

GOVERNMENT OF INDIA
MINISTRY OF EARTH SCIENCES
RAJYA SABHA
UNSTARRED QUESTION NO. 42
ANSWERED ON 29/01/2026

FORECAST SYSTEM

42. SHRI SANJAY SETH:

Will the Minister of EARTH SCIENCES be pleased to state:

- (a) how the newly launched Bharat Forecast System would enhance the accuracy of weather predictions at the district and block levels;
- (b) the role of this system in improving early warning for farmers, fishermen, and disaster-prone communities;
- (c) the steps taken to train local authorities and emergency services in using this model for timely interventions;
- (d) how the system would be integrated into existing apps or platforms accessible to the public; and
- (e) whether the model would assist in planning urban drainage and flood control infrastructure and if so, the details thereof?

ANSWER

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

- (a) The Bharat Forecast System (BharatFS) is based on the newly implemented Triangular Cubic Octahedral (TCO) dynamical grid, which enables the model to operate at ~ 6 km horizontal resolution. It has improved representation of orography, better filtering, and better conservation properties. With the increase in horizontal resolution, BharatFS can generate distinct forecasts every 6 km. With the improved skill of BharatFS at such a high resolution, the model can provide better guidance for weather predictions and extremes at the district and block levels, which are typically 12 km or more.
- (b) The BharatFS provides a 10-day forecast of rainfall, temperature, low-pressure genesis, and other critical atmospheric conditions at 6.5 km, enabling model guidance in issuing early warnings for multiple sectors, including farmers, fishermen, and disaster-prone communities.
- (c) The model output is not directly disseminated to stakeholders; however, India Meteorological Department (IMD) uses the model to issue operational forecasts and advisories about cyclones, extremely heavy rainfall, and other relevant events, which serve as actionable guidance for emergency services.

- (d) The BharatFS model outputs are displayed in the following publicly accessible IMD website https://nwp.imd.gov.in/bharatfsproducts_cycle00_mausam_ar.php.
- (e) The BharatFS model is a global model giving a 10-day forecast of atmospheric variables at 6.5 km horizontal resolution. However, the model output can serve as the initial and boundary conditions to regional flood forecasting models that can generate flood specific variables (streamflow, water level, and flood extent), resulting in planning urban drainage and flood control infrastructure.
