

**GOVERNMENT OF INDIA  
MINISTRY OF EARTH SCIENCES  
RAJYA SABHA  
UNSTARRED QUESTION No. 490  
TO BE ANSWERED ON THURSDAY, December 03, 2015  
Advancement in IMD for forecasting calamities**

**490 SHRI VIVEK GUPTA:**

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

- (a) the technology used by the Indian Meteorological Department (IMD) to forecast and prevent flood situations in the country;**
- (b) the comparison of the technology used by India viz-a-viz Global Standards for the same;**
- (c) whether Government is planning to improve the current forecasting technology so as to predict and prevent wide scale destruction of floods in the country; and**
- (d) the proposals, action-taken and committee recommendations that government has received in the last three years for the same?**

**ANSWER**

**MINISTER OF STATE FOR MINISTRY OF SCIENCE AND TECHNOLOGY AND  
MINISTRY OF EARTH SCIENCES  
(SHRI Y. S. CHOWDARY)**

- (a) ESSO-IMD provides Quantitative Precipitation Forecast (QPF) up to 72 h at sub-basin scale through Flood Meteorological Offices (FMOs). FMOs provide meteorological support to the Central Water Commission (CWC) for issuing flood warnings in respect of the 43 rivers of India covering 137 sub-basins. CWC issues flood forecasts 6 h to 30 h in advance for 176 stations using QPF received from FMOs of ESSO-IMD and in-situ hydro-meteorological data. ESSO-IMD operates Flood Meteorological Offices (FMOs) at ten locations viz., Agra, Ahmedabad, Asansol, Bhubaneshwar, Guwahati, Hyderabad, Jalpaiguri, Lucknow, New Delhi and Patna. During the flood season, FMOs provide valuable meteorological support to the Central Water Commission (CWC) for issuing flood warnings in respect of the 43 rivers of India: i) Agra -Lower Yamuna and Betwa; ii) Ahmedabad -Narmada, Tapi, Mahi, Sabarmati, Banas and Deman Ganga; iii) Asansol -Ajay, Mayurakshi and Kangsabati; iv) Bhubaneshwar -Mahanadi, Brahmani, Baiterini, Bruhaba-lang, Subernarekha, Rushkulya and Vansdhara; v) Guwahati -Brahmaputra and Barak; vi) Hyderabad -Godawari and Krishna; vii) Jalpaiguri -Teesta; viii) Lucknow -Ganga, Ramganga, Gomti, Sai, Rapti Ghagra and Samda; ix) New Delhi -Upper Yamuna, Lower Yamuna, Sahibi; x) Patna -Kosi, Mahananda, Bagmati, Kamla, Gandak, Buri Gandak, North Koel, Kanhar, PunPun and Upper Sone.**
- (b) All emerging technologies used for data collection and transmission are at par with such systems used by other developed countries in the world.**
- (c-d) Improvement of the flood forecasting system is a continuous process as per the emerging needs. Inundation using 2D modelling tools are getting employed through creation of suitable Digital Elevation Models for the flood prone areas.**

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