MINISTRY OF EARTH SCIENCES

DEMAND NO. 24

Ministry of Earth Sciences

(In ₹ crores)

	Actual 2024-2025			Budget 2025-2026			Revised 2025-2026			Budget 2026-2027		
	Revenue	Capital	Total	Revenue	Capital	Total	Revenue	Capital	Total	Revenue	Capital	Total
Gross	2387.40	999.33	3386.73	2779.05	879.03	3658.08	2909.92	478.35	3388.27	3082.19	716.04	3798.23
Recoveries	*-15.56*	*...*	*-15.56*	*-8.27*	*...*	*-8.27*	*-8.27*	*...*	*-8.27*	*-9.00*	*...*	*-9.00*
Receipts	*...*	*...*	*...*	*...*	*...*	*...*	*...*	*...*	*...*	*...*	*...*	*...*
Net	**2371.84**	**999.33**	**3371.17**	**2770.78**	**879.03**	**3649.81**	**2901.65**	**478.35**	**3380.00**	**3073.19**	**716.04**	**3789.23**
A. The Budget allocations, net of recoveries, are given below:												
CENTRE'S EXPENDITURE												
Establishment Expenditure of the Centre												
1. Secretariat	64.89	2.07	66.96	82.87	3.96	86.83	83.10	3.78	86.88	88.60	4.59	93.19
2. Meteorology	590.37	1.71	592.08	632.11	1.07	633.18	624.35	1.07	625.42	647.99	0.80	648.79
	-10.57	...	-10.57	-8.27	...	-8.27	-8.27	...	-8.27	-9.00	...	-9.00
Net	*579.80*	*1.71*	*581.51*	*623.84*	*1.07*	*624.91*	*616.08*	*1.07*	*617.15*	*638.99*	*0.80*	*639.79*
3. National Centre for Medium Range Weather Forecasting (NCMRWF)	12.72	...	12.72	15.97	...	15.97	15.95	...	15.95	17.50	...	17.50
Total-Establishment Expenditure of the Centre	**657.41**	**3.78**	**661.19**	**722.68**	**5.03**	**727.71**	**715.13**	**4.85**	**719.98**	**745.09**	**5.39**	**750.48**
Central Sector Schemes/Projects												
4. Deep Ocean Mission (DOM)	494.97	94.99	589.96	300.00	300.00	600.00	440.40	219.60	660.00	450.00	175.00	625.00
5. Mission Mausam	356.15	159.55	515.70	799.60	529.40	1329.00	662.40	177.60	840.00	855.29	487.00	1342.29
6. High Performance Computing System	...	714.31	714.31	50.00	5.00	55.00	11.00	39.00	50.00	...	...	...
7. Prithvi Vigyan (PRITHVI)	637.12	26.70	663.82	660.40	39.60	700.00	812.70	37.30	850.00	751.35	48.65	800.00
Total-Central Sector Schemes/Projects	**1488.24**	**995.55**	**2483.79**	**1810.00**	**874.00**	**2684.00**	**1926.50**	**473.50**	**2400.00**	**2056.64**	**710.65**	**2767.29**
Other Central Sector Expenditure												
Autonomous Bodies												
8. Indian National Centre for Ocean Information Services (INCOIS)	28.00	...	28.00	29.00	...	29.00	29.00	...	29.00	30.00	...	30.00
9. National Institute of Ocean Technology (NIOT)	64.29	...	64.29	68.00	...	68.00	71.38	...	71.38	79.00	...	79.00
10. National Centre for Polar and Ocean Research, Goa (NCPOR)	31.00	...	31.00	32.00	...	32.00	34.00	...	34.00	37.00	...	37.00
11. Indian Institute of Tropical Meteorology (IITM)	90.00	...	90.00	91.50	...	91.50	103.00	...	103.00	103.00	...	103.00
12. National Centre for Earth Science Studies (NCESS)	17.89	...	17.89	17.60	...	17.60	22.64	...	22.64	22.46	...	22.46

(In ₹ crores)

	Actual 2024-2025			Budget 2025-2026			Revised 2025-2026			Budget 2026-2027		
	Revenue	Capital	Total	Revenue	Capital	Total	Revenue	Capital	Total	Revenue	Capital	Total
Total-Autonomous Bodies	**231.18**	**...**	**231.18**	**238.10**	**...**	**238.10**	**260.02**	**...**	**260.02**	**271.46**	**...**	**271.46**
Others												
13. Actual Recoveries	-4.99	...	-4.99	...	...	...	...	...	...	...	...	...
Total-Other Central Sector Expenditure	**226.19**	**...**	**226.19**	**238.10**	**...**	**238.10**	**260.02**	**...**	**260.02**	**271.46**	**...**	**271.46**
Grand Total	***2371.84***	***999.33***	***3371.17***	***2770.78***	***879.03***	***3649.81***	***2901.65***	***478.35***	***3380.00***	***3073.19***	***716.04***	***3789.23***
B. Developmental Heads												
Economic Services												
1. Oceanographic Research	1255.20	...	1255.20	1089.40	...	1089.40	1387.48	...	1387.48	1347.35	...	1347.35
2. Other Scientific Research	10.92	...	10.92	15.97	...	15.97	15.95	...	15.95	17.50	...	17.50
3. Secretariat-Economic Services	64.55	...	64.55	82.87	...	82.87	83.10	...	83.10	88.60	...	88.60
4. Meteorology	1041.17	...	1041.17	1582.54	...	1582.54	1415.12	...	1415.12	1619.74	...	1619.74
5. Capital Outlay on Oceanographic Research	...	121.69	121.69	...	339.60	339.60	...	256.90	256.90	...	223.65	223.65
6. Capital Outlay on Meteorology	...	875.57	875.57	...	535.47	535.47	...	217.67	217.67	...	487.80	487.80
7. Capital Outlay on Other General Economic Services	...	2.07	2.07	...	3.96	3.96	...	3.78	3.78	...	4.59	4.59
Total-Economic Services	**2371.84**	**999.33**	**3371.17**	**2770.78**	**879.03**	**3649.81**	**2901.65**	**478.35**	**3380.00**	**3073.19**	**716.04**	**3789.23**
Grand Total	**2371.84**	**999.33**	**3371.17**	**2770.78**	**879.03**	**3649.81**	**2901.65**	**478.35**	**3380.00**	**3073.19**	**716.04**	**3789.23**

1. **Secretariat:** Secretariat-Economic Services: The Budget Provision is required for Secretariat Expenditure of the Ministry of Earth Sciences including Departmental Accounting Organization of Ministry of Earth Sciences.

2. **Meteorology:** India Meteorological Department (IMD) is the Principal Government agency in all matters relating to Meteorology and allied subjects. The primary objectives are to undertake (i) meteorological observations and to provide current and forecast meteorological information for optimum operation of weather sensitive activities like agriculture irrigation, aviation pilgrimage etc., (ii) warn against severe weather phenomena like tropical cyclones, dust storms, heavy rains, snow cold and heat waves etc., which cause destruction of life and property; and (iii) maintain liaison with other scientific organizations in the country in the fields of agriculture hydrology, oceanography, air pollution monitoring and forecasting to provide customized meteorological services for specific purposes.

3. **National Centre for Medium Range Weather Forecasting (NCMRWF):** The National Centre for Medium Range Weather Forecasting is continuously developing advanced numerical weather prediction systems, with increased reliability and accuracy over India and neighboring regions through research, development and demonstrates new and novel applications, maintaining highest level of knowledge, skills and technical bases. NCMRWFs real-time data assimilation system produces initial conditions for running real-time seamless weather prediction models that caters to forecasts from days-to-seasons, and provides valuable guidance to IMDs forecasters. The high resolution global and regional ensemble prediction models being run at NCMRWF are used operationally for providing probabilistic forecasts for severe weather warning.

4. **Deep Ocean Mission (DOM):** The Deep Ocean Mission aims to explore deep-oceanic resources and develop technologies for their sustainable use. The Mission consists of six major themes, namely (i) Development of Technologies for Deep Sea Mining, Manned Submersible, and Underwater Robotics; (ii) Development of Ocean Climate Change Advisory Services; (iii) Technological innovations for exploration and conservation of deep-sea biodiversity; (iv) Deep Ocean Survey and Exploration; (v) Energy and freshwater from the Ocean and (vi) Advanced Marine Station for Ocean Biology. The mission involves mapping of floors of Deep Oceans and development of technologies like a manned submersible with 6000m water depth rating, mining system for deep sea mining, sustainable utilization of deep-sea bioresources and developing engineering designs for offshore thermal energy-driven desalination plants. Human capacity will be developed in ocean biology and engineering through the translation of research into industrial applications.

5. **Mission Mausam:** This is an ambitious initiative/scheme by the Ministry of Earth Sciences (MoES) designed to enhance India's weather and climate forecasting capabilities across various critical sectors, including agriculture, aviation, urban planning, defense, sports, and disaster preparedness. The mission seeks to leverage cutting-edge technologies, high-performance computing, and advanced modeling techniques to revolutionize weather monitoring, prediction, and data analysis. By advancing weather surveillance, incorporating next-generation radars and satellites, and utilizing artificial intelligence and machine learning, Mission Mausam aims to provide more accurate and timely forecasts, addressing the challenges of extreme weather events and climate change. The program also focuses on building robust infrastructure, fostering innovation, and ensuring that weather-related information reaches the public effectively, contributing to national development, disaster management, and climate resilience. Through its comprehensive approach, Mission Mausam aims to establish an integrated framework for advanced weather and climate prediction in India.

6. **High Performance Computing System:** The High-Performance Computing (HPC) systems deployed during 2024-25 across various institutes of the Ministry of Earth Sciences (MoES) namely IITM and NCMRWF have been crucial in enhancing the accuracy of weather forecasts and advancing research and development over the past decade. These HPC systems have facilitated seamless data assimilation and the generation of precise forecasts with extended lead times from both global and regional Numerical Weather Prediction (NWP) models, leading to significant improvements in weather, climate, and ocean state predictions.

7. **Prithvi Vigyan (PRITHVI):** The scheme deals with the study of various aspects of Earth System Science by integrating studies related to ocean, polar, seismological, geoscience in a comprehensive manner along with the outreach program. In the ocean sector, it sustains observational networks in and around India, validates satellite data, and improves forecasting of ocean dynamics, climate variability, and sea level changes. It provides ocean information services, biodiversity assessments, coastal health monitoring, and operates a 24/7 tsunami warning system. It also undertakes EEZ surveys, explores deep sea minerals such as gas hydrates and polymetallic nodules, maintains research vessels, and develops ocean technologies including energy, coastal engineering, and unmanned submersibles. The polar program safeguards India strategic and scientific interests in Antarctica, the Arctic, Himalayas, and Southern Ocean, conducting annual expeditions, maintaining research bases, and building advanced logistics facilities. The seismology and geoscience program strengthens earthquake monitoring, hazard assessment, and research in solid earth processes, geo-dynamics, and marine geo-science, including deep borehole studies and geoid low investigations. And, the research, education, training, and outreach program supports extramural projects to academic and research institutions, builds national facilities, promotes international cooperation, provides trainings, develops skilled manpower, and enhances awareness through exhibitions, workshops, and knowledge resource centres.

8. **Indian National Centre for Ocean Information Services (INCOIS):** INCOIS, Hyderabad: It provides ocean information and advisory services to the society, industry, government and scientific community through sustained ocean observations and constant improvements through systematic and focused research.

9. **National Institute of Ocean Technology (NIOT):** NIOT, Chennai: The major aim of NIOT under the Ministry of Earth Sciences is to develop reliable indigenous technology to solve the various engineering problems associated with harvesting of living and non-living resources in the Indian Exclusive Economic Zone (EEZ), which is about 2/3 of the land area of India.

10. **National Centre for Polar and Ocean Research, Goa (NCPOR):** NCPOR, Goa is the premier R&D institution responsible for the countrys research activities in the polar and Southern Ocean realms. The main objectives of the Institute are Polar and Ocean Sciences, Geoscientific surveys, extended continental shelf and Deep Sea Drilling in the Arabian Sea, etc.

11. **Indian Institute of Tropical Meteorology (IITM):** IITM, Pune undertakes basic research on the Ocean-Atmosphere Climate System required for improvement of Weather and Climate Forecasts and development of earth system model for long term prediction and projecting climate change scenarios. These are achieved through advancement of research in Ocean-Atmosphere by undertaking relevant scientific programmes (involving observations and modelling) and collaborating at National and International level along with continuous investments in human resource development for conducting cutting edge research.

12. **National Centre for Earth Science Studies (NCESS):** NCESS, Thiruvananthapuram fosters multidisciplinary research in emerging areas of solid earth science, provides services by utilizing this knowledge for earth science applications and generate leadership capabilities in the selected areas.