



INDIA METEOROLOGICAL DEPARTMENT
(MINISTRY OF EARTH SCIENCES)
SOUTHWEST MONSOON-2025
END OF SEASON REPORT
FOR
MET. SUB-DIVISION OF UTTARAKHAND

HIGHLIGHTS

- For the State as a whole, the rainfall for the season (June-September) was **122%** of its long period average (LPA) and thus categorized as an '**Excess**' monsoon.
- Monthly rainfall over Uttarakhand as a whole was 136% of LPA in June, 84% of LPA in July, 149% of LPA in August and 140% of LPA in September respectively.
- Out of the total 13 districts of Uttarakhand, 02 districts received 'Large Excess', 05 districts received 'Excess', 05 districts received 'Normal' and 01 district received 'Deficient' seasonal rainfall.
- Monsoon current advanced into many parts of Uttarakhand on **20th June, 2025** and covered the entire State on **24th June, 2025** (Onset).
- The monsoon activity over Uttarakhand was '**Excess**' during the season (June-September).
- South-West Monsoon withdrew from the entire State on **26th September, 2025** (Withdrawal).

1. ONSET OF SOUTHWEST MONSOON – 2025

The southwest (SW) monsoon 2025 set in over Kerala on 24th May against the normal date of 1st June i.e. 8-days before its normal date. It advanced in different states and thereafter advanced into many parts of Uttarakhand on 20th June, 2025 and covered the entire Uttarakhand State on **24th June 2025**. Fig.1 shows the isochrones of advance of SW Monsoon 2025.

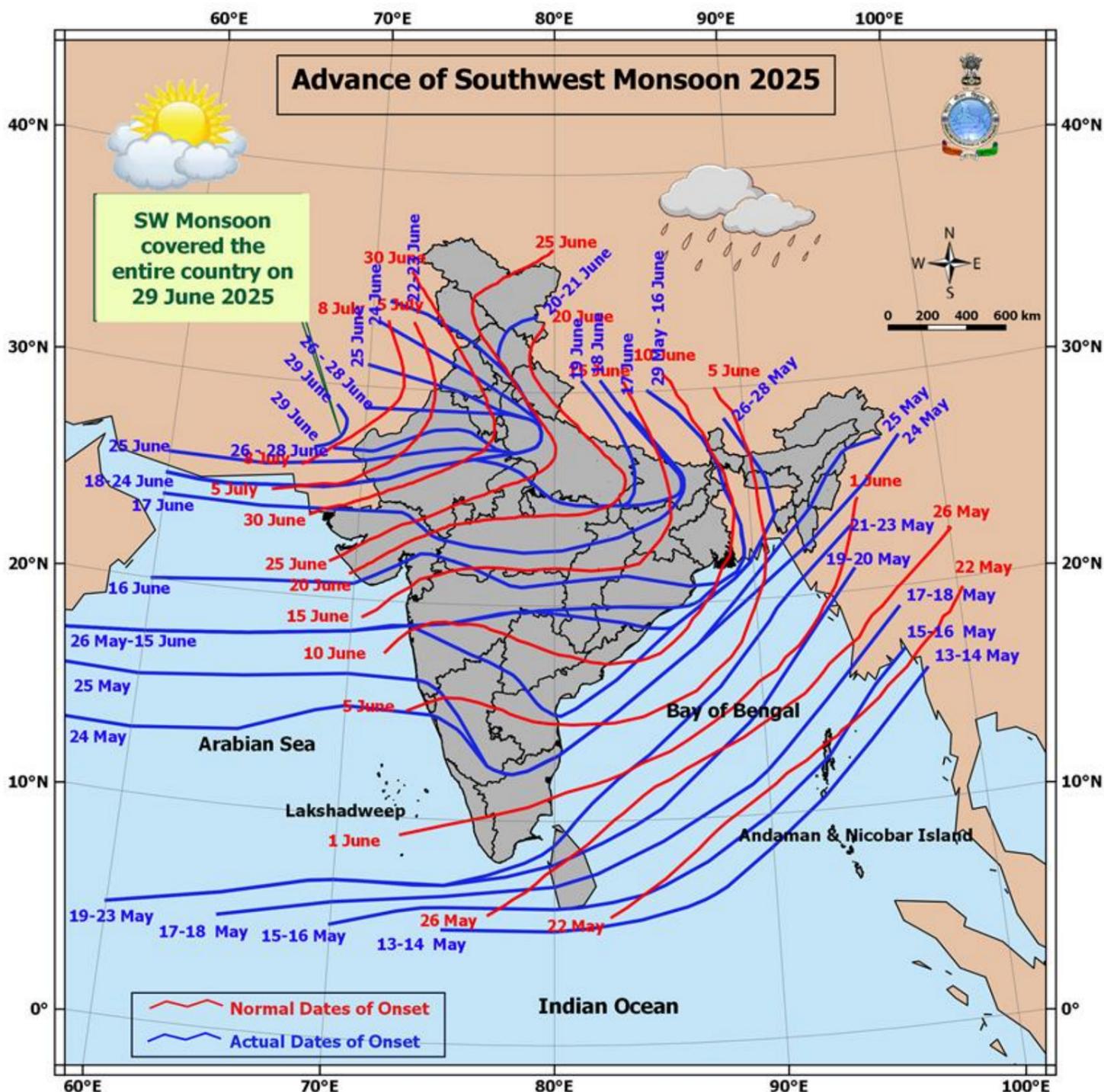


Fig.1 Isochrones of advance of SW-Monsoon 2025

2. CHIEF SYNOPTIC FEATURES OF SW MONSOON - 2025:

S. No.	Date	Synoptic Situation	Monsoon activity and significant rain (7 cm and above) (at 08:30 Hours IST. of Next Day)
1	27-Jun-25	<ul style="list-style-type: none"> ❖ The Northern Limit of Monsoon passed through 27.0°N/68.5°E, 27.0°N/70.0°E, Jaisalmer, Bikaner, Jhunjhunu, Bharatpur, Rampur, Sonipat, Anup Nagar and 29.0°N/70.0°E. ❖ The upper air cyclonic circulation over southwest Rajasthan persisted and extended upto 5.8 km above mean sea level tilting southwest wards with height. ❖ An east-west trough ran from the cyclonic circulation over southwest Rajasthan to Bangladesh across East Rajasthan, north Madhya Pradesh, north Jharkhand, Gangetic West Bengal and extended upto 5.8 km above mean sea level tilting southward with height. 	<p>Very light to moderate rainfall occurred at most places with Heavy to very heavy rain / thunderstorm accompanied with lightning at isolated places in Uttarakhand. Monsoon activity remained Active over the State.</p> <p>Manual Rain (cm): Chamoli_Drms-19, Jollygrant_Drms-17, Sama_Drms-15, Loharkhet_Drms-14, Kapkot_Drms-12, Dehradun_Drms-10, Narendra Nagar_Drms-8, Rudraprayag_Drms-7</p> <p>AWS/ARG Rain (cm): Jollygrant-15, Shama-14, Song-12, Mohakampur-9, Sankri-9, Lansdown-9, Maldevta-8, Satpuli-8, Budha Kedar-7, Hatibharkala-7, Asharori-7, Dehradun-7, Narendra Nagar -7</p>
2	28-Jun-25	<ul style="list-style-type: none"> ❖ The Northern Limit of Monsoon passed through 27.0°N/68.5°E, 27.0°N/70.0°E, Jaisalmer, Bikaner, Jhunjhunu, Bharatpur, Rampur, Sonipat, Anup Nagar and 29.0°N/70.0°E. ❖ A cyclonic circulation lied over central parts of south Uttar Pradesh and extended upto 1.5 km above mean sea level. 	<p>Light to moderate rain occurred at most places with heavy to very heavy rain / Thunderstorm at isolated places in Uttarakhand. Monsoon activity remained Active over the State.</p> <p>Manual Rain (cm): Ganganagar-19, Narendra Nagar -17, Jollygrant-15, Rishikesh-11, Dehradun(CWC)-11, Kotdwar-10, banbasa-9, Dhanolti-9, Mussoorie-8, Jhakoli-8, Devprayag-7, Dehradun-7, Lansdown-7, Nandkaseri-7, Karanprayag-7</p> <p>AWS/ARG Rain (cm): Sahastradhara_Iti-16, Narendra Nagar -14, Jollygrant-13, Maldevta-12, Agastyamuni-11, Rikhnikhal-10, Hatibharkala-10, Kanda-9, Tharali-8, Sult-8, Lansdown-8, Utt. Tech. Uni.-7, Niranjanpur-7, Jakholi-7, Mohakampur-7</p>
3	29-Jun-25	<ul style="list-style-type: none"> ❖ The monsoon trough at mean sea level passed through Firozpur, Sonipat, Ayodhya, Gaya, Purulia, centre of the low pressure area over Northwest Bay of Bengal and adjoining West Bengal and Bangladesh coasts and thence southeastwards to northeast Bay of Bengal. ❖ The east-west trough ran from the upper air cyclonic circulation over south Rajasthan & adjoining north Gujarat to the cyclonic circulation associated with the low pressure area over northwest Bay of Bengal and adjoining West Bengal and Bangladesh coasts across Madhya Pradesh, north Chhattisgarh and north Odisha between 3.1 & 5.8 km above mean sea level tilting southward with height. ❖ An upper air cyclonic circulation lied over north Haryana & neighbourhood and extended upto 1.5 km above mean sea level. ❖ The cyclonic circulation over central parts of south Uttar Pradesh at 1.5 km above mean sea level persisted. ❖ The low-pressure area over Saurashtra & Kutch and adjoining south Rajasthan had become less marked at 0830 hrs IST of 29th June 2025. However, the associated cyclonic circulation lied over south Rajasthan & adjoining north Gujarat and extended between 3.1 & 7.6 km above mean sea levels. 	<p>Light to moderate rain occurred at most places with heavy to very heavy rain/ Thunderstorm/ Gusty wind activity reported at isolated places in Uttarakhand. Monsoon activity remained Vigorous over the State.</p> <p>Manual Rain (cm): Devprayag-17, Barkot-11, Purola-11, Dhanaulti-10, Lansdown-8, Bhatwari-7, Uttarkashi-7, Tehri_CWC-7, Dehradun-7, Jollygrant-7</p> <p>AWS/ARG Rain (cm): Hatibharkala-13, Barkot-12, Sahastradhara_Iti-11, Dhanolti-10, Lansdown-10, Narendra Nagar-10, Maldevta-10, Kanatal-8, Dehradun-8, Utt. Tech. Uni.-7, Mohakampur-7</p>
4	02-Jul-25	<ul style="list-style-type: none"> ❖ The monsoon trough at mean sea level passed through Bikaner, Banasthali, Shivpuri, Siddhi, Chaibasa & Digha and thence southeastwards to eastcentral Bay of Bengal. ❖ The trough ran from southeast Rajasthan to northwest Bay of Bengal across central Madhya Pradesh, north Chhattisgarh, the cyclonic circulation over south Jharkhand 	<p>Light to very heavy rainfall occurred at many places with heavy to very heavy rain / thunderstorm / gusty winds / intense spell of rain at isolated places in Uttarakhand. Monsoon activity remained Active over the State.</p> <p>Manual Rain (cm): Loharkhet-13, Shama-12, Kapkote-7,</p>

		& neighbourhood, Gangetic West Bengal between 0.9 km & 5.8 km above mean sea level tilting southwards with height.	Didihat-7 AWS/ARG Rain (cm): Koti-19, Song-12, Shama-11, Dewal-11, Soneprayag-10, Karnaprayag-9, Berinag-8, Chakrata-7, Didihat-7
5	09-Jul-25	<ul style="list-style-type: none"> ❖ The monsoon trough at mean sea level passed through Amritsar, Chandigarh, Najibabad, Shahjahanpur, Kanpur, Daltonganj, centre of the Low-Pressure area over Gangetic West Bengal adjoining Jharkhand and thence southeastwards to northeast Bay of Bengal. ❖ The upper air cyclonic circulation over north Haryana & neighbourhood at 1.5 km above mean sea level persisted. ❖ An upper air cyclonic circulation lied over northwest Uttar Pradesh & neighbourhood at 0.9 km above mean sea level. ❖ The trough ran from northeast Arabian Sea to the cyclonic circulation associated with Low-Pressure area over Gangetic West Bengal & neighbourhood across south Gujarat Region, north Madhya Maharashtra, Vidarbha, south Chhattisgarh, Odisha between 4.5 to 7.6 km above mean sea level. 	<p>Light to moderate rainfall occurred at most places with heavy and very heavy rainfall/ thunderstorm reported at isolated places in Uttarakhand. Monsoon activity remained Active over the State.</p> <p>Manual Rain (cm): Mussoorie-13, Shukratal-13, Kapkot-12, Kathgodam-11, Dharasu-11, Mukteshwar-10, Ranikhet-10, Dunda-9, Bangapani-9, Dhanolti-8, Khatima-8, Nainital-8, Sama-8, Narendranagar-7, Banbasa-7, Mohkampur-7, Rudraprayag-7, Marora-7, Ganganagar-7, Chinyalisaur-7</p> <p>AWS/ARG Rain (cm): Hatibharkala-12, Maldevta-12, Dehradun-11, Kanatal-9, Kapkote-9, Dhanolti-9, Rikhnikhal-9, Sahastradhara_Iti-9, Kashipur-8, Jaspur-8, Gadarpur-8, Satpuli-8, Kashipur_Aws-8, Mukteshwar-8, Ucost-7, Khatima-7, Sultanpur Patti-7, Shama-7, Mohakampur-7, Lansdown-7</p>
6	20-Jul-25	<ul style="list-style-type: none"> ❖ The Well Marked Low pressure area over west Rajasthan and adjoining Pakistan persisted over the same region at 0830 hrs IST of 20th July, 2025. The associated cyclonic circulation extended upto middle tropospheric level tilting southwards with height. It was likely to continue to move nearly westwards and weaken gradually into a low-pressure area during next 12 hours. ❖ The monsoon trough at mean sea level passed through center of Well Marked Low pressure area over west Rajasthan and adjoining Pakistan, Churu, Ayanagar (Delhi), Shahjahanpur, Lucknow, Patna, Bankura, Digha and thence eastwards to northeast Bay of Bengal. ❖ The Western Disturbance as a trough in middle tropospheric levels with its axis at 5.8 km above mean sea level roughly along Long. 71°E to the north of Lat. 32°N had moved away. 	<p>Light to moderate rainfall occurred at most places in Uttarakhand with heavy to very heavy rainfall / thunderstorm reported at isolated places in Uttarakhand. Monsoon activity remained Active over the State.</p> <p>Manual Rain (cm): Banbasa-16, Bhagwanpur-10, Haridwar-9, Haldwani-9, Lansdown-9, Didihat-9, Dakpatthar-9, Chaukhutiya-8, Nandkeshri-8, Devprayag-8, Mussoorie-7, Dehradun-7, Rishikesh-7, Koteswar-7, Kotdwar-7, Karnprayag-7, Sama-7</p> <p>AWS/ARG Rain (cm): Lansdown-12, Bastia-12, Tanakpur-11, Utt. Tech. Uni.-10, UCOST-10, Chaukhutiya-10, Liti-9, Sahastradhara_Iti-8, Chorgalia-8, Kosani-8, Dangoli-8, Hatibharkala-8, Rikhnikhal-7, Didihat-7, Mohakampur-7, Sult-7, Haldwani-7, Kalsi-7, Kanda-7, Vikas Nagar-7</p>
7	03-Aug-25	<ul style="list-style-type: none"> ❖ The monsoon trough at mean sea level passed through Amritsar, Chandigarh, Shamli, Shahjahanpur, Lucknow, Chapra, Bankura, Canning and thence southeastwards to the northeast Bay of Bengal. ❖ The upper air cyclonic circulation over northeast Bihar & neighbourhood lied over northwest Bihar & adjoining northeast Uttar Pradesh and extended upto 4.5 km above mean sea level tilting southwestwards with height. ❖ The upper air cyclonic circulation over Punjab & neighbourhood persisted & extended upto 4.5 km above mean sea level. ❖ An upper air cyclonic circulation lied over north Gujarat & adjoining south Rajasthan at 3.1 km above mean sea level. ❖ The Western Disturbance as a trough in middle & upper tropospheric levels with its axis at 5.8 km above mean sea level roughly along Long. 74°E to the north of Lat. 32°N persisted. 	<p>Light to moderate rainfall occurred at most places with heavy to very heavy rain / thunderstorm reported at isolated places in Uttarakhand. Monsoon activity remained Active over the State.</p> <p>Manual Rain (cm): Kotdwar-17, Tejam-16, Loharkhet-14, Sama-14, Bangapani-14, Haldwani-13, Narendra Nagar-12, Kalagarh-11, Haridwar-10, Rishikesh-9, Chamoli-9, Lansdown-8, Dehradun-8, Bhagwanpur-7, Munsiyari-7, Didihat-7, Khatima-7</p> <p>AWS/ARG Rain (cm): Hatibharkala-17, Liti-15, Lansdown-15, Narendra Nagar-13, Shama-12, Kalsi -11, Song-9, Narayan Ashram-8, Sahastradhara_Iti-8, Mohakampur-7</p>

8	04-Aug-25	<ul style="list-style-type: none"> ❖ The monsoon trough at mean sea level passed through Amritsar, Dehradun, Shahjahanpur, Valmiki Nagar, Chapra, Jalpaiguri and thence east-northeastwards to the Arunachal Pradesh. ❖ An upper air cyclonic circulation lied over Himachal Pradesh & neighbourhood at 1.5 km above mean sea level. ❖ The Western Disturbance seen as a cyclonic circulation over Himachal Pradesh and adjoining Jammu Division at 5.8 km above mean sea level. ❖ The trough from northwest Uttar Pradesh to northeast Bihar across east Uttar Pradesh at 0.9 km above mean sea level persisted. ❖ The upper air cyclonic circulation over north Gujarat & adjoining south Rajasthan lied over central parts of south Rajasthan at 3.1 km above mean sea level. 	<p>Light to moderate rainfall occurred at most places with Heavy to extremely heavy rain / thunderstorm at isolated places in Uttarakhand. Monsoon activity remained Active over the State.</p> <p>Manual Rain (cm): Haridwar-30, Narendranagar-17, Rishikesh -15, Jollygrant -14, Kotdwar -12, Roshnabad-10, Laksar-9, Roorkee-8, Dehradun-8, Haripur-7, Kashipur-7</p> <p>AWS/ARG Rain (cm): Ucost-13, Narendranagar-13, Jollygrant-12, Utt. Tech. Uni.-11, Yamkeshwar-10, Mohakampur-8</p>
9	05-Aug-25	<ul style="list-style-type: none"> ❖ The monsoon trough at mean sea level passed through Amritsar, Patiala, Muzaffarnagar, Kheri, Valmik Nagar and thence east-northeastwards to the Arunachal Pradesh close to foot hills of Himalayas. ❖ A trough ran from northwest Uttar Pradesh to northeast Arabian sea across south Haryana, East Rajasthan & Gujarat at 3.1 km above mean sea level. ❖ The upper air cyclonic circulation over central parts of south Rajasthan at 3.1 km above mean sea level had merged with the above system. ❖ The Western Disturbance as a trough in middle tropospheric level with its axis at 5.8 km above mean sea level roughly along Long. 72°E to north of 30°N persisted. 	<p>Light to moderate rainfall occurred at most places with heavy to very heavy rainfall at a few places and extremely heavy rain at isolated places in Uttarakhand. Monsoon activity remained VIGOROUS over the State.</p> <p>Manual Rain (cm): Haridwar-22, Narendranagar-20, Rishikesh-19, Kichha-19, Kashipur-18, Jollygrant-18, Bageshwar-17, Roshnabad-17, Pantnagar-16, Raysi-15, Jaspur-15, Haldwani-14, Jan_Ki_Chatti-14, Someshwar-14, Laksar-14, Nainital-13, Sitarganj-13, Satyanarayan-12, Pauri-11, Kaladhungi-11, Kotdwar-11, Mukteshwar-11, Loharkhet-11, Dhanaulti-11, Betalghat-11, Rameshwar-10, Maneri-10, Sama-10, Dharasu-10, Marora-10, Kapkot-10, Rudrapur-10, Chorgaliya-10, Kainchi Dham-10, Gairsain-10, Koteswar-9, Roorkee-9, Devprayag-9, Khansyu-9, Srinagar-9, Rudraprayag-9, Khatima-9, Dehradun-8, Lansdown-8, Gadarpur-8, Berinag-8, Kuthnaur-8, Birahi-8, Bajpur-8, Chaukhutiya-8, Keertinagar-8, Lohaghat-7, Banbasa-7, Bhagwanpur-7, Champawat-7</p> <p>AWS/ARG Rain (cm): Maldevta-27, Narendranagar -23, Bajpur-21, Kichha-18, Kashipur-18, Sultanpur Patti-18, Sahastradhara_Iti-17, Ganai Gangoli-16, Kanda-16, Kashipur-16, Yamkeshwar-16, Jaspur-16, Jollygrant-16, Gadarpur-15, Gular Bhoj-15, Jasur_Drms-15, Takula-14, Parpunda_Khal-14, Dangoli-13, Pantnagar_Amfu-13, Sult-12, Rikhnikal-12, Hatibharkala-11, Satpuli-11, Kosani-11, Rudrapur-11, Berinag-11, Bhimtal-11, Liti-11, Nainital-11, Chorgalia-11, Pauri-10, Th_Kosiyakutoli-99.0, Betalghat-10, Shama-10, Lansdown-9, Tanakpur-9, Mukteshwar-9, Bastia-9, Haldwani-8, Ramnagar-8, Jageshwar-8, Kirtinagar-8, Jainti-8, Mohakampur-8, Song-8, Chaukhutiya-8, Gangolihat-8, Lohaghat-8, Syunsi -7, Champawat-7, Bhainsiya Chhana-7</p>
10	10-Aug-25	<ul style="list-style-type: none"> ❖ The monsoon trough at mean sea level passed through Faridkot, Ludhiana, Najibabad, Shahjahanpur, Balia, Jalpaiguri and thence east-northeastwards to Arunachal Pradesh. ❖ The upper air cyclonic circulation over west Uttar Pradesh & neighbourhood lied over central parts of Uttar Pradesh extended upto 4.5 km above mean sea level titling southwards with height. ❖ The Western Disturbance a cyclonic circulation over north Pakistan & neighbourhood between 3.1 & 5.8 km above mean sea level persisted. 	<p>Light to moderate rainfall occurred at most places with heavy to extremely heavy rain / thunderstorm reported at isolated places in Uttarakhand. Monsoon activity remained ACTIVE over the State.</p> <p>Manual Rain (cm): Haridwar-24, Roshnabad-14, Bhagwanpur-12, Sama-11, Loharkhet-9, Didihat-8, Jollygrant-8, Roorkee-8, Nainital-7, Dehradun-7, Karnprayag-7</p> <p>AWS/ARG Rain (cm): Kaladhungi-13, Maldevta-10, Yamkeshwar-10, Narendranagar-10, Ramnagar-9, Hatibharkala-7, Song-7, Bajpur-7, Gochar-7, Didihat-7,</p>

			Mohakampur-7
11	11-Aug-25	<ul style="list-style-type: none"> ❖ The monsoon trough at mean sea level passed through Amritsar, Chandigarh, Shahjahanpur, Lucknow, Gorakhpur, Darbhanga, Jalpaiguri and thence east-northeastwards to Arunachal Pradesh. ❖ The upper air cyclonic circulation over northwest Uttar Pradesh extending upto 3.1 km above mean sea level persisted. ❖ The Western Disturbance as a cyclonic circulation over north Pakistan & neighbourhood between 3.1 & 5.8 km above mean sea level persisted. 	<p>Light to moderate rainfall occurred at most places with heavy to very heavy rain / thunderstorm reported at isolated places in Uttarakhand. Monsoon activity remained ACTIVE over the State.</p> <p>Manual Rain (cm): Dhanaulti-10, Mori-10, Narendra Nagar-9, Dehradun-7</p> <p>AWS/ARG Rain (cm): Sahastradhara_Iiti-19, Maldevta-18, Hatibharkala-16</p>
12	13-Aug-25	<ul style="list-style-type: none"> ❖ The monsoon trough at mean sea level passed through Bhatinda, Ambala, Shahjahanpur, Varanasi, Daltonganj, Jharsuguda and thence south-southeastwards to centre of low pressure area over Westcentral & adjoining northwest Bay of Bengal off North Andhra Pradesh and South Odisha coasts. ❖ The upper air cyclonic circulation over northwest Uttar Pradesh lied over northwest Uttar Pradesh & adjoining Haryana extended upto 0.9 km above mean sea level. ❖ An upper air cyclonic circulation lied over East Uttar Pradesh & neighbourhood extended upto 1.5 km above mean sea level. ❖ The trough ran from upper air cyclonic circulation over East Uttar Pradesh & neighbourhood to upper air cyclonic circulation associated with the low pressure area over Westcentral & adjoining northwest Bay of Bengal off North Andhra Pradesh and South Odisha coasts across Chhattisgarh upto 1.5 km above mean sea level. 	<p>Light to moderate rainfall occurred at most places with heavy to extremely heavy rainfall / thunderstorm reported at isolated places in Uttarakhand. Monsoon activity remained ACTIVE over the State.</p> <p>Manual Rain (cm): Haridwar-20, Pantnagar-18, Haldwani-16, Nainital-13, Kotdwar-12, Mukteshwar-9, Chaukhutiya-9, Bageshwar-8, Rameshwar-8, Rishikesh-8, Lohaghat-8, Roshnabad-7, Kashipur-7, Champawat-7</p> <p>AWS/ARG Rain (cm): Chorgalia-31, Pantnagar_Amfu-19, Haldwani-17, Gular Bhoj-15, Gadarpur-11, Bhimtal-11, Rudrapur(Ukg)-11, Chaukhutiya-10, Champawat-10, Kichha-9, Mukteshwar-9, Champawat-9, Takula-8, Jainti-8, Bageshwar-8, Kanda-7, Dangoli-7, Pancheshwar-7, Kashipur-7, Th_Kosiyakutoli-7, Berinag-7, Utt. Tech. Uni.-7, Ucost-7</p>
13	16-Aug-25	<ul style="list-style-type: none"> ❖ The monsoon trough at mean sea level passed through Jaisalmer, Jodhpur, Kota, Guna, Betul, centre of low-pressure area over south Chhattisgarh, Vishakhapatnam and thence east-southeastwards to eastcentral Bay of Bengal. ❖ The upper air cyclonic circulation over Jammu-Kashmir & neighbourhood at 3.1 km above mean sea level persisted. 	<p>Light to moderate rainfall occurred at most places with heavy to very heavy rain / thunderstorm reported at isolated places in Uttarakhand. Monsoon activity remained ACTIVE over the State.</p> <p>Manual Rain (cm): Sama-9, Jakholi-8, Mori-8, Dhanaulti-8, Loharkhet-8, Didihat-8, Uttarkashi-8, Bageshwar-8, Nandkesri-7, Barkot-7, Mussoorie-7, Uttarkashi_CWC-7, Laksar-7</p> <p>AWS/ARG Rain (cm): Dangoli-12, Jakholi-9, Liti-9, Hatibharkala-9, Barkot-9, Tharali-8, Shama-8, Maldevta-8, Thal-7, Bageshwar-7, Kanda-7, Sahastradhara_Iiti-7, Didihat-7</p>
14	17-Aug-25	<ul style="list-style-type: none"> ❖ The monsoon trough at mean sea level passed through Jaisalmer, Udaipur, Ratlam, centre of low-pressure area over Vidarbha & neighbourhood, Jagdalpur, and thence east-southeastwards to eastcentral Bay of Bengal. ❖ An upper air cyclonic circulation lied over central Pakistan & adjoining Punjab at 1.5 km above mean sea level. ❖ The upper air cyclonic circulation over Jammu-Kashmir & neighbourhood at 3.1 km above mean sea level had become less marked. 	<p>Light to moderate rainfall occurred at most places with heavy rain / thunderstorm / gusty wind reported at isolated places in Uttarakhand. Monsoon activity remained ACTIVE over the State.</p> <p>Manual Rain (cm): Narendra Nagar-11, Devprayag-9, Roorkee-9, Srinagar-8, Tehri-8, Tehri (Cwc)-7, Haridwar-7, Dhanaulti-7</p> <p>AWS/ARG Rain (cm): Chakrata-9, Narendra Nagar -9, Yamkeshwar-8, New Tehri-8</p>

15	22-Aug-25	<ul style="list-style-type: none"> ❖ The monsoon trough passed through Suratgarh, Rohtak, Fatehgarh, Gaya, Digha and thence east southeastwards to northeast Bay of Bengal. ❖ The upper air cyclonic circulation over southwest Uttar Pradesh & neighbourhood extending upto 7.6 km above mean sea level tilting southwestwards with height persisted. ❖ The upper air cyclonic circulation over West Rajasthan & neighbourhood at 0.9 km above mean sea level persisted. ❖ A fresh low-pressure area was likely to form over northwest Bay of Bengal off Odisha-West Bengal coasts around 25th August 2025. ❖ The Western Disturbance as a trough in the lower tropospheric westerlies with its axis at 3.1 km above mean sea level roughly along Long. 78°E to the north of Lat. 32°N had moved away in east northeastwards. ❖ The east-west trough from the upper air cyclonic circulation over Gangetic West Bengal and adjoining Bangladesh to East Rajasthan across Jharkhand, north Chhattisgarh & the upper air cyclonic circulation over southwest Uttar Pradesh at 5.8 km above mean sea level had become less marked. 	<p>Light to moderate rainfall occurred at most places with heavy to very heavy rain/ thunderstorm/ lightning/ gusty winds reported at isolated places in Uttarakhand. Monsoon activity remained ACTIVE over the State.</p> <p>Manual Rain (cm): Sama-19, Loharkhet-18, Bhagwanpur-11, Jollygrant-11, Roorkee-9, Kapkot-8</p> <p>AWS/ARG Rain (cm): Shama-15, Tharali-15, Song-15, Thal-10, Jollygrant-9</p>
16	28-Aug-25	<ul style="list-style-type: none"> ❖ The monsoon trough passed through Sri Ganganagar, Shivpuri, Damoh, centre of low-pressure area over central parts of Chhattisgarh & neighbourhood, Kalingapatnam and thence to east-southeastwards to central Bay of Bengal. ❖ The Western Disturbance as a cyclonic circulation over north Pakistan lied over north Pakistan & adjoining Punjab and extended upto 5.8 km above mean sea level. ❖ The upper air cyclonic circulation over south Punjab extending upto 1.5 km above mean sea level had merged with the above system. ❖ The trough from central Madhya Pradesh to south Punjab extending upto 1.5 km above mean sea level had become less marked. 	<p>Light to moderate rainfall occurred at most places with heavy to very heavy rain/ thunderstorm/ lightning/ gusty winds reported at isolated places in Uttarakhand. Monsoon activity remained VIGOROUS over the State.</p> <p>Manual Rain (cm): Haripur-18, Kapkot-14, Karnprayag-14, Jakholi-13, Ukhimath-13, Sama-12, Dharchula-11, Khatima-11, Chamoli-10, Roshnabad-10, Loharkhet-10, Didihat-8, Nanadprayag-8, Chakrata-8, Nandkeshri-8, Banbasa-7, Ganganagar-7</p> <p>AWS/ARG Rain (cm): Kalsi -14, Jakholi-14, Karnprayag-11, Tanakpur-11, Shama-11, Koti-10, Liti-10, Chakrata-9, Song-9, Khatima-8, Bastia-8, Agastyamuni-7, Didihat-7</p>
17	30-Aug-25	<ul style="list-style-type: none"> ❖ The monsoon trough passed through Bikaner, Kota, Seoni, Durg, Bhawanipatna, Gopalpur and thence to east-southeastwards to central Bay of Bengal. ❖ The Western Disturbance as a cyclonic circulation over central Pakistan & adjoining Punjab persisted and seen between 5.8 & 9.6 km above mean sea level. 	<p>Light to moderate rainfall occurred at most places with heavy to very heavy rain/ thunderstorm/ lightning/ gusty winds reported at isolated places in Uttarakhand. Monsoon activity remained ACTIVE over the State.</p> <p>Manual Rain (cm): Banbasa-16, Rishikesh-12, Pantnagar-11, Khatima-8, Uttarkashi_CWC-8, Kapkot-7</p> <p>AWS/ARG Rain (cm): Pantnagar_Amfu-9, Didihat-8, Rudrapur_UKG-7, Shama-7</p>
18	31-Aug-25	<ul style="list-style-type: none"> ❖ The monsoon trough at mean sea level passed through Bikaner, Ajmer, Guna, Damoh, Raipur, Puri and thence to east-southeastwards to central Bay of Bengal. ❖ The upper air cyclonic circulation over southwest Madhya Pradesh lied over northwest Madhya Pradesh & neighbourhood at 0.9 km above mean sea level. ❖ An upper air cyclonic circulation lied over northwest Rajasthan lied over central parts of Rajasthan and extended upto 1.5 km above mean sea level. ❖ The monsoon trough extended upto 0.9 km passing through above embedded cyclonic circulations. ❖ The Western Disturbance as a cyclonic circulation over north Pakistan & adjoining Punjab between 1.5 & 5.8 km above mean sea level persisted. 	<p>Light to moderate rainfall occurred at most places with heavy to extremely heavy rain / thunderstorm/ lightning/ gusty winds reported at isolated places in Uttarakhand. Monsoon activity remained VIGOROUS over the State.</p> <p>Manual Rain (cm): Banbasa-26, Khatima-18, Chakrata-13, Purola-12, Keertinagar-10, Jan_Ki_Chatti-10, Tiuni-9, Haripur-9, Mussoorie-8, Champawat-8, Mukteshwar-8, Jollygrant-7, Rameshwar-7, Kuthnaur-7, Barkot-7</p> <p>AWS/ARG Rain (cm): Tanakpur-17, Bastia-17, Koti-15, Chakrata-15, Devidhura-13, Khatima-12, Jainti-11, Kalsi -9, Kichha-8, Nainbagh-8, Pati-8, Champawat-8, Jageshwar-8, Bhainsiya_Chhana-7, Mukteshwar-7, Naugaon-7, Maldevta-7</p>

19	01-Sep-25	<ul style="list-style-type: none"> ❖ The monsoon trough at mean sea level passed through Ganganagar, Pilani, Datia, Satna, Daltonganj, Digha and thence to east-southeastwards to northeast Bay of Bengal. ❖ The upper air cyclonic circulation over northeast Rajasthan & neighbourhood lied over northwest Rajasthan & neighbourhood and extended upto 5.8 km above meansea level. ❖ A trough ran from above cyclonic circulation over northwest Rajasthan & neighbourhood to Jharkhand across north Madhya Pradesh, south Uttar Pradesh and extended up to 3.1 km above mean sea level. ❖ The upper air cyclonic circulation over northwest Madhya Pradesh & neighbourhood at 0.9 km above mean sea level had merged with the above trough. ❖ The Western Disturbance seen as a trough in middle level westerlies with its axis at 5.8 km above mean sea level roughly along Long. 72°E & Lat. 32°N. 	<p>Light to moderate rainfall occurred at most places with heavy to very heavy rain/ thunderstorm/ lightning/ gusty winds reported at isolated places in Uttarakhand. Monsoon activity remained ACTIVE over the State.</p> <p>Manual Rain (cm): Haldwani-12, Mukteshwar-10, Betalghat-9, Nainital-9, Khatima-9, Bhagwanpur-8, Rameshwar-8, Munsiyari-8, Kashipur-7, Lohaghat-7, Pithoragarh-7</p> <p>AWS/ARG Rain (cm): Chorgalia-12, Nainital-11, Th_Kosiyakutoli-10, Bhimtal-9, Dangoli-9, Pati-9, Chaubatia_Ranikhet-9, Jainti-8, Mukteshwar-8, Sitlakhet-8, Jageshwar-8, Khatima-8, Kashipur-7, Bajpur-7, Nainidanda-7, Devidhura-7, Champawat-7, Ganai Gangoli-7</p>
20	02-Sep-25	<ul style="list-style-type: none"> ❖ The monsoon trough at mean sea level passed through Bikaner, Jaipur, Datia, Sidhi, Jharsuguda, Puri centre of low pressure area over Northwest Bay of Bengal. ❖ The upper air cyclonic circulation over south Haryana & neighbourhood and extending upto 1.5 km above mean sea level persisted. ❖ The trough from north Kashmir to northwest Madhya Pradesh across Punjab, Haryana, northeast Rajasthan between 3.1 & 5.8 km above mean sea level persisted. ❖ The Western Disturbance as a trough in middle & upper tropospheric level ran roughly along Long. 72°E to the north of Lat. 28°N with its axis at 7.6 km above mean sea level. 	<p>Light to moderate rainfall occurred at most places with heavy to very heavy rain/ thunderstorm/ lightning/ gusty winds reported at isolated places in Uttarakhand. Monsoon activity remained ACTIVE over the State.</p> <p>Manual Rain (cm): Khatima-14, Banbasa-12, Nainital-11, Jan_Ki_Chatti-10, Haldwani-8</p> <p>AWS/ARG Rain (cm): Khatima-10, Chorgalia-10, Haldwani-7, Nainital-7, Nainidanda-7, Koti-7</p>
21	12-Sep-25	<ul style="list-style-type: none"> ❖ The monsoon trough at mean sea level passed through Amritsar, Muzaffarnagar, Hardoi, Daltonganj and centre of low pressure area over west central & adjoining northwest Bay of Bengal off north Andhra Pradesh and south Odisha. ❖ The western disturbance as a cyclonic circulation over Himachal Pradesh & neighbourhood at 5.8 km above mean sea level persisted. ❖ An upper air cyclonic circulation lied over north Haryana & neighbourhood at 0.9 km above mean sea level. 	<p>Very light to moderate rainfall / lightning occurred at many places with heavy to extremely heavy rain/ thunderstorm reported at isolated places in Uttarakhand. Monsoon activity remained ACTIVE over the State.</p> <p>Manual Rain (cm): Haripur-25, Narender Nagar- 23, Mussorie-19, Jollygrant-11, Shama-11, Haridwar-8</p> <p>AWS/ARG Rain (cm): Kalsi_UKG-31, Maldevta-11, Nainbagh-10, Jollygrant-10, Sahastradhara_Iti-7, Ucost-7</p>
22	15-Sep-25	<ul style="list-style-type: none"> ❖ The line of withdrawal of southwest monsoon passed through 30.5°N /73.5°E, Sri Ganganagar, Nagaur, Jodhpur, Barmer and 25.5°N /70°E. ❖ The trough in westerlies at 1.5 km above mean sea level roughly along at Long. 84°E to the north of Lat. 23°N had moved away. 	<p>Light to moderate rain occurred at most places with heavy to extremely heavy rain/ gusty winds reported at isolated places in Uttarakhand. Thunderstorm/ lightning was observed at many places. Monsoon activity remained VIGOROUS over the State.</p> <p>Manual Rain (cm): Narendra Nagar-20, Haripur-17, Thal-13, Tejam-13, Haldwani-12, Nainital-12, Jollygrant-11, Loharkhet-10, Didihat-10, Mussoorie-10, Bangapani-9, Sama-8, Ganganagar-7, Rishikesh-7, Uttarkashi_CWC-7</p> <p>AWS/ARG Rain (cm): Sahastradhara_ITI-26, Maldevta-15, Didihat-12, Kalsi -12, Nainital-11, Jollygrant-9, Hatibharkala-9, Thal-9, Song-8, Bhimtal-8, Rani_Chawri-7, Pokhari-7</p>
23	17-Sep-25	<ul style="list-style-type: none"> ❖ The line of withdrawal of southwest monsoon passed through 31°N/74°E, Bhatinda, Fatehabad, Pilani, Ajmer, Deesa, Bhuj and 23°N/68°E. ❖ The upper air cyclonic circulation over east Uttar Pradesh and adjoining Bihar persisted and extended upto 3.1 km above mean sea level. 	<p>Very light to moderate rainfall occurred at most places with heavy to very heavy rain/ thunderstorm/ lightning reported at isolated places in Uttarakhand. Monsoon activity remained VIGOROUS over the State.</p> <p>Manual Rain (cm): Narendra Nagar-18, Mussoorie-12, Sama-9, Dehradun-8, Bhagwanpur-8, Haripur-7</p> <p>AWS/ARG Rain (cm): Mohakampur-7</p>

3. WITHDRAWAL OF SOUTHWEST MONSOON:

The withdrawal of southwest monsoon from Northwest India commenced on **14th September, 2025** against the normal date of 17th September. SW monsoon withdrew from some parts of Uttarakhand on 24th September, 2025 and from entire **Uttarakhand** on **26th September, 2025** against the normal date of 30th September. Subsequently, SW monsoon withdrew from the entire country on **16th October, 2025**. Fig.2 shows the isochrones of withdrawal of SW Monsoon 2025.

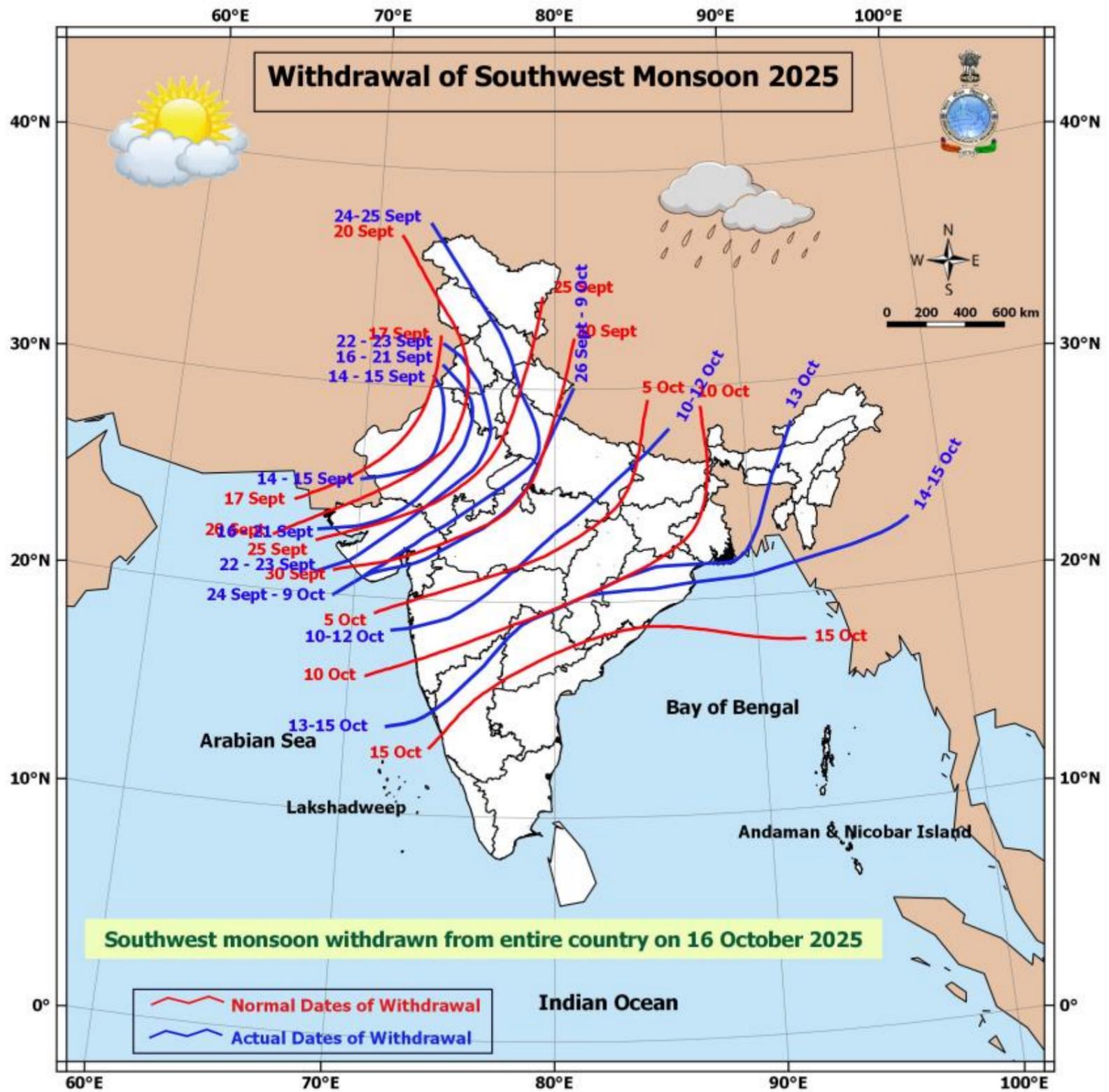


Fig.2: Isochrones of withdrawal of SW-Monsoon 2025

4. RAINFALL DISTRIBUTION OVER UTTARAKHAND DURING MONSOON – 2025:

The rainfall during SW monsoon season (June to September) for the State as a whole is as follows:

Met. Sub-division/ State	Actual Rainfall June-September (in mm)	Normal/Long Period Average (LPA) Rainfall June-September (in mm)	Departure from Normal (in %)
Uttarakhand	1420.5	1162.7	+22

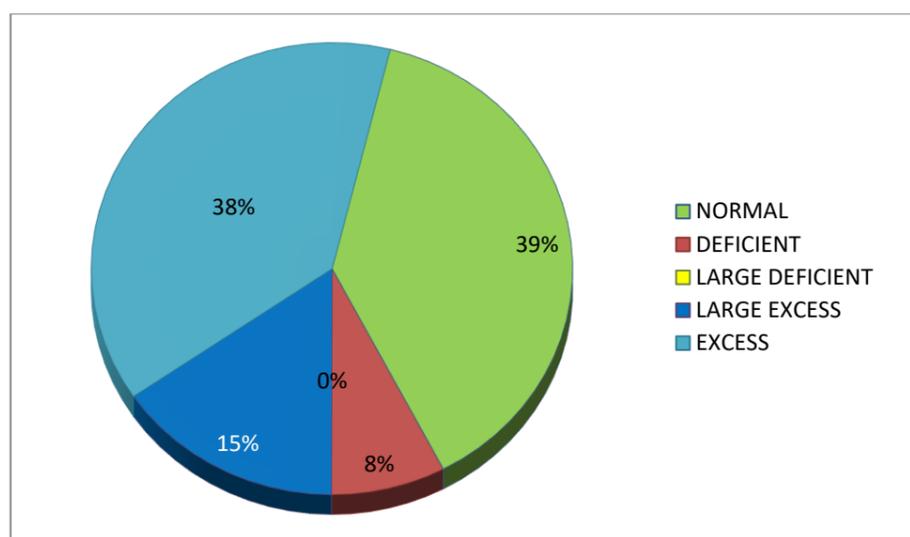


Fig. 3 Rainfall Distribution over the area of Uttarakhand

The LPA rainfall of Uttarakhand State / sub-division is 1162.7 mm based on 1971 to 2020 observed rainfall data series. As seen in the table above, the seasonal rainfall over Uttarakhand State / sub-division as a whole was 122% of its LPA. The seasonal rainfall intensity distribution over the State was in the categories of large excess, excess, normal and deficient. Out of 13 districts of Uttarakhand, 02 districts received large excess, 05 districts received excess, 05 districts received normal and 01 district received deficient seasonal rainfall. In terms of area, 53% area received excess to large excess rainfall, 39% area received normal rainfall and 8% area received deficient rainfall. In totality, the monsoon rainfall was Excess (+22%) over the State.

5. INTENSITY DISTRIBUTION OF RAINFALL DURING MONSOON-2025 OVER UTTARAKHAND:

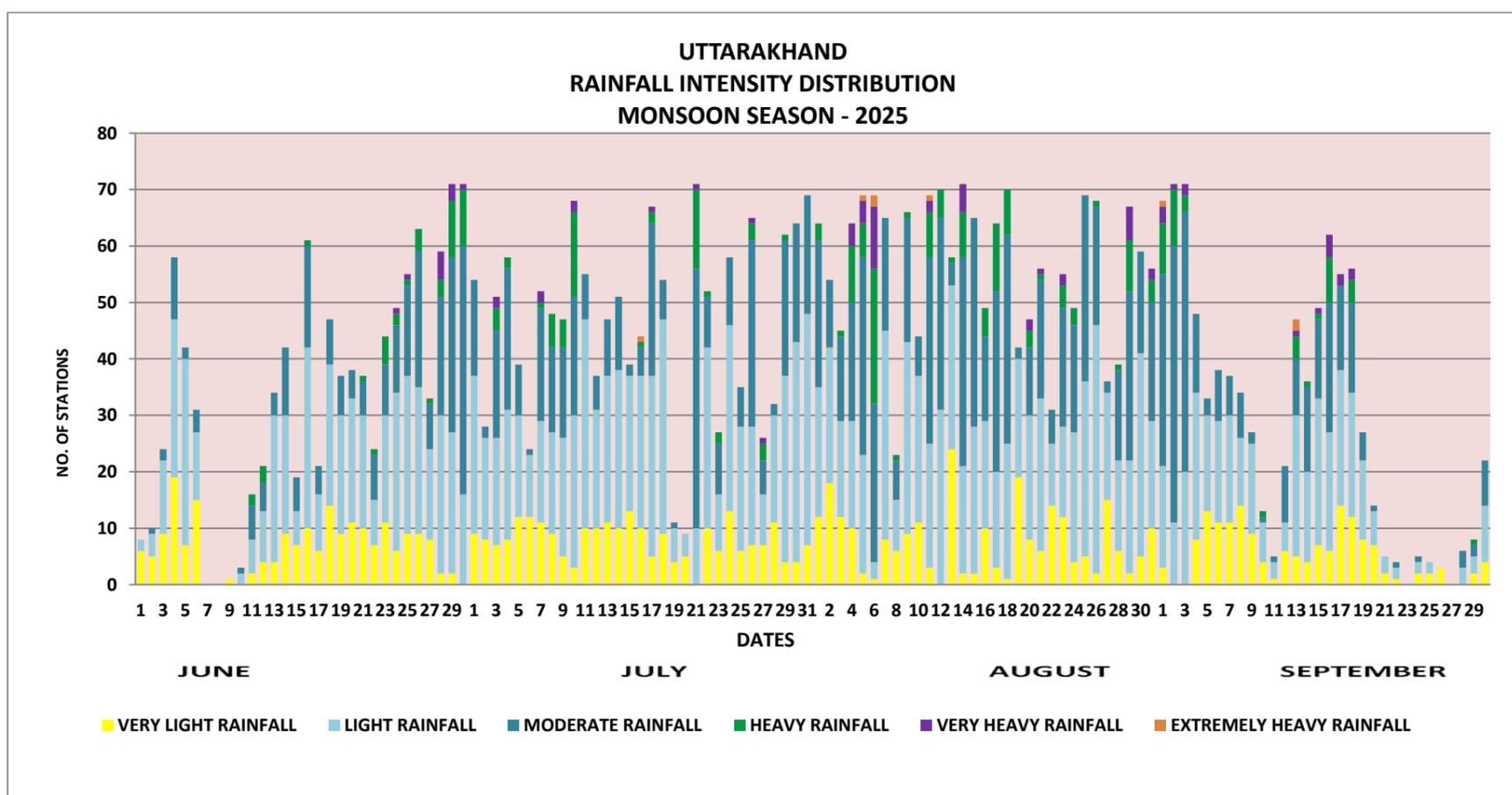


Fig. 4 Rainfall Intensity Distribution

6. MONTHLY DISTRIBUTION OF RAINFALL OVER THE STATE:

The monthly rainfall distribution of the State is given in a table below:

Met. Sub-division/ State	Month	Actual Rainfall (in mm)	Normal or Long period average(LPA) (in mm)	Departure from normal (in %)
Uttarakhand	June-2025	240.7	176.8	36
	July- 2025	350.2	417.8	-16
	August- 2025	574.4	385.7	49
	September-2025	255.2	182.4	40

 60% or more	 20 % to 59 %	 -19 % to 19%	 -20 % to -59 %	 -60 % or less
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From the above table, the monthly rainfall was excess over the State in June, August and September months and normal during July month. The June rainfall was 136%, July 84%, August 149% and September 140% of the respective monthly LPAs. The amount of rainfall (in terms of % of LPA) was maximum in August month and minimum in July month. This year 53% area received excess to large excess rainfall, 39% area received normal rainfall and 8% area received deficient rainfall. In this way, the performance of monsoon 2025 was Excess (122% of LPA) over the State.

7. WEEKLY RAINFALL DISTRIBUTION:

Weekly rainfall distribution and departure over Uttarakhand Meteorological sub-divisions is shown in Fig. 5 and Fig. 6 below respectively:

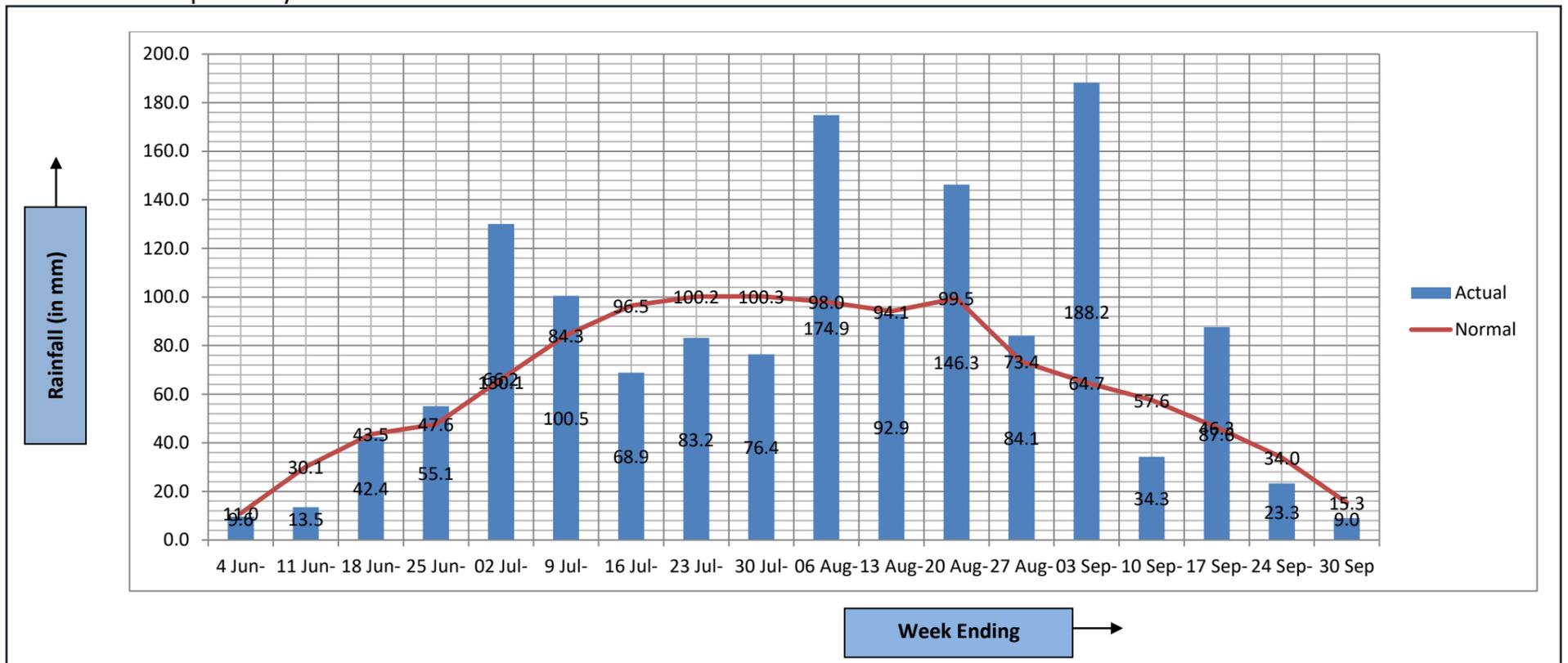


Fig.5 Weekly Monsoon Rainfall-2025 over Uttarakhand

The weekly monsoon rainfall was more than normal over the State during 5 occasions: 1 in July, 2 in August & 2 in September; normal on 7 occasions: 3 in June, 2 in July and 2 in August, and less than normal on other weeks. In terms of percentage departure from normal, the weekly rainfall was Large Excess ($\geq +60\%$) during 4 weeks, Excess (+20 to +59 %) during 1 week, Normal (-19% to +19%) during 7 weeks and Deficient (-20% to -59%) during 6 weeks. Thus, week by week monsoon rainfall performance was above normal.

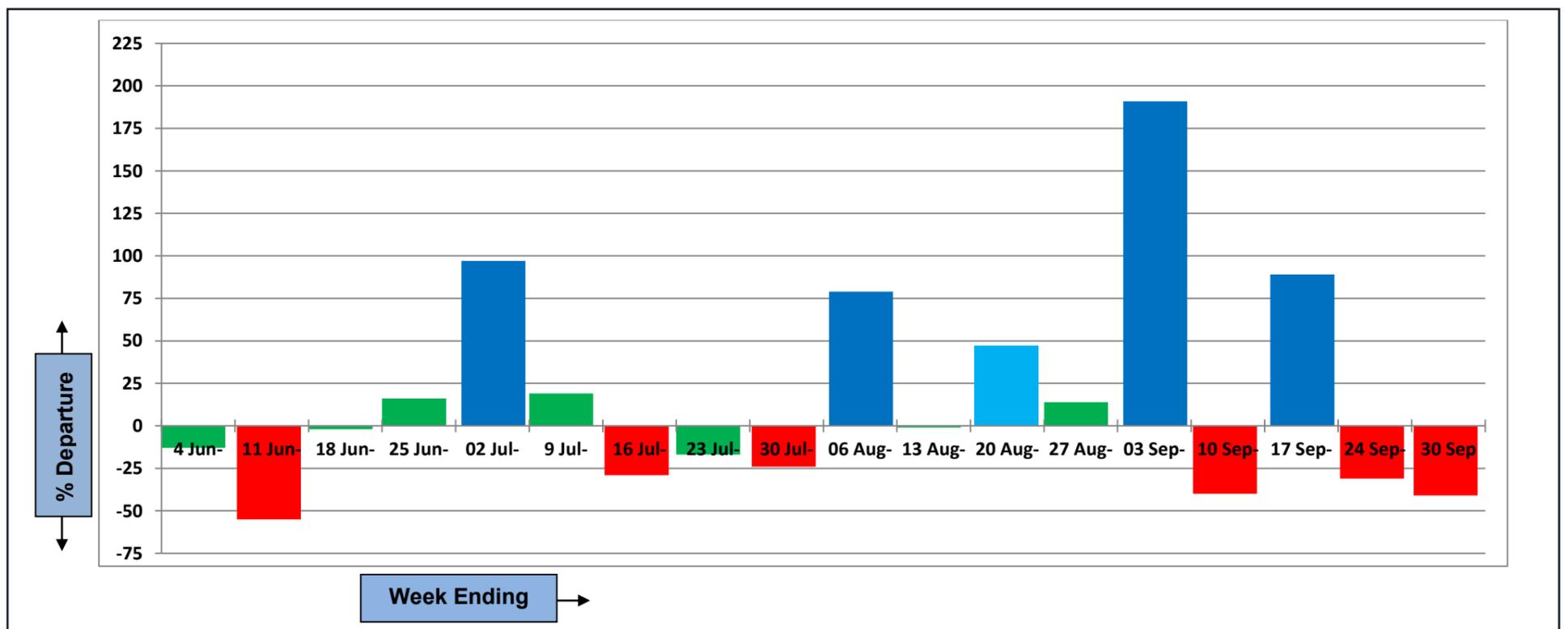


Fig.6 Weekly departure of the Monsoon Rainfall 2025 over Uttarakhand

Week Ending	4 Jun-	11 Jun-	18 Jun-	25 Jun-	02 Jul-	9 Jul-	16 Jul-	23 Jul-	30 Jul-	06 Aug-	13 Aug-	20 Aug-	27 Aug-	03 Sep-	10 Sep-	17 Sep-	24 Sep-	30 Sep
Actual	9.6	13.5	42.4	55.1	130.1	100.5	68.9	83.2	76.4	174.9	92.9	146.3	84.1	188.2	34.3	87.6	23.3	9.0
Normal	11.0	30.1	43.5	47.6	66.2	84.3	96.5	100.2	100.3	98.0	94.1	99.5	73.4	64.7	57.6	46.3	34.0	15.3
% Dep	-13	-55	-2	16	97	19	-29	-17	-24	79	-1	47	14	191	-40	89	-31	-41

Table: Weekly Actual rainfall (mm), Normal rainfall (mm) and Departure (%) of the Monsoon Season 2025 over Uttarakhand

8. DISTRICT-WISE SPATIAL DISTRIBUTION OF RAINFALL DURING MONSOON 2025:

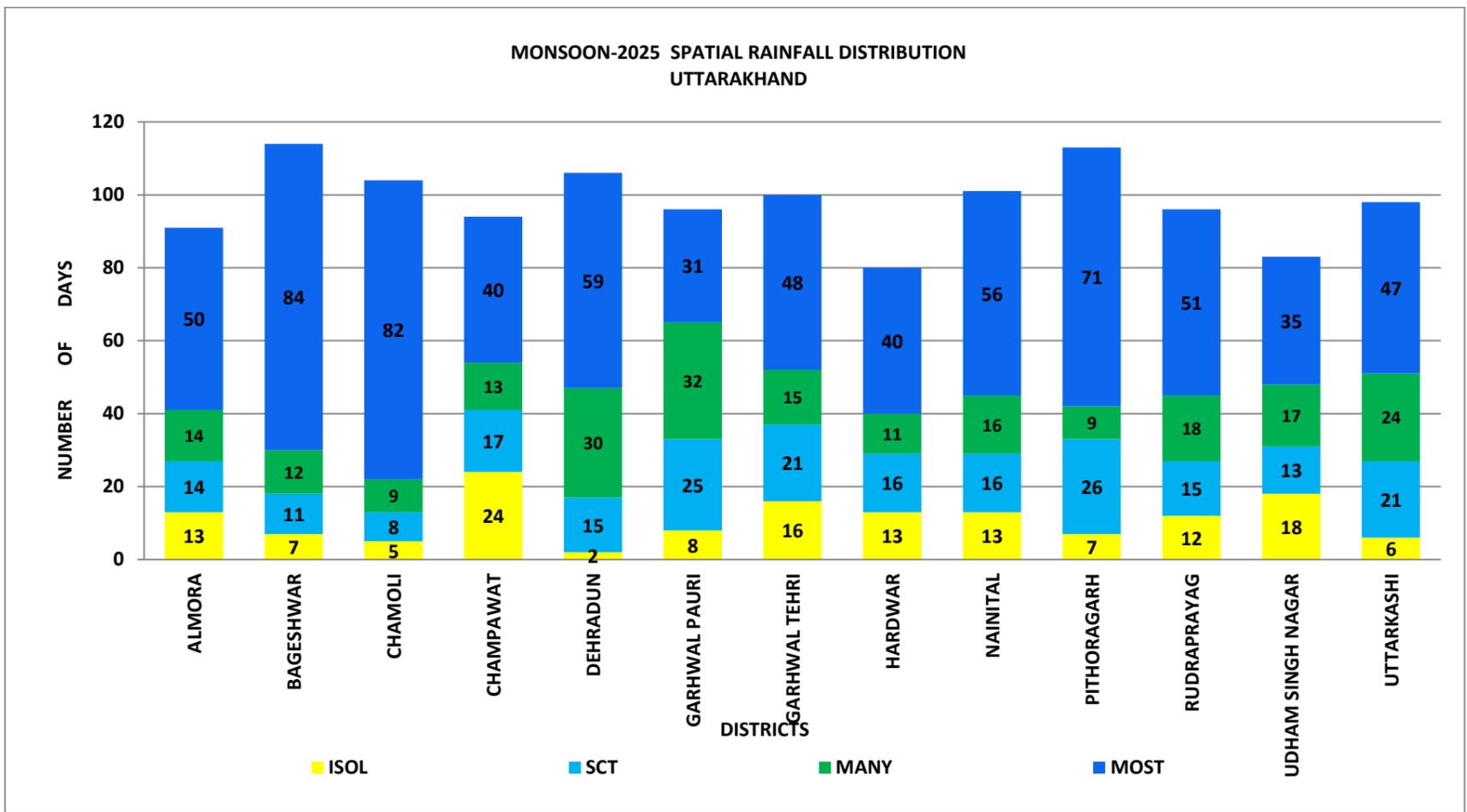


Fig.7 District wise Spatial Distribution of Rainfall during monsoon 2025 over Uttarakhand

The maximum number of rainfall days was over Bageshwar district (114 days) and minimum number of rainfall days was over Haridwar district (80 days). Widespread to fairly widespread rainfall occurred on 96 days (maximum) over Bageshwar district and 51 days (minimum) over Haridwar district.

9. DISTRICT-WISE HEAVY RAINFALL DISTRIBUTION DURING MONSOON 2025:

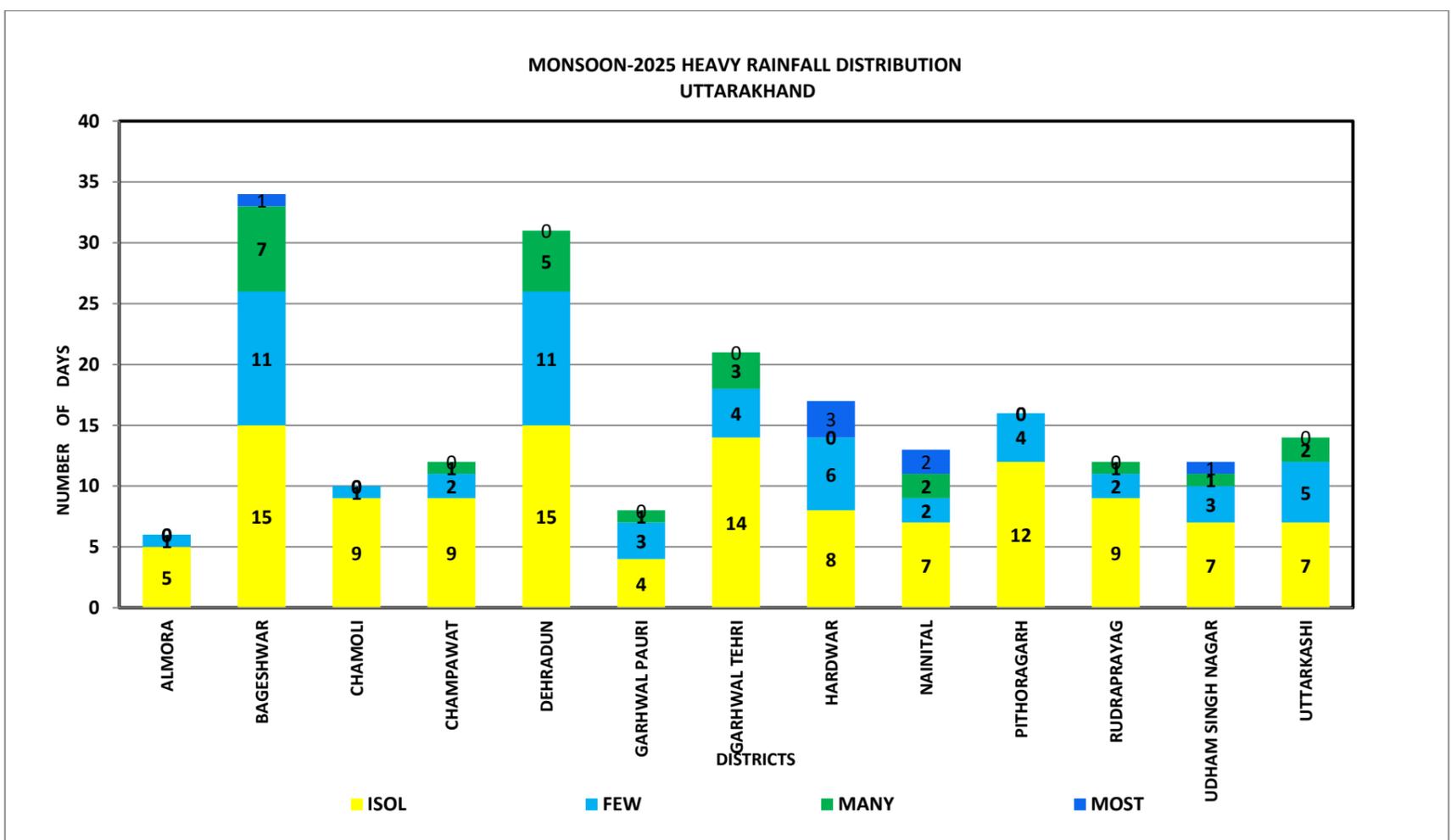


Fig.8 District wise Heavy Rainfall distribution during monsoon 2025 over Uttarakhand

The maximum number of heavy rainfall days was over Bageshwar district (34 days) and minimum over Almora district (6 days).

10. DISTRICTS WISE RAINFALL DISTRIBUTION (JUNE-SEPTEMBER) 2025:

The following table shows the district wise rainfall distribution for Uttarakhand:

Serial No	State/ Districts	Actual Rainfall June-September (in mm)	Normal/ Long period average (LPA) Rainfall June-September (in mm)	Departure from normal (in %)
1.	Almora	986.7	792.3	25
2.	Bageshwar	2725.0	792.3	244
3.	Chamoli	1350.7	721.4	87
4.	Champawat	1215.4	1313.8	-7
5.	Dehradun	1974.6	1442.9	37
6.	Pauri Garhwal	890.1	1273.3	-30
7.	Tehri Garhwal	1492.8	948.0	57
8.	Haridwar	1531.6	989.8	55
9.	Nainital	1446.3	1537.9	-6
10.	Pithoragarh	1509.1	1502.5	0
11.	Rudraprayag	1463.6	1549.1	-6
12.	Udham Singh Nagar	1354.7	1125.5	20
13.	Uttarkashi	1315.9	1151.2	14

■ 60% or more
 ■ 20 % to 59 %
 ■ -19 % to 19%
 ■ -20 % to -59 %
 ■ -60 % or less

Out of 13 districts, 5 districts viz. Champawat, Nainital, Pithoragarh, Rudraprayag and Uttarkashi received normal rainfall; 1 district viz. Pauri Garhwal received deficient rainfall; 5 districts viz. Almora, Dehradun, Tehri Garhwal, Haridwar and Udham Singh Nagar received excess rainfall and 2 districts viz. Bageshwar and Chamoli received large excess rainfall in varying intensity. The actual rainfall of the season was highest over Bageshwar (2725.0 mm) and lowest over Pauri Garhwal (890.1 mm) district. In terms of % of the normal rainfall/ LPA, Bageshwar district received the maximum (244%) and Pauri Garhwal received minimum (-30%) rainfall. Thus, monsoon 2025 has been an 'Excess' (+22%) monsoon year for Uttarakhand.

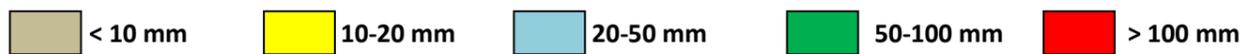
11. MONTHLY DISTRICT-WISE RAINFALL (IN MM) OVER UTTARAKHAND DURING MONSOON SEASON-2025

S. No.	State/ Districts	June (in mm)	Departure (%) June	July (in mm)	Departure (%) July	Aug (in mm)	Departure (%) Aug	Sept (in mm)	Departure (%) Sept
1	Almora	144.1	-1	266.4	-3	395.3	63	180.9	39
2	Bageshwar	574.2	292	683.0	149	997.0	312	470.8	262
3	Chamoli	311.0	197	328.0	24	523.1	111	188.6	80
4	Champawat	196.6	-7	263.5	-44	461.0	16	294.3	28
5	Dehradun	306.5	58	481.0	-10	734.2	47	452.9	108
6	Pauri Garhwal	163.0	8	225.0	-49	388.9	-18	113.2	-45
7	Tehri Garhwal	254.7	97	337.6	1	609.2	83	291.3	91
8	Hardwar	163.9	22	247.6	-26	830.5	133	289.6	74
9	Nainital	214.5	-19	328.5	-42	568.7	28	334.6	28
10	Pithoragarh	224.6	-10	420.0	-23	558.9	17	305.6	30
11	Rudraprayag	315.4	43	359.8	-35	604.8	6	183.6	-12
12	Udham Singh Nagar	195.7	12	303.6	-22	597.7	59	257.7	39
13	Uttarkashi	193.2	9	361.9	-15	566.5	49	194.3	15

■ 60% or more
 ■ 20 % to 59 %
 ■ -19 % to 19%
 ■ -20 % to -59 %
 ■ -60 % or less

12. WEEKLY DISTRICT-WISE RAINFALL (IN MM) OVER UTTARAKHAND DURING MONSOON SEASON-2025:

Week Ending	4 Jun-	11 Jun-	18 Jun-	25 Jun-	02 Jul-	09 Jul-	16 Jul-	23 Jul-	30 Jul-	06 Aug-	13 Aug-	20 Aug-	27 Aug-	03 Sep-	10 Sep-	17 Sep-	24 Sep-	30 Sep
ALMORA	20.1	12.8	24.9	16.6	78.8	61.8	46.4	86.2	56.2	112.0	76.7	121.1	62.2	148.9	13.2	39.8	9.1	0.0
BAGESHWAR	7.2	41.9	102.1	171.4	253.0	278.2	103.8	102.8	177.8	263.4	164.1	233.0	197.2	274.3	60.4	191.0	58.8	44.6
CHAMOLI	5.6	23.2	49.9	83.1	156.5	137.2	43.7	69.8	62.0	129.7	87.8	111.4	71.6	180.5	72.2	45.1	20.4	1.1
CHAMPAWAT	10.2	12.1	36.1	42.8	127.3	16.1	47.5	97.4	58.9	99.2	46.4	115.4	93.0	334.0	4.0	70.0	4.4	0.8
DEHRADUN	22.8	7.9	42.9	51.4	201.2	88.7	141.4	121.5	99.9	230.7	137.7	156.6	131.4	226.8	41.4	214.8	54.7	2.7
PAURI GARHWAL	5.4	9.5	34.2	22.5	101.7	42.8	54.3	67.7	38.6	189.1	61.0	80.8	46.7	73.0	19.0	38.4	1.0	4.4
TEHRI GARHWAL	10.6	8.7	37.3	25.2	180.4	78.2	65.7	89.1	79.0	213.1	118.2	158.1	102.5	136.6	12.9	137.1	34.9	5.3
HARIDWAR	0.6	0.0	19.0	66.4	94.3	17.3	17.0	136.8	32.5	374.9	182.6	169.5	89.4	127.5	27.0	118.3	57.3	1.0
NAINITAL	30.5	2.6	42.5	91.9	59.7	63.7	100.7	72.4	61.6	217.1	91.3	143.6	99.1	208.4	29.6	106.2	16.7	8.7
PITHORAGARH	2.9	27.4	53.0	62.5	83.6	141.4	63.0	101.3	103.5	138.4	68.5	169.5	79.5	200.3	31.3	116.4	36.0	30.7
RUDRAPRAYAG	1.3	25.1	35.6	75.2	184.2	112.0	68.3	54.1	111.6	138.6	120.5	124.7	82.4	196.0	40.1	54.9	39.3	0.0
U.S NAGAR	4.6	0.0	64.1	62.6	79.7	58.9	99.3	71.1	43.8	279.4	60.6	123.6	6.6	327.0	5.4	44.6	1.8	21.8
UTTARKASHI	7.7	3.9	25.8	10.7	153.8	124.7	70.5	65.7	87.1	104.1	85.8	193.4	89.6	185.2	40.9	58.5	8.6	0.0



13. RAINFALL MAP OF MONSOON-2025 FOR UTTARAKHAND MET SUB-DIVISION:

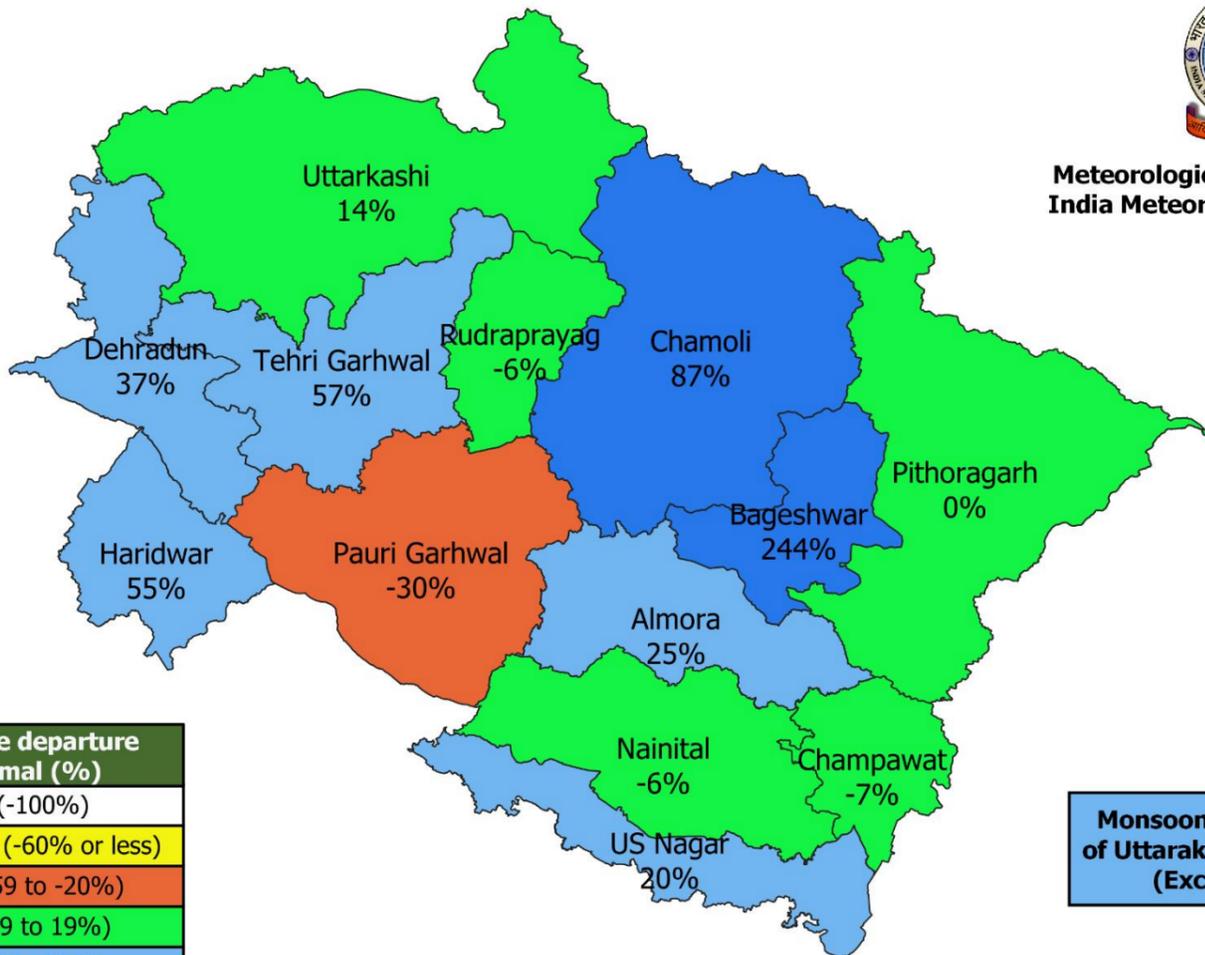
PERIOD: 01.06.2025 – 30.09.2025

Monsoon rainfall (June-Sept 2025) in Uttarakhand

(From 0830 IST of 01-06-2025 to 0830 IST of 30-09-2025)



Meteorological Centre Dehradun
India Meteorological Department



District-wise departure from normal (%)
No Rain (-100%)
Large Deficient (-60% or less)
Deficient (-59 to -20%)
Normal (-19 to 19%)
Excess (20 to 59%)
Large Excess (60% or more)

Monsoon average rainfall of Uttarakhand: 1420.5 mm (Excess: +22%)

