



Government of India

Ministry of Earth Sciences

India Meteorological Department

Meteorological Centre Lucknow

Southwest Monsoon Report 2024 for Uttar Pradesh

Authored by: M. R. Ranalkar, M. Danish, A. H. Warsi

Preface

The present report, titled "Southwest Monsoon Report 2024 for Uttar Pradesh" provides a comprehensive assessment of the monsoon season across Uttar Pradesh, with a focus on Meteorological Sub-divisions of Uttar Pradesh viz. East and West Uttar Pradesh. This analysis covers the period from June 1 to September 30, encapsulating 122 days of monsoonal activity. The report offers an in-depth evaluation of actual and normal rainfall patterns, depicted through time series data, as well as monthly and seasonal maps illustrating rainfall distribution and departures from the normal values.

Further, this report includes week-by-week status of monsoon depicted through weekly time series analysis, monthly rainfall analysis categorizing rainfall intensities (ranging from very light to extremely heavy), and providing visual representation through bar charts. The activity levels of the monsoon—classified as weak, normal, active, or vigorous—are also discussed. Additionally, a district-wise table summarizes actual rainfall, normal rainfall, percentage departures, and rainfall categories. Detailed records of various categories of heavy rainfall events on a date-wise and station-wise basis offer valuable insights into the variability of the monsoon across the region. Performance of the southwest monsoon season from 2017 to 2024 have also been shown in the report.

This report is intended to serve as a valuable resource for meteorologists, researchers, policymakers, and all those interested in understanding the monsoon dynamics over Uttar Pradesh.

Main Seasonal Features:

- The monsoon in Uttar Pradesh for 2024 withdrew completely on 11 October, just a day later than the usual date of 10 October. **(Figure 2).**
- The southwest monsoon onset began on 25 June instead of the typical 20 June and spanned the entire state by 30 June, matching the usual coverage date. **(Figure1)**
- From June to September, Uttar Pradesh experienced normal monsoon rainfall, registering 744.3 mm compared to the normal 746.2 mm.
- In East Uttar Pradesh, the seasonal rainfall was 745.5 mm, a 7% deficit from the normal 799.2 mm, but still in the normal range. Meanwhile, West Uttar Pradesh saw 742.8 mm of rainfall, an 11% increase from the normal 672.0 mm, also classifying it as normal.
- District-wise Uttar Map depicting Monthly and Seasonal Departures are shown in **Figure 3, 4, 5, 6 & 7.**
- During the Southwest Monsoon season of 2024, rainfall in Uttar Pradesh varied significantly across its 75 districts. In four districts, the rainfall was categorized as Large Excess, while 14 districts experienced Excess rainfall. The majority of the districts, numbering 36, received Normal rainfall. However, 19 districts reported Deficient rainfall, and two districts fell into the Large Deficient category. This distribution highlights the diverse rainfall patterns across the state during the monsoon season Tabel-1
- Weekly rainfall time series for SWM 2024 for Met-Subdivisions of East Uttar Pradesh, West Uttar Pradesh & Uttar Pradesh is given in from **Figure 8 to Figure 13.**
- This season recorded 6 nos. of Extremely heavy (>204.4mm), 24 nos. of Very Heavy (115.6-204.4 mm), 58 nos. of Heavy (64.5 to 115.5mm) and 95 nos. of Moderate (15.6 to 64.4mm)-and 104 nos. of Very light to light (≤ 15.5) rainfall days over East Uttar Pradesh. Month-wise and intensity wise number of rainfall days over East Uttar Pradesh has shown in **Figure 14.**
- This season recorded 6 nos. of Extremely heavy (>204.4mm), 16 nos. of Very Heavy (115.6-204.4 mm), 50 nos. of Heavy (64.5 to 115.5mm)-and 97 nos. of Moderate (15.6 to 64.4mm)-and 105 nos. of Very light to light (≤ 15.5)-rainfall days over West Uttar Pradesh. Month-wise and intensity-wise number of rainfall days over West Uttar Pradesh has shown in **Figure 15.**

- The heaviest rainfall of the season was 460.6 mm recorded at Baheri (District Bareilly) on dated 8 July 2024.
- Daily rainfall time series for SWM 2024 for Met-Subdivisions of East Uttar Pradesh, West Uttar Pradesh & Uttar Pradesh is given in from **Figure 16 to Figure 18**.
- The performance of the southwest monsoon from 2017 to 2024 for Uttar Pradesh, East Uttar Pradesh and West Uttar Pradesh is detailed in Tables 4, 5, and 6, respectively.

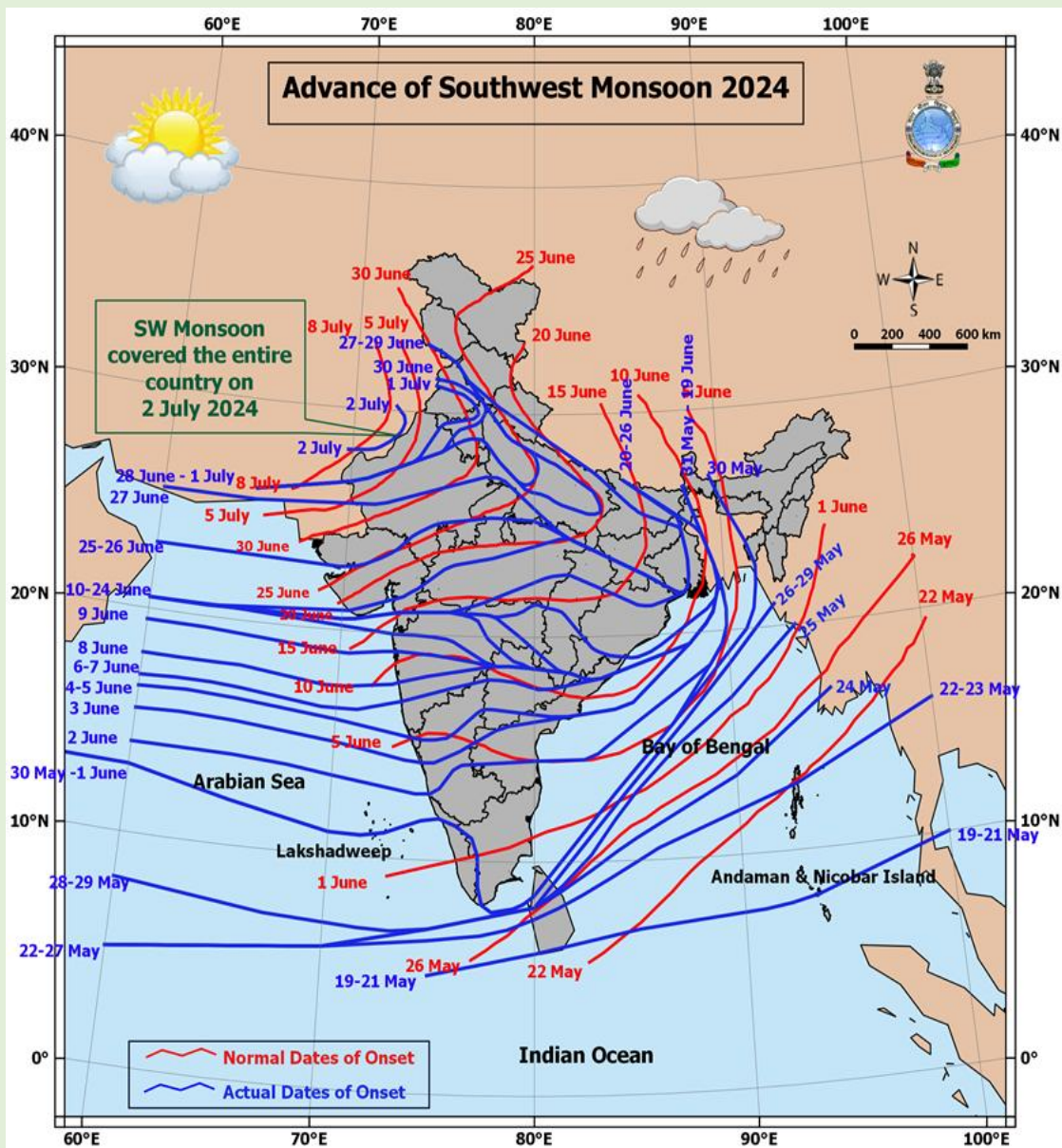


Figure 1: Advance of Southwest Monsoon-2024

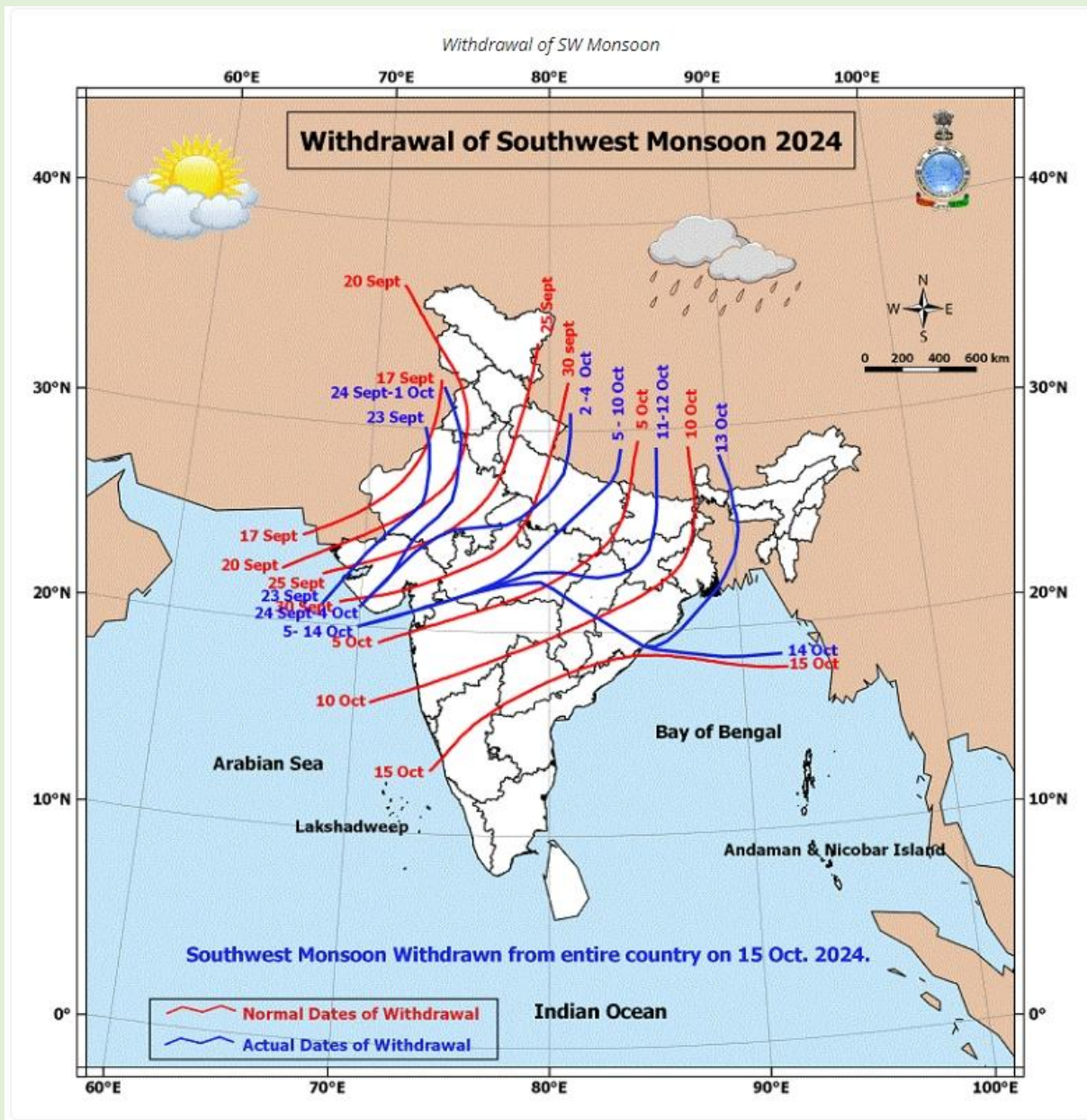


Figure 2: Withdrawal of Southwest Monsoon 2024

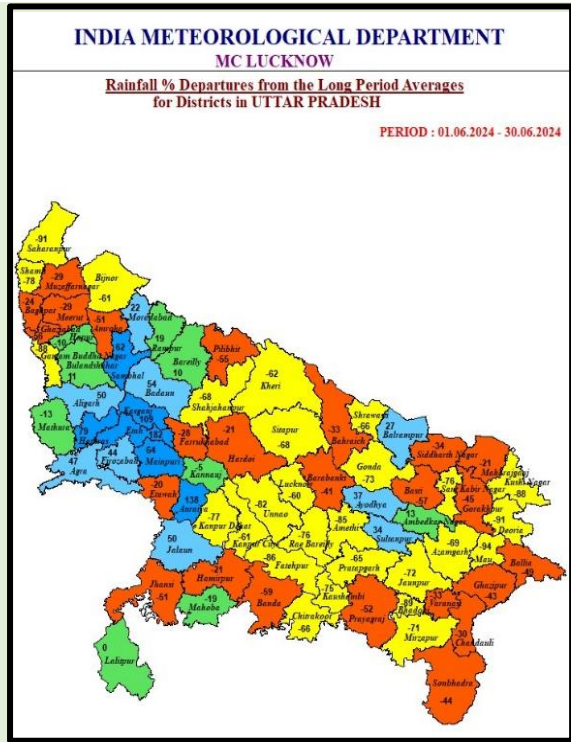


Figure 3: District wise Rainfall map for the month of June-2024



Figure 4: district wise Rainfall map for the month of July-2024

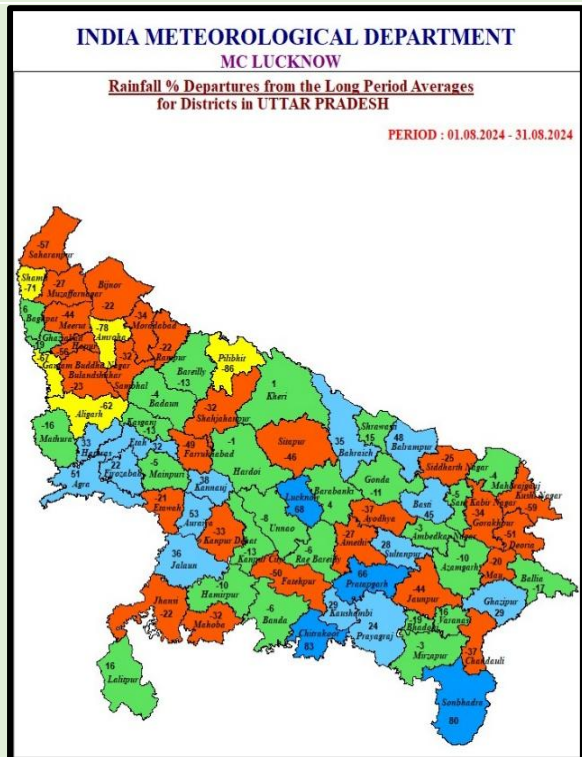


Figure 5: District wise Rainfall map for the month of August-2024

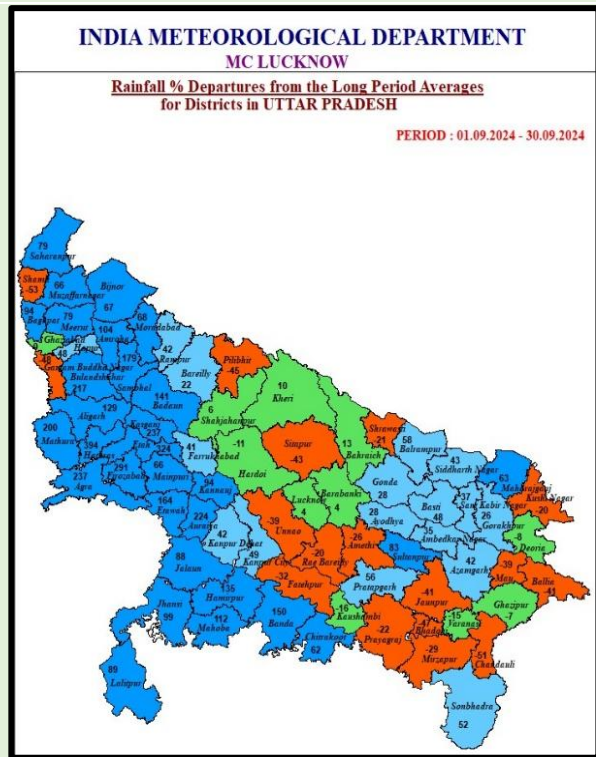


Figure 6: District wise Rainfall map for the month of September-2024

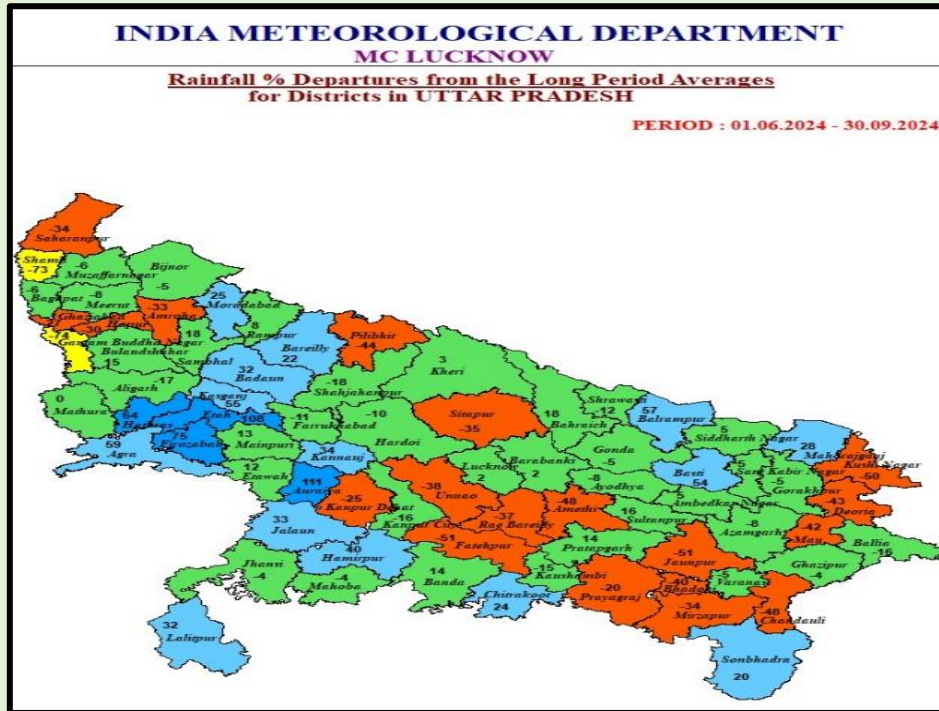


Figure 7: District wise Rainfall map for Monsoon Season (JJAS)-2024

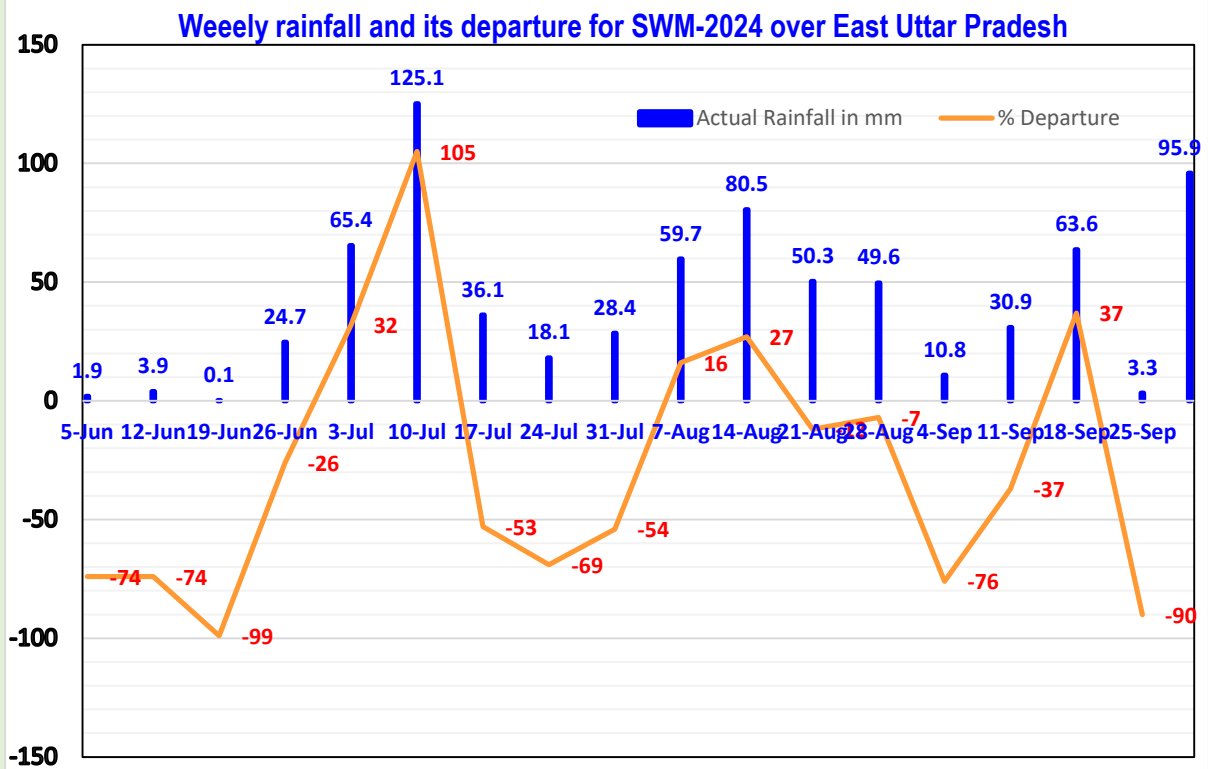


Figure 8 Weekly Rainfall & its Departure for SWM 2024 over East Uttar Pradesh

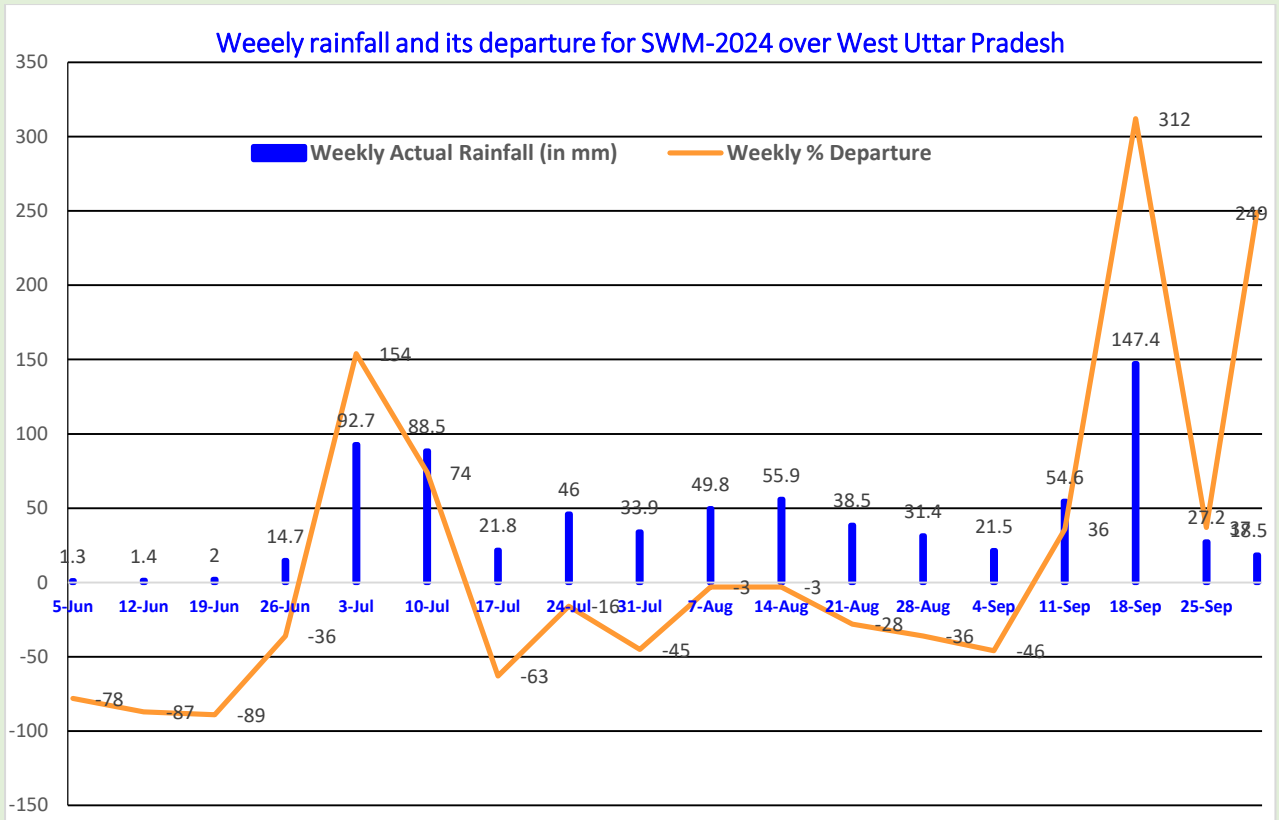


Figure 9: Weekly Rainfall & its Departure for SWM 2024 over West Uttar Pradesh

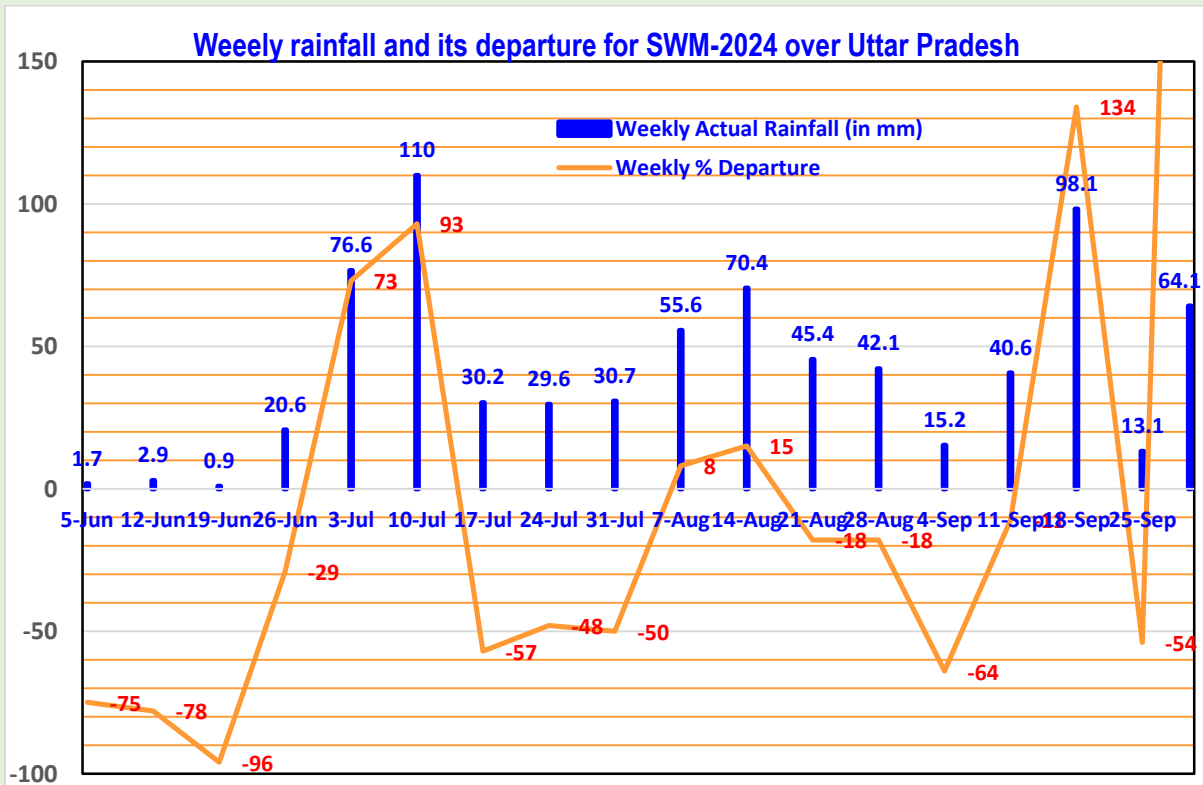


Figure 10: Weekly Rainfall & its Departure for SWM 2024 over Uttar Pradesh

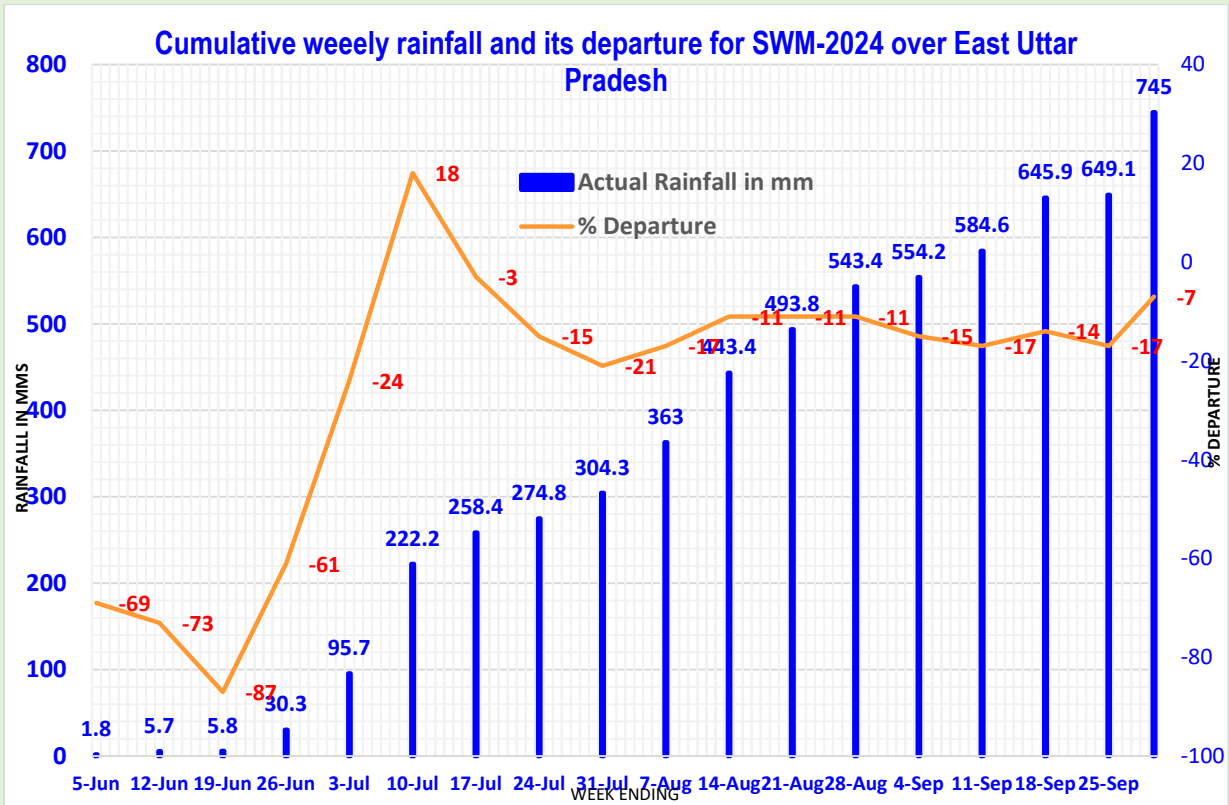


Figure 11: Cumulative Weekly Rainfall & its Departure for SWM 2024 over East Uttar Pradesh

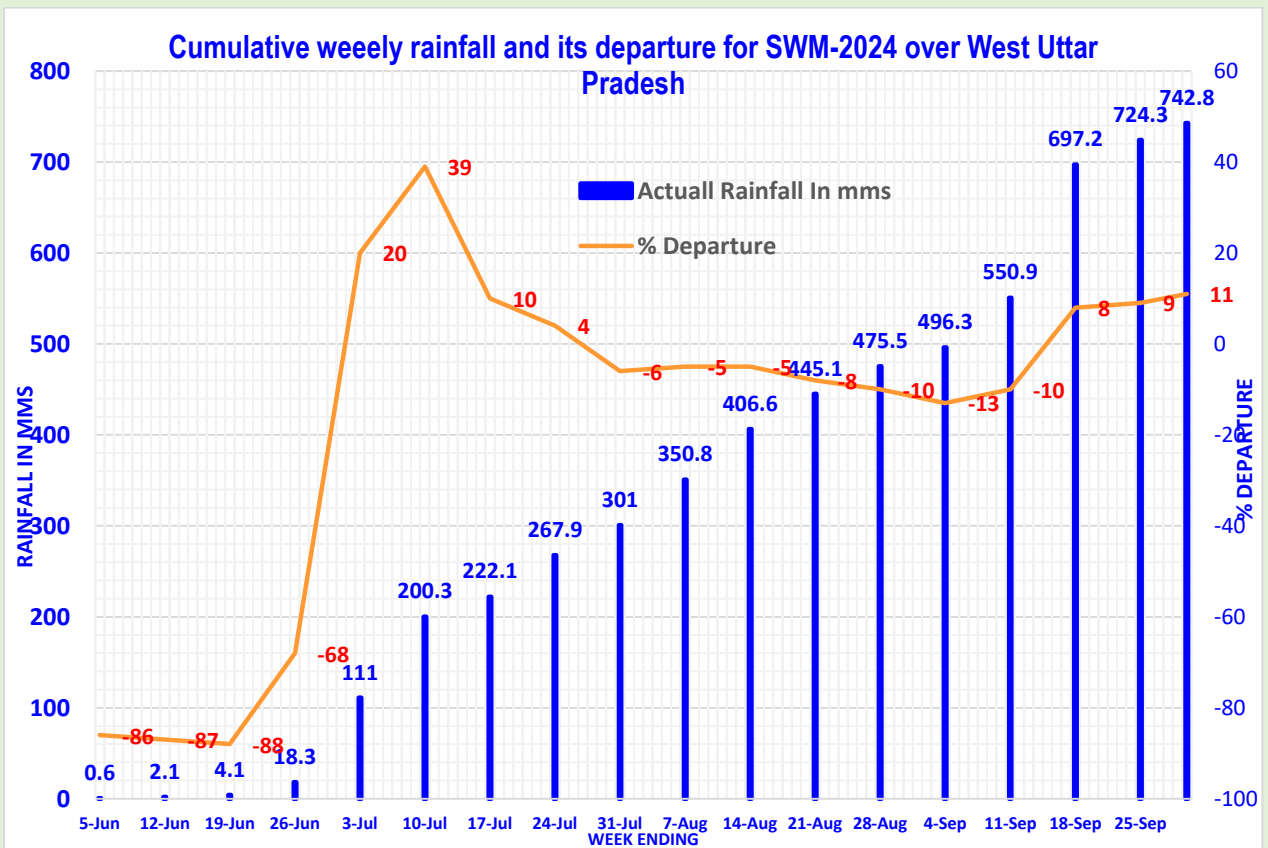


Figure 12: Cumulative Weekly Rainfall & its Departure for SWM 2024 over West Uttar Pradesh

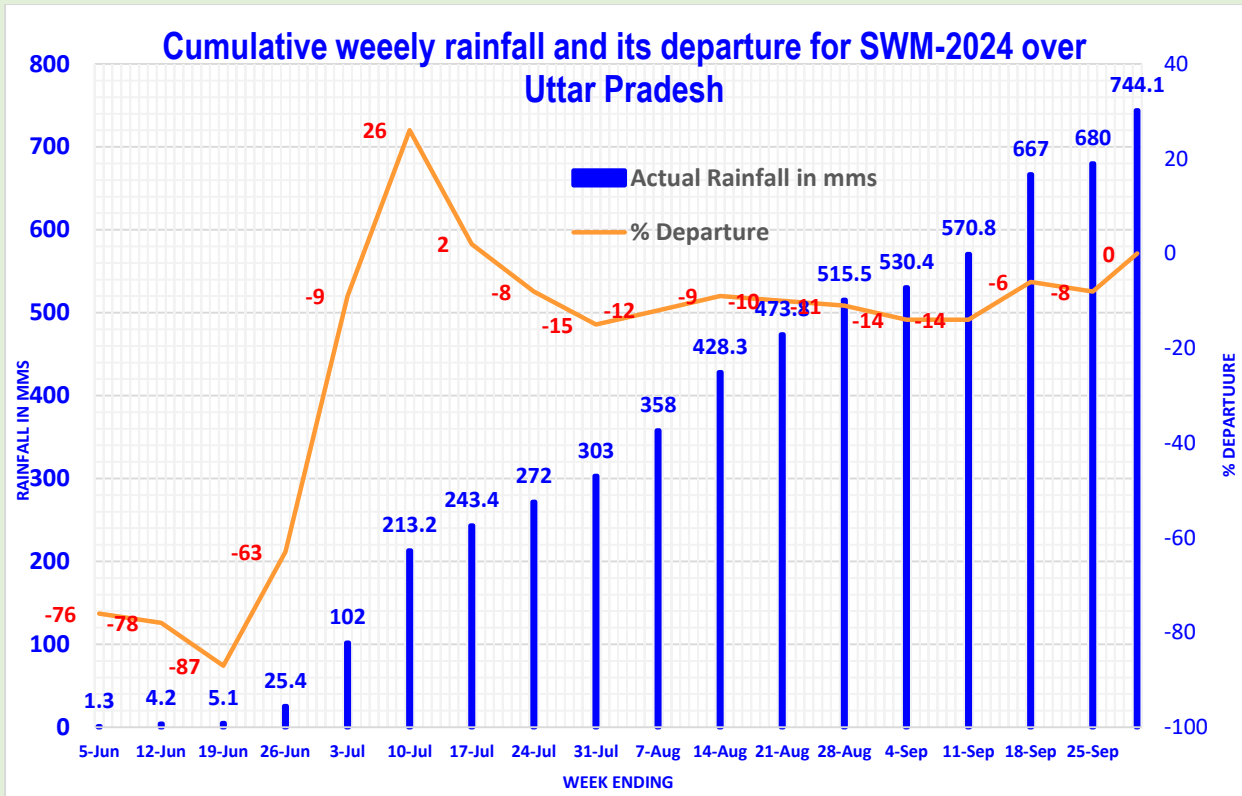


Figure 13: Cumulative Weekly Rainfall & its Departure for SWM 2024 over Uttar Pradesh

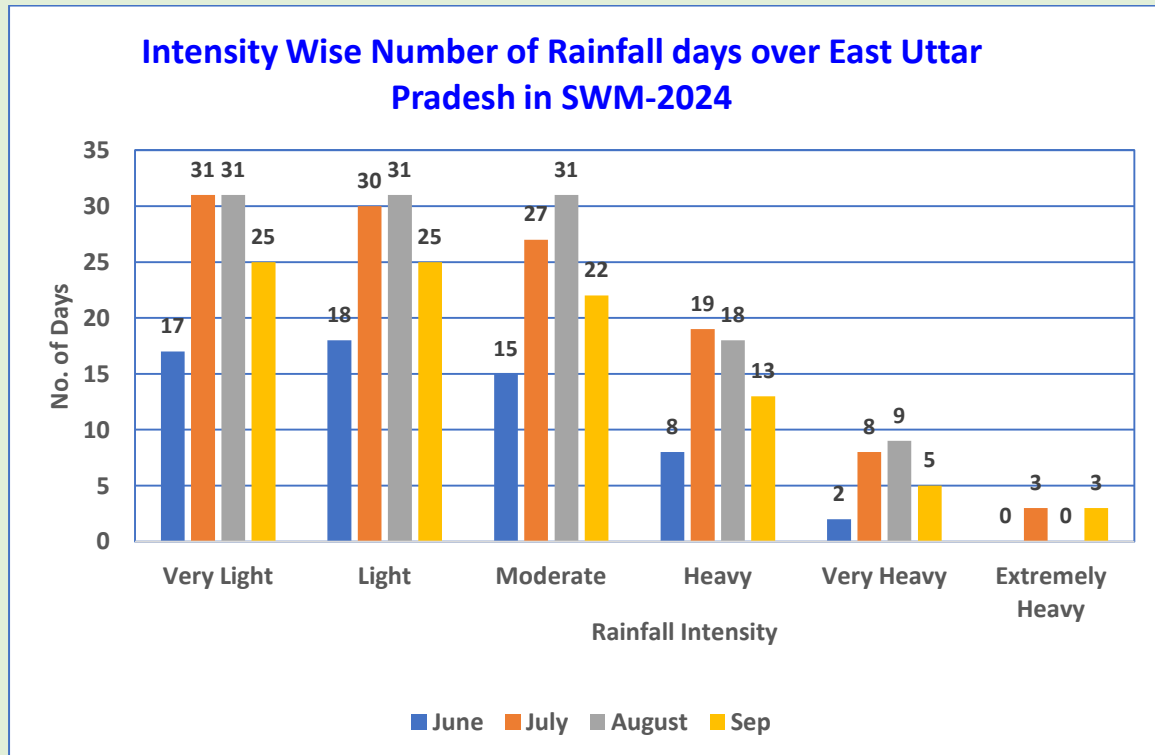


Figure 14: Month-wise and intensity-wise number of rainfall days over East Uttar Pradesh

Intensity Wise Number of Rainfall days over West Uttar Pradesh in SWM-2024

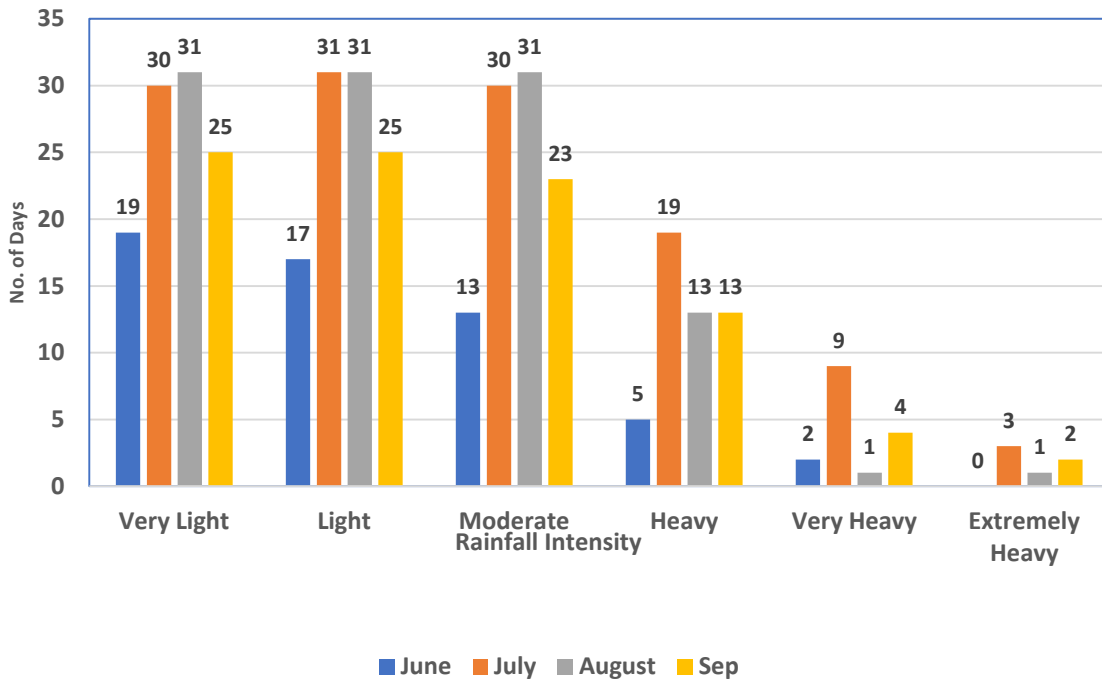


Figure 15: Month-wise and intensity-wise number of rainfall days over West Uttar Pradesh

SW-Monsoon-2024 (JJAS) Daily Actual & normal Rainfall (in mm) over Uttar Pradesh

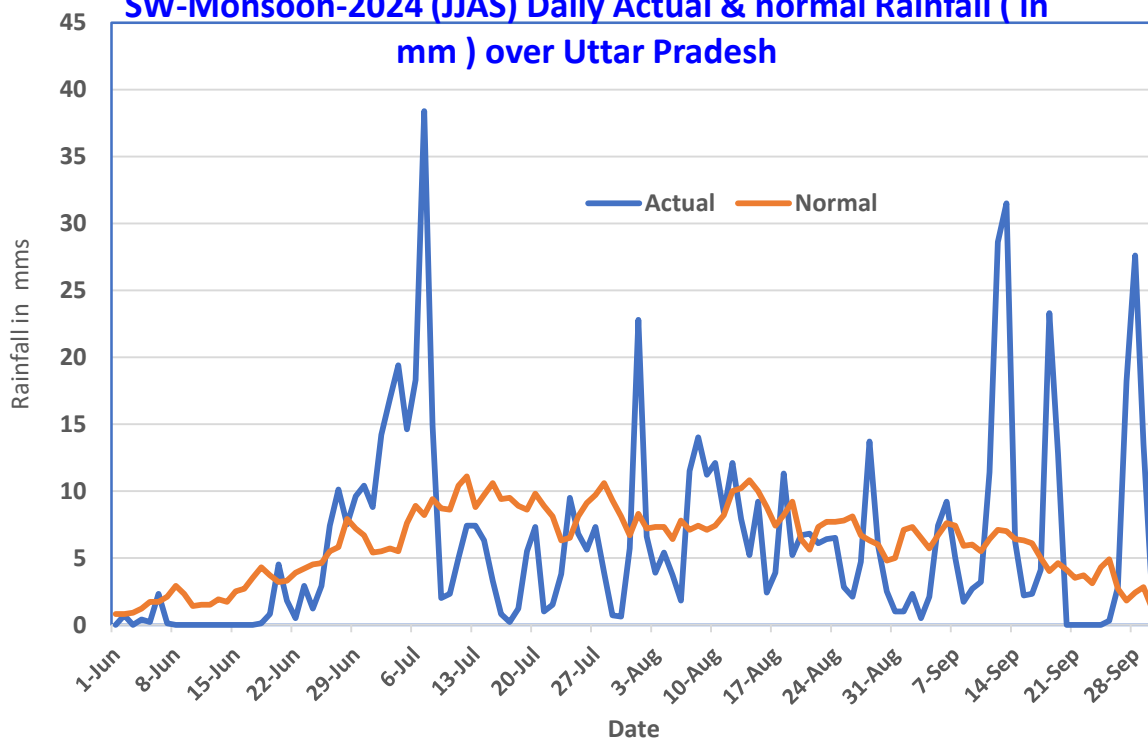


Figure 16: Daily Actual & normal rainfall time series of Uttar Pradesh

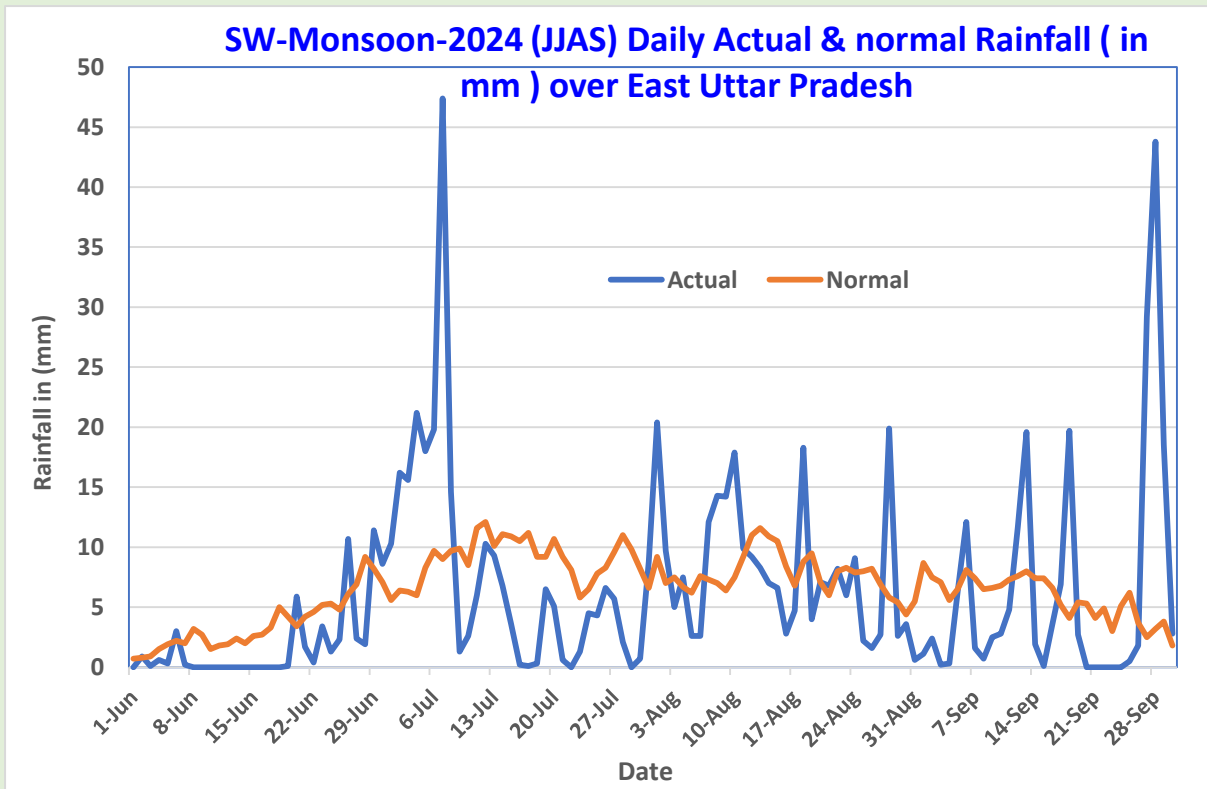


Figure 17: Daily Actual & normal rainfall time series of East Uttar Pradesh

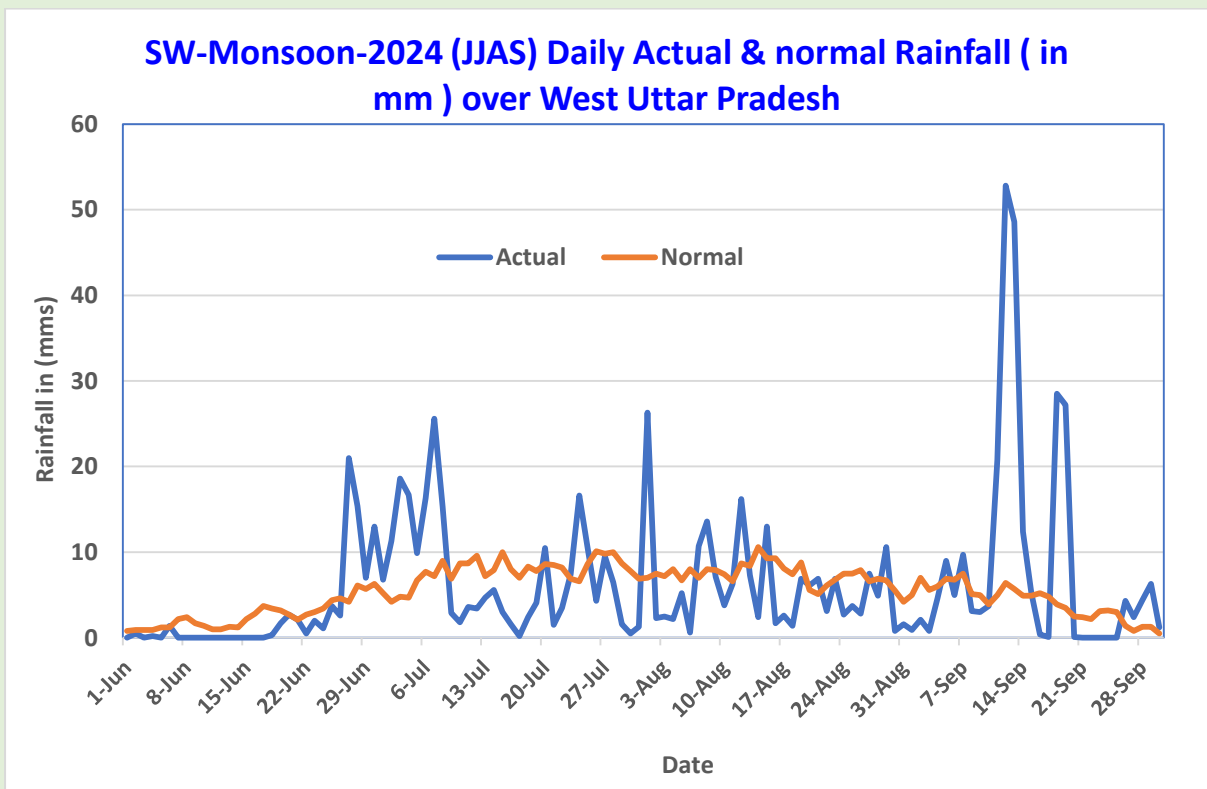


Figure 18: Daily Actual & normal rainfall time series of West Uttar Pradesh

Monsoon Activity over East Uttar Pradesh in SWM-2024 (JJAS)

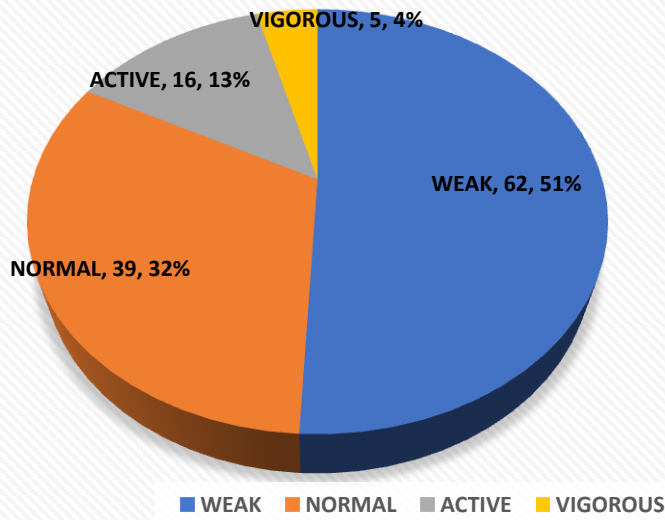


Figure 19: Monsoon activity over East Uttar Pradesh (No. of days in the season, % of the season)

Monsoon Activity over West Uttar Pradesh in SWM-2024 (JJAS)

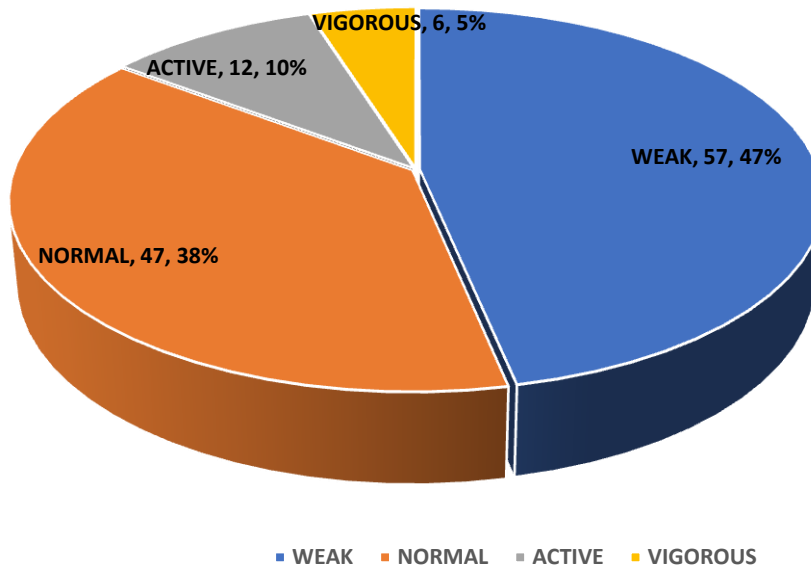


Figure 20: Monsoon activity over West Uttar Pradesh (No. of days in the season, % of the season)

Table 1: District-wise rainfall status and category during Southwest Monsoon Season-2024 (JJAS)

S. No.	District	Actual	Normal	% Departue	Category
1	AURAIYA	1089.9	516	111	Large Excess
2	ETAH	1050.7	505.4	108	Large Excess
3	FIROZABAD	1014.6	580.5	75	Large Excess
4	HATHRAS	899.5	549	64	Large Excess
5	BALRAMPUR	1247.6	793	57	Excess
6	BASTI	1276.4	827.9	54	Excess
7	CHITRAKOOT	972.1	785.8	24	Excess
8	KANNAUJ	899.2	668.8	34	Excess
9	MAHARAJGANJ	1267.7	987.1	28	Excess
10	SONBHADRA	1046.8	873.3	20	Excess
11	AGRA	840.6	530.3	59	Excess
12	BADAUN	886.9	672.7	32	Excess
13	BAREILLY	965.4	791	22	Excess
14	HAMIRPUR	988.1	708	40	Excess
15	JALAUN	857.9	642.7	33	Excess
16	KASGANJ	1035.4	666.6	55	Excess
17	LALITPUR	1059.8	805.1	32	Excess
18	MORADABAD	1091.2	872.9	25	Excess
19	AMBEDKAR NAGAR	896.8	853.8	5	Normal
20	AYODHYA	782.1	851.4	-8	Normal
21	AZAMGARH	786.3	854.3	-8	Normal
22	BAHRAICH	1164.3	986.7	18	Normal
23	BALLIA	602.2	718.7	-16	Normal
24	BANDA	871	767.1	14	Normal
25	BARABANKI	838.4	826	2	Normal
26	FARRUKHABAD	645.9	727.9	-11	Normal
27	GHAZIPUR	755.9	790.1	-4	Normal
28	GONDA	822.4	863.1	-5	Normal
29	GORAKHPUR	1194.5	1252.1	-5	Normal
30	HARDOI	602.9	667.1	-10	Normal
31	KANPUR CITY	521.2	623.2	-16	Normal
32	KAUSHAMBI	470.4	552.1	-15	Normal
33	KHERI	952.9	922	3	Normal
34	LUCKNOW	696.7	683.2	2	Normal
35	PRATAPGARH	885.6	775.3	14	Normal
36	SANT KABIR NAGAR	1081.6	1008.7	7	Normal
37	SHRAWASTI	952.6	1083.5	-12	Normal
38	SIDDHARTH NAGAR	1086.7	1037.9	5	Normal

39	SULTANPUR	953.5	819.3	16	Normal
40	VARANASI	769.5	812.1	-5	Normal
41	ALIGARH	487.6	590.3	-17	Normal
42	BAGHPAT	470.7	499.5	-6	Normal
43	BIJNOR	859	904.9	-5	Normal
44	BULANDSHAHAR	612.9	534.1	15	Normal
45	ETAWAH	629.2	562.5	12	Normal
46	JHANSI	689.9	721.5	-4	Normal
47	MAHOBA	575.6	597.9	-4	Normal
48	MAINPURI	737.8	655.5	13	Normal
49	MATHURA	490.3	488.5	0	Normal
50	MEERUT	596.5	647.7	-8	Normal
51	MUZAFFARNAGAR	621.8	664.1	-6	Normal
52	RAMPUR	789.1	728.3	8	Normal
53	SAMBHAL	776	658.4	18	Normal
54	SHAHJAHANPUR	623.5	762.5	-18	Normal
55	AMETHI	353.4	674.7	-48	Deficient
56	BHADOHI	486.5	809.3	-40	Deficient
57	CHANDAULI	372	711.9	-48	Deficient
58	DEORIA	446.3	781.4	-43	Deficient
59	FATEHPUR	342.2	699	-51	Deficient
60	JAUNPUR	359.3	729.7	-51	Deficient
61	KANPUR DEHAT	431.5	577.1	-25	Deficient
62	KUSHI NAGAR	372.8	750.7	-50	Deficient
63	MAU	460.4	790.7	-42	Deficient
64	MIRZAPUR	589.1	886.2	-34	Deficient
65	PRAYAGRAJ	581	730.2	-20	Deficient
66	RAE BAREILLY	269.8	429.6	-37	Deficient
67	SITAPUR	547.4	837.5	-35	Deficient
68	UNNAO	407.3	658.3	-38	Deficient
69	AMROHA	538.5	809.6	-33	Deficient
70	GHAZIABAD	334	457.9	-27	Deficient
71	HAPUR	469	673.4	-30	Deficient
72	PILIBHIT	472.8	841.9	-44	Deficient
73	SAHARANPUR	498.4	756.8	-34	Deficient
74	GAUTAM BUDDHA NAGAR	120	454.7	-74	Large Deficient
75	SHAMLI	142.8	535.2	-73	Large Deficient

Table 2: Heavy, Very Heavy, Extremely heavy rainfall recorded in East Uttar Pradesh

Date	Station (District)-Rainfall amount in Cms (in descending order)
20 June 2024	Uska Bazar Fmo (Siddharth Nagar)-11, Jalalpur Fmo (Ambedkar Nagar)-7, Kakrahi (Siddharth Nagar)-7, Bansi Cwc (Siddharth Nagar)-7
23 June 2024	Ayodhya (Ayodhya)-10, Tanda (Ambedkar Nagar)-9
25 June 2024	Mukhlispur (Gorakhpur)-7, Dabri Fmo (Farrukhabad)-7,
26 June 2024	Ayodhya (Ayodhya)-18, Rajghat (Vns Cwc)-(Varanasi)-9, Meja (Prayagraj)-9, Birdghat (Gorakhpur)-7, Sultanpur Cwc (Sultanpur)-7, Chandauli (Chandauli)-7, Chopan Fmo (Sonbhadra)-7
27 June 2024	Nichloul (Maharajganj)-7
28 June 2024	Ghazipur Cwc (Ghazipur)-7
29 June 2024	Ramnagar (Barabanki), Kaiserganj (Bahraich)-11 each. Balrampur (Balrampur)-8, Nanpara (Bahraich), Mohammedabad (Y)-(Ghazipur)-7 each.
30 June 2024	Ramnagar (Barabanki)-11, Kaiserganj (Bahraich)-11, Balrampur (Balrampur)-8, Nanpara (Bahraich)-7, Mohammedabad (Y)-(Ghazipur)-7
01 July 2024	Kakerdarighat (Shrawasti)-11, Kheri Lakhimpur (Kheri)-11, Kanpur Obsy (Kanpur City)-8, Sultanpur Obsy (Sultanpur)-8, Rihand Dam Fmo (Sonbhadra)-8, Katerniaghat (Bahraich)-7
02 July 2024	Mahsi (Bahraich)-15, Chanderdeepghat (Gorakhpur)-14, Bahraich (Bahraich)-14, Kaiserganj (Bahraich)-11, Palliakalan (Kheri)-11, Sidhauli (Sitapur)-8, Bhingra (Shrawasti)-7, Notanwa (Maharajganj)-7
03 July 2024	Basti Cwc (Basti)-24, Fatehpur Tehsil (Barabanki)-20, Mukhlispur (Gorakhpur)-15, Ghanghata (Sant Kabir Nagar)-15, Nichloul (Maharajganj)-15, Gaighat (Bla Fmo)-(Ballia)-12, Muhammadi (Kheri)-12, Bansgaon (Gorakhpur)-11, Maharajganj (Maharajganj)-11, Mehdawal (Sant Kabir Nagar)-11, Notanwa (Maharajganj)-8, Chanderdeepghat (Gorakhpur)-8, Trimohani Ghat Fmo (Maharajganj)-8, Gorakhpur (Gorakhpur)-7, Bhanpur (Basti)-7,
04 July 2024	Ramnagar (Barabanki)-21, Bhanpur (Basti)-17, Rudhauli (Basti)-17, Fatehpur Tehsil (Barabanki)-12, Ghanghata (Sant Kabir Nagar)-11, Hardoi Teh (Hardoi)-11, Pharenda (Maharajganj)-10, Hardoi Obsy (Hardoi)-10, Bansi Tehsil (Siddharth Nagar)-10, Palliakalan (Kheri)-9, Ballia Obsy (Ballia)-9, Bansi Cwc (Siddharth Nagar)-8, Uska Bazar Fmo (Siddharth Nagar)-8, Azamgarh (Azamgarh)-8, Regoli (Gorakhpur)-8, Varanasi/bab Aero (Varanasi)-8, Tulasipur (Balrampur)-7, Sitapur (Sitapur)-7, Dabri Fmo (Farrukhabad)-7, Sawayajpur (Hardoi)-7,
05 July 2024	Balrampur (Balrampur)-20, Bahraich (Bahraich)-19, Bansi Tehsil (Siddharth Nagar)-17, Meja (Prayagraj)-11, Balrampur(t)-(Balrampur)-11, Trimohani Ghat Fmo (Maharajganj)-11, Bhanpur (Basti)-8, Jalalpur Fmo (Ambedkar Nagar)-8, Ghanghata (Sant Kabir Nagar)-7, Karchhana (Prayagraj)-7, Dalmau Cwc (Rae Bareilly)-7, Mahsi (Bahraich)-7, Tulasipur (Balrampur)-7
06 July 2024	Raniganj (Pratapgarh)-11, Mukhlispur (Gorakhpur)-11, Bhingra (Shrawasti)-10, Bhanpur (Basti)-10, Rudhauli (Basti)-9, Mehdawal (Sant Kabir Nagar)-9, Balrampur (Balrampur)-9, Ramnagar (Barabanki)-9, Gorakhpur (Gorakhpur)-8, Bara Banki (Barabanki)-7, Nichloul (Maharajganj)-7, Pratapgarh (t)-(Pratapgarh)-7, Domeriaganj (Siddharth Nagar)-7, Gaighat (Bla Fmo)-(Ballia)-7, Kakerdarighat (Shrawasti)-7, Dabri Fmo (Farrukhabad)-7
07 July 2024	Haraiya (Basti)-28, Balrampur (Balrampur)-21, Mankapur (Gonda)-21, Chanderdeepghat (Gorakhpur)-21, Bhanpur (Basti)-20, Ayodhya (Ayodhya)-20, Basti Obsy (Basti)-20, Rudhauli (Basti)-19, Palliakalan (Kheri)-19, Muhammadi (Kheri)-17, Dabri Fmo (Farrukhabad)-14, Gaighat (Bla Fmo)-(Ballia)-14, Basti Cwc (Basti)-14, Bhingra (Shrawasti)-13, Kakerdarighat (Shrawasti)-13, Nighasan (Kheri)-13, Bhatpurwaghat (Sitapur)-12, Bansi Tehsil (Siddharth Nagar)-12,

	Katerniaghat (Bahraich)-12, Balrampur(t)-(Balrampur)-11, Dhaurahara (Kheri)-11, Kaiserganj (Bahraich)-11, Birdghat (Gorakhpur)-11, Mahsi (Bahraich)-10, Kheri Lakhimpur (Kheri)-10, Sardanagar (Kheri)-9, Kakrahi (Siddharth Nagar)-9, Fatehpur Tehsil (Barabanki)-9, Ikauna (Shrawasti)-9, Regoli (Gorakhpur)-9, Malihabad (Lucknow)-9, Neemsar (Sitapur)-9, Pharenda (Maharajganj)-9, Ballia Obsy (Ballia)-8, Domeriaganj (Siddharth Nagar)-8, Tarabganj (Gonda)-8, Biswan (Sitapur)-8, Bahraich (Bahraich)-8, Lucknow (Ap)-(Lucknow)-7, Ghanghata (Sant Kabir Nagar)-7, Nanpara (Bahraich)-7, Gorakhpur (Gorakhpur)-7, Akbarpur Fmo (Ambedkar Nagar)-7, Fursatganj (Amethi)-7, Sidhauri (Sitapur)-7, Misrikh (Sitapur)-7, Kaimganj (Farrukhabad)-7, Lucknow (hs)-(Lucknow)-7
08 July 2024	Dhaurahara (Kheri)-11, Nighasan (Kheri)-9, Haraiya (Basti)-8, Katerniaghat (Bahraich)-7, Bhanpur (Basti)-7, Notanwa (Maharajganj)-7, Raniganj (Pratapgarh)-7
09 July 2024	Ghorawal (Sonbhadra)-7
10 July 2024	Notanwa (Maharajganj)-13, Maharajganj (Maharajganj)-9, Ramnagar (Barabanki)-9, Kakrahi (Siddharth Nagar)-7, Mahsi (Bahraich)-7
11 July 2024	Bansi Tehsil (Siddharth Nagar)-17, Domeriaganj (Siddharth Nagar)-9, Tulasipur (Balrampur)-8, Sirauli Gauspur Tehsil (Barabanki)-8, Raniganj (Pratapgarh)-7, Kaiserganj (Bahraich)-7, Bansi Cwc (Siddharth Nagar)-7
12 July 2024	Notanwa (Maharajganj)-13, Maharajganj (Maharajganj)-9, Ramnagar (Barabanki)-9, Kakrahi (Siddharth Nagar)-7, Mahsi (Bahraich)-7
13 July 2024	Bansi Tehsil (Siddharth Nagar)-17, Domeriaganj (Siddharth Nagar)-9, Tulasipur (Balrampur)-8, Sirauli Gauspur Tehsil (Barabanki)-8, Raniganj (Pratapgarh)-7, Kaiserganj (Bahraich)-7, Bansi Cwc (Siddharth Nagar)-7
14 July 2024	Jalalpur Fmo (Ambedkar Nagar)-12, Lalganj (Mirzapur)-11, Kerakat (Jaunpur)-7
19 July 2024	Maharajganj (Maharajganj)-9, Muhammadi (Kheri)-9, Gorakhpur (Gorakhpur)-8
20 July 2024	Tirwa (Kannauj)-11, Sawayajpur (Hardoi)-7
26 July 2024	Fatehpur Tehsil (Barabanki)-8, Karchhana (Prayagraj)-7 Fatehpur Tehsil (Barabanki)-8, Karchhana (Prayagraj)-7
31 July 2024	Azamgarh (Azamgarh)-11, Bansi Tehsil (Siddharth Nagar)-9, Uska Bazar Fmo (Siddharth Nagar)-8, Churk (Sonbhadra)-7
01 August 2024	Mahsi (Bahraich)-16, Mohammedabad (Y)-(Ghazipur)-13, Kakardharighat (Shrawasti)-13, Muhammadi (Kheri)-11, Tirwa (Kannauj)-10, Lucknow (hs)-(Lucknow)-10, Katarniaghat (Bahraich)-9, Nanpara (Bahraich)-9, Nighasan (Kheri)-9, Shardanagar (Kheri)-8, Kannauj(t)-(Kannauj)-7, Phoolpur Teh (Azamgarh)-7, Koraon (Prayagraj)-7
02 August 2024	Manikpur (Chitrakoot)-9, Bara (Prayagraj)-9, Karwi (Chitrakoot)-8, Koraon (Prayagraj)-8
04 August 2024	Chopan Fmo (Sonbhadra)-7, Rihand Dam Fmo (Sonbhadra)-7
06 August 2024	Nautanwa (Maharajganj)-10, Mehdawal (Sant Kabir Nagar)-7
07 August 2024	Kunda (Pratapgarh)-8, Nighasan (Kheri)-8, Prayagraj Pbo (Prayagraj)-7, Lucknow (hs)-(Lucknow)-7, Jalalpur Fmo (Ambedkar Nagar)-7, Tanda (Ambedkar Nagar)-7
08 August 2024	Chopan Fmo (Sonbhadra)-14, Mau Tehsil (Chitrakoot)-9, Karwi (Chitrakoot)-8, Muhammadi (Kheri)-7, Dabri Fmo (Farrukhabad)-7, Hardoi Teh (Hardoi)-7, Churk (Sonbhadra)-7, Balrampur(t)-(Balrampur)-7
09 August 2024	Ramnagar (Barabanki)-17, Karwi (Chitrakoot)-10, Fatehpur Tehsil (Barabanki)-10, Sirauli Gauspur Tehsil (Barabanki)-8, Kannauj(t)-(Kannauj)-8
10 August 2024	Jalalpur Fmo (Ambedkar Nagar)-9, Kakardharighat (Shrawasti)-9, Bara (Prayagraj)-8, Domeriaganj (Siddharth Nagar)-7, Rae Bareilly Cwc (Rae Bareilly)-7, Birdghat (Gorakhpur)-7, Ramnagar (Barabanki)-7, Mankapur (Gonda)-7, Tanda (Ambedkar Nagar)-7
11 August 2024	Bhanpur (Basti)-9, Mirzapur Cwc (Mirzapur)-7, Dudhi (Sonbhadra)-7

12 August 2024	Mankapur (Gonda)-9, Chanderdeepghat (Gorakhpur)-8, Mirzapur Cwc (Mirzapur)-7
13 August 2024	Bhanpur (Basti)-16
14 August 2024	Bhinga (Shrawasti)-13, Rudhauli (Basti)-9
15 August 2024	Kaiserganj (Bahraich)-9, Karwi (Chitrakoot)-7
17 August 2024	Nautanwa (Maharajganj)-17
18 August 2024	Raniganj (Pratapgarh)-17, Shoharatgarh (Siddharth Nagar)-14, Kakardharighat (Shrawasti)-12, Lambhuua (Sultanpur)-11, Pharenda (Maharajganj)-9, Trimohani Ghat Fmo (Maharajganj)-9, Sultanpur Obsy (Sultanpur)-9, Ballia Obsy (Ballia)-9, Balrampur (Balrampur)-8, Meja (Prayagraj)-8, Regoli (Gorakhpur)-7, Ghazipur Obsy (Ghazipur)-7, Tulasipur (Balrampur)-7, Bansgaon (Gorakhpur)-7
21 August 2024	Hasanganj (Unnao)-10, Palliakalan (Kheri)-7, Sultanpur Obsy (Sultanpur)-7
22 August 2024	Kannauj (Kannauj)-14, Haidargarh (Barabanki)-9, Basti Cwc (Basti)-9, Bhanpur (Basti)-7, Lucknow (hs)-(Lucknow)-7, Tanda (Ambedkar Nagar)-7
23 August 2024	Mukhlispur (Gorakhpur)-7, Kakrahi (Siddharth Nagar)-7
24 August 2024	Chopan Fmo (Sonbhadra)-7, Dudhi (Sonbhadra)-7, Ghazipur Obsy (Ghazipur)-7
28 August 2024	Rae Bareli Cwc (Rae Bareilly)-15, Lalganj Aara (Pratapgarh)-11, Dhanghata (Sant Kabir Nagar)-11, Churk (Sonbhadra)-9, Bani (Lucknow)-8, Varanasi-b.h.u. (Varanasi)-8, Fursatganj (Amethi)-8, Rajghat (Vns Cwc)-(Varanasi)-8, Karchhana (Prayagraj)-7, Haidargarh (Barabanki)-7, Ghosi (Mau)-7, Chandauli (Chandauli)-7, Deogaon Lalganj (Azamgarh)-7
05 September 2024	Muhammadi (Kheri)-9, Karwi (Chitrakoot)-7
	Azamgarh (Azamgarh)-11, Nichloul (Maharajganj)-11, Patti (Pratapgarh)-7, Kaiserganj (Bahraich)-7, Bansgaon (Gorakhpur)-7, Banda Cwc (Banda)-7, Attarra (Banda)-7, Mirzapur Cwc (Mirzapur)-7, Phaphmau Fmo (Prayagraj)-7
10 September 2024	Tirwa (Kannauj)-7
12 September 2024	Itwa (Siddharth Nagar)-11, Bhanpur (Basti)-7
13 September 2024	Muhammadi (Kheri)-14, Ankinghat (Kanpur Dehat)-12, Nighasan (Kheri)-11, Neemsar (Sitapur)-11, Dhaurahara (Kheri)-11, Kaimganj (Farrukhabad)-11, Mahsi (Bahraich)-10, Katarniaghat (Bahraich)-10, Nanpara (Bahraich)-9, Hardoi Obsy (Hardoi)-9, Dabri Fmo (Farrukhabad)-8, Kheri Lakhimpur (Kheri)-7, Chhibramau (Kannauj)-7, Bahraich (Bahraich)-7, Shardanagar (Kheri)-7
14 September 2024	Katarniaghat (Bahraich)-7
17 September 2024	Rihand Dam Fmo (Sonbhadra)-10, Dudhi (Sonbhadra)-9, Churk (Sonbhadra)-9, Robertsganj (Sonbhadra)-8
18 September 2024	Attarra (Banda)-16, Kanpur Obsy (Kanpur City)-12, Mau Tehsil (Chitrakoot)-12, Beberu (Banda)-11, Manikpur (Chitrakoot)-11, Rajapur (Chitrakoot)-11, Karwi (Chitrakoot)-11, Kanpur Iaf (Kanpur City)-10, Banda (Banda)-10, Lalganj (Mirzapur)-10, Tirwa (Kannauj)-9, Ankinghat (Kanpur Dehat)-9, Banda Cwc (Banda)-9, Koraon (Prayagraj)-9, Chhatnag (Prayagraj)-9, Chhibramau (Kannauj)-8, Karchhana (Prayagraj)-7, Ghorawal (Sonbhadra)-7, Kannauj(t)-(Kannauj)-7, Prayagraj Pbo (Prayagraj)-7, Prayagraj Sadar (Prayagraj)-7, Mirzapur Tehsil (Mirzapur)-7, Bhognipur (Kanpur Dehat)-7
26 September 2024	Palliakalan (Kheri)-11
27 September 2024	Lambhuua (Sultanpur)-27, Sultanpur Obsy (Sultanpur)-20, Azamgarh (Azamgarh)-16, Deogaon Lalganj (Azamgarh)-15, Tanda (Ambedkar Nagar)-15, Bhanpur (Basti)-13, Pratapgarh (t)-(Pratapgarh)-12, Ayodhya (Ayodhya)-12, Patti (Pratapgarh)-11, Sultanpur Cwc (Sultanpur)-10, Akbarpur Fmo (Ambedkar Nagar)-10, Ghazipur Obsy (Ghazipur)-9, Phoolpur Teh (Azamgarh)-9, Dhanghata (Sant Kabir Nagar)-8, Ayodhya (ag)-(Ayodhya)-8, Ghazipur Cwc (Ghazipur)-8, Haraiya (Basti)-8, Gorakhpur (Gorakhpur)-7, Akbarpur (Ambedkar Nagar)-7
28 September 2024	Basti Cwc (Basti)-26, Bansi Cwc (Siddharth Nagar)-26, Nichloul (Maharajganj)-24, Chanderdeepghat (Gorakhpur)-23, Bansgaon (Gorakhpur)-21, Birdghat

	(Gorakhpur)-20, Ayodhya (Ayodhya)-20, Trimohani Ghat Fmo (Maharajganj)-18, Haraiya (Basti)-18, Mankapur (Gonda)-18, Balrampur (Balrampur)-18, Tanda (Ambedkar Nagar)-17, Mehdawal (Sant Kabir Nagar)-17, Uska Bazar Fmo (Siddharth Nagar)-17, Mukhlispur (Gorakhpur)-17, Gorakhpur (Gorakhpur)-15, Nautanwa (Maharajganj)-15, Naugarh (Siddharth Nagar)-14, Dhanghata (Sant Kabir Nagar)-14, Bansi Tehsil (Siddharth Nagar)-14, Gonda Sadar (Gonda)-14, Domeriaganj (Siddharth Nagar)-13, Shoharatgarh (Siddharth Nagar)-13, Maharajganj (Maharajganj)-13, Basti Obsy (Basti)-13, Regoli (Gorakhpur)-13, Khalilabad (Sant Kabir Nagar)-12, Akbarpur (Ambedkar Nagar)-12, Pharenda (Maharajganj)-12, Balrampur(t)-(Balrampur)-12, Kakrahi (Siddharth Nagar)-12, Sultanpur Obsy (Sultanpur)-11, Akbarpur Fmo (Ambedkar Nagar)-10, Pratapgarh (t)-(Pratapgarh)-10, Tulasipur (Balrampur)-10, Itwa (Siddharth Nagar)-9, Tarabganj (Gonda)-9, Lambhuaa (Sultanpur)-9, Salempur (Deoria)-9, Raniganj (Pratapgarh)-9, Azamgarh (Azamgarh)-8, Ayodhya (ag)-(Ayodhya)-8, Sultanpur Cwc (Sultanpur)-8, Kanpur Iaf (Kanpur City)-7, Dhaurahara (Kheri)-7, Patti (Pratapgarh)-7, Amethi (Amethi)-7, Ghosi (Mau)-7, Haidargarh (Barabanki)-7, Ikauna (Shrawasti)-7, Phaphmau Fmo (Prayagraj)-7, Karchhana (Prayagraj)-7, Padrauna (Kushi Nagar)-7, Bikapur (Ayodhya)-7
29 September 2024	Attarra (Banda)-27, Banda (Banda)-21, Banda Cwc (Banda)-19, Kakrahi (Siddharth Nagar)-13, Basti Obsy (Basti)-11, Beberu (Banda)-9, Bansgaon (Gorakhpur)-9, Dalmau Cwc (Rae Bareilly)-7, Mukhlispur (Gorakhpur)-7, Naraini (Banda)-7

Table 3: Heavy, Very Heavy, extremely heavy rainfall recorded in West Uttar Pradesh

Date	Station (District)-Rainfall amount in Cms
25 June 2024	Aligarh (Aligarh)-10,
27 June 2024	Bilari (Moradabad)-18, Kasba Tanda (Rampur)-11, Ghiror (Mainpuri)-11, Moradabad Cwc (Moradabad)-10, Aonla (Bareilly)-10, Nawabganj (Bareilly)-10, Jansath (Muzaffarnagar)-9, Sahaswan (Badaun)-9, Bareilly Pbo (Bareilly)-9, Sahabad (Rampur)-8, Auraiya (cwc)-(Auraiya)-7, Moradabad (Moradabad)-7, Tundla (Firozabad)-7, Moradabad Obsy (Moradabad)-7,
28 June 2024	Sasani (Hathras)-11, Moradabad Cwc (Moradabad)-8, Hathras (Hathras)-8, Nawabganj (Bareilly)-7, Narora (Bulandshahar)-7
29 June 2024	Patiyali (Kasganj), Gunnaur (Sambhal), Mainpuri (Mainpuri), Sahaswan (Badaun)-7 each.
30 June 2024	Patiyali (Kasganj)-7, Gunnaur (Sambhal)-7, Mainpuri (Mainpuri)-7, Sahaswan (Badaun)-7
01 July 2024	Etah (Etah)-10
02 July 2024	Aonla (Bareilly)-12, Sahabad (Rampur)-10, Pawayan (Shahjahanpur)-10, Thakurdwara (Moradabad)-8, Bisalpur (Pilibhit)-7, Nawabganj (Bareilly)-7
03 July 2024	Nagina (Bijnor)-16, Baheri (Bareilly)-13, Shahjahapur Obsy (Shahjahanpur)-13, Dhampur (Bijnor)-13, Nawabganj (Bareilly)-12, Moradabad (Moradabad)-11, Sahabad (Rampur)-9, Pawayan (Shahjahanpur)-9, Chandpur (Bijnor)-8, Bisalpur (Pilibhit)-8, Najibabad (t)-(Bijnor)-8, Moradabad Cwc (Moradabad)-7
04 July 2024	Tahrauli (Jhansi)-19, Jasrana (Firozabad)-10, Thakurdwara (Moradabad)-7, Mainpuri (Mainpuri)-7, Ghiror (Mainpuri)-7, Etah (Etah)-7
05 July 2024	Mirganj (Bareilly)-18, Pawayan (Shahjahanpur)-9, Sahabad (Rampur)-9, Bilari (Moradabad)-8, Pali (Lalitpur)-7
06 July 2024	Dataganj (Badaun)-8, Bidhuna (Auraiya)-7, Jalesar (Etah)-7
07 July 2024	Nawabganj (Bareilly)-13, Kasganj (Kasganj)-13, Bisalpur (Pilibhit)-12, Shahjahanpur (t)-(Shahjahanpur)-9, Sahabad (Rampur)-9, Pawayan

	(Shahjahanpur)-9, Mirganj (Bareilly)-9, Sahaswan (Badaun)-9, Bisauli (Badaun)-8, Shahjahanpur Obsy (Shahjahanpur)-8, Mawana (Meerut)-7, Moradabad (Moradabad)-7, Jasrana (Firozabad)-7, Bijnor (Bijnor)-7, Chandpur (Bijnor)-7, Bareilly Cwc (Bareilly)-7, Baheri (Bareilly)-7
08 July 2024	Baheri (Bareilly)-46 , Bisalpur (Pilibhit)-17, Mirganj (Bareilly)-15, Nawabganj (Bareilly)-14, Bilaspur (Rampur)-13, Pilibhit Tehsil (Pilibhit)-12, Suar (Rampur)-7, Khairagar (Agra)-7, Kasba Tanda (Rampur)-7, Milak (Rampur)-7,
09 July 2024	Bilaspur (Rampur)-7
10 July 2024	Bilari (Moradabad)-11
11 July 2024	Nagina (Bijnor)-9
12 July 2024	Bilari (Moradabad)-11
13 July 2024	Nagina (Bijnor)-9
15 July 2024	Muzaffarnagar (Muzaffarnagar)-8, Deoband (Saharanpur)-7, Muzaffarnagar(t)-(Muzaffarnagar)-7
20 July 2024	Hamirpur Cwc (Hamirpur)-29, Shahjina Fmo (Hamirpur)-29, Hamirpur Obsy (Hamirpur)-18, Auraiya (cwc)-(Auraiya)-14, Bharthana (Etawah)-7
22 July 2024	Moradabad Cwc (Moradabad)-7
23 July 2024	Muzaffarnagar (Muzaffarnagar)-11, Mawana (Meerut)-11, Jalesar (Etah)-7, Muzaffarnagar(t)-(Muzaffarnagar)-7
24 July 2024	Pali (Lalitpur)-27, Mahroni (Lalitpur)-22, Moradabad Cwc (Moradabad)-14, Moradabad Obsy (Moradabad)-14, Chilaghat (Jhansi)-8, Moradabad (Moradabad)-7
25 July 2024	Moradabad Cwc (Moradabad)-12, Lalitpur (Lalitpur)-8, Madawara (Lalitpur)-8, Moradabad Obsy (Moradabad)-7, Mahroni (Lalitpur)-7
27 July 2024	Auraiya (cwc)-(Auraiya)-9, Chilaghat (Jhansi)-8
01 August 2024	Sardhana (Meerut)-10, Kalpi Cwc (Jalaun)-9, Kalpi Tehsil (Jalaun)-9, Gunnaur (Sambhal)-8, Baghpat (Baghpat)-8, Sikandarabad (Bulandshahr)-7, Rampur Maniharan (Saharanpur)-7, Bijnor (Bijnor)-7, Moradabad Cwc (Moradabad)-7, Sahabad (Rampur)-7, Pawayan (Shahjahanpur)-7, Najibabad (t)-(Bijnor)-7, Hapur (Hapur)-7, Nagina (Bijnor)-7, Mahroni (Lalitpur)-7
07 August 2024	Baheri (Bareilly)-31, Bilaspur (Rampur)-10, Kasba Tanda (Rampur)-9, Moradabad Obsy (Moradabad)-8, Suar (Rampur)-8, Nawabganj (Bareilly)-7, Moradabad Cwc (Moradabad)-7, Dhampur (Bijnor)-7, Milak (Rampur)-7
08 August 2024	Khairagarh (Agra)-10, Auraiya (cwc)-(Auraiya)-9, Budaun (Badaun)-9
09 August 2024	Budaun (Badaun)-8
10 August 2024	Sahawar (Kasganj)-7
11 August 2024	Agra (cwc)-(Agra)-8, Bhogaon (Mainpuri)-7
12 August 2024	Agra (cwc)-(Agra)-10, Mainpuri (Mainpuri)-9, Muzaffarnagar(t)-(Muzaffarnagar)-7, Meerut (Meerut)-7, Rampur Maniharan (Saharanpur)-7
15 August 2024	Pali (Lalitpur)-15, Orai (Jalaun)-14, Auraiya (cwc)-(Auraiya)-11, Jasrana (Firozabad)-10, Kalpi Tehsil (Jalaun)-7, Kalpi Cwc (Jalaun)-7
17 August 2024	Talbehat (Lalitpur)-7
19 August 2024	Agra Obsy (Agra)-10
23 August 2024	Milak (Rampur)-7, Madawara (Lalitpur)-7, Mainpuri (Mainpuri)-7, Vrindavan (Mathura)-7
24 August 2024	Baghpat (Baghpat)-7
28 August 2024	Orai (Jalaun)-8
04 September 2024	Agra Obsy (Agra)-9
05 September 2024	Baheri (Bareilly)-11, Khekda (Baghpat)-8, Moradabad Obsy (Moradabad)-7, Moradabad Cwc (Moradabad)-7
06 September 2024	Bulandshahr (Bulandshahr)-8
07 September 2024	Sikandarabad (Bulandshahr)-9

11 September 2024	Tahrauli (Jhansi)-9, Muzaffarnagar (Muzaffarnagar)-9, Mahroni (Lalitpur)-9, Jhansi (Jhansi)-9, Mauranipur (Jhansi)-9, Madawara (Lalitpur)-9, Pali (Lalitpur)-7, Rampur Maniharan (Saharanpur)-7
12 September 2024	Agra (cwc)-(Agra)-29, Jalesar (Etah)-23, Sadabad (Hathras)-23, Sikandra Rao (Hathras)-20, Hathras (Hathras)-19, Tundla (Firozabad)-17, Khairagarh (Agra)-17, Kasganj (Kasganj)-17, Sahawar (Kasganj)-17, Tahrauli (Jhansi)-15, Jhansi (Jhansi)-14, Fatehabad (Agra)-13, Etawah (cwc)-(Etawah)-12, Sasani (Hathras)-12, Sahaswan (Badaun)-12, Vrindavan (Mathura)-12, Talbehath (Lalitpur)-11, Moth (Jhansi)-11, Narora (Bulandshahar)-11, Etah (Etah)-11, Jasrana (Firozabad)-11, Aligarh (Aligarh)-11, Karhal (Mainpuri)-10, Etmadpur (Agra)-10, Bah (Agra)-9, Auraiya (cwc)-(Auraiya)-9, Gunnaur (Sambhal)-9, Madawara (Lalitpur)-9, Mainpuri (Mainpuri)-9, Shikohabad (Firozabad)-8, Kurawali (Mainpuri)-8, Mauranipur (Jhansi)-8, Kalpi Tehsil (Jalaun)-8, Kalpi Cwc (Jalaun)-8, Moradabad Cwc (Moradabad)-8, Moradabad Obsy (Moradabad)-8, Bareilly Pbo (Bareilly)-8, Pali (Lalitpur)-7, Moradabad (Moradabad)-7, Kasba Tanda (Rampur)-7, Aliganj (Etah)-7, Etawah Obsy (Etawah)-7, Ghiror (Mainpuri)-7
13 September 2024	Bijnor (Bijnor)-18, Kasganj (Kasganj)-15, Sahawar (Kasganj)-15, Budaun (Badaun)-14, Mirganj (Bareilly)-13, Sahaswan (Badaun)-13, Pawayan (Shahjahanpur)-13, Baheri (Bareilly)-12, Nauganva Sadat (Amroha)-12, Sikandra Rao (Hathras)-11, Amroha (Amroha)-11, Moradabad Cwc (Moradabad)-11, Hasanpur (Amroha)-10, Dhampur (Bijnor)-10, Dataganj (Badaun)-10, Aligarh (Aligarh)-10, Bilari (Moradabad)-10, Moradabad (Moradabad)-9, Thakurdwara (Moradabad)-9, Kasba Tanda (Rampur)-9, Jansath (Muzaffarnagar)-9, Jasrana (Firozabad)-9, Nagina (Bijnor)-9, Moradabad Obsy (Moradabad)-9, Shahjahanpur Obsy (Shahjahanpur)-9, Bisauli (Badaun)-9, Narora (Bulandshahar)-8, Aonla (Bareilly)-8, Mawana (Meerut)-8, Nawabganj (Bareilly)-8, Aliganj (Etah)-8, Etawah (cwc)-(Etawah)-8, Chandpur (Bijnor)-8, Bareilly Cwc (Bareilly)-8, Suar (Rampur)-8, Agra (cwc)-(Agra)-7, Gunnaur (Sambhal)-7, Chandausi (Sambhal)-7, Pilibhit Tehsil (Pilibhit)-7, Shahjahanpur (t)-(Shahjahanpur)-7, Tundla (Firozabad)-7, Bisalpur (Pilibhit)-7, Bareilly Pbo (Bareilly)-7
14 September 2024	Kasba Tanda (Rampur)-9, Bijnor (Bijnor)-8, Suar (Rampur)-7
15 September 2024	Saharanpur (Saharanpur)-10
16 September 2024	Churk (Sonbhadra)-10, Chopan Fmo (Sonbhadra)-8, Robertsganj (Sonbhadra)-7, Dudhi (Sonbhadra)-7
18 September 2024	Rath (Hamirpur)-22, Karhal (Mainpuri)-15, Chilaghat (Jhansi)-15, Kalpi Tehsil (Jalaun)-15, Shahjina Fmo (Hamirpur)-14, Hamirpur Cwc (Hamirpur)-14, Hamirpur Obsy (Hamirpur)-13, Auraiya (cwc)-(Auraiya)-13, Etawah (cwc)-(Etawah)-13, Etawah Obsy (Etawah)-12, Chakkar Nagar (Etawah)-12, Kalpi Cwc (Jalaun)-9, Moth (Jhansi)-9, Shikohabad (Firozabad)-8, Aliganj (Etah)-7, Kulpahar (Mahoba)-7, Orai (Jalaun)-7, Bharthana (Etawah)-7
19 September 2024	Sikandra Rao (Hathras)-20, Narora (Bulandshahar)-18, Kasganj (Kasganj)-18, Gunnaur (Sambhal)-16, Jasrana (Firozabad)-15, Sahaswan (Badaun)-14, Shikohabad (Firozabad)-11, Auraiya (cwc)-(Auraiya)-11, Anupshahr (Bulandshahar)-9, Budaun (Badaun)-9, Jalesar (Etah)-9, Tundla (Firozabad)-8, Ghiror (Mainpuri)-7, Chandpur (Bijnor)-7, Hapur (Hapur)-7, Bah (Agra)-7, Agra (cwc)-(Agra)-7, Agra Obsy (Agra)-7, Aligarh (Aligarh)-7, Fatehabad (Agra)-7
26 September 2024	Nakur (Saharanpur)-9
27 September 2024	Najibabad (t)-(Bijnor)-11

Table 4: Past year Performance of Southwest Monsoon Uttar Pradesh

Monsoon Year	Actual Rainfall (in mm) (% Departure from normal)	Category
2024	744.2 (0)	NORMAL
2023	620.3 (-17)	NORMAL
2022	533.5 (-29)	DEFICIENT
2021	750.2 (1)	NORMAL
2020	650 (-13)	NORMAL
2019	722.3 (-3)	NORMAL
2018	764.8 (2)	NORMAL
2017	602.7 (-19)	NORMAL

Table 5: Past year Performance of Southwest Monsoon East Uttar Pradesh

Monsoon Year	Actual Rainfall (in mm) (% Departure from normal)	Category
2024	745.2 (-7)	NORMAL
2023	567.3 (-29)	DEFICIENT
2022	556.8 (-30)	DEFICIENT
2021	867.3 (9)	NORMAL
2020	782.9 (-2)	NORMAL
2019	852.5 (7)	NORMAL
2018	756.5 (-5)	NORMAL
2017	653.1 (-18)	NORMAL

Table 6: Past year Performance of Southwest Monsoon West Uttar Pradesh

Monsoon Year	Actual Rainfall (in mm) (% Departure from normal)	Category
2024	742.8 (11)	NORMAL
2023	696.2 (4)	NORMAL
2022	500.1 (-26)	DEFICIENT
2021	582.5 (-13)	NORMAL
2020	459.5 (-32)	DEFICIENT
2019	535.7 (-20)	DEFICIENT
2018	777 (16)	NORMAL
2017	528.5 (-21)	DEFICIENT

Acknowledgment

We, the authors of the report, express our sincere gratitude to Sh. Kaushal Prasad and Ms. Ruby Verma for their invaluable support and contributions to this report. Their insights and assistance have significantly enhanced the quality and comprehensiveness of this analysis. We would also like to acknowledge the efforts of all individuals who have directly or indirectly contributed to the successful completion of this report.

Abbreviations used :-

1. O or Obsy are used for Observatories
2. FMO is used for Flood Meteorological Office Stations
3. T or Teh are used for Tehsil
4. CWC is used for Central Water Commission
5. PBO is used for Pilot Balloon Observatory
6. JJAS is used for June, July, August & September

End of Report