

GOVERNMENT OF INDIA
MINISTRY OF EARTH SCIENCES
RAJYA SABHA
UNSTARRED QUESTION NO. 1154
ANSWERED ON 05/12/2024

IMPROVING ACCURACY OF WEATHER FORECASTING

1154. # SHRI DHAIRYASHIL MOHAN PATIL:

Will the Minister of **EARTH SCIENCES** be pleased to state:

- (a) whether Government is aware of the fact that many a time wrong forecasts are made by the Indian Meteorological Department (IMD) due to errors in data analysis and interpretation with regard to weather forecasts;
- (b) whether there is any plan to introduce new technology, advanced modeling system and data analysis tools to improve the accuracy in IMD; and
- (c) the steps being taken to augment scientific and technical resources so as to make weather forecasting more reliable and accurate?

ANSWER

THE MINISTER OF STATE (INDEPENDENT CHARGE) FOR
MINISTRY OF SCIENCE AND TECHNOLOGY
AND EARTH SCIENCES
(DR. JITENDRA SINGH)

- (a) No. There has been a 40 to 50 percent improvement in the forecast accuracy of all severe weather events like heavy rainfall, fog, heat/cold waves, and thunderstorms in the recent five years by the India Meteorological Department (IMD).
- (b)-(c) Yes. Ministry continuously enhances and upgrades meteorological observations, communications, modeling tools, and forecasting systems. The IMD uses the latest tools and technologies to predict severe weather events. This includes sophisticated dynamical numerical weather prediction models at higher spatial and temporal resolution, multi-model ensemble methods, artificial intelligence, and machine learning (AI/ML) & data science methodologies, complemented with improved ground-based & upper air observations and advanced remote sensing network for real-time monitoring and predictions. IMD uses the latest dissemination tools, including Common Alert Protocol (CAP), mobile apps, websites, APIs, and other social media platforms, to provide efficient, effective, and timely early warning services. IMD is constantly working to improve and adapt to the latest technologies.
