



**Ministry of Earth Sciences (MoES)
India Meteorological Department**

Press Release
Dated: 14th January, 2020

Subject: Celebration of 145th Foundation Day of India Meteorological Department (IMD) at Dr. Ambedkar International Centre, 15 Janpath Road, New Delhi on 15th January 2020.

IMD is celebrating 145th Foundation Day on 15th January 2020 and the function will be organized at Dr. Ambedkar International Centre, 15, Janpath Road, New Delhi during 1500 to 1700 hrs IST.

With a humble beginning in 1875, IMD has marched forward with various milestones and paradigms to serve the society. A brief on the initiatives and achievements of IMD during 2019 are given below.

RECENT ACHIEVEMENTS

Observations

- WMO recognized 5 observatories of IMD - **Chennai (Nungambakkam), Mumbai (Colaba), Panjim, Pune and Thiruvananthapuram** as a long-term observing station for more than 100 years.
- **27 Doppler Weather Radars** are operational across the country including one portable **DWR** at Sonemarg, J&K meant for **Shri Amarnathji Yatra**.
- **13 Radiosonde/Radio Wind** stations commissioned in 2019 taking the total number from 43 to 56 stations enabled with twice a day ascents.
- Three (3) Nos. **transmissometer - RVR (Drishti System)** installed at Kochi, Thiruvananthapuram and Bhubaneswar making it to a total of 44 transmissometer – RVR (Drishti System).
- Preparation of **realtime rainfall statistics** was enhanced from 681 to 683 numbers of districts.
- New Aeronautical Meteorological Stations commissioned under **RCS-UDAN Scheme**.
- 341 no of new **raingauge stations** are added in the District-wise Rainfall Monitoring Scheme (DRMS).
- 138 **District Agrometeorological Units** have been established in comparison to earlier 130 units.
- Agromet Observatories have been installed at Five (5) **AMFUs** in Roorkee, Bhubaneswar, G. Udaigiri, Pusa and Agwanpur, thus total becoming 122.
- **Monthly Meteorological Register (MMR)** - Online was made operational at all surface observatories w. e. f. 1st October, 2019.
- Air Pollution Section, IMD participated in **60th and 61st Laboratory Inter-comparison programme of WMO**.

Modelling & Forecasting

- **IMD's North Karnataka Agro Meteorological Forecasting Centre (NKAFC)** established at University of Agriculture (UAS) Dharwad (Karnataka) on 14th February, 2019.
- **Global Forecast System (GFS)** model upgraded and run 4 times a day to generate 10 days forecast.
- Regional **WRF** mesoscale model upgraded from **9 km to 3 km resolution**.
- **Hurricane WRF** was run as a coupled model at a **resolution of 2 km** in collaboration with **INCOIS**.
- NWP Model based gridded rainfall data (WRF & GFS) are provided operationally to **CWC for their flood forecasting model**.
- **SWIRL application Nowcasting software** has been installed at 12 DWR stations.
- IMD in collaboration with NCMRWF & IITM implemented **Thunderstorm and Lightning Modelling and Warning System**.
- **Impact based forecast** initiated for different severe weather events.

- Two Hundred Sixty One (261) more stations were added on **Nowcast Warning Page of Newly launched IMD website for issue of three hourly nowcast warnings for severe weather**, thus increasing the total number to 694.
- **Within city local forecast and nowcast initiated for 100 places.**

Communication System Networks

- IMD launched its **new website**: www.mausam.imd.gov.in for general public and Mobile App ‘**MEGHDOOT**’ for Agromet Advisory Services.
- In Collaboration with IITM, a **webpage, web application and mobile application** developed for providing weather forecast for **Kumbh Mela** during 2019 along with **current weather information**.
- New website of **Air Quality Early Warning System for Delhi** has been launched during 2019.
- **A Data Supply Portal**, <http://dsp.imdpune.gov.in> has been made operational for automation of activities related to data enquiry, retrieval and supply.
- A new Web page made operational for INSAT-3D and INSAT-3DR in stagger mode.
- A web-based **Centralised Data Entry System (CDES)** package was launched on 8th August, 2019 to replace the outdated DATEN9 software. At present, 91 surface stations, 40 airports and 11 PBO Observatories started sending data through this system.
- **Agro-Meteorological Advisory Services (AAS)** bulletins are disseminated under PPP mode and through Kisan Portal to about 40.2 million farmers.

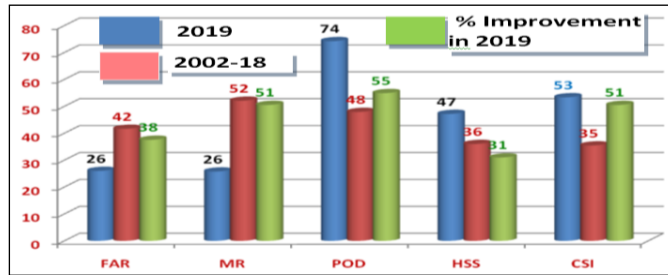
Improvement in Forecast Accuracy

- Significant **improvement in forecast** accuracy of severe weather events by 15 to 35% during the last 5 years.
- All India Severe Weather forecast (24 hrs) skill for 2019 has improved as compared to that of 2002-18. The Probability of Detection (POD) for 2019 had been 74% ,92%, 85% and 85% for heavy rainfall, heatwaves, cold waves and nowcast respectively
- **Annual average track forecast errors in 2019 for 24, 48 and 72 hours** has been 69, 104 and 149 km against the **mean forecast errors during 2014-18 of 86, 132 and 177 respectively** Similarly, the **track forecast skills in 2019** also improved substantially and were 68, 79 and 77% for 24, 48 and 72 hours against the average of 58, 70 and 74% during the period of 2014 to 2018.

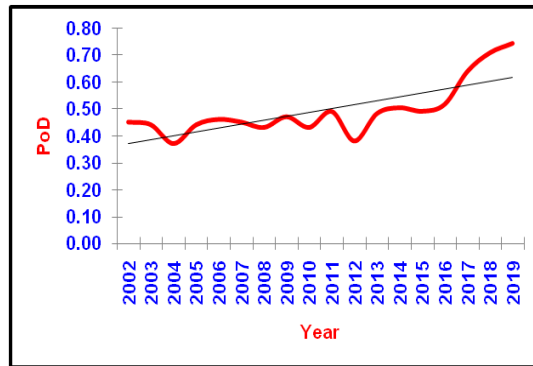
Awards and Appreciation

- **Dr. M. Mohapatra, DG, IMD** has been elected as **Member Executive Council, WMO** for 2019-2023.
- **National Geographic Channel** aired a story on “The Mega Cyclone FANI” on 7th October, 2019 highlighting the role of IMD in early warning services for ‘**FANI**’.
- Fascinated with the pin point accuracy of monitoring of cyclone FANI, Prince Charles visited the IMD, Delhi on 13th November, 2019. Dr. M. Rajeevan, Secretary, Ministry of Earth Sciences and Dr. Mrutyunjay Mohapatra, Director General of Meteorology, India Meteorological Department welcomed His Royal Highness Prince Charles to IMD.
- IMD earned **appreciations** from **United Nations** and **Hon’ble President of India** for accurate prediction of **cyclone FANI**.
- Appreciation letters received from the State Governments of Gujarat, West Bengal, Tripura and Odisha for exemplary services provided by the IMD.
- President of India appreciated IMD for providing accurate forecast for Independence Day celebrations of 2019.
- **Dr. M. Mohapatra, DG, IMD** honoured with Bharat Gourav Award, 2019 by Jay Bharat Foundation and felicitated by Hon’ble Chief Minister of Odisha for outstanding contribution to Disaster Management.
- **Dr. M. Mohapatra DG, IMD** was conferred with Fellowship of IMS & Indian Climate Congress in 2019.
- Indian Meteorological Society awarded Dr. H. R. Biswas for the best research paper published in 2019 in Weather & Climate Services.

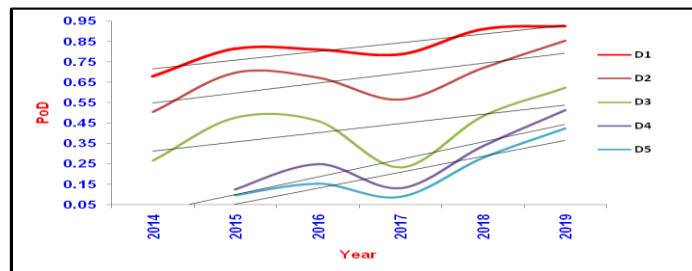
Recent improvements in skill of severe weather forecasts in IMD



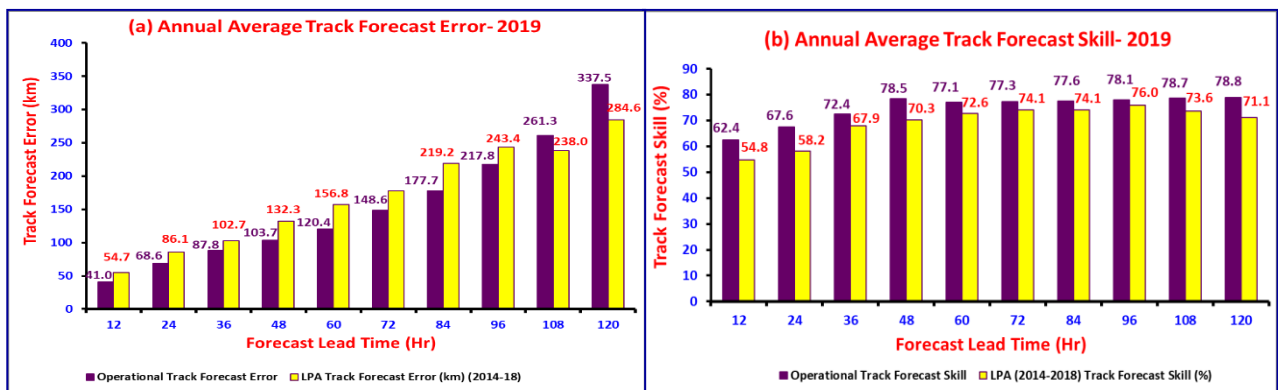
Improvement in heavy rainfall prediction in terms of False Alarm Ratio (FAR), Missing Rate (MR), Probability of Detection (POD), Heidke Skill Score (HSS) and Critical Success Index (CSI); for 24 hours lead period in 2019, in comparison with past 5 years.



Probability of Detection of heavy rainfall events, 24 hours in advance showing steady improvement during 2002 - 2019



Probability of Detection of Heatwave, 5 days in advance showing steady improvement during past 5 years



Substantial improvement in the track forecast errors & skill, compared to past 5 years.