

Ministry of Earth Sciences (MoES)
Govt. of India
Summary of Important Developments – January, 2024

1. Important policy decisions taken and major achievements during the month:

Provided in Annex-I.

2. Important policy matters held up on account of prolonged Inter-Ministerial consultations:

Nil

3. No. of cases of 'sanction for prosecution' pending for more than three months:

Nil

4. Particulars of cases in which there has been a departure from the Transaction of Business Rules or established policy of the Government:

Nil

5. Status of ongoing Swachhta Abhiyan (progress under Special Campaign):

As a part of Special Campaign 3.0, various activities were carried out under Swachhta Abhiyan during the month of January 2024 in MoES and its institutes.

6. Status of Rationalization of Autonomous Bodies:

The Cabinet in its meeting on 13th July 2022 approved the merging of 5 Autonomous Bodies under MoES to one Autonomous Body. An umbrella Autonomous Society 'Earth System Science Council (ESSC)' has been registered in the office of the Registrar of Societies under Govt of NCT of Delhi along with Memorandum of Association and Rules and Regulations of ESSC on 26th December 2023.

7. Information on specific steps taken for utilization of the Space Technology based tools and applications in Governance and Development:

Potential Fishing Zone advisories are generated using the satellite derived parameters viz., Sea Surface Temperature, and Chlorophyll. Further, data from Global satellite data are used on continuous basis for generating short range and medium range weather forecasts.

8. Vacancy position of senior level appointments in the Ministry/ Department, including Autonomous Bodies/ PSUs:

It is confirmed that the incumbency details of all the posts in the Ministry/ Department and its organizations falling under the purview of the Appointments Committee of Cabinet (ACC) have been updated on ACC Vacancy Monitoring System (AVMS) and are placed at Annex-II.

9. List of cases in which ACC directions have not been compiled with:

It is confirmed that the directions of ACC are complied with.

10. Details of Foreign Direct Investment (FDI) Proposals cleared during the month and status of FDI proposals awaiting approval in the Ministry/ Department:

Not Applicable.

Important policy decision taken and major achievements:

- The Union Cabinet approved the overarching scheme “PRITHvi Vigyan (PRITHVI)” of Ministry of Earth Sciences, for implementation during the period from 2021-26 at an overall cost of Rs. 4,797 crore. The scheme encompasses five ongoing sub-schemes namely “Atmosphere & Climate Research-Modelling Observing Systems & Services (ACROSS)”, “Ocean Services, Modelling Application, Resources and Technology (O-SMART)”, “Polar Science and Cryosphere Research (PACER)”, “Seismology and Geosciences (SAGE)” and “Research, Education, Training and Outreach (REACHOUT)”.
- IMD celebrated 150th year of its establishment and service to nation on 15th January, 2024 at Vigyan Bhawan, New Delhi. Hon’ble Vice President of India Shri Jagdeep Dhankar graced the occasion as Chief Guest. Shri Kiren Rijju, Hon’ble Union Cabinet Minister, Ministry of Earth Sciences (MoES) graced the occasion as Guest of Honor. During the inaugural ceremony following releases were made by the dignitaries:
 1. Souvenir on Evolution of IMD
 2. Documentary Film on Evolution of IMD
 3. Indigenously developed Decision Support System (DSS)
 4. Panchayat Mausam Seva (PMS)
 5. IMD’s Mobile App
 6. National Framework for Climate Services
- The Hon’ble Prime Minister in his tweet appreciated the services of IMD for the nation since last 150 years.
- The Hon’ble Prime Minister inaugurated 1.5 lakh litre Low Temperature Thermal Desalination (LTTD) plant setup by NIOT at Kadmat on 3rd January 2024.
- The second edition of the Oceanographers and Hydrographers Conference under the umbrella of the Colombo Security Conclave (CSC) commenced at the National Institute of Ocean Technology (NIOT), Chennai on 29th January 2024. The conference was held at Chennai and Hyderabad from 29 – 31 January 2024. The conference was attended by Heads of

Oceanography and Hydrography Institutions of member and observer nations of CSC.

- Under maritime collaboration among the nations of Colombo Security Conclave (CSC), two scientists from Mauritius and one scientist from Bangladesh participated in the 43rd Antarctic expedition of India led by National Centre for Polar and Ocean Research, Goa.
- IITM successfully installed Electric Field Mill at Himadri station in Arctic.
- An MoU between CSIR-NPL and NIOT was signed as part of obtaining Designated Institute status for NIOT for Underwater Acoustic Transducer Calibration.
- Monthly rainfall over the country as a whole during February 2024 is most likely to be above normal (>119 % of LPA).
- Monthly minimum temperatures during February 2024 are most likely to be above normal over the most parts of the country.
- Below-normal cold wave days are expected over some parts of Central India during the month of February 2024.
- The strong El Nino conditions prevailing over Equatorial Pacific likely to weaken steadily and turn to ENSO neutral conditions by the end of 2024 spring season.

There was no matter pending before the Cabinet requiring decision/approval.

Minimum Government, Maximum Governance:

- Dissemination of Agromet Advisories to user communities through SMS and IVR technology is continued in the country through Kisan Portal and under PPP (Public Private Partnership) mode. Presently, about 7.6 million farmers in the country are getting advisories directly.
- Adverse-weather SMS warnings are being sent through mobile to the State Government officials / Disaster-related officials / Central Government organizations/common man.

- Daily forecast along with warning and city forecast for many cities are disseminated through email to all users including state authorities, electronic and print media.

Atmospheric Observation Systems Network

Observation Type	Commissioned so far	Installations during the month	Data Reporting
Automatic Weather Station (AWS)	*475	--	475
Automatic Rain Gauge (ARG)	**429	--	429
Agro AWS	200	--	196
Global Positioning System (GPS) Sonde based Radio-Sonde (RS)/ Radio-Wind (RW) stations	56	--	56
Doppler Weather Radar (DWR)	***41	--	35
Ozone (Ozone Sonde + Total Ozone)	02	--	02
Surface Ozone (Electrochemical Concentration Cell method)	09	--	06
Nephelometer	12	--	09
Sky Radiometer	20	--	13
Black Carbon Monitoring Systems (Aethalometer)	25	--	23
Air Quality Monitoring System (System of Air Quality and Weather Forecasting and Research (SAFAR))	10 (Delhi) 10 (Mumbai) 10 (Ahmedabad)	--	09 (Delhi) ****NIL (Mumbai) NIL (Ahmedabad)
Hydromet. (India Meteorological Department (IMD) & Extra-departmental excluding AWS & ARG)	---	--	5096
Aviation	101	1	101
Radiation Stations	47	---	47

* Out of Total 808 commissioned, 333 are outlived.

** Out of total 1382 commissioned, 953 are outlived.

*** Including 2 Doppler Weather Radar of Indian Space Research Organization (ISRO).

**** Contract with the firm is not renewed.

Modelling

During January 2024, every week on Thursdays, National Centre for Medium Range Weather Forecasting (NCMRWF) coupled model based Extended Range Prediction (ERP) for four weeks for rainfall, surface temperature and winds (full fields and anomalies) were provided in real-time to (i) Long-range forecast and Agri-Met divisions of IMD, (ii) Indian Institute of Tropical Meteorology (IITM) ERP group, (iii) Space Applications Centre (SAC), (iv) Defence Geo-informatics Research Establishment (DGRE), (v) Indian Air Force (IAF), (vi) Navy, (vii) Geological Survey of India (GSI), (viii) National Institute of Hydrology (NIH), (ix) All regional centers of IMD and (x) Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) countries Met Departments. Additionally, snow forecasts were provided to Defence Research and Development Organisation (DRDO) and IAF for use at their end. On the last Thursday of the month, i.e., on 25th January 2024 the monthly mean forecast valid for February 2024 were also included for the users.

Monthly Weather Summary (January 2024)

a) Important Weather Events during the month

Western Disturbances (WDs):

A total of 4 number of WDs (3-8 Jan, 7-11 Jan, 25-27 Jan and 29-31 Jan) moved across extreme northern parts of India. All were remained north except the last WD of 29-31 Jan. This WD of 29-31 Jan was active one and with support of its induced cyclonic circulation, both caused the Season's 1st wet spell in Jan 2024 during the period 29-31 Jan, with light to moderate rain/ Snow observed over Kashmir and adjoining Western Himalayan region and light to moderate rain and thunderstorms and hailstorm observed over adjoining plains of northwest India during the same period.

Fog:

Large-scale dense fog/ low cloud cover was prevailed during almost all dates in the month during 1-31 Jan, 2024 across many parts of Indo-Gangetic plains. From night

of 31 Jan 2024, this large-scale fog/ low cloud cover was lifted from many areas across the region, due to impact of the active WD which impacted the region and caused stronger winds at surface across the region from the afternoon of 31 Jan 2024. Persistent Fog and low cloud layer continued to cause Cold day to Severe Cold day conditions over some Parts of north Rajasthan, Uttar Pradesh, Bihar and in isolated pockets of Uttarakhand, Punjab and Haryana which was mainly prevailed in many days in the month during the period from 1 Jan till 29 Jan. This was abated over most of these areas from 31 Jan 2024.

Cold wave:

12-27 Jan: Parts of Punjab, north Rajasthan and adjoining Haryana; 13-20 Jan and then 26-27 Jan: Parts of Uttar Pradesh; 13-16 Jan: Delhi.

b) Rainfall Scenario:

The rainfall for the country, for the month of January-2024 has been recorded as 7.2 mm which is 42% of its Long Period Average (LPA) of 17.1 mm.

c) Heavy Rainfall Events:

Warning issued for	No. of Heavy/Very Heavy Rainfall Events (>64.4 mm): 15
	Percentage correct (in %) for Rainfall >64.4mm
Day1 / 24 Hours	98
Day2 / 48 Hours	98
Day3 / 72 Hours	98

d) Temperature Scenario:

The mean temperature for the month of January-2024 for the country as a whole was 20.12°C which was above normal by +0.48°C. The maximum temperature of 37.6°C had been recorded at Punalur (Kerala & Mahe) on 30th January 2024 and the minimum temperature of -0.5°C had been recorded at Sikar (East Rajasthan) 11nd January 2024 over the plains of the country during the month.

e) Thunder Squall & Hailstorm activity:

Thunder squall & Hailstorm activity during the month (till 0830 IST of last date of the month) is given in the table below:

S. No.	Region	Thunder Storm Days	Hail Events	Squall Events	Dust storms
1.	South Peninsular India	7	Nil	Nil	Nil
2.	Northwest India	5	1 (31 January)	Nil	Nil
3.	Northeast India	6	2 (30-31 January)	Nil	Nil
4.	East India	6	Nil	Nil	Nil
5.	Central India	3	1 (8 January)	Nil	Nil
6.	West India	0	Nil	Nil	Nil

Bulletins/Warnings/Press Releases Issued:

All India Weather Bulletins: 124, All India inference and severe weather warnings: 124, All India Weekly Weather Reports: 5, Daily Tropical Weather Outlook with cyclogenesis forecast for next 5 days: 31, Daily Warnings for Fishermen in North Indian Ocean for next 5 days including the advisories from sub-offices of IMD (6 hourly): 124, Fleet Forecast for Indian Navy for next 12 hours: 62, Bulletins for ships in deep sea under Global Maritime Distress Safety System (GMDSS) for next 36 hours: 62, Severe Weather Advisory Bulletins for nowcast guidance: 31, Mountain weather bulletins issued for western and central Himalayan region: 62, All India Multi-hazard winter weather warnings bulletin issued for North India: 31, Current Temperature Status and Warning bulletins: 31, Press Releases issued during the month: 50.

Publications & Operational Reports:

1. El Nino Southern Oscillation (ENSO) bulletin for the month of December 2023 and Seasonal Climate Outlook for South Asia for the period of December to March 2024 were issued.
(QuickLink:https://imdpune.gov.in/cmpg/Product/ENSO_Bulletin/ENSO_IOD_Update_Bulletin_12_23.pdf)
2. Climate Summary for the month of December 2023 Issued.

Seismological Observational Network:

Observation Type	Commissioned so far	Data reporting during the month
Seismic stations	156	120

Earthquake and Tsunami monitoring

Earthquake:

129 earthquakes were monitored in the Indian region out of which 4 events were greater than the magnitude (M) of 5.0.

Tsunami:

3 seabed earthquakes (M>6) with a potential to generate tsunami have occurred during the month. The information was disseminated in less than 12 minutes of occurrence of the events.

Ocean Observation System

Type of Platform	Commissioned till during the month	Data received during the month
Argo Floats	98	64
Moored Buoys	19	9
Tide Gauges	36	33
High Frequency (HF) Radars	10	8
Acoustic Doppler Current Profiler (ADCP)	20	17
Tsunami Buoys	7	4
Wave Rider Buoy	16	14

Ocean Science Services

S. No.	Types of forecasts	No. of advisories issued during the month
1.	Integrated Potential Fishing Zone (PFZ) advisories (Sea Surface Temperature (SST), Chlorophyll., wind)	31
2.	Tuna Fishing Advisories	21
3.	Ocean State Forecast (OSF)-Wave, Wind, Currents, SST (Sea Surface Temperature), MLD (Mixed Layer Depth) and D20 forecasts	31
4.	Real time global ocean analysis (daily)	31
5.	Coral Bleaching Alert System	0

Outreach and Awareness

- INCOIS observed the open house program in connection with 19th anniversary of 2004 Indian Ocean Tsunami, outreach activities of 9th India International Science Festival (IISF), and INCOIS Silver Jubilee Celebrations. Officers/ Students from various colleges/ institutes/ universities/ schools participated in these events.
- The first MEA-ITEC-funded training at ITCOcean (a UNESCO C2C) 'Fishery Oceanography for the Ocean Decade (F.O.O.D.)' started on 18 January 2024, with eleven (11) participants from seven (7) countries.
- INCOIS issued the followings:
 - One hundred and fifty-one (1510) High wave/ Swell Surge Alert/ Rough Sea Alert were issued to West and East Coast of India, Andaman & Nicobar Islands.
 - Provided weekly updates including past week briefing and upcoming week forecast of Ocean State Forecast information (Wave, Wind, Current, Swell, Sea Surface Temperature) for Indian Ocean to South Asia Hydromet Forum (SAHF) which is administrated by RIMES.
 - Thirty (31) days Algal Bloom Information Service issued, and 3 days alert was generated.
 - Provided Ocean State Forecast Information for Lakshadweep during Hon'ble PM visit during first week of January 2024.
- MoES and its institutes celebrated the 75th Republic Day.
- Second Public consultation meeting for "Rehabilitation of Coastal Bio-shields through eco-friendly techniques" under the Coastal Bio-Geo Information System (CBIS) project was conducted by NCCR at Ramanathapuram on 10th January, 2024. More than 50 participants from various villages in the southern districts of Tamil Nadu participated.
- IMD issued daily weather forecasting video of about 5 minutes duration in English & Hindi through YouTube, Facebook, Twitter and IMD website.
- Weekly video on extended range forecast (upto two weeks) were issued every Thursday through website and social media (Facebook, Twitter, YouTube etc.).

- The forecast videos in regional language were issued by regional offices of IMD regularly.
- Daily interviews were provided by the forecasters within the country.
- Bulletins and Warnings along with graphics were also communicated through social media including Facebook, Twitter, Instagram, YouTube and IMD Blog page.
- IITM Training for IAF (Indian Air Force) Officers was conducted during 15-19 January 2024. The training also included a visit to various labs of the institute. A visit to HACPL Mahabaleshwar was also done on 19 January 2024 to demonstrate the laboratory activities.

Publications

Subject	Publications			Ph.Ds.		
	Apr 2023 – Dec 2023	Jan 2024	Total	Apr 2023 – Dec 2023	Jan 2024	Total
Atmospheric Sciences	122	18		11	1	
Ocean Science and Technology	83	7		4		
Polar Sciences	21	6		0		
Geosciences and resources	40	11		5		
Total	266			20		

Utilization of Ocean Research Vessels during the month

Vessel	Days at Sea/ Utilization	Maintenance/ Inspection/ Scientific Logistics/ Cruise Preparation	No. of Cruises
Sagar Nidhi	29	2	2
Sagar Manjusha	26	5	2
Sagar Tara	24	7	2
Sagar Anveshika	22	9	2
Sagar Kanya	0	31	0
Sagar Sampada	0	31	0

Government of India
Ministry of Earth Sciences

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**CERTIFICATE
(FOR THE MONTH OF JANUARY, 2024)**

It is certified that the detailed status regarding all the posts pertaining to Ministry of Earth Sciences have been updated on AVMS as on last day of the month of January, 2024. A summary of the status is given below:-

a. The total number of posts required to be entered on AVMS	-	13
b. Number of posts filled as on date (including 01 Deputy Secretary appointed under Central Staffing Scheme)	-	11
c. Number of posts totally vacant as on date	-	01
d. Number of posts under additional charge arrangement	-	01
e. Number of posts that would fall vacant during the next 6 months	-	02


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