

Ministry of Earth Sciences (MoES)

Summary of Important Developments – August,2022

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):** Routine cleaning of the campus.
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.
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 ACC have been updated on AVMS and are placed at Annex-II.
9. **List of cases in which ACC (Appointments Committee of Cabinet) directions have not been complied with:** It is also confirmed that the directions of ACC are complied with.
10. **Details of 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:

- Union Minister of State (Ind. Charge) for Earth Sciences, Dr Jitendra Singh hoisted the National Flag on the auspicious occasion of Independence Day at IMD premises.
- Union Minister of State (Ind. Charge) for Earth Sciences Dr Jitendra Singh, on 12th August, 2022, visited Sagar Anveshika at Chennai Port and hoisted Tricolour onboard Ship as part of ‘Har Ghar Tiranga, Har Jahaj Tiranga’.
- Digital Coast - India (DCOIN), decision support system to provide all coastal information inaugurated by Secretary, MoES on 4th August 2022.
- Indo-Norwegian Initiative meeting on “Recapitulating and Re-fuelling Indo-Norway Cooperation in Ocean Space” was held on 3rd August 2022. Meeting attended by His Excellency, Mr. Hans Jacob Frydenlund, the Norwegian Ambassador to India, Dr. M. Ravichandran, Secretary, MoES, Directors NIWE, NIOT, and NCCR, and other dignitaries.
- A MoU has been signed between NIOT and the Departments of Water Resources, Govt of Odisha on 10th August 2022 for coastal protection measures.
- Rainfall over the country as a whole during the second half (August to September period) of the Southwest monsoon season, 2022 is most likely to be normal (94 to 106% of Long Period Average (LPA)).

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	Commissionedsofar	Installations during the month	Data Reporting
Automatic Weather Station (AWS)	*425 (803-378)	6	425
Automatic Rain Gauge (ARG)	571** (1382-811)	--	571
Agro AWS	200	--	187
GPS Sonde based RS/RW (Radio Sonde/ Radio Wind Stations)	56	--	56
Doppler Weather Radar (DWR)	*** 32	--	25

Ozone (Ozone Sonde + Total Ozone)	02	--	02
Surface Ozone (Electrochemical Concentration Cell method)	07	--	05
Nephelometer	12	--	09
Sky Radiometer	20	--	14
Black Carbon Monitoring Systems (Aethalometer)	25	--	15
System of Air Quality Monitoring System (SAFAR)	10 (Delhi) 10 (Mumbai) 10 (Ahmedabad)	--	10(Delhi) NIL(Mumbai)**** 10(Ahmedabad)
Hydromet (Indian Meteorological Department (IMD)& Extra-departmental excluding AWS &ARG)	---	--	3084
Aviation	79	--	79
Radiation Stations	46	---	46

* Out of Total 803, 378 are outlived.

** Out of total 1382, 811 are outlived.

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

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

Modelling

During August 2022, 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 centres of IMD and (x) Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) countries Met Departments. Additionally, snow forecasts were provided to DRDO and IAF for use at their end.

Monthly Weather Summary (August 2022)

a) Important Weather Events during the month

Low Pressure Systems:

Four Low pressure areas developed over Bay of Bengal during the month. Under the influence of a cyclonic circulation over northwest Bay of Bengal (BoB) and neighbourhood, a low pressure area formed and it is concentrated into a depression over coastal Odisha and neighbourhood during 9-10 August. A low pressure area formed over Saurashtra and adjoining northeast Arabian Sea (AS) and it is concentrated into a depression over northeast AS during 12-13th August. A low pressure area formed over North BoB and it is concentrated into a depression over northwest BoB and adjoining coastal areas of West Bengal & North Odisha during 14-16th August. Under the influence of a cyclonic circulation over south Myanmar & neighbourhood a low pressure area formed over northeast and adjoining areas of east central BoB and it is concentrated into a depression over

northwest & adjoining northeast Bay of Bengal during 19-23rd August. These systems had caused fairly widespread to widespread rainfall activity over Central, Peninsular India and over Rajasthan.

Western Disturbances:

Four Western Disturbances had affected Northwest India during the month and had caused fairly widespread to widespread rainfall/ thunderstorm activity over Western Himalayan Region along with very heavy/ extremely heavy rainfall activity over Himachal Pradesh and Uttarakhand.

Monsoon Trough:

Positioning of the monsoon trough close to the foot hills of the Himalayas had caused fairly widespread to widespread rainfall/ thunderstorm activity over Northeast India and adjoining Sub Himalayan West Bengal during the month.

b) Rainfall Scenario: The rainfall for the country as a whole, for the month of August-2022 has been recorded as 263.7 mm which is 103% of its Long Period Average (LPA) of 254.9 mm.

c) Heavy Rainfall Events:

Warning issued for	No. of Heavy/Very Heavy Rainfall Events (>64.4 mm): 330
	Percentage correct (in %) for Rainfall >64.4mm
Day1 / 24 Hours	76
Day2 / 48 Hours	74
Day3 / 72 Hours	74

d) Temperature Scenario: The mean temperature for the month of August-2022 for the country as a whole was 27.94°C which was above normal by +0.39°C. The maximum temperature of 39.4°C had been recorded at Churu (West Rajasthan) on 30th August 2022 and the minimum temperature of 17.6°C had been recorded at Tiruppattur (Tamil Nadu) on 28th August 2022 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	TS Days	Hail Events	Squall Events	Dust storms
1.	South Peninsular India	26	Nil	Nil	Nil
2.	Northwest India	31	Nil	Nil	Nil
3.	Northeast India	31	Nil	Nil	Nil
4.	East India	30	Nil	7 {Portblair-3 (on 3,4 & 8 Aug), Alipore-3 (on 9,13 & 19 Aug), Digha-1 (on 19 Aug)}	Nil
5.	Central India	26	Nil	Nil	Nil
6.	West India	10	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:- 4, Special Daily Weather Report for Southwest Monsoon 2022:- 31, CurrentWeatherStatus&Outlookfornexttwo weeks:- 4, Extended Range Outlook for cyclo-genesis:-4, MountainweatherbulletinsissuedforwesternandcentralHimalayanregion:-62, Expedition forecast

bulletin issued for Indian Army (AAW) during expedition to Mt.Kamet peak:- 8, Expedition forecast bulletin issued for Indian Army during expedition to Mt.Nun peak:- 11, MarineWeatherBulletins:-62, NowcastGuidanceBulletinsforSevereWeather:-31, PressReleasesissuedduringthemoth:-39, Special bulletin issued. (a) 58 National Bulletins for National and State level Disaster Management.

Publications & Operational Reports:

- i) ENSO bulletin for the month of July 2022 and Seasonal Climate Outlook for South Asia for the period of July to October 2022 were issued.
(Quick Link:www.imdpune.gov.in/Clim_Pred_LRF_New/Products.html).

Seismological Observational Network

Observation Type	Target	Commissioned so far	Data reporting during the month
Seismic stations	115	152	125

Earthquake and Tsunami monitoring

Earthquake: 101 earthquakes were monitored in the Indian region out of which 1 event was greater than the magnitude (M) of 5.0.

Tsunami: 1 seabed earthquake (M>6) with a potential to generate tsunami has occurred. This information was provided in less than 12 minutes of occurrence of the event.

Ocean Observation System

Type of Platform	Target	Commissioned till August, 2022	Data received during August, 2022
Argo Floats *	200	374	60
Moored Buoys	16	19	11
Tide Gauges	36	36	31
High Frequency (HF) Radars	10	12	8
Acoustic Doppler Current Profiler (ADCP)	20	20	17
Tsunami Buoys	4	7	2
Wave Rider Buoy	23	16	11

*The remaining floats/drifters have completed their life time and as such no data can be received from them.

Ocean Science Services

No	Types of forecasts	No. of advisories issued during the month
1.	Integrated Potential Fishing Zone (PFZ) advisories (Sea Surface Temperature (SST), Chlorophyll., wind)	30
2.	Tuna Fishing Advisories	6
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	10

Outreach and Awareness

- As part of the Ministry’s campaign on “Swachh Sagar -Suraksh Sagar”, various activities were conducted throughout the August month.
- As part of the 75 industry connects (iConnect) events organized by the Ministry of Science & Technology and Ministry of Earth Sciences to celebrate Azadi Ka Amrit Mahotsav and foster strong Atmanirbhar Bharat, INCOIS organized an iConnect event on ‘Ocean Observations, Information and Advisory Services’ organized under the theme ‘Ecology, Environment, Earth & Ocean Science and Water’ on Aug 3, 2022. About 150 delegates participated in the event organized in hybrid mode. IITM conducted iConnect event on ‘Weather Forecast for Renewable Energy Generation’ on 12th August 2022.
- One hundred and twenty-six (126) High wave/Swell surges (Alert/Warning) were issued for Gujarat, Maharashtra, Goa, Karnataka, Kerala, Lakshadweep Islands, Odisha, West Bengal, and Andaman & Nicobar by INCOIS.
- Indian Coast Guard (ICG) requested INCOIS to run Search And Rescue Aid Tool (SARAT) to find out the boat position which was missed at the last position off the coast of Oman (16 Deg 41.39 N 054 Deg 06.10 E) on June 27, 2022. Accordingly, INCOIS ran SARAT and shown probable region is off Maharashtra coast.
- Thirty-one (31) days of Algal Bloom Information Service were issued, and 1-day alert was generated by INCOIS.
- Indian Institute of Tropical Meteorology (IITM), Pune is celebrating 'Azadi Ka Amrit Mahotsav' and as part of the celebrations, virtual lecture series were organized at IITM during August 2022. Participants from various institutes visited IITM during the month.
- MoES and its institutes celebrated the Independence Day on 15th August 2022.
- India Meteorological Department had released the Southwest Monsoon Rainfall Forecast for the Second half of the Monsoon Season & for the month of August, 2022 through a press conference held in virtual mode on 1st August 2022.
- 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.
- Bulletins and Warnings along with graphics were also communicated through Social Media including Facebook, Twitter, Instagram, You Tube and IMD Blog page.

Publications

Subject	Publications			Ph.Ds		
	April, 2022 – July, 2022	August, 2022	Total	April, 2022 – July, 2022	August, 2022	Total
Atmospheric Sciences	58	15	73	5	4	9
Ocean Science and Technology	27	10	37	1	-	1
Polar Sciences	14	3	17	-	-	-
Geosciences and resources	23	6	29	1	-	1
Total	122	34	156	7	4	11

Utilization of Ocean Research Vessels during the month

Vessel	Days at Sea/ Utilization	Maintenance/ Inspection/Scientific Logistics/ Cruise Preparation	No. of Cruise
Sagar Nidhi	5	26	0
SagarManjusha	0	31	0
Sagar Tara	5	26	0
SagarAnveshika	0	31	0
SagarKanya	0	31	0
Sagar Sampada	0	31	0

No.MoES/2001/2017-Estt.
Government of India
Ministry of Earth Sciences

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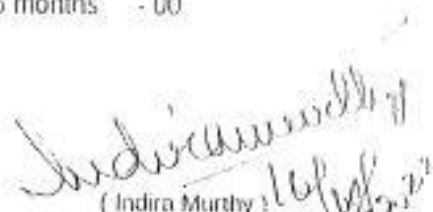
Dated, the August, 2022

CERTIFICATE

(FOR THE MONTH OF JULY, 2022)

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 July, 2022. 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 | - 10 |
| c. Number of posts totally vacant as on date | - 02 |
| d. Number of posts under additional charge arrangement | - 01 |
| e. Number of posts that would fall vacant during the next 6 months | - 00 |


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