

भारत मौसम विज्ञान विभाग
पृथ्वी विज्ञान मंत्रालय



INDIA METEOROLOGICAL DEPARTMENT
Ministry of Earth Sciences

WEEKLY WEATHER REPORT साप्ताहिक मौसम विवरण

For the week ending on 4th October 2023 (12 Asvina 1944 Saka)

CHIEF FEATURES: 1) Formation and movement of twin-low pressure systems during the week, i.e. a **Depression** over eastcentral Arabian Sea off south Konkan-Goa coasts and a **well marked low pressure area** over northwest Bay of Bengal caused heavy to very heavy rainfall over west coast as well as over east central and adjoining parts of east and northeast India, respectively. 2) Under the influence of **low pressure area** over southeast Jharkhand and neighbourhood; Gangetic West Bengal reported exceptionally heavy rainfall over Barisha (West Midnapore)-52 cm on 4th October. 3) With further cessation of rainfall activity from more parts of northwest and adjoining parts of central and western parts of India; Southwest Monsoon further withdrew from some parts of Jammu-Kashmir & Ladakh, Himachal Pradesh and Uttarakhand; entire Punjab, Haryana-Chandigarh-Delhi; some parts of west Uttar Pradesh, west Madhya Pradesh, east Rajasthan and some more parts of west Rajasthan on 30th September.

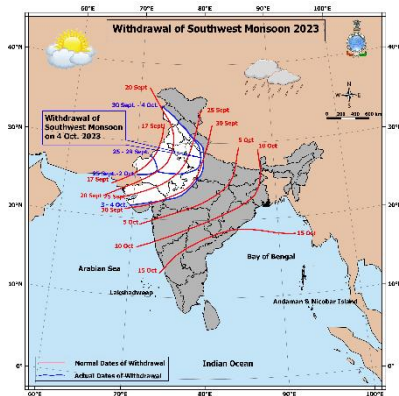


Fig (a) Withdrawal map of SW Monsoon

Withdrawal of Southwest Monsoon:

28 – 29 Sept.: The line of withdrawal continued to pass through 28.3°N/72.0°E, Nokhra, Jodhpur, Barmer, 25.7°N/70.3°E.

30 Sept.: The line of withdrawal passed through Gulmarg, Dharamshala, Pantnagar, Etawah, Morena, Sawai Madhopur, Jodhpur, Barmer and 25.7°N/70.3°E.

1 – 2 Oct.: The line of withdrawal continued to pass through Gulmarg, Dharamshala, Pantnagar, Etawah, Morena, Sawai Madhopur, Jodhpur, Barmer and 25.7°N/70.3°E.

3 Oct.: The line of withdrawal passed through Gulmarg, Dharamshala, Mukteshwar, Pilibhit, Orai, Ashoknagar, Indore, Baroda and Porbandar. Southwest Monsoon withdrawn from some more parts of Uttarakhand, west Uttar Pradesh, west Madhya Pradesh; remaining parts of Rajasthan, and some parts of Gujarat state.

4 Oct.: The line of withdrawal continued to pass through Gulmarg, Dharamshala, Mukteshwar, Pilibhit, Orai, Ashoknagar, Indore, Baroda and Porbandar.

Activity of South West Monsoon (SWM):

28th Sept.: The Southwest Monsoon was vigorous over coastal Karnataka; active over Konkan and Goa, Kerala and subdued over Arunachal Pradesh, Assam, Meghalaya, Nagaland-Manipur-Mizoram-Tripura, West Bengal, west Uttar Pradesh, Uttarakhand, Haryana, Punjab, Himachal Pradesh, Jammu-Kashmir and Ladakh, east Madhya Pradesh. **29th Sept.:** The Southwest Monsoon was vigorous over Kerala; active over Konkan, Goa, coastal Karnataka and subdued over Arunachal Pradesh, Assam, Meghalaya, Sub-Himalayan West Bengal, Sikkim, Odisha, Bihar, Uttar Pradesh, Uttarakhand, Haryana, Punjab, Himachal Pradesh, Jammu-Kashmir and Ladakh, east Rajasthan, coastal Andhra Pradesh, Rayalaseema. **30th Sept.:** The Southwest Monsoon was vigorous over Marathwada, coastal Karnataka, Kerala; active over Gangetic West Bengal, Odisha, Konkan, Goa and subdued over Arunachal Pradesh, Assam, Meghalaya, east Uttar Pradesh, west Uttar Pradesh, Uttarakhand, Haryana, Punjab, Jammu-Kashmir and Ladakh, east Rajasthan, Gujarat Region, south interior Karnataka. **1st Oct.:** The Southwest Monsoon was vigorous over Gangetic West Bengal, Jharkhand, Bihar, Konkan, Goa, coastal Karnataka, Kerala; active over Sub-Himalayan West Bengal, Sikkim, Odisha and subdued over Arunachal Pradesh, west Uttar Pradesh, Uttarakhand, Jammu-Kashmir and Ladakh, east Rajasthan, west Madhya Pradesh, Gujarat State, south interior Karnataka. **2nd Oct.:** The Southwest Monsoon was vigorous over Jharkhand, Konkan, Goa; active over Gangetic West Bengal, Bihar, Kerala and subdued over west Uttar Pradesh, Rajasthan, west Madhya Pradesh, Gujarat Region, Saurashtra, Kutch, Telangana, Rayalaseema. **3rd Oct.:** The Southwest Monsoon was vigorous over Odisha, Jharkhand, Chhattisgarh and subdued over west Uttar Pradesh, Uttarakhand, west Madhya Pradesh, Gujarat Region, Saurashtra-Kutch, Telangana, Rayalaseema, interior Karnataka. **4th Oct.:** The Southwest Monsoon was vigorous over West Bengal, Jharkhand, Bihar, and subdued over west Uttar Pradesh, Uttarakhand, west Madhya Pradesh, Gujarat State, Konkan, Goa, Marathwada, Telangana, Rayalaseema, Karnataka State.

SEMI-PERMANENT FEATURES:

Inter Tropical Convergence Zone (ITCZ): During the week, it was located between the Lat.12°N and Lat.20°N over the Indian region.

Sub-Tropical Ridge (STR): It oscillated between Lat.18°N and Lat.24°N at 200 hPa.

Mascarene High (MH): The MH was found to the east of its normal position on four days, to the southwest, to the west of its normal position and at its normal position on one day each.

Tibetan Anticyclone (TA): The TA was found to the southeast of its normal position on four days, to the east its normal position on two days and to the south of its normal position on one day.

Tropical Easterly Jet (TEJ): The highest wind speed of 71 knots was recorded over Karaikal on 30th September at 131 hPa.

WEATHER AND ASSOCIATED SYNOPTIC FEATURES:

- A cyclonic circulation lay over Myanmar and adjoining eastcentral Bay of Bengal which extended upto 5.8 km above m. s. l. on 28th. Under its influence, a **low pressure area** formed over northeast and adjoining eastcentral Bay of Bengal on 29th morning and then persisted over the same region with the associated cyclonic circulation extending upto 7.6 km above m. s. l. on 29th. It lay over northeast and adjoining northwest Bay of Bengal on 29th evening and over central parts of north Bay of Bengal, on 29th night. It lay as a **well marked low pressure area** over northwest Bay of Bengal on 30th September morning and then persisted over the same region with the associated cyclonic circulation extending upto 7.6 km above m. s. l. on 30th September. It moved west-northwestwards and lay centered over coastal West Bengal and adjoining areas of north coastal Odisha and northwest Bay of Bengal at 1730 hours IST of 30th September. It lay over southeast Jharkhand and adjoining areas of Gangetic West Bengal and north Odisha at 0530 hours IST of 1st October. It moved northwestwards and lay centered at 0830 hours IST of 1st October over western parts of Gangetic West Bengal and adjoining Jharkhand. It lay over southeast Jharkhand and

adjoining areas of Gangetic West Bengal and north interior Odisha on 1st October evening and lay as a **low pressure area** over south Jharkhand and neighbourhood, on 2nd morning and then lay over southwest Jharkhand and adjoining north Chhattisgarh. The associated cyclonic circulation extended upto 7.6 km above m. s. l. tilting southwards with height on 2nd. It lay over Jharkhand and neighbourhood with the associated cyclonic circulation extending upto 7.6 km above m. s. l. tilting southwards with height on 3rd. It lay over western parts of Gangetic West Bengal and adjoining Jharkhand with the associated cyclonic circulation extending upto 7.6 km above m. s. l. tilting southwards with height on 4th.

- A western disturbance lay as a trough in middle tropospheric westerlies with its axis at 5.8 km above m. s. l. ran roughly along Long. 67°E to the north of Lat. 30°N on 2nd. It ran roughly along Long. 74°E to the north of Lat. 30°N on 3rd and ran roughly along Long. 76°E to the north of Lat. 32°N on 4th.
- A trough ran from south Chhattisgarh to central parts of Madhya Maharashtra across Telangana and south Marathwada which extended between 3.1 and 5.8 km above m. s. l. on 2nd. Extending upto 3.1 km above m. s. l., it ran from south Jharkhand to Telangana across Odisha and Chhattisgarh on 3rd and ran from Sikkim to south Chhattisgarh across the low pressure area over western parts of Gangetic West Bengal & adjoining Jharkhand and Odisha on 4th.
- Last week's cyclonic circulation over north Interior Karnataka and neighbourhood lay over north coastal Karnataka and neighbourhood which extended between 3.1 and 4.5 km above m. s. l. on 28th. Under its influence, a **low pressure area** formed over eastcentral Arabian sea off south Konkan-Goa coasts on 29th morning and then persisted over the same region with the associated cyclonic circulation extending upto 7.6 km above m. s. l. on 29th. It lay as a **well marked low pressure area** over the same region on 30th September morning and intensified into a **Depression** over the same region at 0830 hours IST of 30th September and lay centred near Lat. 15.9°N / Long. 72.8°E. It moved north-northeastwards and lay centered at 1730 hours IST of 30th September over eastcentral Arabian sea close to south Konkan coast, near Lat. 16.6°N / Long. 73.2°E. It moved nearly northeastwards and crossed south Konkan coast between Panjim (Goa) and Ratnagiri (Maharashtra) during 2030-2230 hours IST of 30th September. It moved east-northeastwards and lay centered at 0530 hours IST of 1st October over south Konkan near Lat. 17.0°N / Long. 74.0°E. It moved northeastwards and weakened into a **well-marked low pressure area** over south Madhya Maharashtra and neighbourhood at 0830 hours IST of 1st October. It lay as a **low pressure area** over the same region on 2nd morning and then became less marked. However, the remnant associated cyclonic circulation lay over central parts of Madhya Maharashtra extending between 4.5 and 7.6 km above m. s. l. on 2nd which became less marked on 3rd.
- A cyclonic circulation lay over north Punjab and adjoining Jammu-Kashmir at 3.1 km above m. s. l. on 2nd which became less marked on 3rd.
- A trough ran from the cyclonic circulation associated with the well marked low pressure area over western parts of Gangetic West Bengal to east Uttar Pradesh at 0.9 km above m. s. l. on 1st October which became less marked on 2nd.
- Last week's cyclonic circulation over southwest Bay of Bengal off Tamil Nadu coast persisted at 5.8 km above m. s. l. till 30th September which became less marked on 1st October.
- Last week's western disturbance as a trough in westerlies in mid tropospheric levels with its axis at 5.8 km above m. s. l. ran roughly along Long. 67°E to the north of Lat. 30°N on 28th. It persisted on 29th and ran roughly along Long. 68°E to the north of Lat. 30°N on 30th September which moved away northeastwards on 1st October.
- An east-west shear zone ran roughly along Lat. 15° N across the cyclonic circulation over north coastal Karnataka and neighbourhood which extended between 3.1 and 4.5 km above m. s. l. on 28th. It persisted over the same region on 29th which became less marked on 30th September.
- A cyclonic circulation lay over central Pakistan and adjoining west Rajasthan at 0.9 km above m. s. l. on 29th which became less marked on 30th September.
- A cyclonic circulation lay over northwest Uttar Pradesh and neighbourhood extending between 1.5 and 3.1 km above m. s. l. on 29th which became less marked on 30th September.
- A cyclonic circulation lay over north Madhya Maharashtra and neighbourhood at 0.9 km above m. s. l. on 28th which became less marked on 29th.
- Last week's cyclonic circulation over Gangetic West Bengal and neighbourhood became less marked on 28th.
- Last week's trough from north coastal Karnataka to the cyclonic circulation over south Chhattisgarh across north Interior Karnataka, Telangana and Vidarbha became less marked on 28th.
- Last week's cyclonic circulation over south Chhattisgarh and neighbourhood became less marked on 28th.

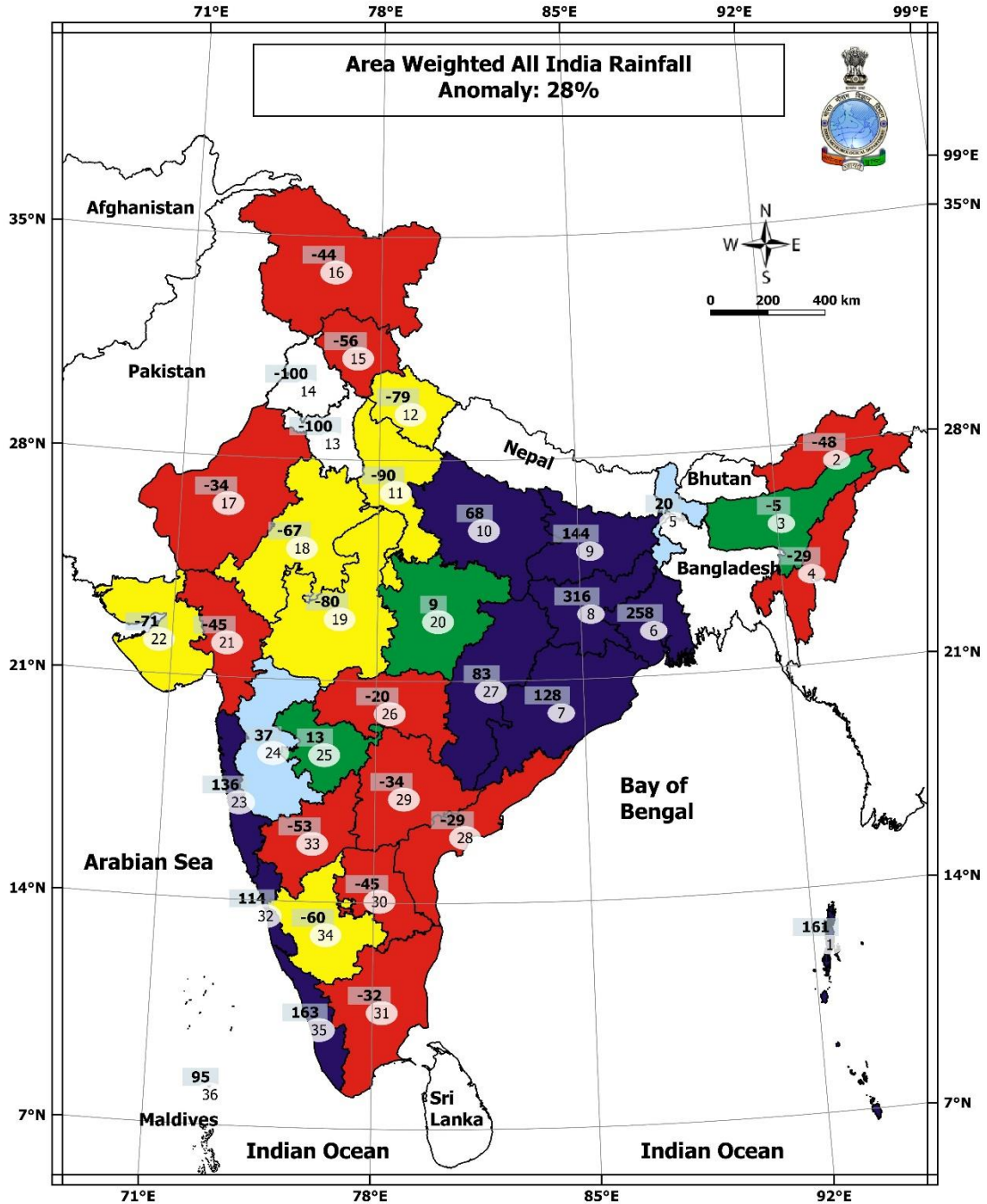
Media Reports: Lightning strike took toll of a teenager boy at Juhu beach, Mumbai (TOI, 28 Sept.). 2 persons died due to **lightning strike** at Chamoli district, Uttarakhand (TOI, 1 Oct.). **Lightning strike** took toll of a woman working in a field and 2 others were injured in the incident (Daily Sakal, 2 Oct.).

4th October 2023
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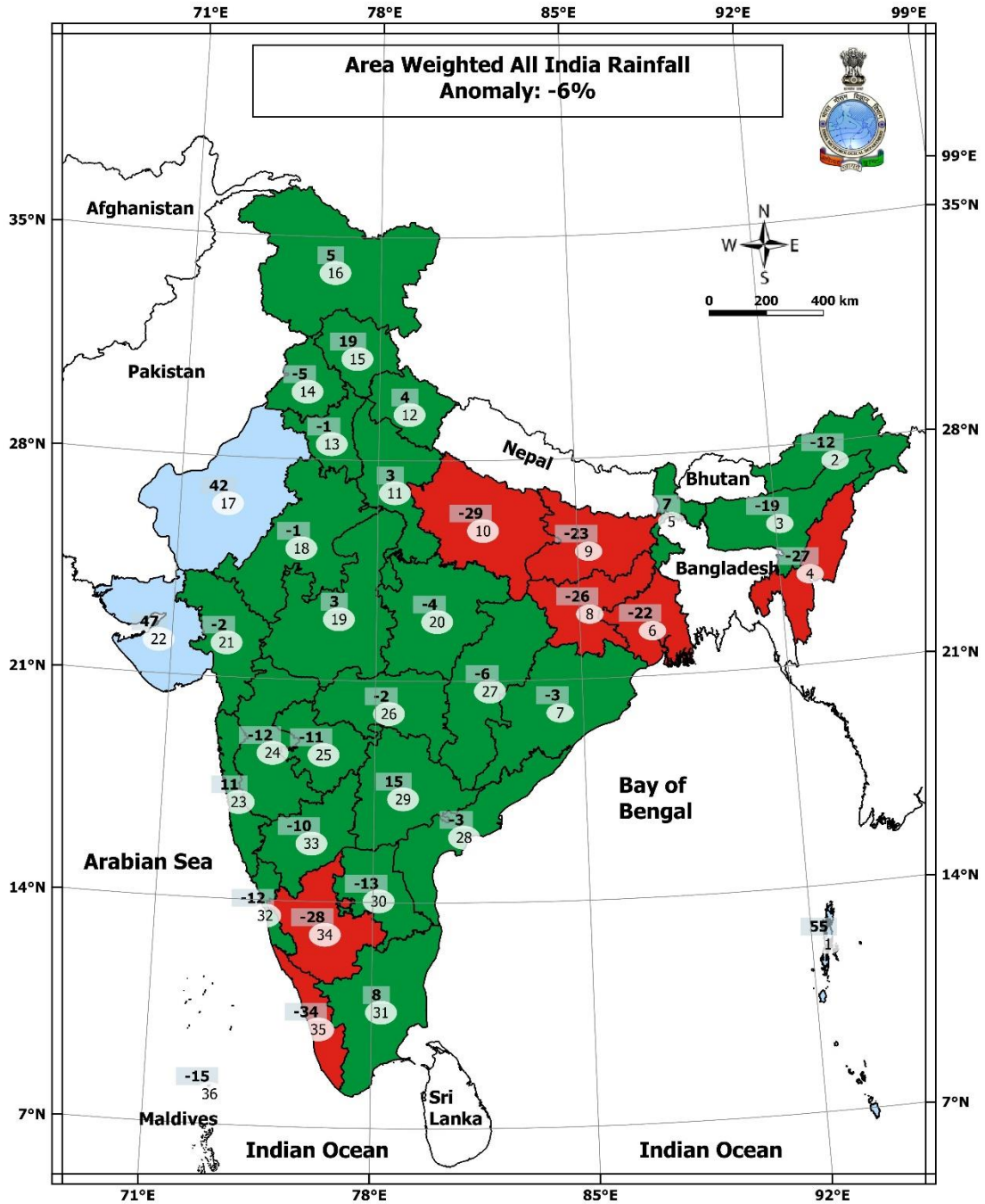
Rainfall % Departure For the Week ending

4 October 2023



- Indicates rainfall anomaly
- Indicates sub-division number
- Large Excess (+60% and above) 11
- Excess (+20% to +59%) 02
- Normal (-19% to +19%) 03
- Deficient (-20% to -59%) 12
- Large Deficient (-60% to -99%) 06
- No Rain (-100%) 02

Rainfall % Departure For the Season ending 4 October 2023



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|--|---|
| <p>□ Indicates rainfall anomaly</p> <p>■ Large Excess +60% and above 00</p> <p>■ Deficient (-20% to -59%) 07</p> | <p>○ Indicates sub-division number</p> <p>■ Excess (+20% to +59%) 03</p> <p>■ Large Deficient (-60% to -99%) 00</p> <p>■ Normal (-19% to +19%) 26</p> <p>□ No Rain (-100%) 00</p> |
|--|---|