



Government of India
Ministry of Earth Sciences
India Meteorological Department



Press Release

Date: 23rd September, 2024

Time of Issue: 1330 hours IST

Subject: (i) Southwest monsoon has withdrawn from some parts of West Rajasthan and Kachchh, today, the 23rd September, 2024 against the normal date of 17th September

(ii) Enhanced rainfall activity with very heavy to extremely heavy rainfall over Coastal & North Interior Karnataka, Maharashtra and Goa state during next 3 days and heavy rainfall over central, east & northeast India during 24th-27th September.

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

Heavy rainfall at isolated places over Konkan & Goa, Coastal Andhra Pradesh & Yanam, Coastal Karnataka, West Madhya Pradesh, Madhya Maharashtra, Marathwada, Gujarat Region, South Interior Karnataka.

Weather Systems:

- ✓ **Withdrawal of Southwest Monsoon: (Annexure II)**
- ✓ **Southwest monsoon** has withdrawn from some parts of West Rajasthan and Kachchh, today, the 23rd September, 2024 against the normal date of 17th September.
- ✓ The line of withdrawal of southwest monsoon passes through Anupgarh, Bikaner, Jodhpur, Bhuj and Dwaraka.
- ✓ Conditions are favourable for further withdrawal of **Southwest Monsoon** from some more parts of West Rajasthan and adjoining areas of Punjab, Haryana and Gujarat during next 24 hours.
- ✓ Under the influence of a cyclonic circulation **over Central Bay of Bengal**, a **low-pressure area** is likely to form over Westcentral Bay of Bengal & neighbourhood during the next 24 hours.

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

South Peninsular India

- ✓ Fairly widespread to widespread light/moderate rainfall very likely over Coastal Karnataka during the week and Karnataka, Coastal Andhra Pradesh & Yanam, Rayalaseema, Telangana during next 3 days; Isolated to Scattered light to moderate rainfall very likely over Tamil Nadu, Puducherry & Karaikal during the week.
- ✓ **Isolated extremely heavy rainfall** very likely over Coastal Karnataka on 24th September.
- ✓ Isolated **heavy to very heavy rainfall** very likely over Coastal Karnataka on 23rd and North Interior Karnataka on 24th September.
- ✓ Isolated **heavy rainfall** very likely over Kerala & Mahe, Coastal Andhra Pradesh & Yanam, Rayalaseema, Telangana, South Interior Karnataka on 23rd & 24th; North Interior Karnataka on 23rd; Coastal Karnataka, Kerala & Mahe on 25th; Telangana, Coastal Andhra Pradesh & Yanam during 22nd-25th; Rayalaseema, North Interior Karnataka during 22nd-24th September.

West India

- ✓ Fairly widespread to widespread light/moderate rainfall very likely over Konkan & Goa during the week; Madhya Maharashtra Marathwada during next 5 days; Isolated to Scattered light to moderate rainfall during the next subsequent 2 days over the same region; Scattered to Fairly widespread light to moderate rainfall over Gujarat Region during the week; Isolated to Scattered light to moderate rainfall over Saurashtra & Kutch during the week.
- ✓ **Isolated extremely heavy rainfall** very likely over Konkan & Goa on 24th & 25th September.
- ✓ Isolated **heavy to very heavy rainfall** very likely over Konkan & Goa on 23rd & 26th; Madhya Maharashtra during 24rd-26th; Marathwada on 24th; Gujarat Region on 25th & 26th September.
- ✓ Isolated **heavy rainfall** very likely over Madhya Maharashtra on 23rd; Marathwada during 23rd-25th; Gujarat Region during 23th-28th; Saurashtra & Kutch during 26th-28th September.

Central India:

- ✓ Fairly widespread to widespread light/moderate rainfall very likely over Vidarbha, Chhattisgarh during next 5 days; Isolated to Scattered light to moderate rainfall over Madhya Pradesh during next 2 days; Scattered to Fairly widespread light to moderate rainfall during the next subsequent 4 days over the same region.
- ✓ Isolated **heavy rainfall** very likely over Vidarbha and Chhattisgarh during 23rd-26th; Madhya Pradesh during 24th -27th September.

East & Northeast India

- ✓ Fairly widespread to widespread light/moderate rainfall very likely over Andaman & Nicobar Islands during next 4 days; Scattered to Fairly widespread light to moderate rainfall over West Bengal & Sikkim, Odisha during the week; Isolated to Scattered light to moderate rainfall over Bihar, Jharkhand during next 5 days; Scattered to Fairly widespread light to moderate rainfall over northeast India during the week.
- ✓ Isolated **heavy to very heavy rainfall** very likely over Assam & Meghalaya on 25th & 26th; Sub-Himalayan West Bengal & Sikkim & Arunachal Pradesh on 26th September.
- ✓ Isolated **heavy rainfall** very likely over Assam & Meghalaya during the week; Odisha during 23rd-26th; West Bengal & Sikkim, Bihar, Jharkhand during 25th-27th; over Arunachal Pradesh, Nagaland, Manipur, Mizoram & Tripura during 24th-29th September.
- ✓ **Hot and Humid Weather** very likely over Arunachal Pradesh, Assam & Meghalaya, Tripura on 23rd September.

Northwest India

- ✓ Isolated to Scattered light to moderate rainfall very likely over northwest India except West Rajasthan where mainly dry weather likely to prevail during the week;
- ✓ Isolated **heavy rainfall** very likely over Uttarakhand on 25th & 26th; East Uttar Pradesh 26th & 27th September.

For more details, kindly refer:

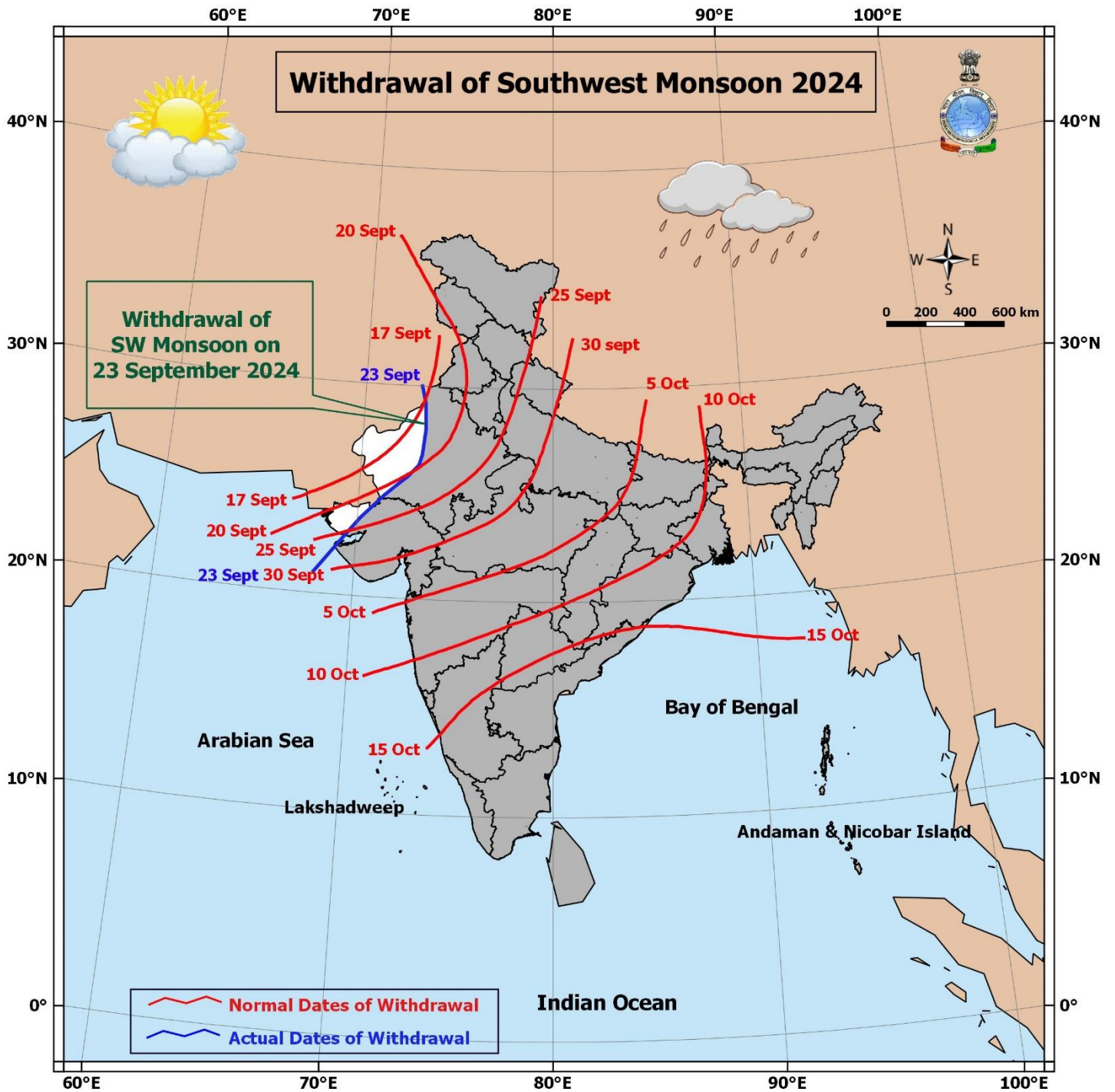
https://mausam.imd.gov.in/responsive/all_india_forecast_bulletin.php

For District wise warnings refer:

<https://mausam.imd.gov.in/responsive/districtWiseWarningGIS.php>

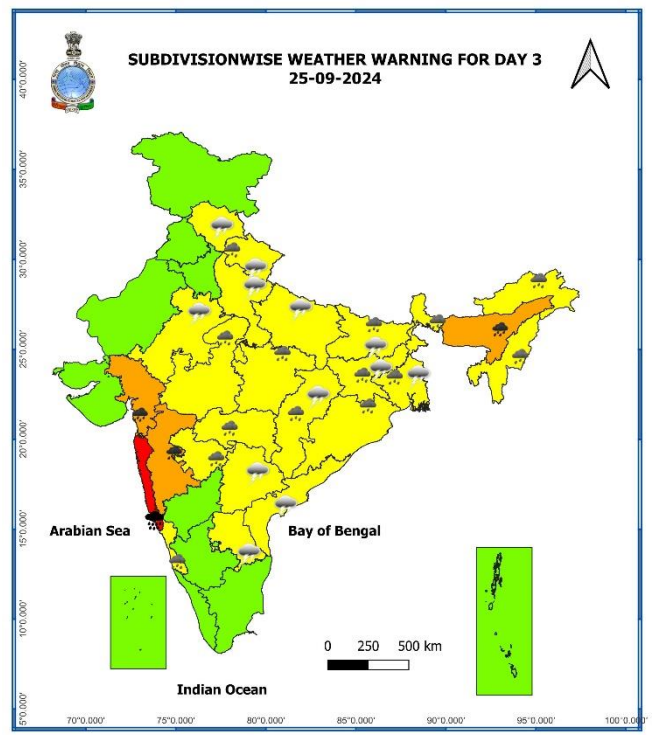
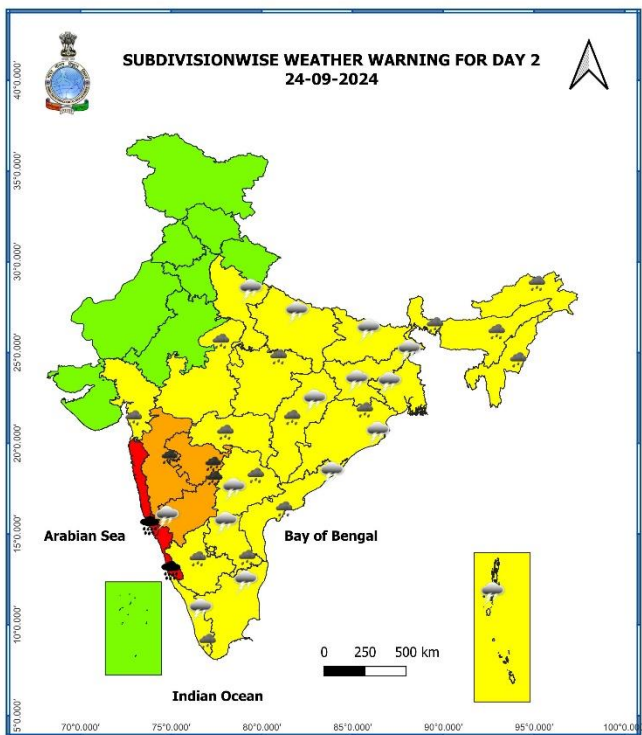
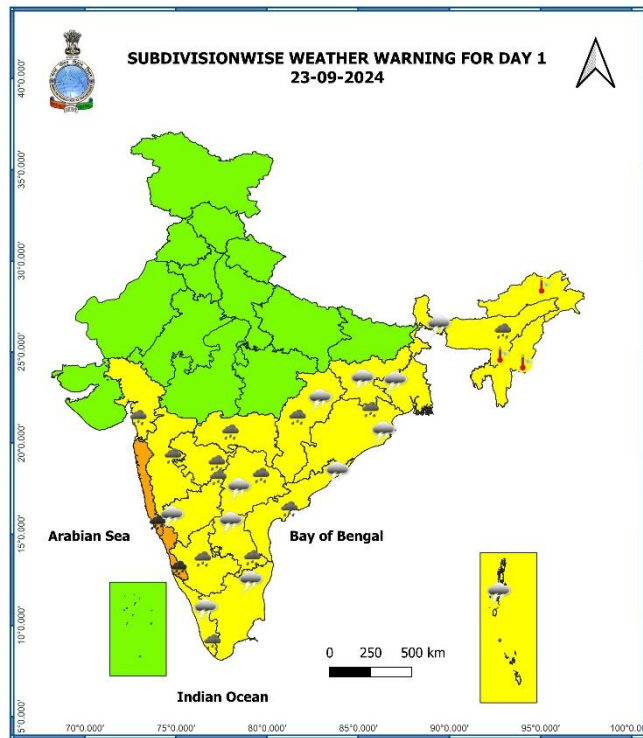
Significant Rainfall recorded during past 24 hours till 0830 hours IST of today 23.09.2024 (in cm):

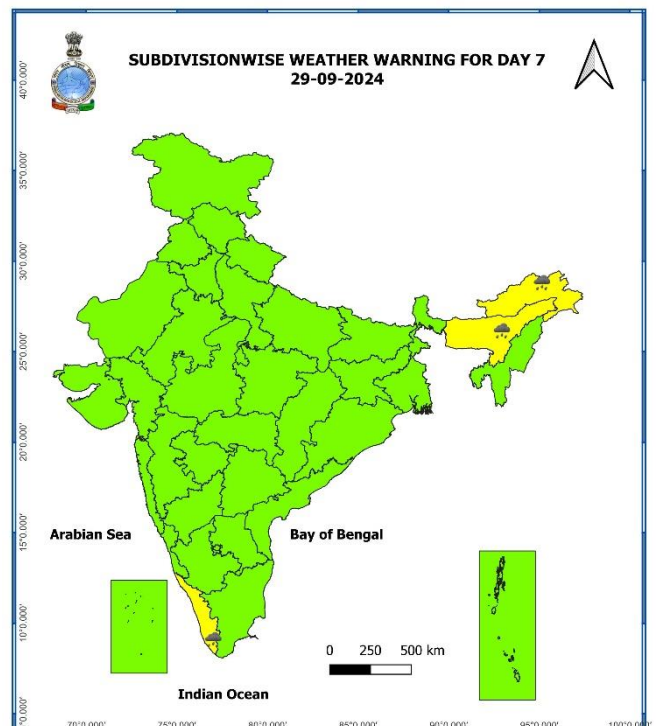
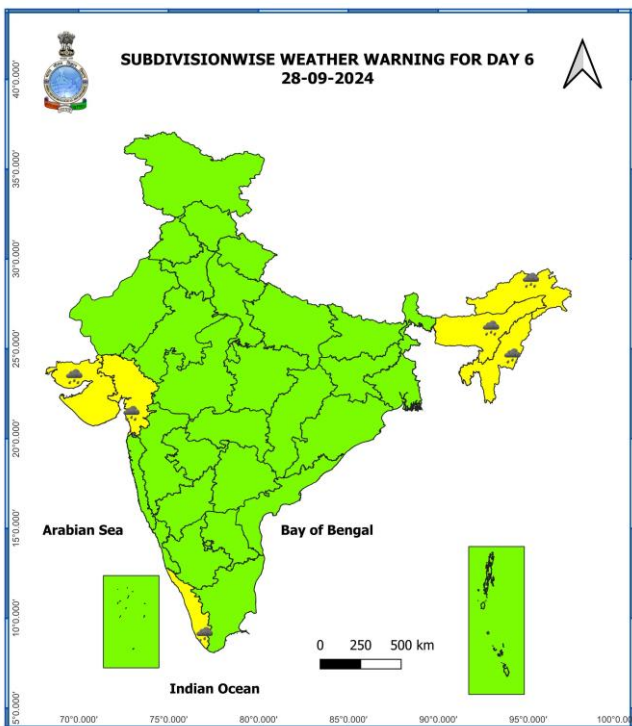
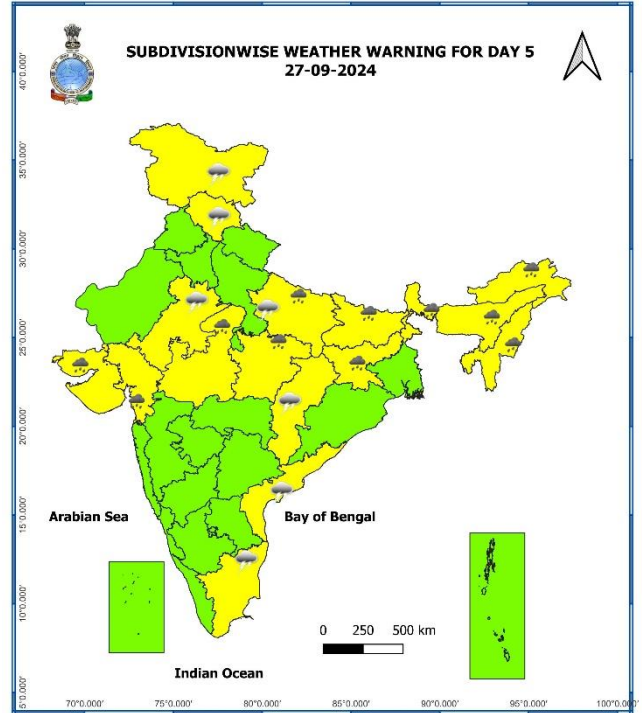
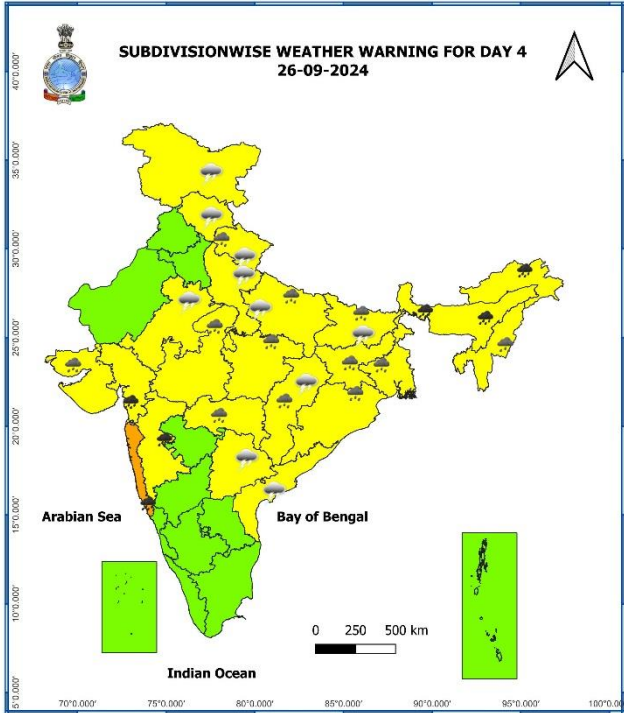
- ❖ **Konkan & Goa:** Mulde_Agri (dist Sindhudurg) 11, Canacona (dist South Goa) 7,
- ❖ **Coastal Andhra Pradesh & Yanam:** Srungavarapukota (dist Vizianagaram) 10, Atmakur (dist Spsr Nellore) 9,
- ❖ **Coastal Karnataka:** Karwar Obsy (dist Uttara Kannada) 9, Haliyal (dist Uttara Kannada) 7, Shirali Pto (dist Uttara Kannada) 6, Kota (dist Udupi) 6;
- ❖ **West Madhya Pradesh:** Mhow (dist Indore) 9, Pithampur (dist Dhar) 7, Nalchha (dist Dhar) 7,
- ❖ **Madhya Maharashtra:** Kasabedigraj_agri (dist Sangli) 8, Karad (dist Satara) 7, Gaganbawada (dist Kolhapur) 7,
- ❖ **Marathwada:** Georai (dist Beed) 8,
- ❖ **Gujarat Region:** Daman (dist Daman) 7;
- ❖ **South Interior Karnataka:** Madhugiri (dist Tumakuru) 7;



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

- 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 over Coastal Karnataka on 24th; Konkan & Goa on 24th & 25th September.
- ✓ **Isolated heavy to very heavy rainfall** very likely over Coastal Karnataka on 23rd; North Interior Karnataka on 24th; Konkan & Goa on 23rd & 26th; Madhya Maharashtra during 24rd-26th; Marathwada on 24th; Gujarat Region on 25th & 26th; Assam & Meghalaya on 25th & 26th; Sub-Himalayan West Bengal & Sikkim & Arunachal Pradesh on 26th September.

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 kutchha 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

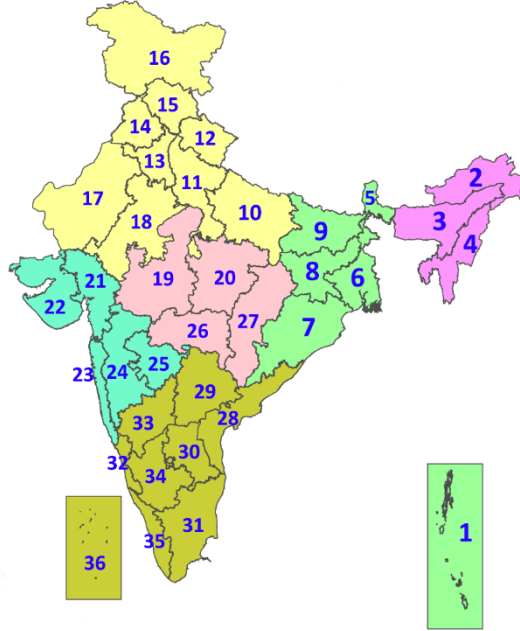
- Make provision for draining out excess water from standing crop fields and fruit orchards to avoid water stagnation in Tamil Nadu, Karnataka, Andhra Pradesh, Telangana, Madhya Pradesh, Gujarat region, Maharashtra and North Eastern States.
- Keep the harvested produce at safer places.
- Provide mechanical support to horticultural crops & staking to vegetables.

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 Storm: Wind speed > 220 kmph (> 119 knots)

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