



Government of India
Ministry of Earth Sciences
India Meteorological Department



Press Release

Date: 16th September, 2024

Time of Issue: 1330 hours IST

Subject: Deep depression over Gangetic West Bengal is likely to move nearly North-westwards and cause extremely heavy rainfall over Jharkhand today and heavy to very heavy rainfall over Odisha, Chhattisgarh, Uttar Pradesh and East Madhya Pradesh on 16th & 17th September.

Realised weather during past 24 hours till 0830 hours IST of today (Annexure I)

Heavy to very heavy rainfall at a few places over Jharkhand, Gangetic West Bengal and Odisha and at isolated places over Chhattisgarh; **Heavy rainfall** at isolated places over Himachal Pradesh, East Rajasthan, East Madhya Pradesh, East Uttar Pradesh, Bihar, Sub-Himalayan West Bengal.

Weather Systems:

- ✓ Yesterday's deep depression over Gangetic West Bengal moved slowly west-northwestwards with a speed of 8 kmph during past 6 hours and lay centered at 0830 hours IST of today, the 16th September 2024, over the Gangetic West Bengal and adjoining Jharkhand near latitude 23.1° N and longitude 86.7° E, about 40 km southeast of Purulia (West Bengal), 50 km southwest of Bankura (West Bengal), 60 km east-northeast of Jamshedpur (Jharkhand) and 140 km east of Ranchi (Jharkhand). It is likely to move west-northwestwards across Gangetic West Bengal & Jharkhand and weaken into a depression during next 12 hours. Thereafter, it will continue to move west-northwestwards across Jharkhand and North Chhattisgarh during subsequent 24 hours.
- ✓ The western end of monsoon trough is north of its normal position and eastern end is near its normal position.

Forecast & Warnings (upto 7 days) (Annexure II & III):

West & Central India:

- ✓ Fairly widespread to widespread light/moderate rainfall very likely over Vidarbha, Madhya Pradesh, Konkan & Goa; Isolated to Scattered light/moderate rainfall very likely over Chhattisgarh, Madhya Maharashtra, Marathwada & Gujarat State during the week.
- ✓ **Isolated very heavy rainfall** very likely over East Madhya Pradesh, Chhattisgarh on 16th & 17th September.
- ✓ Isolated **heavy rainfall** very likely over East Madhya Pradesh on 18th and West Madhya Pradesh on 17th & 18th September.

East & Northeast India

- ✓ Fairly widespread to Widespread light/moderate rainfall very likely over Andaman & Nicobar Islands; Isolated to scattered light/moderate rainfall very likely over East & Northeast India during the week.
- ✓ **Isolated extremely heavy rainfall** very likely over Jharkhand on 16th September.
- ✓ Isolated **very heavy rainfall** very likely over Odisha on 16th and Jharkhand on 17th September.
- ✓ Isolated **heavy rainfall** very likely over Gangetic West Bengal on 16th; Bihar on 16th & 17th; Odisha on 17th; Nagaland, Manipur, Mizoram & Tripura on 18th & 19th; Andaman & Nicobar Islands on 19th & 20th September.

Northwest India

- ✓ Isolated to scattered light/moderate rainfall very likely over the region except Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad where weather is likely to remain dry during the week.
- ✓ Isolated **very heavy rainfall** very likely over East Uttar Pradesh on 16th & 17th and over West Uttar Pradesh on 17th September.
- ✓ Isolated **heavy rainfall** very likely over Uttarakhand on 17th & 19th and over East Rajasthan and West Uttar Pradesh on 18th September.

South Peninsular India:

- ✓ Isolated to scattered light/moderate rainfall over the region during the week.

Wind warning

- ✓ Squally wind speed reaching 50-60 kmph gusting to 70 kmph is likely to prevail along & off West Bengal & north Odisha coasts and adjoining north Bay of Bengal during next 6 hours. Thereafter, it is likely to become 40-50 kmph gusting to 60 kmph till 1730 hrs IST 16th September and decrease further.

For more details, kindly refer:

https://mausam.imd.gov.in/responsive/all_india_forecast_bulletin.php

For District wise warnings refer:

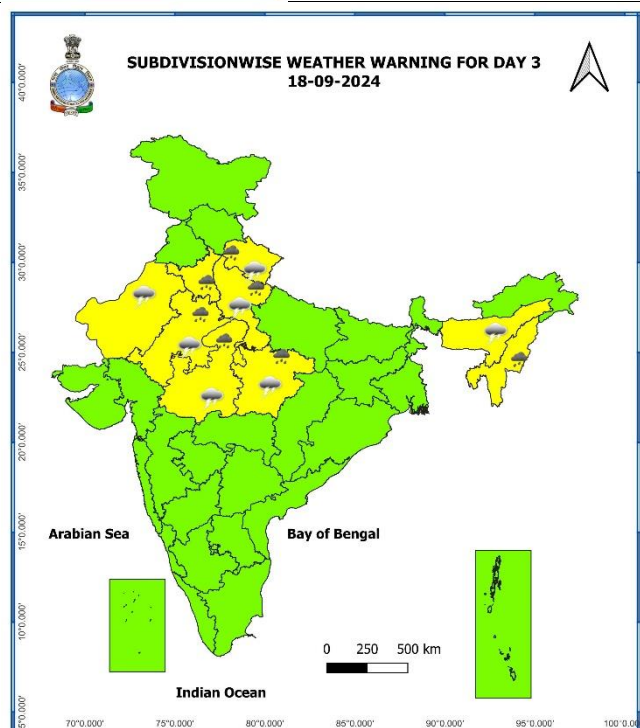
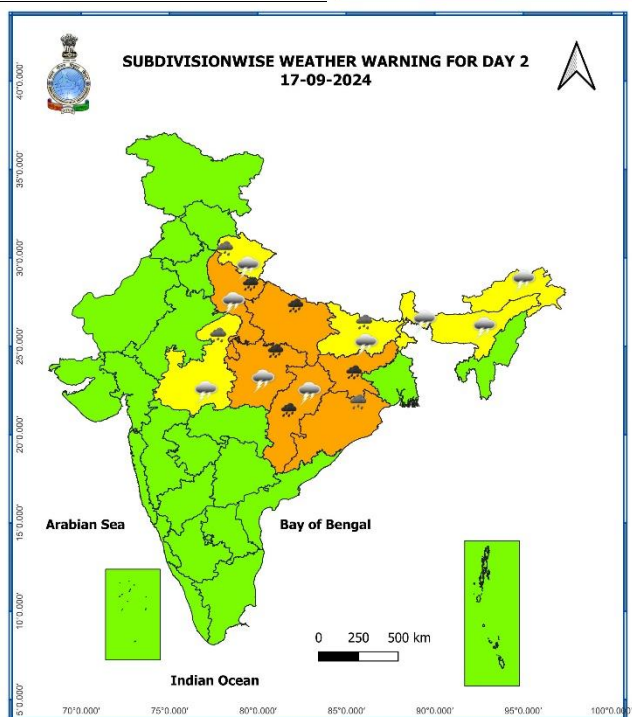
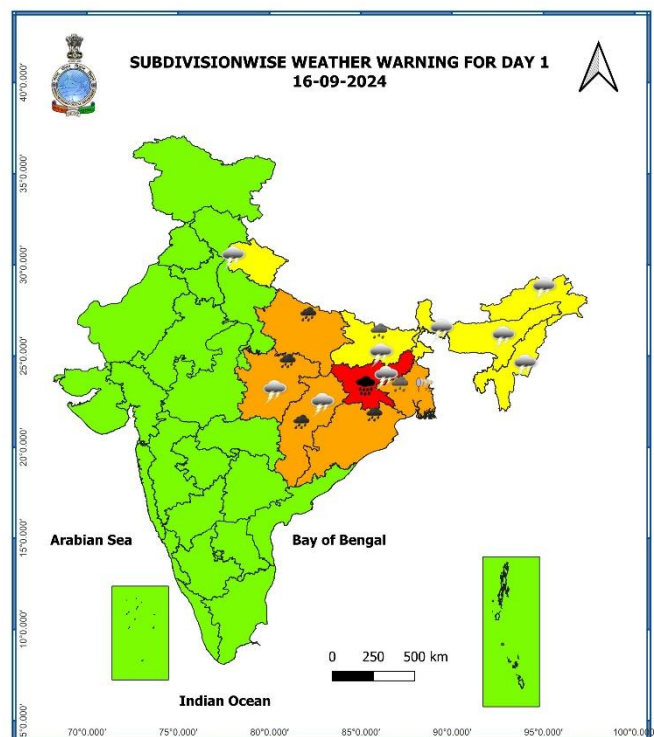
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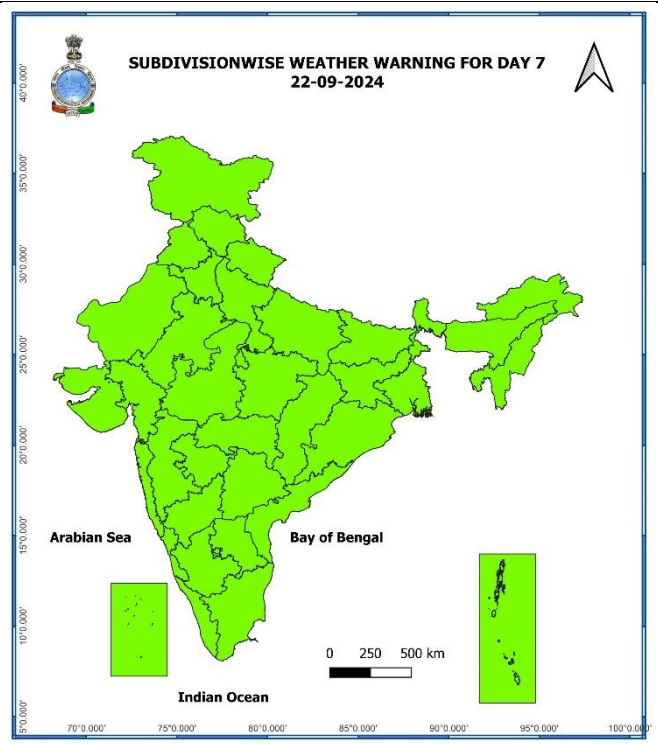
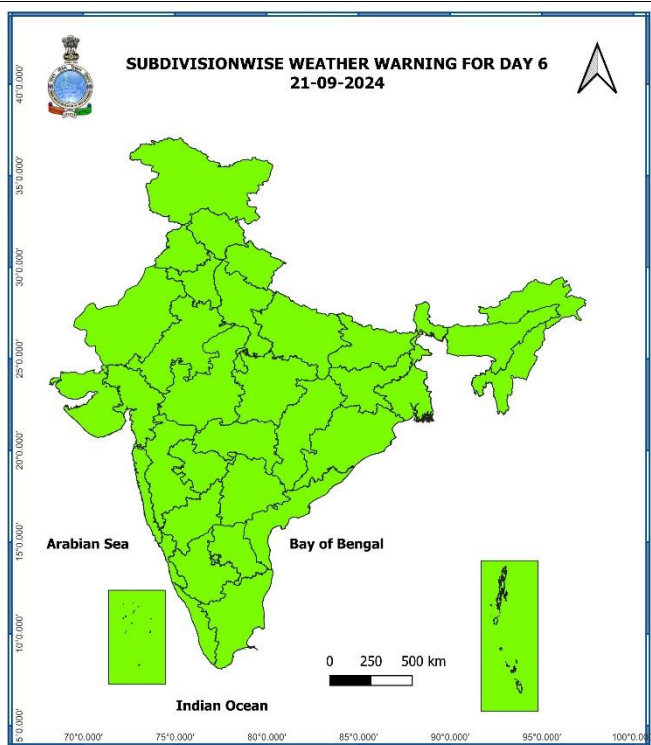
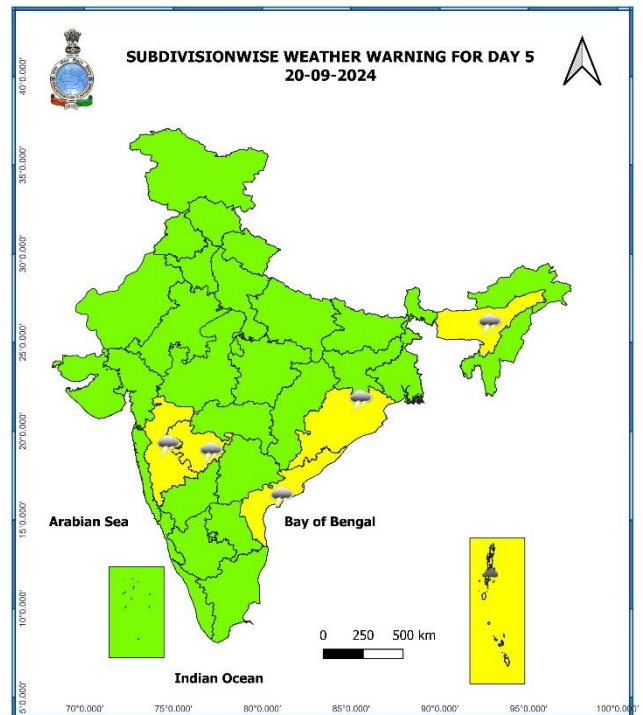
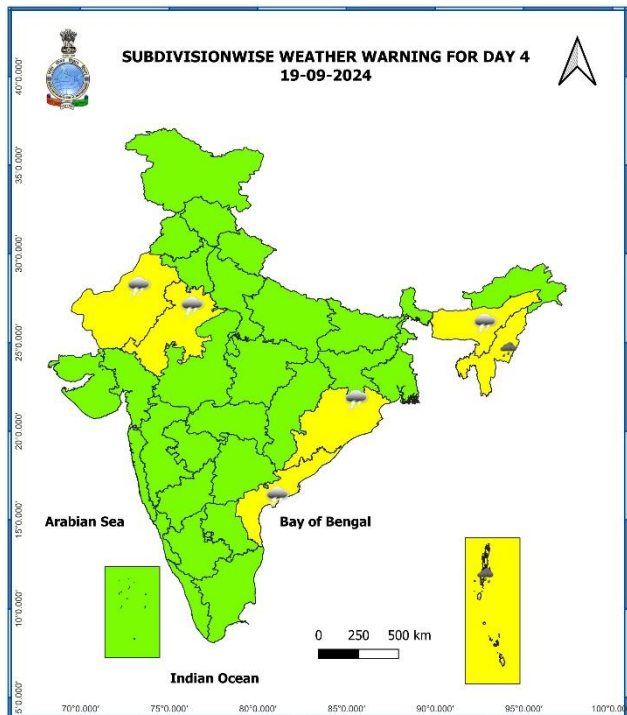
Significant Rainfall recorded during past 24 hours till 0830 hours IST of today 16.09.2024 (in cm):

- ❖ **Jharkhand:** Tandwa(dist Chatra) 16, Lawalong(dist Chatra) 15, Simaria(dist Chatra) 14, Maithon DVC (dist Dhanbad) 14, Maithon (dist Dhanbad) 13, Gurabandha (dist East Singhbhum) 12, Gobindpur DVC (dist Dhanbad) 12, Sindri DVC (dist Dhanbad) 11, Putki (dist Dhanbad) 11, Chandrapura (dist Bokaro) 11, Chandankiary (dist Bokaro) 11, Panchet (dist Dhanbad) 11, Panchet DVC (dist Dhanbad) 11, Ghatsila (dist East Singhbhum) 11, Latehar Balumat KVK AWS (dist Latehar) 11, Musabani (dist East Singhbhum) 11, Potka (dist East Singhbhum) 10, Chakulia (dist East Singhbhum) 10, Karmatand (dist Jamtara) 10, Jamshedpur Aero (dist East Singhbhum) 10, Dhalbhumgarh (dist East Singhbhum) 10, Parsabad (dist Koderma) 10, Jamtara (dist Jamtara) 9, Putki DVC (dist Dhanbad) 9, Bariyatu (dist Latehar) 9, Jamshedpur (dist East Singhbhum) 9, Koderma DVC (dist Koderma) 9, Bau Kanke (dist Ranchi) 9, Hazaribagh DVC (dist Hazaribagh) 8, Majhgaon (dist West Singhbhum) 8, Shilaichak (dist Chatra) 8, Dumri DVC (dist Giridih) 8, Rajdhanwar (dist Giridih) 7, Chandil (dist Seraikela-kharsawan) 7, Chandwa (dist Latehar) 7, Maheshpur (dist Pakur) 7, Messenjoy (dist Dumka) 7, Jamtara Fmo (dist Jamtara) 7, Tonto (dist West Singhbhum) 7, Nimdih (dist Seraikela-kharsawan) 7, Nawadih (dist Bokaro) 7, Dhurki (dist Garhwa) 7, Bagodari (dist Giridih) 7, Phusro (dist Bokaro) 7, Balumath (dist Latehar) 7, Chaibasa (dist West Singhbhum) 7, Garhwa (dist Garhwa) 7, Kharsema (dist Seraikela-kharsawan) 7, Tenughat (dist Bokaro) 7,
- ❖ **Gangetic West Bengal:** Asansol(CWC) (dist Paschim Bardhaman) 15, Asansol (dist Paschim Bardhaman) 15, Suri (pto) (dist Birbhum) 15, Suri (CWC) (dist Birbhum) 13, Kharidwar (dist Purulia) 13, Burnpur (dist Paschim Bardhaman) 12, Purihansa (dist Purulia) 11, Luchipur (dist Paschim Bardhaman) 11, Bankura(CWC) (dist Bankura) 10, Harinkhola (dist Hooghly) 10, Gheropara (dist Birbhum) 10, Sri Niketan (dist Birbhum) 9, Tusuma (dist Purulia) 9, Rajnagar (dist Birbhum) 9, Phulberia (dist Purulia) 9, Purulia (dist Purulia) 8, Bankura (dist Bankura) 8, Mankar (dist Purba Bardhaman) 8, Simula (dist Purulia) 8, Tantloi (dist Birbhum) 8, Amtala (dist Murshidabad) 8, Lalgargh (dist Jhargram) 8, Rampurhat (DRMS) (dist Birbhum) 8, Panagarh (IAF) (dist Paschim Bardhaman) 8, Narayanpur (dist Birbhum) 7, Labpur (dist Birbhum) 7, Nalhati (dist Birbhum) 7, Durgapur (dist Paschim Bardhaman) 7, Tilpara Barrage (dist Birbhum) 7, Hetampur (dist Birbhum) 7, Amfu Kharagpur (dist West Midnapore) 7, Kalaikunda (IAF) (dist West Midnapore) 7,
- ❖ **Chhattisgarh:** Ramchandrapur (dist Balrampur) 15, Kusmi (dist Balrampur) 13, Samari (dist Balrampur) 12, Wandrafanagar (dist Balrampur) 11, Ramanujganj (dist Balrampur) 8, Rajpur (dist Balrampur) 8, Raghunath Nagar (dist Balrampur) 8, Chando (dist Balrampur) 8, Pratappur (dist Surajpur) 7,
- ❖ **Odisha:** Udala (Mayurbhanj) 14, G B Nagar (Mayurbhanj) 12, Nawana (Mayurbhanj) 12, Balimundali (Mayurbhanj) 12, Raruana (Mayurbhanj) 11, Betanati (Mayurbhanj) 11, Karanja (Mayurbhanj) 11, Bahalda (Mayurbhanj) 11, Kaptipada (Mayurbhanj) 10, Balasore (Balasore) 10, Joshipur (Mayurbhanj) 10, Jaipur (Balasore) 10, Sarasakana (Mayurbhanj) 9, Tiring (Mayurbhanj) 9, Nh5 Gobindpur (Balasore) 9, Kusumi (Mayurbhanj) 9, Bijatala (Mayurbhanj) 9, Nilgiri (Balasore) 8, Joda (Keonjhar) 8, Jaleswar (Balasore) 8, Remuna (Balasore) 8, Jamsolaghat (Mayurbhanj) 8, Rasagovindapur (Mayurbhanj) 8, Baripada (Mayurbhanj) 8, Rajghat (Balasore) 8, Bhograi (Balasore) 8, Rairangpur (Mayurbhanj) 8, Muruda (Mayurbhanj) 8, Bangiriposi (Mayurbhanj) 7, Suliapada (Mayurbhanj) 7, Samakhunta (Mayurbhanj) 7, Chandua Kuliana (Mayurbhanj) 7, Sukruli (Mayurbhanj) 7,
- ❖ **East Madhya Pradesh:** Chitrangi (dist Singrauli) 11, Mauganj (dist Rewa) 8,
- ❖ **Himachal Pradesh:** Bilaspur Sadar (dist Bilaspur) 10,
- ❖ **East Uttar Pradesh:** Churk (dist Sonbhadra) 10, Chopan Fmo (dist Sonbhadra) 8, Robertsganj (dist Sonbhadra) 7, Dudhi (dist Sonbhadra) 7,
- ❖ **Bihar:** Sanjhauli (dist Rohtas) 8, Chakai (dist Jamui) 8, Rajauli (dist Nawada) 7,
- ❖ **Sub-Himalayan West Bengal:** Rongo (dist Kalimpong) 8, Lava (dist Kalimpong) 8, Jhallong (dist Kalimpong) 7,
- ❖ **East Rajasthan:** Nathdwara (dist Rajsamand) 7,

7 Days Rainfall Forecast								
S. No.	Subdivision	16-Sep	17-Sep	18-Sep	19-Sep	20-Sep	21-Sep	22-Sep
		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
1	ANDAMAN & NICOBAR ISLANDS	FWS	WS	WS	WS	WS	WS	WS
2	ARUNACHAL PRADESH	SCT	SCT	SCT	SCT	SCT	SCT	SCT
3	ASSAM & MEGHALAYA	SCT	SCT	SCT	SCT	SCT	SCT	SCT
4	NAGALAND, MANIPUR, MIZORAM & TRIPURA	SCT	SCT	FWS	FWS	SCT	SCT	FWS
5	SUB-HIMALAYAN WEST BENGAL & SIKKIM	FWS	SCT	SCT	SCT	SCT	SCT	SCT
6	GANGETIC WEST BENGAL	WS	SCT	ISOL	SCT	SCT	SCT	SCT
7	ODISHA	FWS	SCT	SCT	FWS	FWS	SCT	SCT
8	JHARKHAND	WS	FWS	SCT	SCT	SCT	ISOL	ISOL
9	BIHAR	FWS	SCT	ISOL	ISOL	ISOL	ISOL	ISOL
10	EAST UTTAR PRADESH	FWS	FWS	SCT	ISOL	ISOL	ISOL	ISOL
11	WEST UTTAR PRADESH	ISOL	FWS	FWS	ISOL	ISOL	ISOL	ISOL
12	UTTARAKHAND	ISOL	FWS	FWS	SCT	SCT	ISOL	ISOL
13	HARYANA CHANDIGARH & DELHI	ISOL	SCT	SCT	ISOL	ISOL	ISOL	ISOL
14	PUNJAB	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL
15	HIMACHAL PRADESH	ISOL	ISOL	SCT	ISOL	ISOL	ISOL	ISOL
16	JAMMU & KASHMIR AND LADAKH	DRY	DRY	DRY	SCT	DRY	DRY	DRY
17	WEST RAJASTHAN	DRY	DRY	ISOL	ISOL	DRY	ISOL	ISOL
18	EAST RAJASTHAN	ISOL	ISOL	SCT	ISOL	ISOL	ISOL	ISOL
19	WEST MADHYA PRADESH	SCT	FWS	WS	FWS	SCT	SCT	SCT
20	EAST MADHYA PRADESH	FWS	WS	SCT	SCT	SCT	SCT	SCT
21	GUJARAT REGION	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL
22	SAURASHTRA & KUTCH	ISOL	ISOL	ISOL	ISOL	DRY	DRY	DRY
23	KONKAN & GOA	WS	FWS	FWS	FWS	FWS	WS	WS
24	MADHYA MAHARASHTRA	ISOL	ISOL	ISOL	ISOL	SCT	FWS	FWS
25	MARATHAWADA	ISOL	ISOL	ISOL	SCT	SCT	FWS	FWS
26	VIDARBHA	ISOL	SCT	SCT	SCT	FWS	FWS	FWS
27	CHHATTISGARH	FWS	SCT	ISOL	ISOL	SCT	SCT	SCT
28	COASTAL ANDHRA PRADESH & YANAM	ISOL	ISOL	ISOL	SCT	SCT	SCT	SCT
29	TELANGANA	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL
30	RAYALASEEMA	DRY	DRY	DRY	ISOL	ISOL	ISOL	ISOL
31	TAMILNADU PUDUCHERRY & KARAIKAL	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL
32	COASTAL KARNATAKA	SCT	SCT	SCT	ISOL	SCT	FWS	FWS
33	NORTH INTERIOR KARNATAKA	ISOL	ISOL	ISOL	ISOL	SCT	SCT	SCT
34	SOUTH INTERIOR KARNATAKA	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL
35	KERALA & MAHE	SCT	SCT	SCT	SCT	SCT	SCT	SCT
36	LAKSHADWEEP	SCT	SCT	SCT	SCT	SCT	SCT	SCT

- As the lead period increases forecast accuracy decreases.





- Action may be taken based on ORANGE AND RED COLOUR warnings.
- Vulnerable regions likely urban and hilly areas action may be initiated for heavy rainfall warning.
- As the lead period increases forecast accuracy decreases.

Impact due to

- ✓ Isolated **extremely heavy rainfall** very likely at isolated places over Jharkhand on 16th September.
- ✓ **Very heavy rainfall** at isolated places over East Uttar Pradesh, East Madhya Pradesh, Chhattisgarh on 16th & 17th; Jharkhand and West Uttar Pradesh on 17th; Odisha on 16th September.
- ✓ **Low to Moderate flash flood risk** likely over few watersheds & neighbourhoods of Odisha, Jharkhand till 1730 hours IST of 16th September. **(ANNEXURE IV)**

Impact Expected

- ✓ Localized Flooding of roads, water logging in low lying areas and closure of underpasses mainly in urban areas of the above region.
- ✓ Occasional reduction in visibility due to heavy rainfall.
- ✓ Disruption of traffic in major cities and roadways due to water logging in roads leading to increased travel time.
- ✓ Minor damage to kutcha roads.
- ✓ Possibilities of damage to vulnerable structure.
- ✓ Localized Landslides/Mudslides/landslips/mud slips/land sinks/mud sinks.
- ✓ Damage to horticulture and standing crops in some areas due to inundation and wind.
- ✓ It may lead to riverine flooding in some river catchments (for riverine flooding please visit Web page of CWC)

Action Suggested

- ✓ Judicious regulation of surface transports including railways and roadways.
- ✓ Check for traffic congestion on your route before leaving for your destination.
- ✓ Follow any traffic advisories that are issued in this regard.
- ✓ Avoid going to areas that face the water logging problems often.
- ✓ Avoid staying in vulnerable structure

Agromet advisories for Heavy Rainfall likely over various parts of the country

- Drain out excess water from maize, pulses and millets in **Chhattisgarh**; from cotton, maize, soybean, pulses and vegetables in **East Madhya Pradesh**; from rice, groundnut, brinjal, cucurbits and betel vine gardens in **Gangetic West Bengal**; from maize, green gram, black gram, rice, vegetables and other standing crops in **Odisha**; from pulse crops and vegetables in **Jharkhand**; from rice, black gram, green gram, orchards and vegetables in **Bihar** to prevent water logging.
- Make provision for draining out excess water from standing crop fields and fruit orchards to avoid water stagnation in East Uttar Pradesh and West Madhya Pradesh.
- Provide mechanical support to horticultural crops & staking to vegetables.
- Keep the harvested produce at safer place.

Flash Flood Guidance:**Persistent Flash Flood Threat (PFFT)
till 1730 IST of 16-09-2024 :**

Low to Moderate flash flood threat likely over few watersheds & neighbourhoods of following Met Sub-divisions during next 6 hours.

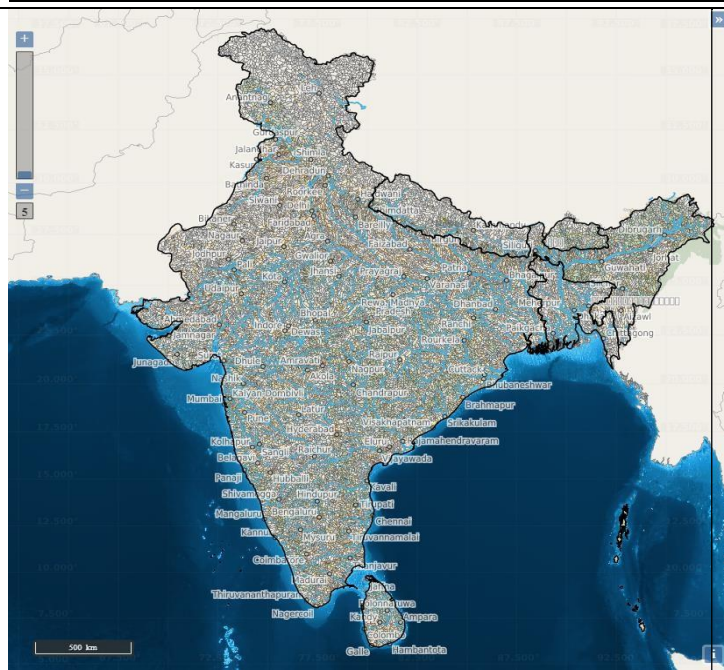
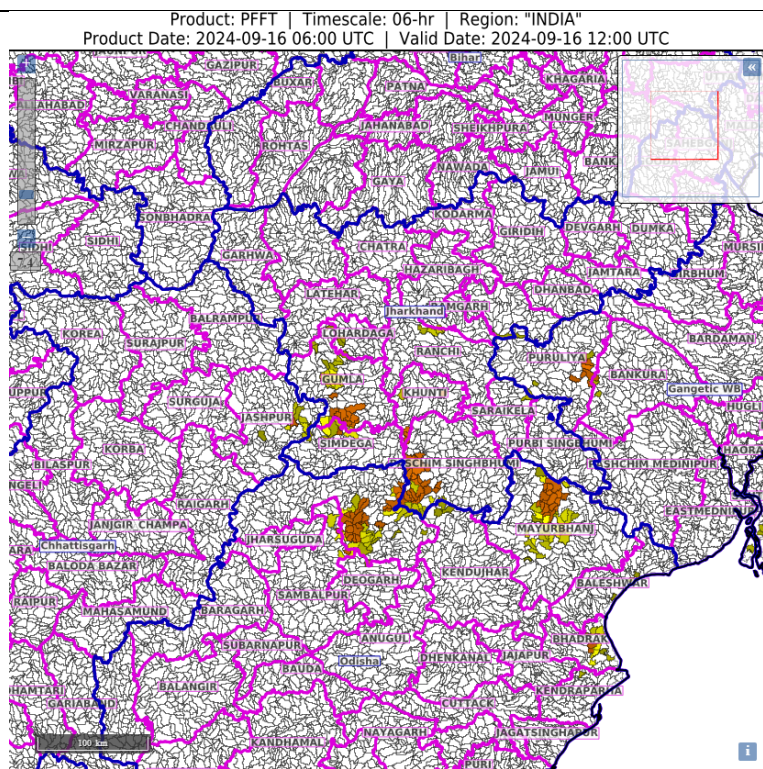
Odisha –Mayurbhnaj and Sundargarh districts.

Jharkhand - Gumla, Khunti, Ranchi Simdega and West Singhbhum districts.

Surface runoff/ Inundation may occur at some fully saturated soils & low-lying areas over AoC as shown in map due to expected rainfall occurrence in next 6 hours.

24 hours Outlook for the Flash Flood Risk (FFR) till 1130 IST of 17-09-2024:

No flash flood risk likely during next 24 hours.

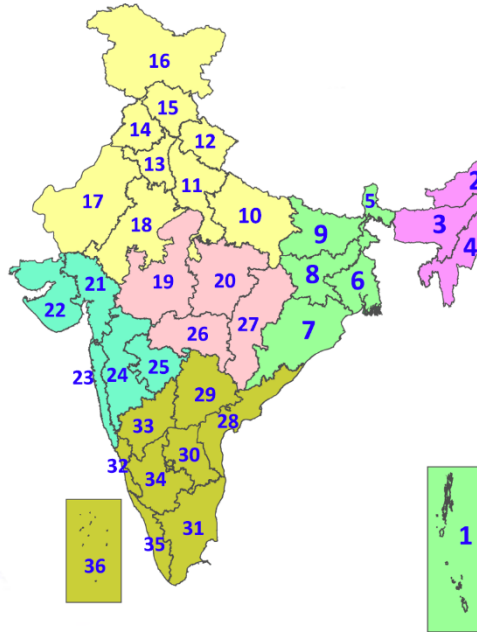


Legends & abbreviations:

- ❖ **Heavy Rain:**64.5-115.5mm; **Very Heavy Rain:**115.6-204.4mm; **Extremely Heavy Rain:** >204.4mm.
- ❖ **Obsy:** Observatory; **AWS:** Automatic Weather Station; **ARG:** Automatic Rain Gauge; **dist:** District: **NH:** National Highway; **KVK:** Krishi Vigyan Kendra; **DVC:** Damodar Valley Corporation; **PTO:** Part Time Office, **Aero:** Aerodrome, **IAF:** Indian Air Force.
- ❖ **Region wise classification of meteorological Sub-Divisions:**
 - **Northwest India:** Western Himalayan Region (Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh and Uttarakhand); Punjab, Haryana-Chandigarh-Delhi; West Uttar Pradesh, East Uttar Pradesh, West Rajasthan and East Rajasthan.
 - **Central India:** West Madhya Pradesh, East Madhya Pradesh, Vidarbha and Chhattisgarh.
 - **East India:** Bihar, Jharkhand, Sub-Himalayan West Bengal & Sikkim; Gangetic West Bengal, Odisha and Andaman & Nicobar Islands.
 - **Northeast India:** Arunachal Pradesh, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura.
 - **West India:** Gujarat Region, Saurashtra & Kutch, Konkan & Goa, Madhya Maharashtra and Marathawada.
 - **South India:** Coastal Andhra Pradesh & Yanam, Telangana, Rayalaseema, Coastal Karnataka, North Interior Karnataka, South Interior Karnataka, Kerala & Mahe, Tamil Nadu, Puducherry & Karaikal and Lakshadweep.

LEGENDS

1. अंडमान और निकोबार द्वीपसमूह
2. अरुणाचल प्रदेश
3. असम और मेघालय
4. नागालैंड, मणिपुर, मिजोरम और त्रिपुरा
5. उप-हिमालयी पश्चिम बंगाल और सिक्किम
6. गंगीय पश्चिम बंगाल
7. ओडिशा
8. झारखंड
9. बिहार
10. पूर्वी उत्तर प्रदेश
11. पश्चिम उत्तर प्रदेश
12. उत्तराखंड
13. हरियाणा, चंडीगढ़ और दिल्ली
14. पंजाब
15. हिमाचल प्रदेश
16. जम्मू और कश्मीर और लद्दाख
17. पश्चिम राजस्थान
18. पूर्वी राजस्थान
19. पश्चिम मध्य प्रदेश
20. पूर्वी मध्य प्रदेश
21. गुजरात
22. सौराष्ट्र
23. कोंकण और गोवा
24. मध्य महाराष्ट्र
25. मराठवाड़ा
26. विदर्भ
27. छत्तीसगढ़
28. तटीय आंध्र प्रदेश और यनम
29. तेलंगाना
30. रायलसीमा
31. तमिलनाडु, पुडुचेरी और कराईकल
32. तटीय कर्नाटक
33. आंतरिक उत्तरी कर्नाटक
34. आंतरिक दक्षिणी कर्नाटक
35. केरल और माहे
36. लक्षद्वीप



1. Andaman & Nicobar Islands
2. Arunachal Pradesh
3. Assam & Meghalaya
4. Nagaland, Manipur, Mizoram & Tripura
5. Sub-Himalayan West Bengal & Sikkim
6. Gangetic West Bengal
7. Odisha
8. Jharkhand
9. Bihar
10. East Uttar Pradesh
11. West Uttar Pradesh
12. Uttarakhand
13. Haryana, Chandigarh & Delhi
14. Punjab
15. Himachal Pradesh
16. Jammu & Kashmir and Ladakh
17. West Rajasthan
18. East Rajasthan
19. West Madhya Pradesh
20. East Madhya Pradesh
21. Gujarat
22. Saurashtra
23. Konkan & Goa
24. Madhya Maharashtra
25. Marathwada
26. Vidarbha
27. Chhattisgarh
28. Coastal Andhra Pradesh & Yanam
29. Telangana
30. Rayalaseema
31. Tamilnadu, Puducherry & Karaikal
32. Coastal Karnataka
33. North Interior Karnataka
34. South Interior Karnataka
35. Kerala & Mahe
36. Lakshadweep

SPATIAL DISTRIBUTION (% of Stations reporting)

% Stations	Category	% Stations	Category
76-100	Widespread (WS/Most Places)	26-50	Scattered (SCT/A Few Places)
51-75	Fairly Widespread (FWS/Many Places)	1-25	Isolated (ISOL)



Fog



Heavy Snow



Cold Wave



Heavy Rain



Dust Storm



Cold Day



Very Heavy Rain



Heat Wave



Ground Frost



Extremely Heavy Rain



Warm Night



Thunder & Lightning



Hot Day



Hailstorm



Hot & Humid



Dust Raising Winds



Strong Surface Winds

COLOUR CODED WARNING

No Warning (No Action)

Watch (Be Aware)

Alert (Be Prepared To Take Action)

Warning (Take Action)

Probabilistic Forecast

Terms	Probability of Occurrence (%)
Unlikely	< 25
Likely	25 - 50
Very Likely	50 - 75
Most Likely	> 75

* Red colour warning does not mean "Red Alert", Red colour warning means "Take Action".
Forecast and Warning for any day is valid from 0830 hours IST of day till 0830 hours IST of next day.
For more details, kindly visit <https://mausam.imd.gov.in> or contact: 011-2434-4599
(Service to the Nation since 1875)

DEFINITION/CRITERIA

Rain/ Snow *

Heavy: 64.5 to 115.5 mm/cm *
Very Heavy: 115.6 to 204.4 mm/cm *
Extremely Heavy: > 204.4 mm/cm *

Heat Wave

When maximum temperature of a station reaches $\geq 40^{\circ}\text{C}$ for plains and $\geq 30^{\circ}\text{C}$ for hilly regions
(a) Based on Departure from normal

Heat Wave: Maximum Temperature Departure from normal 4.5°C to 6.4°C .

Severe Heat Wave: Maximum Temperature Departure from normal $\geq 6.5^{\circ}\text{C}$

(b). Based on Actual maximum temperature

Heat Wave: When actual maximum temperature $\geq 45^{\circ}\text{C}$.

Severe Heat Wave: When actual maximum temperature $\geq 47^{\circ}\text{C}$

(c). Criteria for heat wave for coastal stations

When maximum temperature departure is $> 4.5^{\circ}\text{C}$ from normal. Heat Wave may be described provided maximum temperature $\geq 37^{\circ}\text{C}$

Warm Night

When maximum temperature remains 40°C

Warm Night: When minimum temperature departure 4.5°C to 6.4°C .

Severe Warm Night: When minimum temperature departure $> 6.4^{\circ}\text{C}$.

Cold Wave

When minimum temperature of a station $\leq 10^{\circ}\text{C}$ for plains and $\leq 0^{\circ}\text{C}$ for hilly regions.
(a). Based on departure

Cold Wave: Minimum Temperature Departure from normal -4.5°C to -6.4°C .

Severe Cold Wave: Minimum Temperature Departure from normal $\leq -6.5^{\circ}\text{C}$

(b) Based on actual Minimum Temperature (for Plains only)

Cold Wave : When Minimum Temperature is $\leq 4.0^{\circ}\text{C}$

Severe Cold Wave: When Minimum Temperature is $\leq 2.0^{\circ}\text{C}$

(c) For Coastal Stations

When Minimum Temperature departure is $\leq -4.5^{\circ}\text{C}$ & actual Minimum Temperature is $\leq 15^{\circ}\text{C}$

Cold Day

When minimum temperature of a station $\leq 10^{\circ}\text{C}$ for plains and $\leq 0^{\circ}\text{C}$ for hilly regions
Based on departure

Cold Day: Maximum Temperature Departure from normal -4.5°C to -6.4°C .

Severe Cold Day: Maximum Temperature Departure from normal $\leq -6.5^{\circ}\text{C}$

Fog

Phenomenon of small droplets suspended in air and the horizontal visibility $< 1\text{km}$

Moderate Fog: When the visibility between 500-200 metres

Dense Fog: when the visibility between 50- 200 metres

Very Dense Fog: when the visibility < 50 metres

Thunderstorm

Sudden electrical discharges manifested by a flash of light (Lightning) and a sharp rumbling sound (thunder)

Dust/Sand Storm

An ensemble of particles of dust or sand energetically lifted to great heights by a strong and turbulent wind.

Frost

Ice deposits on ground

Air temperature $\leq 4^{\circ}\text{C}$ (over Plains)

Squall

A strong wind that rises suddenly, lasts for atleast 1 minute.

Moderate: Wind speed 52-61 kmph

Severe: Wind speed 62-87 kmph

Very Severe: Wind speed > 87 kmph

Sea State

Effect of various waves in the sea over specific area

Rough to very rough: Wind speed 41-62 kmph (22-33 knots) & Wave height 2.5-6 metre

High to very high: Wind speed 63-117 kmph (34-63 knots) & Wave height 6-14 metre

Phenomenal: Wind speed > 117 kmph (> 63 knots) & Wave height > 14 metre

Cyclone

Cyclonic Storm: Wind speed 62-87 kmph (34-47 knots)

Severe Cyclonic Storm: Wind speed 88-117 kmph (48-63 knots)

Very Severe Cyclonic Storm: Wind speed 118-165 kmph (64 - 89 knots)

Extremely Severe Cyclonic Storm: Wind speed 166-220 kmph (90 -119 knots)

Super Cyclone Strom: Wind speed > 220 kmph (> 119 knots)

* Red colour warning does not mean "Red Alert", Red colour warning means "Take Action".
Forecast and Warning for any day is valid from 0830 hours IST of day till 0830 hours IST of next day.
For more details, kindly visit <https://mausam.imd.gov.in> or contact: 011-2434-4599
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