects and developments.

3. To emerge as a leader in polar and ocean studies and uphold India's strategic interests in a global framework

- Significantly improve our understanding about the climate impact on ice sheet melting, collapse, sea-ice loss, and its teleconnections with low latitudes and impact on society.

4. Earthquake Early warning

- Mission for making India as the Earthquake Risk ResilientMission for Advanced Level Seismo-Geophysical Research for Societal IssuesPhysics of reservoir-triggered earthquakes

Planning, review, and deliberations regarding achieving the above are regularly being undertaken by the Ministry.

Recently, the Union Cabinet has approved the new central sector scheme Mission Mausam to make Bharat

Weather Ready and Climate Smart with the aim that no weather will go undetected and early warning for all.

This information was given by Union Minister of State (Independent Charge) for Science & Technology and Earth Sciences, Dr. Jitendra Singh in a written reply in the Rajya Sabha today.

****

NKR/KS

(Release ID: 2081066)