



Government of India
Ministry of Earth Sciences
India Meteorological Department

Press Release,

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Subject: Celebration of 147th Foundation Day of India Meteorological Department

India Meteorological Department, Ministry of earth Sciences celebrated its 147th Foundation Day on 14th January, 2022. The Event was inaugurated by Chief Guest Dr. Jitendra Singh, Hon'ble Minister of state (Independent Charge) Ministry of Science & Technology & Earth Sciences, Minister of State, Prime Minister's Office, Ministry of Personnel, Public Grievances and Pensions, Department of Atomic Energy and Department of Space, Government of India. The Hon'ble Minister appreciated the initiatives and contribution of IMD in safeguarding the life and property with its accurate prediction and timely dissemination of forecast and warnings. He also assured all support in further augmentation of its observational and modeling capabilities. The occasion was marked with welcome address by Dr M Mohapatra, DGM, Presidential Address by Dr M. Ravichandran Secretary, Ministry of Earth Sciences and Special Address by Guest of Honours viz Hon'ble Lt Governor of Ladakh, Shri R K Mathur, Hon'ble Member of Parliament, Ladakh, Shri Jamyang Tsering Namgyal and Dr K Sivan , Chairman ISRO and Vote of Thanks by Dr. S.D. Attri, Scientist-G, IMD.

On this day, four (4) radars viz. C-band Polarimetric Doppler at Veravali (Mumbai), X-band Polarimetric DWRs at Ayanagar (Delhi), Pallikarnai (Chennai) and Leh were inaugurated by Hon'ble Minister in august presence of Hon'ble Lt Governor of Ladakh, Hon'ble Member of Parliament, Ladakh, Chairman ISRO, Secretary, Ministry of Earth Sciences and DGM, IMD.

Further four (4) initiatives viz.(i) Dedicated website for Aviation Weather Services (ii) Geospatial Services for severe weather monitoring & forecasting (iii) Climate Hazards and Vulnerability Atlas and (iv) Public Observation System through "crowd sourcing mobile app" were also inaugurated by Hon'ble Minister and other dignitaries.

Details of above are given in Annexure-I

Nine (9) publications i.e.

1. Annual Climate Statement for 2021
2. Report on "Cyclonic Disturbances over North Indian Ocean during 2021",
3. Report on "Verification of sub-basin-wise quantitative precipitation forecast during SW Monsoon 2021",
4. Report on "Numerical Weather Prediction (NWP) model Products for Sectoral applications".
5. Report on "Use of Weather Information for Secure, reliable and economic operation of Indian power grid",
6. Report on "Information Seeking and Utilization behaviour of the Intermediate Users of Weather and Climate Services",
7. Report on "Meteorological Applications of Indian GNSS derived IPWV",
8. International Journal Mausam, January 2022 issue,
9. Mausam Manjusha were released by Hon'ble Minister.

On this occasion, various awards i.e. Azadi Ka Amrit Mahotsav Awards 2021, IMD Best Office and Employees Awards, 30th Biennial Mausam Award and Rajbhasha Shield were conferred by Hon'ble Minister.

New initiatives of IMD inaugurated on 147th Foundation Day of IMD on 14th January, 2022

(i) X band DWR, Ayanagar

As part of the urban weather monitoring network, One X band Doppler weather radar built with indigenously developed technology incorporating the latest solid state power amplifier transmitter has been installed at Meteorological Office of IMD at Ayanagar, New Delhi. This radar keeps an eye on the atmospheric phenomena up to a radial distance of 100 km around the site. The addition of this radar would thus enhance the weather monitoring capabilities of IMD for the NCR region. The Dual polarisation technology used in this radar will provide improved rainfall monitoring and hydrometeor classification by distinguishing between rain, snow and hail. This will also help in monitoring, nowcasting and short range forecasting.

This radar manufactured by M/S Astra microwave private limited, Hyderabad is a shining example of **Make in India** initiatives of Govt of India.

(ii) X band DWR, Leh

To fulfil the mandate of IMD to provide better weather services in Ladakh Region, Doppler weather radar has been installed in Leh. The challenges were daunting because of the extreme weather conditions and difficult terrain, however IMD has been successful in enabling this important tool to improve the weather monitoring and forecast for the benefit of the people of the region.

This radar installed by IMD is at the highest altitude in India and will provide vital information by detecting thunderstorms, heavy rainfall, snowfall and thus help in monitoring for severe weather in Ladakh region. It provides coverage over an area within a radius of 100 km around the city of Leh. It is manufactured indigenously by M/S Astra Microwave Products Ltd. This is also one of the achievements of **Make in India** initiatives of IMD.

(iii) C band DWR Mumbai

The C band Dual polarised Doppler weather radar installed at Veravali in Mumbai is the epitome of the cooperation between IMD and ISRO for development of state of the art indigenous Doppler weather radar. This is the second radar in Mumbai installed in the land provided by BMC to facilitate improvement in weather forecasting over Mumbai region.

Being Dual polarised Doppler weather radar, it is capable of providing better estimation of rainfall and hydrometeor classification thus improving the forecasting & warning capabilities of IMD. This radar designed and developed by a team of radar experts of ISTRAC, ISRO provides surveillance within a radial range of 450 kms around Mumbai. The fully indigenous design has been manufactured by M/S Data Patterns, Chennai. It is a remarkable achievement of the scientists of ISRO as the Solidstate transmitter, radar control and signal processor is entirely fabricated in India thus establishing State of the art technology under the Make in India policy.

(iv) X band DWR Chennai

The weather radar installed in the campus of National Institute of Ocean technology, under Ministry of Earth sciences at Chennai, is the third Doppler weather radar which will be monitoring weather around Chennai in X band in addition to the two S band radars installed at Shri Harikota and Chennai. This dual polarised Doppler weather radar is capable of providing coverage in an area with a radius of 150 kms around Chennai. Designed and developed by the scientist of ISTRAC under ISRO it is a fully indigenous design and is manufactured by M/S Data Patterns Chennai. It has a solid state power amplifier which makes it reliable and economical to operate thus enabling a viable option to reduce the imported content in this sophisticated radar. With the state of the art technology available within the country, the Atma Nirbhar Bharat vision is being realised by the hard work of the scientists and engineers of ISRO, IMD and the industry.

(V) Climate Hazards and Vulnerability Atlas

Understanding and building resilience against the extreme weather events are very much important in view of ongoing climate change scenario. India Meteorological Department has prepared the Web-GIS based Climate Hazard & Vulnerability Atlas of India for the thirteen most hazardous meteorological events, which cause extensive damages and economic, human and animal losses. This web Atlas is available in IMD Pune website(<https://www.imdpune.gov.in/hazardsatlas/index.html>) and IMD main website mausam.imd.gov.in.

The atlas provides information on nine types of climate hazards viz., Wind Hazard, Extreme rainfall, lightning, dust storm, hail storm, fog, drought, cyclone and thunderstorm in terms of their spatial distribution of average number of days of occurrence or probable extreme values and normalized vulnerability index at district scale.

The atlas also provides climate vulnerability information at district level on five types of hazards, namely, cold wave, heat wave, flood, lightning and snow fall. The districts have been categorised as very High, High, Medium and Low vulnerabilities for each of the climate hazards. The atlas provides pie charts representing the percentage of districts and population affected by disastrous weather events in different vulnerability categories.

Thus, the hazard and vulnerability atlas can be used as reference point to issue Impact Based forecast with respect to different weather hazards. It can also be utilized as a guide in planning the socio-economic activities and in preventing and mitigating the disasters.

(Vi) Launch of CAMD website on Foundation Day 2022

India Meteorological Department (IMD) is the national agency, solely responsible for all matters related to Aviation Meteorological Services for civil aviation in India. The Central Aviation Meteorological Division (CAMD) of IMD is the nodal office for Aviation Meteorology Services and liaisons with International Civil Aviation Organization (ICAO), World Meteorological Organization (WMO), Airlines,

Directorate General of Civil Aviation (DGCA), and Airports Authority of India (AAI) on technical aspects of aviation. A dedicated website <http://camd.imd.gov.in/> has been developed to facilitate better Aviation Meteorological Observations, forecasting products and warnings services.

Users can browse the list of airports, the aviation meteorological network, functional charts and Flight Information Region for information. Users may access the aeronautical climatological summaries for different airports.

The users may also access different video lectures and web courses to learn more regarding aviation meteorology and instruments. The manuals and guidelines as updated by Ministry of Civil Aviation (MOCA), DGCA, ICAO, WMO are easily accessible to users.

(vii) Web-GIS application in Weather Services

To enable further, the common man, disaster managers & stakeholders to take timely response action, IMD has introduced Web GIS based applications for all types of severe weather events

1. Heat Wave and Cold Wave
2. Heavy rainfall
3. Cyclone
4. Marine Weather

Apart from above, IMD has introduced Geospatial applications in following sectors :

1. Urban Weather Services
2. Nowcasting services
3. Numerical Weather Prediction model Guidance
4. Agrometeorological Services
5. Aviation weather Services
6. Transport Services (Railways/Highways)

It will enable forecasters, users and stockholders to build products that are more interactive and more informative. It will be available online in near real time mode. This integration allows all information in a GIS database for decision-making and analysis.

It will be available in IMD website with following link:

www.imdgeospatial.imd.gov.in

(viii) Crowd source mobile App "Public Observation".

India Meteorological Department has taken various initiatives in recent years for improvement in data reception and dissemination of weather forecast and warning services based on latest tools and technologies. To further enhance this initiative, India Meteorological Department, Ministry of Earth Sciences launched Crowd source mobile App "Public Observation". It has opened a new chapter in citizen science. It will act as a bridge between science and the society. Features of the app are as under:

1. The user can report weather observations along with their state, district, location and time of the events.
2. It captures location of user with coordinates.
3. Various weather phenomena like Rain, Thunderstorm, Lightning, Hailstorm, Dust storm, Fog, Snow, Gusty wind and the damage caused by them such as breaking of tree branches, uprooting of small/big trees, bending/breaking of Telephone/electric poles, Transmission tower, Damage to Kutcha and Pukka houses and shelters, Damage to vegetation/crops, Flooding of land, Loss of human lives and livestock.
4. Instant photos may be clicked and uploaded in jpg, jpeg, png & gif format.
5. This app is currently available in four languages i.e. **English, Hindi, Marathi & Tamil**. More languages will be added soon.
6. Weather data received from Public is displayed in symbolic form in map of India.
7. Please download this app from the play store through the following link:

Anroid: <https://play.google.com/store/apps/details?id=com.mausam.crowdsourc>