

Both maximum and minimum temperature was below normal over the plains of northern and eastern India and adjoining central parts of the country during first 10 days of the month and again on most of the days during second fortnight of the month. Over parts of Punjab, Haryana, Chandigarh & Delhi, Bihar, Jharkhand and Gangetic West Bengal, maximum temperature was below normal by about 1 to 3°C and over parts of East & West Uttar Pradesh, it was below normal by about 3 to 5°C. Similarly over parts of East & West Uttar Pradesh, Punjab, Haryana, Chandigarh & Delhi, Bihar, East & West Madhya Pradesh, Chhattisgarh, Vidarbha, Assam & Meghalaya and Sub-Himalayan West Bengal & Sikkim, minimum temperature was below normal by about 1 to 2°C. The following stations of central/north eastern region even reported record lowest minimum temperature in January, 2013:—

Station Name	Previous Record (C°)	Date	New Record (C°)	Date (January, 2013)
Agartala	3.5	31-01-1964	3.3	10
Jalpaiguri	4.0	30-01-1964	4.0	9
Gaya	1.5	08-01-2000	1.4	9
Muzaffarpur	2.7	20-01-1908	2.5	9
Bareilly	0.6	24-01-1989	-0.1	9
Patna	1.4	21-01-1984	1.1	9
Gorakhpur	1.7	15-01-1933	-1.0	9
Satna	0.6	15-01-1933	0.4	7

Monsoon predictions

692. SHRI NARESH AGRAWAL : Will the Minister of EARTH SCIENCES be pleased to state:

(a) whether the Indian Meteorological Department has been repeatedly wrong in its prediction of the monsoon;

(b) whether Government plans to launch a National Monsoon Mission during the Twelfth Five Year Plan;

(c) if so, the details thereof; and

- (d) if not, the reasons therefor?

THE MINISTER OF EARTH SCIENCES (SHRI S. JAIPAL REDDY) : (a) No Sir. During the last 25 years (1988-2012), long range seasonal monsoon rainfall forecasts of the Government for the country as a whole were found to be accurate (within the error bar of $\pm 4\%$) in 12 years (48% of cases) and partially correct (within the error bar of $\pm 8\%$) in another 5 years (20% cases). Therefore, monsoon forecasts have either been accurate or partially correct in 17 years or 68% of cases. Only in 32% of cases, the forecast error was more than 8%. On the other hand, accuracy of short range (up to 3-days in advance) monsoon forecasts is found to be of the order of 70-95%. The skill of district level rainfall is 75-85% in monsoon season and more than 85% in non-monsoon seasons. By duly considering the difficulties involved in monsoon prediction, the above success rate may be considered as very encouraging.

- (b) Yes Sir. The National Monsoon Mission (NMM) is already launched.

(c) Through NMM, all efforts to set up a state-of-the-art dynamical prediction system for improved prediction of monsoon rainfall on extended range to seasonal time scale (16 days to one season) including improved predictions of temperature, rainfall and extreme weather events on short to medium range time scale (up to 15 days) have been launched.

- (d) Does not arise.

Mapping of earthquake prone zones

693. SHRI AAYANUR MANJUNATHA : Will the Minister of EARTH SCIENCES be pleased to state:

(a) whether the Indian Meteorological Department has identified and mapped the earthquake prone zones in the country;

- (b) if so, the details thereof;

(c) the details of seismic tremors reported along with their intensity during the last three years and the current year;

(d) whether adequate steps have been taken to deal with earthquakes, including creating awareness amongst masses; and

- (e) if so, the details thereof?