

INDIA METEOROLOGICAL DEPARTMENT, METEOROLOGICAL CENTRE, RANCHI



WEATHER REPORT

YEARLY-2024

(JHARKHAND)

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1. Main synoptic features

➤ Winter (January-February, 2024).

- In January-2024, the induced cyclonic circulations over North-western part of India in lower level due to W.D, their East-Northeastward movement, lower level North-South trough to the south-West of Jharkhand state, lower level cyclonic circulation over G.W.B, Bihar & U.P and presence of Jet Stream in upper troposphere over plains of North India were the major synoptic features influencing the weather of Jharkhand.
- In February-2024, the induced cyclonic circulations over North-western part of India in lower level due to W.D, their East-Northeastward movement, lower level North-South trough over western & central India and their eastward movement, lower level trough in westerlies and presence of Jet Stream in upper troposphere over plains of North India were the major synoptic features influencing the weather of Jharkhand.
- Above systems led to Thunderstorm, rainfall, cloudy & foggy weather, cold wave condition and Hail at different interval of time during Winter Season, 2024.

➤ Pre-Monsoon (March-May, 2024).

- In March-2024, the induced cyclonic circulations over North-western part of India in lower level due to W.D, their East-Northeastward movement, lower level North-South & East-West trough, lower level cyclonic circulation in the neighbourhood of Jharkhand and also the W.D as trough over the state in middle to upper tropospheric level were the major synoptic features influencing the weather of Jharkhand.
- In April-2024, the cyclonic circulations over North-Bangladesh, East Bihar & North Odisha, East-West trough passing across North and South Jharkhand, The trough/ wind discontinuity running from western India & central India to Peninsular India all at 0.9 KM above mean sea the major synoptic features influencing the weather of Jharkhand.
- In May-2024, the Cyclonic circulation, East-West & North-South troughs over Jharkhand state and its neighbourhood extending mostly in lower levels (925-850) hpa were the main synoptic systems causing convective activity over the state. Besides these, the **Severe cyclonic storm “REMAL”** developed from a Low Pressure Area that formed southwest and adjoining west central Bay of Bengal (BoB) on 22nd May, 2024 concentrated into a depression over central BoB on 24th and subsequently intensified into severe cyclonic storm on 26th May, 2024, also affected partially the state causing cloudy weather and rain, especially in Eastern part of the state on 26th and 27th of May, 2024.
- Above systems led to convective activity causing Rain/ Thundershower, gusty wind and also the hail over the state at different interval of time during Pre-Monsoon season, 2024.

➤ **Monsoon (June-September, 2024).**

- The monsoon onset over Kerala occurred on May 30, two days earlier than the normal date. By May 31, it covered parts of the northeast Bay of Bengal, Sub-Himalayan West Bengal, Sikkim, and Assam. The progress of the southwest monsoon over its Bay of Bengal branch was more rapid than the Arabian Sea, partly due to the formation and movement of **the Severe Cyclonic storm, Remal**, over the region. The Southwest Monsoon entirely covered India by July 2, 2024, six days earlier than its normal date of July 8.
- **The SW Monsoon-2024 arrived (onset of Monsoon) in Jharkhand on 21.06.2024 and by 28.06.2024 it covered entire state. Thus the onset in Jharkhand was delayed by almost 10 days from its normal date (10-15) June.**
- Number of Low-pressure System (LPS) including Low (L), Well Marked Low (WML), Depression (D), Deep Depression (DD), Cyclonic Storm (CS) and number of LPS days in monsoon 2024.

System/Month	CS	DD	D	WML	L	LAND LOW	TOTAL SYSTEMS
JUNE	0	0	0	0	1	0	1
JULY	0	0	1	0	2	0	3
AUGUST	1	1	1	1	2	0	6
SEPTEMBER	0	2	0	0	1	0	3

- During peak monsoon rainfall months of July and Aug 2024, monsoon trough was south of the normal position in most dates and there was no break monsoon as such developed/prevailed on any date during monsoon 2024. Hence, core zone of Monsoon region received above normal rainfall. Also, during the season no active WD impacted north India except in September month. This is the main reason for the below normal rainfall over some areas over the western Himalayan.
- With the formation of low pressure systems from second weeks of July 2024 onwards and their movement contributed significantly to reduce the deficit of **Jharkhand rainfall** from -64% in June to -30% of LPA in July. Thereafter observed rainfall was +45% in August and +32% in September of LPA. Overall observed rainfall for Jharkhand for entire season is -01% of LPA which falls in **Normal rainfall category**.

➤ **Post-Monsoon (October-December, 2024).**

- **Synoptic systems October-2024:**
- A total of four Low Pressure Systems formed during the month. Out of which, two became depression, one Severe Cyclonic Storm and one Low pressure Area. A total of 19 LPS days was observed during the month October-2024.

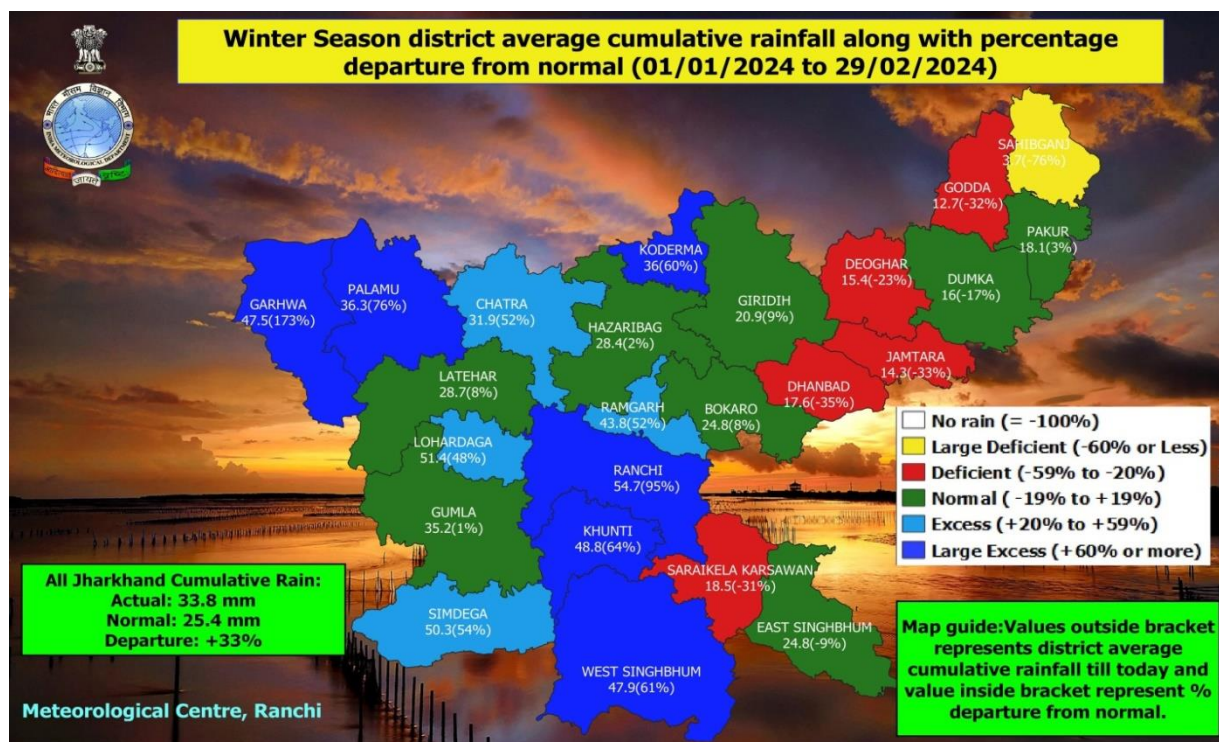
- 1 Low (04-05 Oct), Depression over Central Arabian Sea (13th – 15th October), Depression over southwest Bay of Bengal (15th – 17th October), Severe Cyclonic Storm “DANA” over East central Bay of Bengal during 22-26 October, 2024
- Except Depression over Central Arabian Sea, other Three (03) Low pressure systems (LPS), 1 Depression (16 Oct) and 1 Severe Cyclonic storm “DANA” (24 Oct) influenced the weather of Jharkhand.
- Apart from above systems, East-West trough & cyclonic circulation in lower level were also present in the neighbourhood of Jharkhand state.
- Withdrawal of Southwest monsoon started from Jharkhand on 11.10.2024 and withdrawn completely from entire state on 13.10.2024.
- **Synoptic systems November-2024:**
- The Deep Depression over South-West BOB on 29.11.2024 intensified into the Cyclonic Storm “FENGAL” [pronounced as FEINJAL] over Southwest Bay of Bengal on 30.11.2024 . This system could cause only very light to light rain at isolated places in Southern parts of Jharkhand, but cloudy weather over entire state.
- **Synoptic systems December-2024:**
- The Cyclonic Storm “FENGAL” [pronounced as FEINJAL] over north coastal Tamil Nadu & Puducherry and its remnants caused cloudy weather and isolated light rainfall on 30.11.2024 & 01.12.2024 over southern part of the Jharkhand state.
- Rainfall also occurred over the state in association with WD as cyclonic circulation / trough, Depression and Well marked Low in latter part of the month.

2. Rainfall Distribution :

➤ Winter (January-February, 2024).

- Rainfall occurred on 28 days in the season Winter-2024.
- The seasonal cumulative rainfall for Winter-2024 was above normal.
- The observed seasonal (Winter) rainfall (from 01st January, 2024 to 29th February, 2024) over Jharkhand state as a whole was 33.8 mm against the normal (LPA) rainfall of 25.4 mm and the departure was +33%. Cumulatively it was an **Excess (Departure: +20% to +59%) rainfall.**

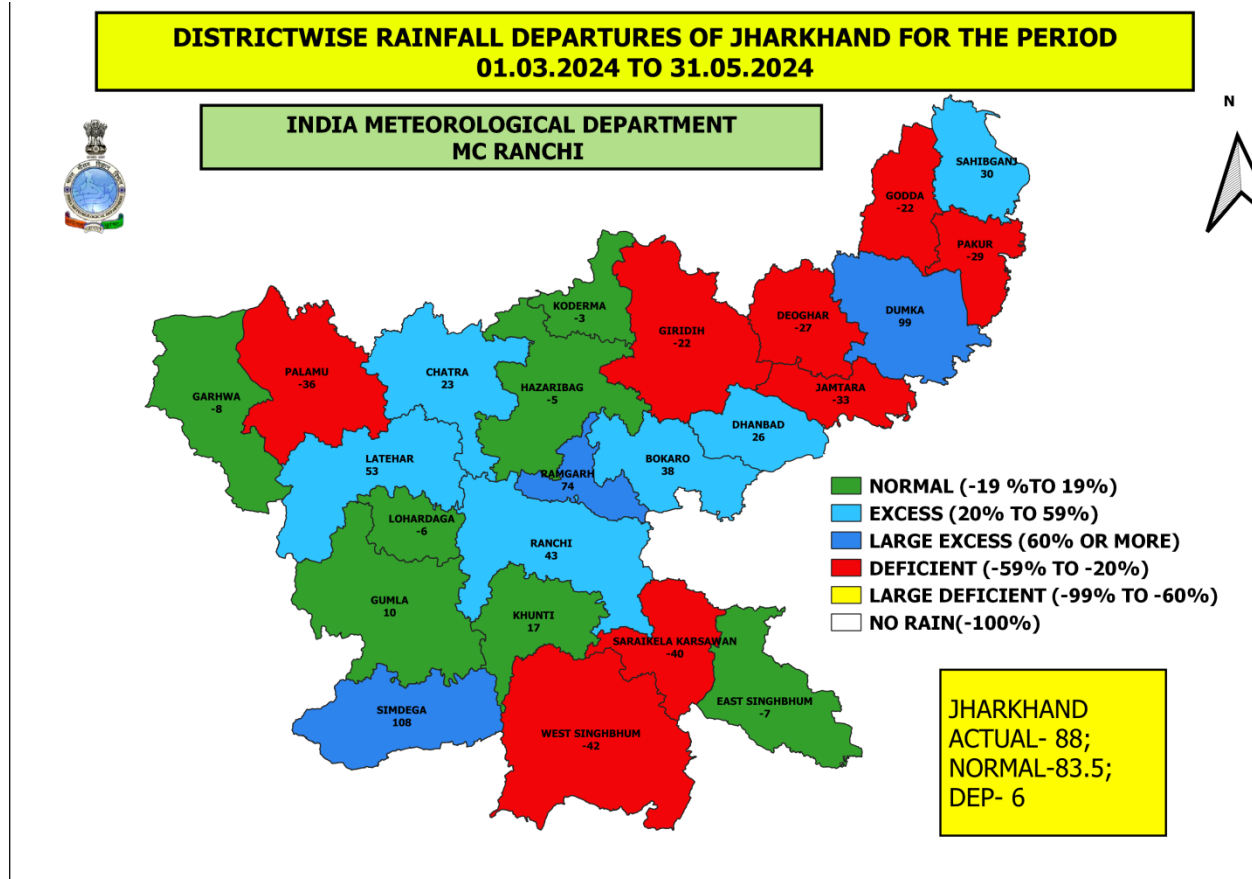
Month	Actual mm	Normal (LPA) mm	Departure (%)
January, 2024	8.2	11	-25
February, 2024	25.6	14.5	+77
Winter, 2024 (01.01.2024 to 29.02.2024) Till February-2024	33.8	25.4	+33



➤ Pre-Monsoon (March-May, 2024).

- Rainfall occurred on 52 days in the Pre-Monsoon season-2024.
- The highest rainfall in Pre-Monsoon-2024 was recorded at **Rajmahal (Sahebganj District) – 113.2 mm on 22.05.2024.**
- The observed seasonal (March – May) rainfall (from 01st March, 2024 to 31st May, 2024) over Jharkhand state as a whole was 88.0 mm against the normal (LPA) rainfall of 83.3 mm and the departure was +06 %. Cumulatively it was also a **Normal (Departure: -19% to +19%) rainfall.**

Month	Actual (mm)	Normal (LPA) (mm)	Departure (%)	Category
March, 2024	34.4	14.7	+ 133	Large Excess
April, 2024	2.9	19.8	- 85	Large Deficient
May, 2024	50.7	48.7	+ 4	Normal
Pre-Monsoon, 2024 (01.03.2024 to 31.05.2024)	88	83.3	+ 6	Normal



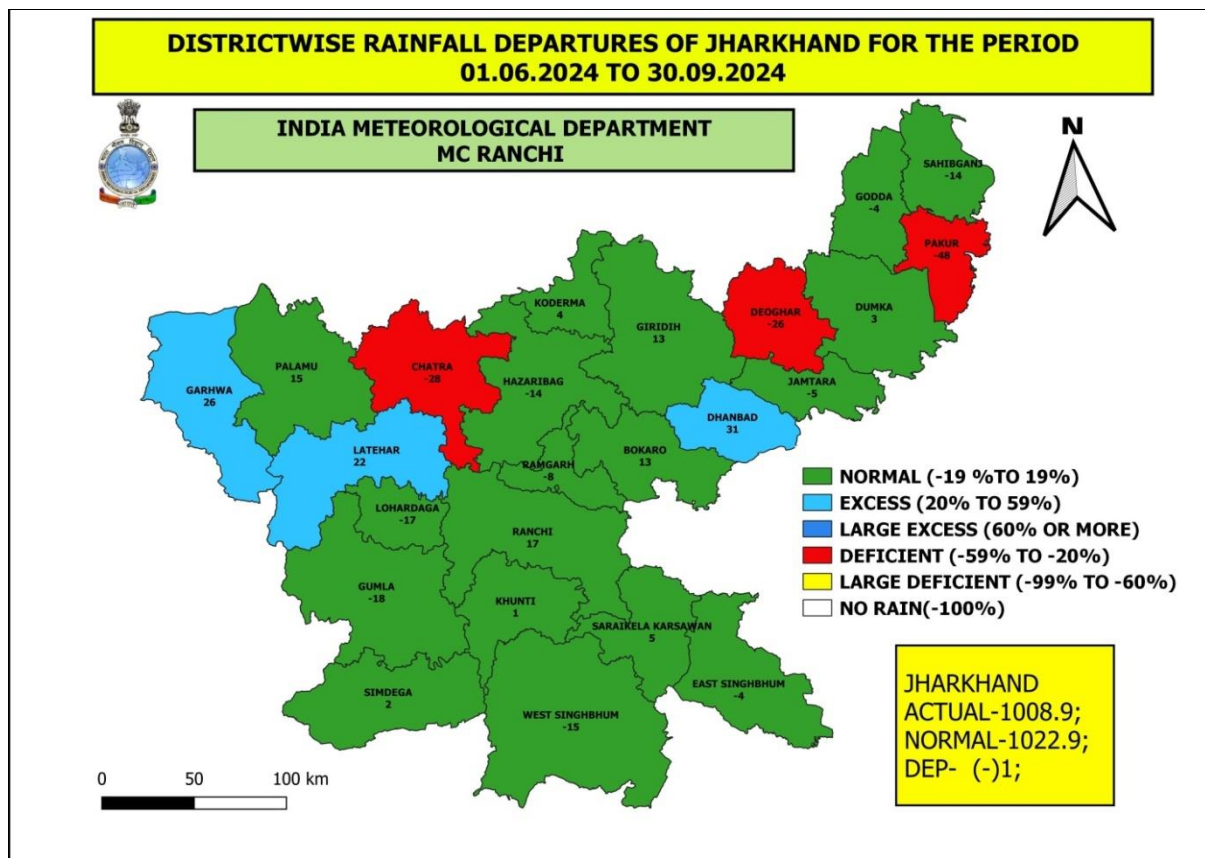
➤ Monsoon (June-September, 2024).

- The observed seasonal rainfall (from 01.06.2024 to 30.09.2024) over the state was 1008.9 mm against LPA rainfall of 1022.9 mm and departure was -01 % which is **Normal rainfall (Departure -19% to +19%)**.
- Heavy rainfall:**
- Heavy rainfall occurred on 04 days (21st, 22nd, 26th, 30th) over Jharkhand in June, 2024.
- The highest rainfall recorded during last 24 hours was 118.3 mm at Bishnugarh (Hazaribagh District) on 30.06.2024.
- Heavy to very heavy rainfall occurred on 19 days (01-08, 11-14, 24-28, 30-31) over Jharkhand in July, 2024.
- The highest rainfall recorded during last 24 hours was 155.3 mm at Hariharganj (Palamu District) on 12.07.2024.
- Heavy to Extremely heavy rainfall occurred on 26 days (except 09, 18, 29, 30 & 31) over Jharkhand in August, 2024.

- The highest rainfall recorded during last 24 hours was 264.5 mm at Mandu (Ramgarh District) on 03.08.2024.
- 12 Nos. of days received heavy to very heavy rainfall over Jharkhand during (04-08, 11, 14 – 18, 26-27) September, 2024.
- **Thus Monsoon season`s highest rainfall recorded during last 24 hours was 264.5 mm at Mandu (Ramgarh District) on 03.08.2024.**

Month wise rainfall statistics over Jharkhand during monsoon 2024

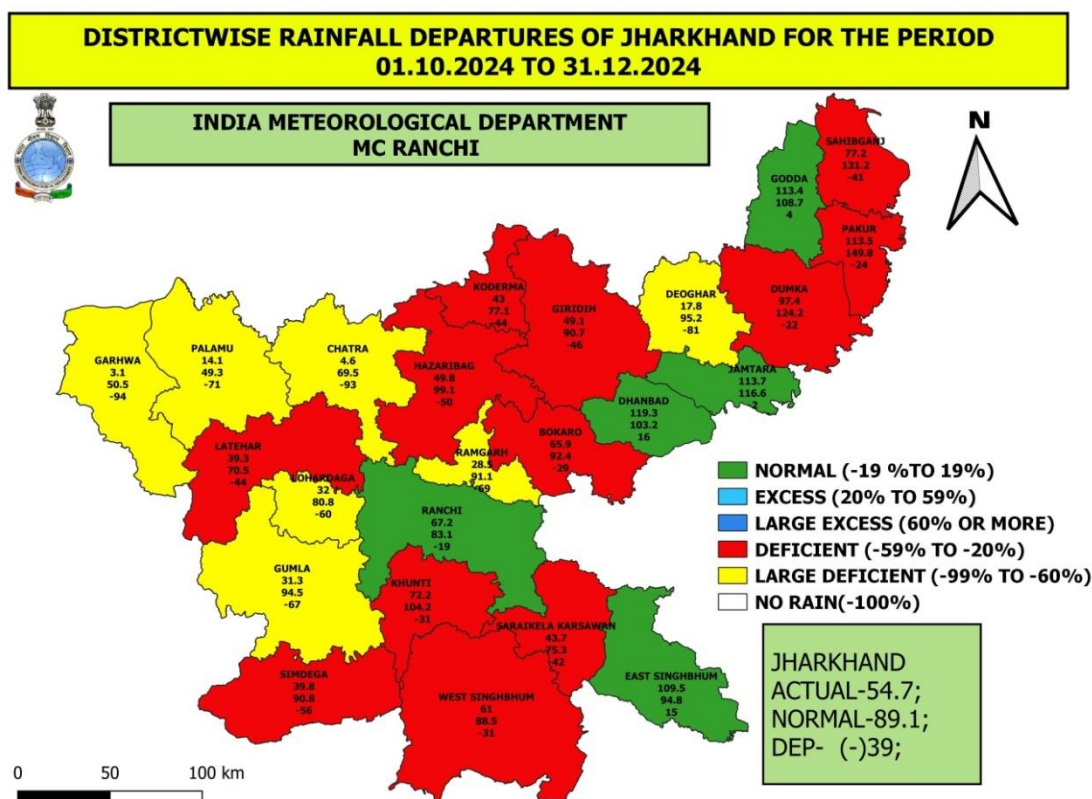
Month	Actual mm	Normal (LPA) mm	Departure (%)
June	67.4	189.5	-64
July	223.6	318.7	-30
August	422.1	290.6	45
September	296.2	224	32
SW Monsoon Season	1008.9	1022.9	-1



➤ Post-Monsoon (October-December, 2024).

- Rainfall occurred on 39 (29 days in October + 01 days in November+09 days in December) Nos. of days over the state of Jharkhand in Post Monsoon season, 2024.
- Heavy Rainfall occurred on 06 days in October and no heavy rainfall in November and December-2024.
- The highest rainfall observed in a day (during last 24 hours) in October, 2024 was 123.2 mm at Godda Block-123.2 (Godda District) on 08.10.2024. **It is also the highest rainfall recorded in a day in Post Monsoon-2024.**
- The observed seasonal rainfall (from 01st October, 2024 to 31st December, 2024) over Jharkhand state as a whole was 54.7 mm against the normal (LPA) rainfall of 89.1 mm and the departure was - 39%. Cumulatively it was a **Deficient rainfall over the state.**

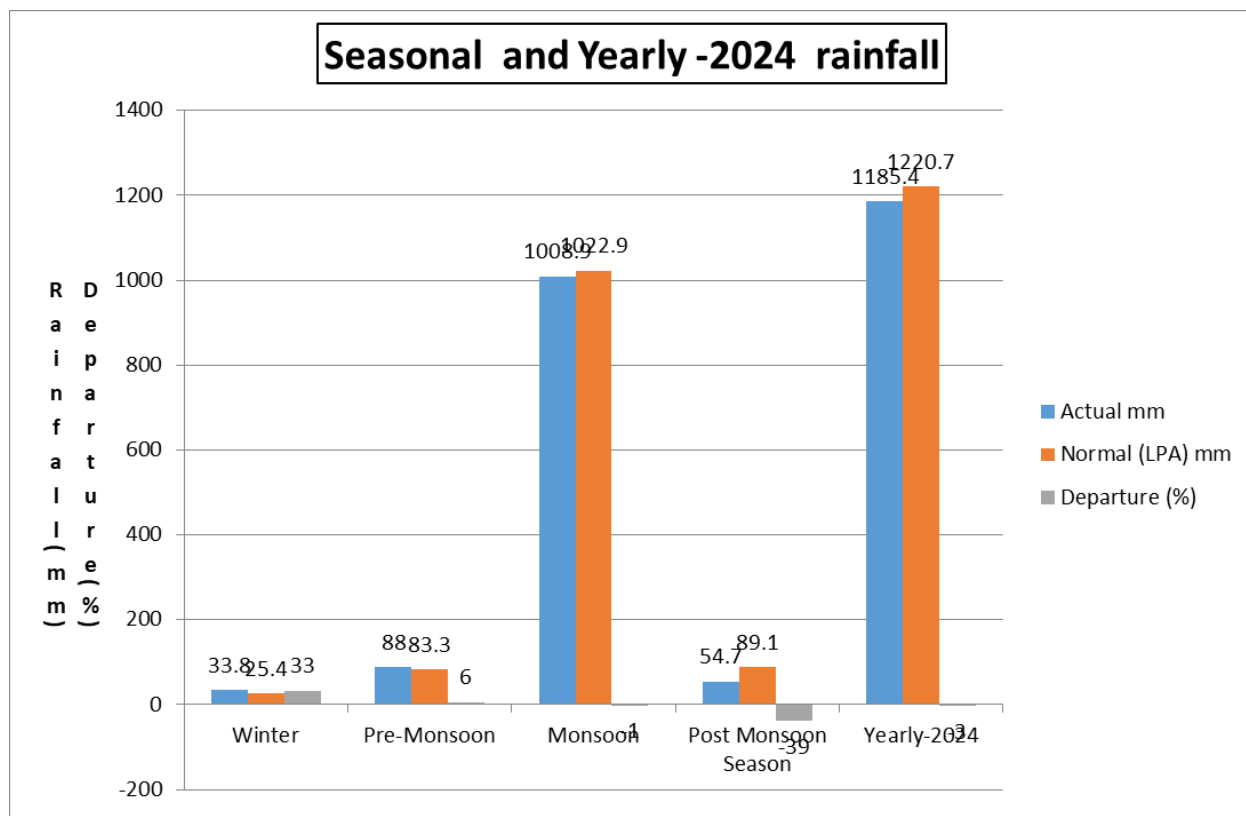
Month	Actual mm	Normal (LPA) mm	Departure (%)
October	52.1	73.4	-29
November	1.0	8.9	-89
December	1.7	6.9	-75
Post Monsoon Season	54.7	89.1	-39



➤ **Yearly Rainfall (2024):**

- The observed yearly rainfall (from 01.01.2024 to 31.12.2024) over the state was 1185.4 mm against LPA rainfall of 1220.7 mm and departure was -03 % which is **Normal rainfall** (Departure -19% to +19%).

Season	Actual mm	Normal (LPA) mm	Departure (%)
Winter	33.8	25.4	33
Pre-Monsoon	88	83.3	6
Monsoon	1008.9	1022.9	-1
Post Monsoon Season	54.7	89.1	-39
Yearly-2024	1185.4	1220.7	-3



TEMPERATURE:

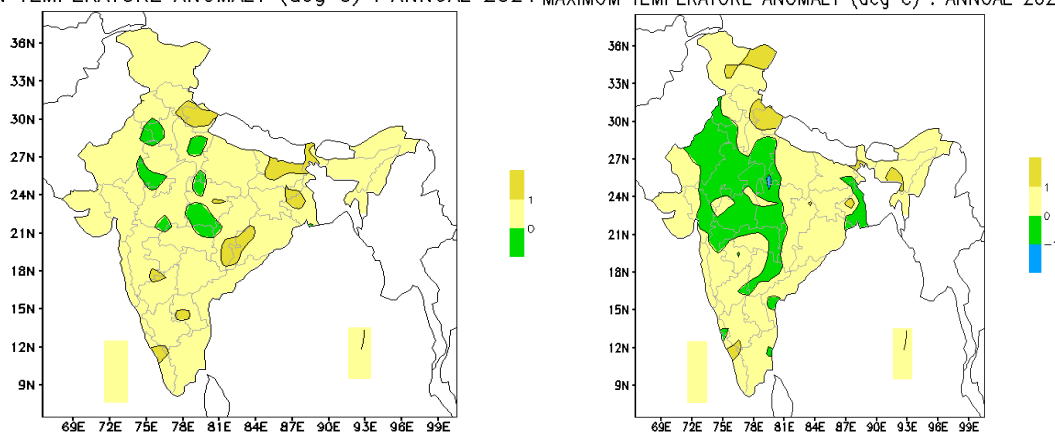
- The **annual mean land surface air temperature** averaged over India during 2024 was $+0.65^{\circ}\text{C}$ above the long-term average (Period 1991-2020). This marked the warmest year since nationwide records began in 1901, surpassing the highest temperature observed in 2016, which had an anomaly of $+0.54^{\circ}\text{C}$.
- The all-India mean temperature was above normal, with anomalies of $+0.37^{\circ}\text{C}$, $+0.56^{\circ}\text{C}$, $+0.71^{\circ}\text{C}$, and $+0.83^{\circ}\text{C}$ during the winter (January to February), pre-monsoon (March to May), southwest monsoon (June to September), and post-monsoon (October to December) seasons, respectively.
- Heat wave conditions were observed over most parts of the east coast in April, most parts of northwest India in May, and most parts of Northern and central India in June.
- During 2024, mean, minimum, and maximum temperature anomalies over many parts of the country were generally above normal or near normal. Mean temperature over parts of Himachal Pradesh, Uttarakhand, East Madhya Pradesh, West Bengal state, Sikkim state, **Jharkhand**, Chattisgarh, South Interior Karnataka, North Interior Karnataka, Madhya Maharashtra, Odisha, Bihar, Rayalaseema and Kerala & Mahe was **above normal by about 1°C** .
- However, the maximum temperature over parts of East Uttar Pradesh and East Madhya Pradesh was below normal by about 1°C .
- The minimum temperature over parts of Punjab, Bihar, and East Madhya Pradesh was above normal by about 2°C .
- The all India averaged **seasonal mean temperature** was above normal for all the seasons during the year 2024: the winter season (January - February, with an anomaly of $+0.37^{\circ}\text{C}$), pre-monsoon season (March-May, with an anomaly of $+0.56^{\circ}\text{C}$), southwest monsoon (June - September, $+0.71^{\circ}\text{C}$) season and post-monsoon season (October-December, with an anomaly of $+0.83^{\circ}\text{C}$).

The **monthly mean temperatures** averaged over the country during 2024 were above normal for all the months of the year except March (close to normal with an anomaly of $+0.22^{\circ}\text{C}$). The mean monthly temperatures averaged over the country during October was the highest recorded (with an anomaly of $+1.23^{\circ}\text{C}$) and the 2nd highest during July & September (with anomalies of $+0.70^{\circ}\text{C}$ and $+0.76^{\circ}\text{C}$ respectively) since 1901. In addition, the mean temperature during November was the 3rd highest (with an anomaly of $+0.84^{\circ}\text{C}$), and May & August were the 4th highest (with anomalies of $+0.69^{\circ}\text{C}$ and $+0.45^{\circ}\text{C}$ respectively) since 1901.

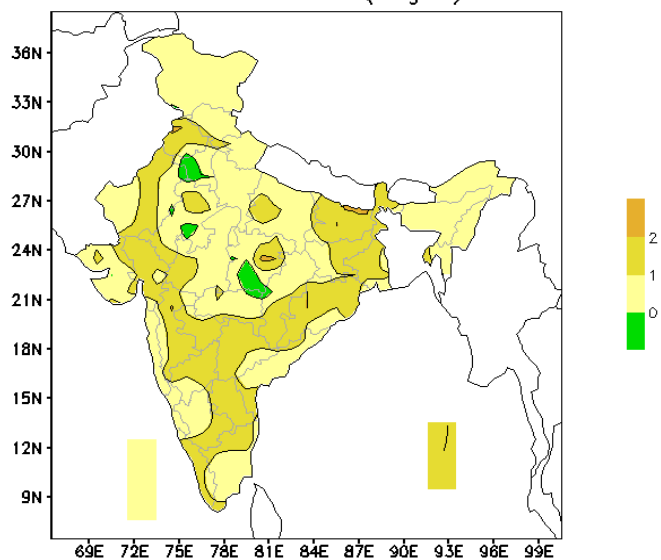
- In 2024, the **monthly maximum temperature** averaged over the country was the 2nd highest (with an anomaly of $+0.62^{\circ}\text{C}$) since 1901 for November.

- In 2024, the monthly minimum temperatures averaged over the country were the highest during July, August, September, and October with anomalies of $+0.89^{\circ}\text{C}$, $+0.59^{\circ}\text{C}$, $+0.99^{\circ}\text{C}$ and $+1.78^{\circ}\text{C}$ respectively, since 1901 and the 2nd highest ever recorded (with an anomaly of $+0.79^{\circ}\text{C}$) for February since 1901.

MEAN TEMPERATURE ANOMALY (deg C) : ANNUAL 2024 MAXIMUM TEMPERATURE ANOMALY (deg C) : ANNUAL 2024



MINIMUM TEMPERATURE ANOMALY (deg C) : ANNUAL 2024



3. Maximum Temperature:

- Based on analysis of maximum temperatures of five cities (Departmental / Part Time observatory) it is observed that over all seasonal average maximum temperature of the state of Jharkhand was normal (-1.5 to +1.5) but higher about +1 °C for **Winter-2024**.
- The highest Maximum Temperature for **Winter season** was 34.6 °C recorded at Jamshedpur on 20.02.2024.
- The highest Maximum Temperature for the **Pre-Monsoon** Season-2024 is 48.0 °C recorded at Garhwa-AWS on 30.05.2024.
- Over all seasonal average maximum temperature of the state of Jharkhand was within normal range but higher than season normal for **Pre-monsoon-2024**.
- **Heat wave:**
- No heat wave in **March-2024** over Jharkhand state.
- Heat wave realized on total 09 days (06th, 07th, 20th, 21st, 22nd, 27th, 28th, 29th, 30th) at isolated places in the state in **April, 2024**. No severe Heat wave occurred in the state.
- Heat wave realized on 07 days during last 24 hours of date (01st, 02nd, 06th, 07th, 29th, 30th & 31st) at isolated places in the state in **May, 2024**.
- **Hot Day** realized on 07 days during last 24 hours of date (17th, & 28th) at isolated places in the state in **May, 2024**.
- Overall Normal to above normal Maximum temperatures were observed over the state of Jharkhand during **monsoon season-2024**.
- **The highest maximum temperature recorded in the state during Monsoon season was 46.5°C recorded at Daltonganj on 14.06.2024 and Garhwa-AWS on 01.06.2024.**
- Heat wave occurred on 10 days (01-02, 09-16) over Jharkhand **in June, 2024**. No heat wave in rest Monsoon season-2024.
- Over all the highest maximum temperature in the state recorded in **Post Monsoon Season-2024 is 37.7°C** observed at Pakur- KVK on 01.10.2024.
- Average maximum temperature over the state for the whole Post- Monsoon season-2024 was normal to above normal.

4. Minimum Temperature:

- The lowest Minimum Temperature for the Month of January, 2024 is 3.0 deg cel. recorded at Gumla KVK on 26.01.2024.
- Overall seasonal average (**Winter-2024**) Minimum temperature of the state was normal except south east part where it was above normal.
- The lowest Minimum Temperature for the **Pre-Monsoon-2024** is 10.2 °C recorded at **Lohardaga-KVK on 10.03.2024.**
- Over all seasonal average minimum temperature of the state of Jharkhand was normal to above normal for **Pre-monsoon-2024.**
- Overall Normal to above normal Minimum temperatures were observed over the state of Jharkhand during **monsoon season-2024.**
- Thus the lowest minimum temperature in the state during Monsoon season-2024 was 19.8 °C recorded at Latehar-KVK on 15.09.2024.
- Overall **Post Monsoon-2024** seasonal average minimum temperature over the state was normal to above normal.
- The lowest minimum temperature 4.0 °C was recorded at Gahrwa-KVK on 15.12.2024.

5. Extreme Weather events:

Winter-2024:

Fog:

- Foggy condition prevailed at 24 Nos. of days at isolated places during January, 2024 over Jharkhand. Foggy condition prevailed at 04 Nos. of days at isolated places during February, 2024 over Jharkhand. Details of occurrence of fog reported by five cities of the state are as under:

Cold wave & Severe cold wave:

- On six numbers of days (13-16, 26, 27) cold wave were realized at isolated places over Jharkhand while no severe cold wave was observed over Jharkhand in January-2024.
- On only one day (10th Feb) cold wave was realized at isolated places (Daltonganj, Gumla & Chaibasa) over Jharkhand while no severe cold wave was observed over Jharkhand in February-2024.

Cold Day & Severe Cold Day: On only one day (25th) cold day was realized at Daltonganj while no severe cold day was realized over Jharkhand in January-2024. No cold day and no severe cold day were realized over Jharkhand in February-2024.

Hail Storm: No hailstorm was reported in January-2024 over Jharkhand. On three numbers of days (15th, 23rd and 28th) hailstorm were reported at isolated places in February-2024 over Jharkhand. Details of occurrence of hail reported are as under:

Places	Date
Ranchi	15.02.2024
Daltonganj	23.02.2024
Palamu	28.02.2024
Lohardaga	28.02.2024

Thunderstorm activity and casualty: On only one day (06th) thunderstorm activity was realized at Ranchi and no casualty was reported in January-2024 over Jharkhand. On six number of days (13, 14, 15, 16 and 28) thunderstorm activity was realized at isolated places over Jharkhand. Three human casualty, 01 injury and six livestock perished were reported in February-2024 over Jharkhand. Details of casualty and injury reported are as under:

1	2	3	4	5	6	7	8	9
Date	Districts (JHARKHAND)	Natural Events	Intensity	Human		Livestock Perished	Other Damages	Additional Remarks
				Death	INJURED			
13.02.2024	LATEHAR	LIGHTNING STRIKE	MODERATE	01	-	-	-	SOURCE: HINDUSTAN DATED 14.02.2024
14.02.2024	PALAMU	RAIN	MODERATE	01		-	-	SOURCE: HINDUSTAN DATED 15.02.2024
	GARHWA	LIGHTNING STRIKE	MODERATE	--	--	06	--	
27.02.2024	PALAMU	LIGHTNING STRIKE	MODERATE	01	01	--	--	SOURCE: HINDUSTAN DATED 28.02.2024
TOTAL				03	01	06		

Extreme WX events JAN-2024	Heavy R/F =>64.6 mm	Fog Dates	Cold Wave	Heat Wave	Thunder Storm Dates	Squall	Hail Storm	Cold day
Ranchi	NIL	01, 05,06,07,08 17,18,19,20	NIL	NIL	06	NIL	NIL	NIL
Jamshedpur	NIL	01,04,05,06, 07,08,09,10, 11,15,16,17, 18,19,20,21, 22,23,25,26, 29,30	NIL	NIL	NIL	NIL	NIL	NIL
Daltonganj	NIL	01,02,04,09, 15,18,19,23, 24,25	14,26	NIL	NIL	NIL	NIL	25
Bokaro-Thermal	NIL	01,05,08,16, 17,18,20,21, 22,25	13,14,15, 16,26, 27	NIL	NIL	NIL	NIL	NIL
Chaibasa	NIL	01,04,05,09, 17,18	14,15	NIL	NIL	NIL	NIL	NIL

Extreme WX events FEB-2024	Heavy R/F =>64.6 mm	Fog Dates	Cold Wave	Heat Wave	Thunder Storm Dates	Squall	Hail Storm	Cold day
Ranchi	NIL	01,02,16	NIL	NIL	13,14,15, 16,28	NIL	15	NIL
Jamshedpur	NIL	01,02,03,16	NIL	NIL	16,28	NIL	Nil	NIL
Daltonganj	NIL	16	10	NIL	13,14,15, 23,28	NIL	23	NIL
Bokaro-Thermal	NIL	NIL	NIL	NIL	14,28	NIL	NIL	NIL
Chaibasa	NIL	NIL	10	NIL	NIL	NIL	NIL	NIL

Pre-Monsoon-2024:

MARCH-2024:

- Only one day (05.03.2024), foggy condition prevailed at Jamshedpur (MO) during March, 2024 over Jharkhand.
 - Cold wave & Severe cold wave:** NIL.
 - Cold Day & Severe Cold Day:** NIL.
 - Hail Storm:** Hail was observed on two days on (17th) at Bokaro-Thermal & on (19th) at Ranchi (Public observation) in the month of March-2024.
 - Thunderstorm activity and casualty:**
 - Gusty wind on eight numbers (05, 17, 18, 19,20,21,26 and 31) of days was observed over Jharkhand in March-2024. The highest gusty wind reported was 57KT at Khunti (AWS) on 26.03.2024.
 - Thunderstorm was observed on eleven number (03,04,05,07,17,18,19,20,21,26 and 31)in the month of March-2024.
 - Two casualty/loss due to severe weather was reported in the state during the month of March-2024.

Extreme weather events realized in the month of March, 2024:

Extreme WX events	Heavy R/F =>64.6 mm	Fog Dates	Cold Wave	Heat Wave	Thunder Storm Dates	Squall	Hail Storm	Cold day
Ranchi	NIL	NIL	NIL	NIL	04,05,17,18,19,20,21,26,31	NIL	NIL	NIL
Jamshedpur	NIL	05	NIL	NIL	17,18,20,26	NIL	Nil	NIL
Daltonganj	NIL	NIL	NIL	NIL	03,04,19,20,26,31	NIL	NIL	NIL
Bokaro-Thermal	NIL	NIL	NIL	NIL	07,17,19,20,21,26,31	NIL	17	NIL
Chaibasa	NIL	NIL	NIL	NIL	17, 20, 26	NIL	NIL	NIL

APRIL-2024:

Heat Wave & Severe Heat wave:

Heat wave realized on total 09 days (06th, 07th, 20th, 21st, 22nd, 27th, 28th, 29th, 30th) at isolated places in the state in April, 2024. No severe Heat wave occurred in the state.

Hot Day & Severe Hot Day: NIL.

Hail Storm: Hail was observed on one day on (01.04.2024) at Ranchi in the month of April-2024.

Thunderstorm activity and casualty:

Thunderstorm was observed on six number (01,07,08,09,11,13) in the month of April-2024.

Gusty wind on 02 days (01st and 24th) was observed over Jharkhand in April-2024. The highest gusty wind reported was 40KT at Barhi (AWS) on 24.04.2024.

01 casualty/loss due to severe weather was reported in the state during the month of April-2024

Extreme weather events realized in the month of April, 2024:

Extreme WX events	Heavy R/F =>64.6 mm	Fog	Cold Wave	Heat Wave Date (Past 24 Hrs)	Thunder Storm Dates	Squall	Hail Storm	Cold day
Ranchi	NIL	NIL	NIL	NIL	01,07,08,11	NIL	NIL	NIL
Jamshedpur	NIL	NIL	NIL	21,30	NIL	NIL	NIL	NIL
Daltonganj	NIL	NIL	NIL	NIL	01,09	NIL	NIL	NIL
Bokaro-Thermal	NIL	NIL	NIL	20,21	07,13	NIL	NIL	NIL
Chaibasa	NIL	NIL	NIL	06,21,28,30	NIL	NIL	NIL	NIL
Saraikela	NIL	NIL	NIL	07	NIL	NIL	NIL	NIL

MAY-2024:

Extreme weather events realized in the month of May, 2024:

Extreme WX events	Heavy R/F =>64.6 mm	Fog	Cold Wave	Heat Wave Dates	Thunder Storm Dates	Squall	Cold day
Ranchi	NIL	NIL	NIL	30,31	07,08,10,12,13,14,20,21,23,24	NIL	NIL
Jamshedpur	NIL	NIL	NIL	01,02,30,31	07,08,10,12,14,18,23	NIL	NIL
Daltonganj	NIL	NIL	NIL	29,30,31	09	NIL	NIL
Bokaro-Thermal	NIL	NIL	NIL	06,30,31	07,08,09,10,12,20,23	NIL	NIL
Chaibasa	NIL	NIL	NIL	01,02,06,30,31	10,12	NIL	NIL

Date	Hail Storm Realised	Remarks
07	Bokaro Thermal	Observed at Departmental Observatory
08	Ranchi, Hazaribag	Media Report and Public Observation
10	Ormanjhi, Burmu, Kanke	Media Report and Public Observation
12	Hazaribag	Public Observation
20	Ranchi	(Accompanied with squall); Observed at Departmental Observatory

Date	Hot Day Realised	Heat Wave Realised
1		JAMSHEDPUR CHAIBASA BAHRAGORA GODDA SARAIKELA
2		JAMSHEDPUR CHAIBASA SARAIKELA GODDA JAGANNATHPUR PAKUR
6		BOKARO SARAIKELA JAGANNATHPUR CHAIBASA
7		CHAIBASA
17	GARHWA,PALAMU,CHATRA,DEOGHAR, JAMTARA,DUMKA,GODDA,PAKUR, SAHIBGANJ	
28	North-eastern, central and southern Parts of the state.	
29		Severe Heat Wave-Gharwa,Palamu
30		Severe Heat Wave -GARHWA,PALAMU,MO- DALTONGANJ, CHAIBASA Heat Wave -MC RANCHI,MO JAMSHEDPUR,SARAIKELA,GIRIDIH
31		Severe Heat Wave -GARHWA,PALAMU Heat Wave -RANCHI,CHATRA,GUMLA,RAMGARH LOHARDAGA,BOKARO,WEST SINGHBHUM, EAST-SINGHBHUM,SARAIKELA,MO-JAMSHEDPUR

Thunderstorm activity and casualty in May-2024:

Thunderstorm was observed on thirteen days (07,08,09,10,12,13,14,18,20,21,23,24 & 31) in the month of May-2024.

Gusty wind on 23 numbers of days was observed over Jharkhand in May-2024. The highest gusty wind reported was 43KT at Khunti (AWS) on 21.05.2024

1	2	3	4	5	6	7	8	9
Date	Districts (JHARKHAND)	Natural Events	Intens ity	Human		Livestoc k Perished	Other Damag es	Additional Remarks
				Deat h	INJURE D			
06.05.24	WEST SINGHBHUM	LIGHTNING STRIKE	MODE RATE	01	05	-	-	SOURCE: HINDUSTAN DATED 07.05.2024
07.05.24	RANCHI-3, CHATRA, KODERMA, DHANBAD, PALAMU- 1 EACH	LIGHTNING STRIKE	MODE RATE	07	12	--	--	SOURCE: HINDUSTAN DATED 08.05.2024
09.05.24	RANCHI, JAMTARA, EAST SINGHBHUM- 1 EACH	LIGHTNING STRIKE	MODE RATE	03	00	--	DAMA GE TO CROPS: HAIL AT RANCHI	SOURCE: HINDUSTAN DATED 10.05.2024
16.05.24	DUMKA-2, SAHIBGANJ-4	LIGHTNING STRIKE	MODE RATE	04	00	--	--	SOURCE: HINDUSTAN DATED 17.05.2024
19.05.24	RANCHI, HAZARIBAG-01 EACH	LIGHTNING STRIKE	MODE RATE	02	05	02 (RANCHI)	--	SOURCE: HINDUSTAN DATED 20.05.2024
28.05.24	PALAMU-1	HEAT WAVE	MODE RATE	01	--	--	--	SOURCE: HINDUSTAN DATED 29.05.2024
30.05.24	EAST SINGHBHUM – 9, PALAMU-4, GIRIDIH & BOKARO- 01 EACH	HEAT WAVE	MODE RATE	15	--	--	--	SOURCE: DAINIK BHASKAR DATED 31.05.2024
30.05.24	BOKARO-2	LIGHT. STRIKE	MODE RATE	02	--	--	--	SOURCE: HINDUSTAN DATED 01.06.2024
31.05.24	BOKARO-3	LIGHTNING STRIKE	MODE RATE	03	02	--	--	SOURCE: HINDUSTAN DATED 01.06.2024
TOTAL				38	24	02		

MONSOON-2024:

- Heat wave occurred on 10 days (01-02, 09-16) over Jharkhand in June, 2024. No heat wave in rest season.
- In June Thunderstorm: 15 Days (02,03,05-07,11,16,18-22,26,28,30), In July 23 days (01, 04-08, 11-15,19-27, 29-31), In August 30 days except 04th and in September 20 days(01-11, 13-16, 18) was reported. Thus on total 88 days thunderstorm was reported during Monsoon-2024.
- Total 58 numbers of human casualties /loss, 25 injuries of human due to severe weather (Lightning strike/ Flood etc.) were reported by media from various places in the state during the monsoon season-2024.

Extreme weather events realized in the month of June, 2024:

Extreme WX events June-2024	Heavy R/F =>64.6 mm	Fog	Cold Wave	Heat Wave Dates	Thunder Storm Dates	Squall	Hail Storm	Cold day
Ranchi	NIL	NIL	NIL	10,11,12,13,14,15,16	02,05,11,18,20,21,22,26,28,30	NIL	NIL	NIL
Jamshedpur	NIL	NIL	NIL	11,12,13,14,15,16	02,03,05,06,07,16,18,20,21,22,26,30	NIL	NIL	NIL
Daltonganj	NIL	NIL	NIL	01,02,09,10,11,12,13,14,15,16	05,20,28,30	NIL	NIL	NIL
Bokaro-Thermal	NIL	NIL	NIL	(Near Heat Wave)-13,14,15,16	02,06,16,19,20,21,22,26,30	NIL	NIL	NIL
Chaibasa	NIL	NIL	NIL	11,13,14,15,16	06	NIL	NIL	NIL

Extreme weather events realized in the month of July, 2024.

Extreme WX events July-2024	Heavy R/F =>64.6 mm	Fog	Cold Wave	Heat Wave	Thunder Storm	Squall	Hail Storm	Cold day
Ranchi	1 day (24)	NIL	NIL	NIL	13 days (08,12,13,14,15, 22,24,25,26,27,29, 30,31)	NIL	NIL	NIL
Jamshedpur	NIL	NIL	NIL	NIL	14 days (01,04,06,07,08, 11,12,15,21,23,24, 27,29,30)	NIL	NIL	NIL
Daltonganj	NIL	NIL	NIL	NIL	13days (01,05,07,11,12,13,15,20, 25,26,27, 30,31)	NIL	NIL	NIL
Bokaro-Thermal	NIL	NIL	NIL	NIL	08 days (05,06,12,14,15, 19,22,31)	NIL	NIL	NIL
Chaibasa	NIL	NIL	NIL	NIL	16 days (01,02,03,04,11, 13,17,18,21,22,23,24,27,28,29,30)	NIL	NIL	NIL

Extreme weather events realized in the month of August, 2024.

Extreme WX events	Heavy R/F =>64.6 mm	Fog	Cold Wave	Heat Wave	Thunder Storm	Squall	Hail Storm	Cold day
Ranchi	1 day 03.08.2024	NIL	NIL	NIL	24 days (01,02,03,07,10,11,13,14,16,17,17-31)	NIL	NIL	NIL
Jamshedpur	NIL	NIL	NIL	NIL	23 days (01,07-24,26-29)	NIL	NIL	NIL
Daltonganj	6 days (01,03,04,07,12,14)	NIL	NIL	NIL	14 days (01,02,07,10,12-15,17,25-27,29,31)	NIL	NIL	NIL
Bokaro-Thermal	1 day 03.08.2024	NIL	NIL	NIL	08 days (01,03,14,19,23,25,27,31)	NIL	NIL	NIL
Chaibasa	NIL	NIL	NIL	NIL	01 days 13.08.2024	NIL	NIL	NIL

Extreme weather events realized in the month of September, 2024.

Extreme WX events	Heavy R/F =>64.6 mm	Fog	Cold Wave	Heat Wave	Thunder Storm	Squall	Hail Storm	Cold day
Ranchi	1 day 17.09.2024	NIL	NIL	NIL	14 days (02-03,05-11,,13,18,24-25,28)	NIL	NIL	NIL
Jamshedpur	1 day 16.09.2024	NIL	NIL	NIL	10 days (01,03-06,09,14,24-25,28)	NIL	NIL	NIL
Daltonganj	3 days (06.09.2024, 15.09.2024, 17.09.2024)	NIL	NIL	NIL	15 days (01,04-08,10-11,13-16,25-26,28)	NIL	NIL	NIL
Bokaro-Thermal	NIL	NIL	NIL	NIL	02 days (08,10)	NIL	NIL	NIL
Chaibasa	1 day 16.09.2024	NIL	NIL	NIL	NIL	NIL	NIL	NIL

Post Monsoon-2024:

➤ Fog:

- In October-2024, Fog reported on only one day in the state on 18.10.2024. It was reported at Bokaro.
- In November-2024, No Fog reported.
- **Foggy** condition prevailed at 13 Nos of days at isolated places during December, 2024 over Jharkhand.
- On 03 days (December-2024) **Cold wave** and no **Cold Day** condition were observed over the state of Jharkhand in Post Monsoon season-2024.

➤ Casualty/Losses:

- Total 08 no. of casualty/loss due to severe weather was reported in the state during the month of October-2024. No casualty/ loss in November & December-2024.

Extreme weather events realized in the month of October, 2024.

Extreme WX events	Heavy R/F =>64.6 mm	Fog	Cold Wave	Heat Wave	Thunder Storm	Squall	Hail Storm	Cold day
Ranchi	NIL	NIL	NIL	NIL	15 days(07,09-11,15-18,21,25-27,29-31)	NIL	NIL	NIL
Jamshedpur	NIL	NIL	NIL	NIL	14 days (01,02,04,05,08,10,11,16,19,24-27,30)	NIL	NIL	NIL
Daltonganj	NIL	NIL	NIL	NIL	9 days (04,06,08,25-30)	NIL	NIL	NIL
Bokaro-Thermal	NIL	NIL	NIL	NIL	12 days (01,04,05,07,09-11,17,18,25-27)	NIL	NIL	NIL
Chaibasa	NIL	NIL	NIL	NIL	7 days (02,07,17,19,25,26,28)	NIL	NIL	NIL

***Note: Realised weather is of past 24 hours of the date (Till 0830 IST).**

Extreme weather events realized in the month of November, 2024.

Extreme WX events	Heavy R/F =>64.6 mm	Fog	Cold Wave	Heat Wave	Thunder Storm	Squall	Hail Storm	Cold day
Ranchi	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL
Jamshedpur	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL
Daltonganj	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL
Bokaro-Thermal	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL
Chaibasa	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL

Extreme weather events realized in the month of December, 2024.

Extreme WX events	Heavy R/F =>64.6 mm	Fog	Cold Wave	Heat Wave	Thunder Storm	Squall	Hail Storm	Cold day
Ranchi	NIL	3 Days (20,22,26)	NIL	NIL	NIL	NIL	NIL	NIL
Jamshedpur	NIL	10 days (11,12,17,18,19,22,23,24,25,27)	NIL	NIL	NIL	NIL	NIL	NIL
Daltonganj	NIL	01 days (02)	NIL	NIL	NIL	NIL	NIL	NIL
Bokaro-Thermal	NIL	03 days (19,20,22)	03 days (14-16)	NIL	NIL	NIL	NIL	NIL
Chaibasa	NIL	NIL	03 days (14-16)	NIL	NIL	NIL	NIL	NIL

***Note: Realised weather is of past 24 hours of the date (Till 0830 IST).**