

21.1: Annual Climate Scenario during 2007

Highlights

The year 2007 witnessed extreme weather events across the country, both in terms of temperature and precipitation. The year was characterized by above normal temperature over different parts of the country. **2007 was the fourth warmest year on the record since 1901 after, 2002, 2006 and 2003.** During the Southwest monsoon season, rainfall for the country as a whole was above normal. However, it was characterized by remarkable spatial variability with Peninsular parts of the country receiving excess rainfall, while Northern parts of the country receiving deficient rainfall. Northeast monsoon activity over South Peninsula was also normal.

Temperature

Maximum, Minimum and mean temperatures were above normal over most parts of the country except some parts of Peninsula and Northeastern region. Minimum temperatures were above normal by more 2°C over parts of Himachal Pradesh, Maximum temperatures were above normal by more the 2°C over Northern parts of Rajasthan.

Spatial pattern of trends of mean annual temperatures anomalies suggest significant positive (increasing) trend over most parts of the country except over some parts of Rajasthan, Gujarat and Bihar, where significant negative (decreasing) trends were observed.

During January, maximum temperatures were above normal throughout the country except over some parts of Northeast India. They were above normal by about 2°C over parts of Central India and by more than 4°C over parts of Jammu and Kashmir. Minimum temperatures were above normal over Central, extreme Northwestern and Northern parts (except over Punjab, Haryana and parts of West Uttar Pradesh) of the country. They were below normal elsewhere. They were above normal by more than 2°C over parts of central, Northern and Northwestern India.

During February, maximum and minimum temperatures were generally above normal over most parts of the country. Northern parts of Jammu & Kashmir were warmer by more than 3°C during the month. Over most of the Northern parts of the country, minimum temperatures were above normal by about 2°C to 3°C.

During March, maximum temperatures were above normal over the Peninsula, extreme Northern & Northeastern parts of the country and were below normal elsewhere. Over parts of East Uttar Pradesh and Bihar, maximum temperatures were below normal by more than 2°C. Minimum temperatures were above normal over most parts of the country except over Eastern region, parts of Jammu & Kashmir, Punjab and extreme South Peninsula where they were slightly below normal.

Rainfall in 2007

In 2007, the annual rainfall over the country as a whole was 99% of Long Period Average (LPA). Season wise rainfall distribution over the country as a whole was as follows:

Winter (January to February):	87% of LPA
Pre-monsoon (March to May):	84% of LPA
Monsoon (June to September):	106% of LPA
Post-Monsoon (Oct. to Dec.):	68% of LPA

Annual Rainfall Activity 2007

Rainfall activity over the country as a whole was normal during the year. Gangetic West Bengal, Uttaranchal, Saurashtra & Kutch, Rayalseema, South Interior Karnataka and Lakshadweep received excess rainfall. West UP, Punjab, Himachal Pradesh, East Madhya Pradesh and Marathwada received deficient rainfall. Out of 36 meteorological subdivisions, 6 received excess rainfall, 25 received normal rainfall and 5 received deficient rainfall.

During the winter season (January – February), rainfall activity over the country as a whole was generally subdued. However, many subdivisions of North and East India received excess rainfall. Peninsular India either received scanty rainfall or no rain. Out of 36 meteorological subdivisions, 11 received excess rainfall, 6 received normal rainfall, 5 received deficient rainfall and 10 received scanty rainfall. 4 subdivisions did not received any rain.

Rainfall activity during the Pre-monsoon season (March- May) over the country as a whole was generally subdued. However, East Uttar Pradesh, West UP, Haryana, Chandigarh & Delhi, Punjab and West Rajasthan received excess rainfall. Out of 36 meteorological subdivisions, 5 received excess rainfall, 11 received normal rainfall, 16 received deficient rainfall and 4 received scanty rainfall.

During the monsoon season (June – September) for the country as whole, seasonal rainfall at the end of season was 105% of its Long Period Average (LPA) value. The long period average (LPA) value of southwest monsoon rainfall calculated with the data of the period, 1941-1990 is 89 cm. During the season, 13 subdivisions received excess rainfall, 18 received normal rainfall and the remaining 5 subdivisions received deficient rainfall. Moderate drought conditions (rainfall deficiency of 26% to 50%) prevailed over five subdivisions viz: West UP (-39%), Haryana, Chandigarh and Delhi (-33%), Punjab (-32%), Himachal Pradesh (-36%) and East Madhya Pradesh (-28%). Out of 504 meteorological districts for which rainfall data were available, 73% of the meteorological districts received excess/normal rainfall and the remaining 27% districts received deficient rainfall (rainfall deficiency more than 19%). During the season, 74

districts (15%) experienced moderate drought conditions (rainfall deficiency of 26% to 50%) and 29 districts (6) experiences severe drought conditions (rainfall deficiency 51% and more). During the season, rainfall was excess (rainfall above its LPA by 20% or more) in 162 districts (32%).

Northeast monsoon (Post-monsoon: October – December) over south peninsula was normal during the season. Tamil Nadu & Pondicherry received excess rainfall. However, Rayalaseema, South Interior Karnataka and Kerala received normal rainfall. During the post-monsoon season: 2 subdivisions received excess rainfall, 7 received normal rainfall, 9 received deficient rainfall and 18 received scanty rainfall. Northeast monsoon seasonal rainfall over south peninsula (comprising of 5 subdivisions viz. Coastal Andhra Pradesh, Rayalaseema, Tamil Nadu & Pondicherry, South Interior Karnataka and Kerala) was 104% of its LPA.

Extreme weather events

Severe Cold wave / Cold wave conditions prevailed over Northern parts of the country during first fortnight of January. Heat wave conditions with maximum temperatures above normal by 5 to 7°C prevailed over northern and central parts of the country during the first ten days of June. Heat wave conditions also prevailed over parts of Orissa, Coastal Andhra Pradesh and Telangana during second fortnight of May. Many stations of western Himalayas were abnormally warmer from last week of March to first week of May. Similarly, many stations of eastern Himalayas were abnormally warmer in the first week of May.

(Source of the above material: National Climate Centre, India Meteorological Department).