



Government of India  
Ministry of Earth Sciences  
India Meteorological Department



Press Release

Date: 2<sup>nd</sup> September, 2024

Time of Issue: 1315 hours IST

**Subject: Depression over East Vidarbha & neighbourhood likely to cause extremely heavy rainfall over Madhya Maharashtra & Gujarat region and heavy to very heavy falls over Marathwada, Konkan & Goa, North Interior Karnataka Vidarbha, West Madhya Pradesh, Saurashtra & Kutch during next 2 days.**

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

**Heavy to very heavy rainfall with isolated extremely heavy falls** at a few places over Marathwada, Telangana, Uttarakhand; **Heavy to very heavy rainfall** at isolated places over Himachal Pradesh, East Rajasthan, West Madhya Pradesh; **Heavy rainfall** at isolated places over Punjab, Haryana, West Rajasthan, Vidarbha, Madhya Maharashtra, Gujarat Region.

**Weather Systems:**

- ✓ The **Depression (Remnant of Cyclonic Storm "ASNA")** over northwest Arabian Sea moved south-southwestwards with a speed of 12 kmph during past 6 hours and lay centered at 0830 hours IST of today, the 02<sup>nd</sup> September, 2024 over the same region near latitude 20.9°N and longitude 61.2°E, about 210 km southeast of Ras Al Hadd (Oman) and 420 km southeast of Muscat (Oman). It is likely to continue to move further south-southwestwards over northwest Arabian Sea and weaken gradually into a **well marked low pressure area** over the same region during next 6 hours.
- ✓ The **depression** over East Vidarbha and adjoining Telangana moved northwestwards with a speed of 8 kmph during the past 6 hours and lay centered at 0830 hours IST of 02<sup>nd</sup> September, 2024 over the same region near latitude 19.8°N and longitude 79.9°E, about 70 km east-southeast of Chandrapur (Maharashtra), 90 km south of Bramhapuri (Maharashtra), 130 km north-northeast of Ramagundam (Telangana), and 170 km southeast of Wardha (Maharashtra). It is likely to move nearly northwestwards across Vidarbha and weaken into a **well marked low pressure area** during next 12 hours.. (**Annexure II**)
- ✓ The western end of monsoon trough at mean sea level is near its normal position and its eastern end is south of its normal position. It is likely to continue so for next 24 hours.
- ✓ A shear zone runs roughly along 20°N over north Peninsular India in middle tropospheric levels.
- ✓ A fresh **low pressure area** is likely to form over westcentral and adjoining northwest Bay of Bengal around 5<sup>th</sup> September, 2024.

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

❖ **West & Central India:**

- ✓ Fairly widespread to widespread light/moderate rainfall very likely over West & Central India during the week.
- ✓ Isolated **extremely heavy rainfall** very likely over Madhya Maharashtra on 02<sup>nd</sup>; Gujarat Region on 02<sup>nd</sup> & 03<sup>rd</sup> September.
- ✓ Isolated **very heavy rainfall** also very likely over Vidarbha, Konkan & Goa, Marathwada on 02<sup>nd</sup>; West Madhya Pradesh on 02<sup>nd</sup> & 03<sup>rd</sup>; Gujarat State on 03<sup>rd</sup> & 04<sup>th</sup> September.

- ✓ Isolated **heavy rainfall** very likely over Madhya Maharashtra during next 7 days; East Madhya Pradesh on 02<sup>nd</sup>; West Madhya Pradesh, Vidarbha, Saurashtra & Kutch during 02<sup>nd</sup> – 05<sup>th</sup>; Chhattisgarh, Konkan & Goa during 05<sup>th</sup>-08<sup>th</sup>; Gujarat Region during 02<sup>nd</sup> – 06<sup>th</sup> September.
- ❖ **South Peninsular India:**
  - ✓ Fairly widespread to widespread light/moderate rainfall very likely over Coastal Karnataka, Kerala & Mahe, Lakshadweep; Scattered to Fairly widespread light/moderate rainfall over Coastal Andhra Pradesh & Yanam, Telangana, Rayalaseema and Interior Karnataka; isolated to scattered rainfall over Tamil Nadu, Puducherry & Karaikal during the week.
  - ✓ Isolated **very heavy rainfall** very likely over North Interior Karnataka on 02<sup>nd</sup> September.
  - ✓ Isolated **heavy rainfall** very likely over Kerala & Mahe during 02<sup>nd</sup> – 04<sup>th</sup>; Telangana on 02<sup>nd</sup>; Coastal Karnataka on 02<sup>nd</sup> & 03<sup>rd</sup> September.
- ❖ **East & Northeast India**
  - ✓ Fairly widespread to widespread light/moderate rainfall very likely over Northeast India, Andaman & Nicobar Islands, Sub-Himalayan West Bengal & Sikkim; Scattered to Fairly widespread light/moderate rainfall very likely over Gangetic West Bengal, Bihar, Jharkhand & Odisha during the week.
  - ✓ Isolated **heavy rainfall** very likely over Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura during 02<sup>nd</sup> – 04<sup>th</sup>; Arunachal Pradesh, Andaman & Nicobar Islands during 02<sup>nd</sup> – 05<sup>th</sup>; Sub-Himalayan West Bengal & Sikkim on 04<sup>th</sup> & 05<sup>th</sup>; Bihar on 04<sup>th</sup>; Odisha on 05<sup>th</sup> & 06<sup>th</sup> September.
- ❖ **Northwest India**
  - ✓ Scattered to Fairly widespread light/moderate rainfall very likely over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, Uttarakhand, Uttar Pradesh, Rajasthan; isolated to scattered rainfall over Punjab & Haryana-Chandigarh-Delhi during the week.
  - ✓ Isolated **very heavy rainfall** very likely over Uttarakhand on 02<sup>nd</sup>; East Rajasthan on 07<sup>th</sup> & 08<sup>th</sup> September.
  - ✓ Isolated **heavy rainfall** very likely over Uttarakhand, East Rajasthan during next 7 days; Jammu-Kashmir, Himachal Pradesh, Punjab, Haryana-Chandigarh, on 02<sup>nd</sup> & 03<sup>rd</sup>; West Uttar Pradesh on 03<sup>rd</sup> & 04<sup>th</sup>; East Uttar Pradesh on 06<sup>th</sup>; West Rajasthan during 03<sup>rd</sup> -08<sup>th</sup> September.

### **Warnings associated with Depression (Remnant of Cyclonic Storm “ASNA”) over northwest Arabian Sea**

#### **(i) Wind warning:**

- ✓ Squally wind speed reaching 45-55 kmph gusting to 65 kmph is likely to prevail over northwest Arabian Sea till noon of 2<sup>nd</sup> September.
- ✓ Squally wind speed reaching 40-50 kmph gusting to 60 kmph is likely to prevail over central Arabian Sea till noon of 2<sup>nd</sup> September.

#### **(ii) Sea condition:**

- ✓ Rough Sea condition is likely to prevail over northwest adjoining westcentral Arabian Sea till noon of 2<sup>nd</sup> September and improve thereafter.

#### **(iii) Fishermen warning:**

- ✓ Fishermen are advised not venture into Northwest Arabian Sea and adjoining westcentral Arabian Sea till noon of 2<sup>nd</sup> September.

**For more details, kindly refer to National bulletin on: <https://rsmcnewdelhi.imd.gov.in/>**

**For more details, kindly refer: [https://mausam.imd.gov.in/responsive/all\\_india\\_forecast\\_bulletin.php](https://mausam.imd.gov.in/responsive/all_india_forecast_bulletin.php)**

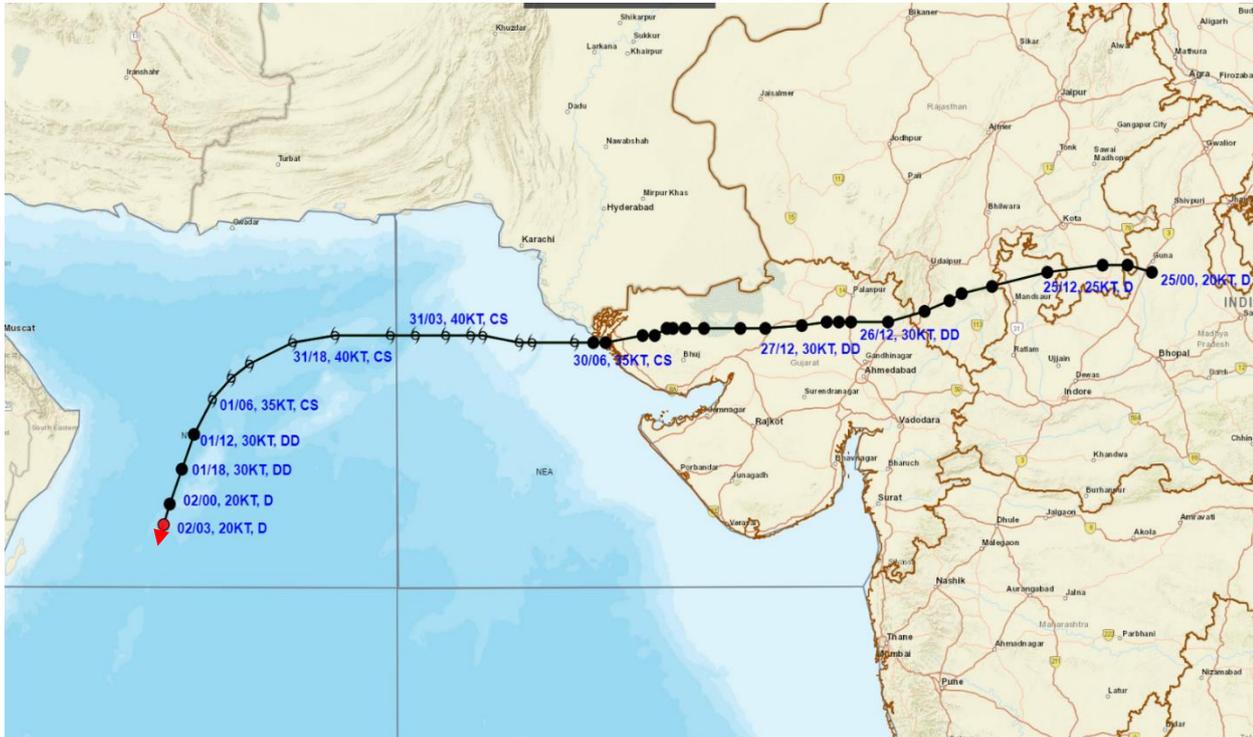
**For District wise warnings refer: <https://mausam.imd.gov.in/responsive/districtWiseWarningGIS.ph>**

**Significant Rainfall recorded during past 24 hours till 0830 hours IST of today 02.09.2024 (in cm):**

- ❖ **Marathwada:** Manvat (dist Parbhani) 31, Dhalegaon - Fmo (dist Parbhani) 26, Mantha (dist Jalna) 23, Pathri (dist Parbhani) 23, Partur (dist Jalna) 22, Sonpeth (dist Parbhani) 20, Selu (dist Parbhani) 19, Ardhapur (dist Nanded) 19, Udgir (dist Latur) 16, Ambad (dist Jalna) 15, Nanded - Imd Parttime (dist Nanded) 14, Jintur (dist Parbhani) 13, Ghansawangi (dist Jalna) 13, Deoni (dist Latur) 13, Parbhani - Imd Obsy (dist Parbhani) 13, Ambejogai / Mominabad (dist Beed) 13, Georai (dist Beed) 12, Udgir - Imd Parttime (dist Latur) 12, Dharur (dist Beed) 12, Palam (dist Parbhani) 12, Hingoli - Hydromet (dist Hingoli) 11, Aundha Nagnath (dist Hingoli) 11, Sillod (dist Chh. Sambhajinagar) 11, Bhokardan (dist Jalna) 11, Wadawani (dist Beed) 10, Jalkot (dist Latur) 10, Kandhar (dist Nanded) 10, Purna (dist Parbhani) 10, Gangakhed (dist Parbhani) 9, Mukkhed (dist Nanded) 9, Latur (dist Latur) 9, Bhokar (dist Nanded) 9, Hadgaon (dist Nanded) 9, Vasmat (dist Hingoli) 9, Ahmedpur (dist Latur) 9, Washi (dist Dharashiv) 9, Phulambri (dist Chh. Sambhajinagar) 8, Badnapur (dist Jalna) 8, Kallamnuri (dist Hingoli) 8, Renapur (dist Latur) 8, Kaij (dist Beed) 8, Beed (dist Beed) 7, Dharmabad (dist Nanded) 7, Chakur (dist Latur) 7, Parli Vaijnath (dist Beed) 7, Kallamb (dist Dharashiv) 7, Sambhajinagar-imd Obsy (dist Chh. Sambhajinagar) 7, Mukhed (dist Nanded) 7, Mahur (dist Nanded) 7, Shirur Anantpal (dist Latur) 7, Bhum (dist Dharashiv) 7, Manjlegaon (dist Beed) 7, Paithan (dist Chh. Sambhajinagar) 7, Loha (dist Nanded) 7, Naigaon Khairgaon (dist Nanded) 7, Patoda (dist Beed) 7,
- ❖ **Telangana:** Sadasivanagar (dist Kamareddy) 24, Tadwai (dist Kamareddy) 24, Lingampet (dist Kamareddy) 23, Kamareddy (dist Kamareddy) 22, Jainoor (dist Kumaram Bheem) 19, Papannapet (dist Medak) 17, Utnur (dist Adilabad) 17, Gandhari (dist Kamareddy) 17, Mirdoddi (dist Siddipet) 15, Yellareddy (dist Kamareddy) 15, Naga Reddipet (dist Kamareddy) 15, Gambhiraopet (dist Rajanna Sircilla) 15, Khanpur (dist Nirmal) 14, Laxmanchanda (dist Nirmal) 13, Dubbak (dist Siddipet) 13, Balkonda (dist Nizamabad) 12, Tekmal (dist Medak) 12, Metpalle (dist Jagtial) 12, Nirmal (dist Nirmal) 12, Yellareddypeta (dist Rajanna Sircilla) 12, Kondapak (dist Siddipet) 12, Mallapur (dist Jagtial) 12, Alladurg (dist Medak) 12, Dandepalle (dist Mancherial) 12, Kampasagar(a) (dist Nalgonda) 11, Sarangapur (dist Jagtial) 11, Bhiknur (dist Kamareddy) 11, Bejjanki (dist Siddipet) 11, Mortad (dist Nizamabad) 11, Banswada (dist Kamareddy) 11, Navipet (dist Nizamabad) 11, Domakonda (dist Kamareddy) 10, Peddapalle (dist Peddapalle) 10, Nanganur (dist Siddipet) 10, Medak (dist Medak) 10, Elagaid (dist Peddapalle) 10, Sangem (dist Warangal) 10, Husnabad(arg) (dist Siddipet) 10, Dilawarpur (dist Nirmal) 10, Belampalle (dist Mancherial) 10, Jangaon (dist Jangaon) 10,
- ❖ **Uttarakhand:** Sama(Bageshwar) 21, loharkhet(bageshwar)17, dehradun(dehradun)14, rishikesh(dehradun) 12, haripur(dehradun) 12, kotdwar(pauri garhwal )10, karnprayag(chamoli) : 9, Kapkot(bageshwar) 9, narendra nagar(tehri garhwal) 9, lansdown(pauri garhwal ) 8, Munsiyari(pithoragarh) 8, dunda(uttarkashi) 8,
- ❖ **Himachal Pradesh:** Nahan (dist Sirmaur) 14, Naina Davi (dist Bilaspur) 13, Pachhad (dist Sirmaur) 8, Paonta (dist Sirmaur) 7,
- ❖ **West Madhya Pradesh:** Bhagwanpura (dist Khargone) 13, Bhikangaon (dist Khargone) 13, Khargone-aws (dist Khargone) 10, Gogawan (dist Khargone) 9, New Harsud (dist Khandwa) 9, Khandwa (dist Khandwa) 7, Dabra (dist Gwalior) 7,
- ❖ **Haryana:** Tajewala (dist Yamuna Nagar) 12,
- ❖ **East Rajasthan:** Jaipur Aero (dist Jaipur) 12, Nasirabad (dist Ajmer) 11, Sanganer Tehsil Sr (dist Jaipur) 9, Thanagazi (dist Alwar) 8, Bassi (dist Jaipur) 8, Srimadhopur (dist Sikar) 7, Vijaynagar Sr (dist Ajmer) 7,
- ❖ **Gujarat Region:** Waghai (dist Dangs) 11, Bodeli (dist Chhota Udepur) 7,
- ❖ **Madhya Maharashtra:** Pathardi (dist Ahmednagar) 9,
- ❖ **Kerala:** Thennala (Malappuram district) 7,
- ❖ **Punjab:** Mohali Aws (dist Sas Nagar (mohali)) 7,
- ❖ **West Rajasthan:** Nawa (dist Nagaur) 7,
- ❖ **Vidarbha:** Pusad (dist Yeotmal) 10, Digras (dist Yeotmal).



**OBSERVED AND FORECAST TRACK OF DEPRESSION (REMNANT OF CYCLONIC STORM ASNA) OVER NORTHWEST ARABIAN SEA BASED ON 0300 UTC (0830 IST) OF 2<sup>nd</sup> SEPTEMBER, 2024.**

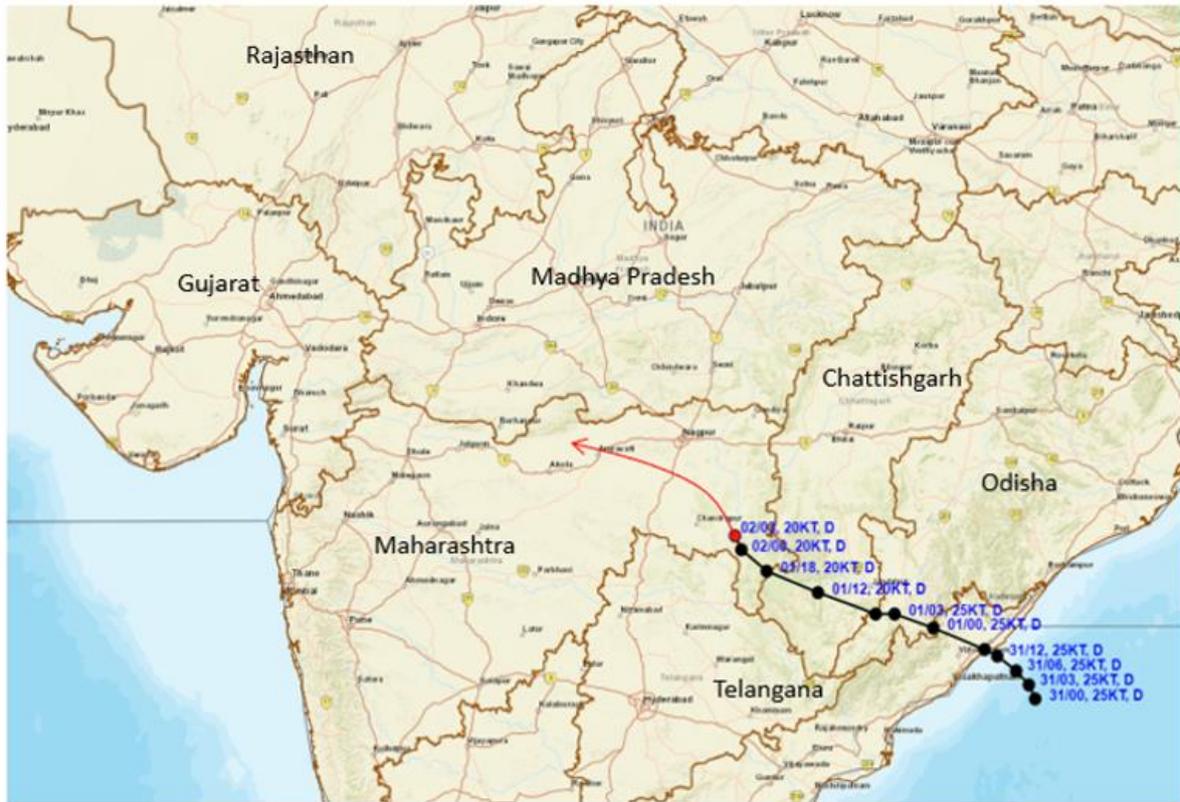


DATE/TIME IN UTC  
 IST=UTC + 0530  
 L: LOW PRESSURE AREA  
 WML: WELL MARKED LOW PRESSURE AREA  
 D: DEPRESSION (17-27 KT)  
 DD: DEEP DEPRESSION (28-33 KT)  
 CS: CYCLONIC STORM (34-47 KT)  
 SCS: SEVERE CYCLONIC STORM (48-63KT)  
 VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)  
 ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)  
 SuCS: SUPER CYCLONIC STORM (≥ 120 KT)

- LESS THAN 34 KT
- 34-47 KT
- ≥ 48 KT
- OBSERVED TRACK
- FORECAST TRACK
- CONE OF UNCERTAINTY



**OBSERVED AND FORECAST TRACK OF DEPRESSION OVER EAST VIDARBHA AND ADJOINING TELANGANA BASED ON 0300 UTC (0830 IST) OF 2<sup>nd</sup> SEPTEMBER, 2024.**

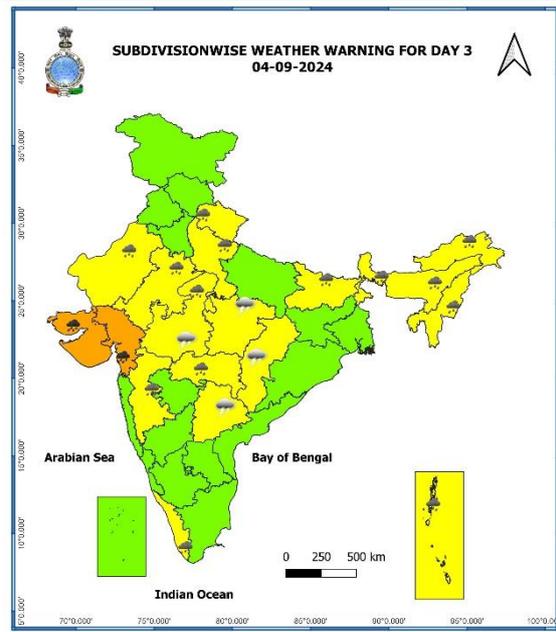
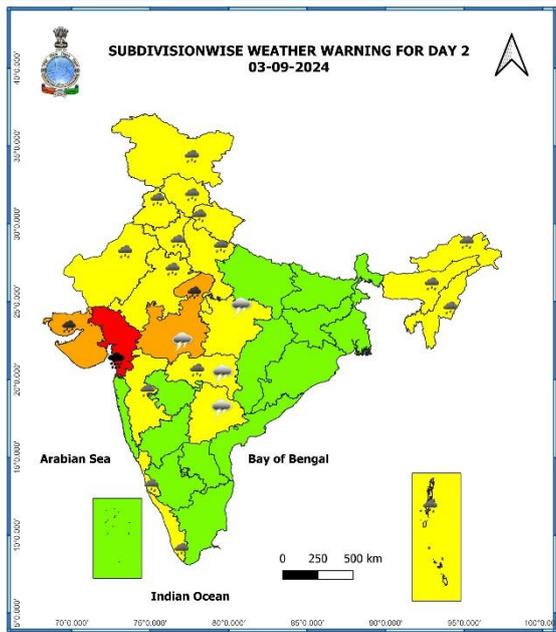
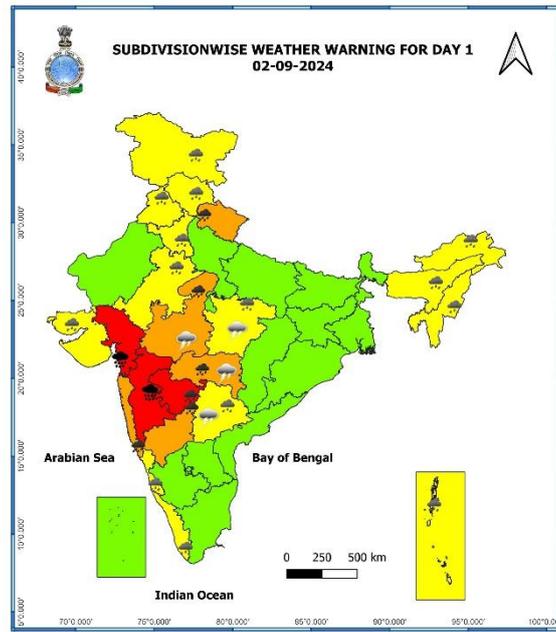


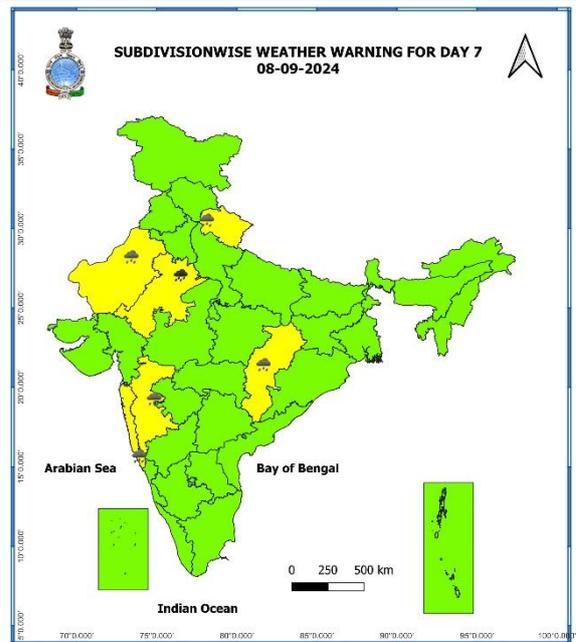
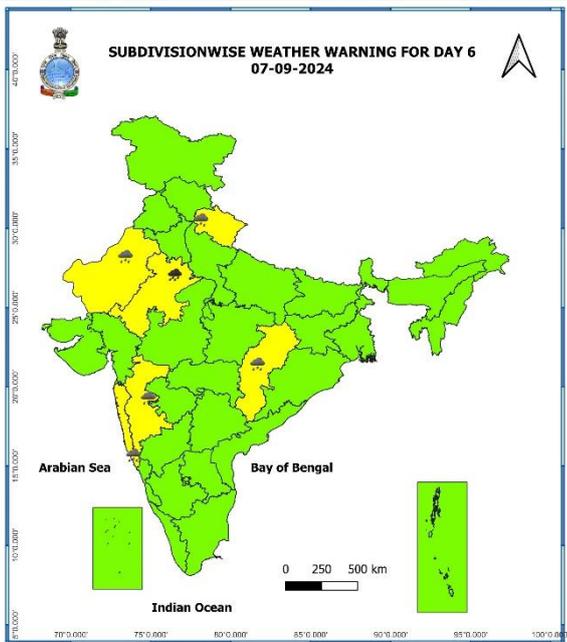
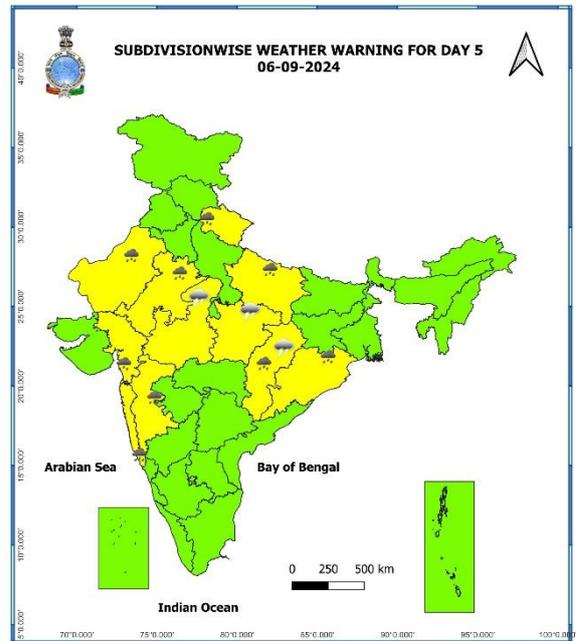
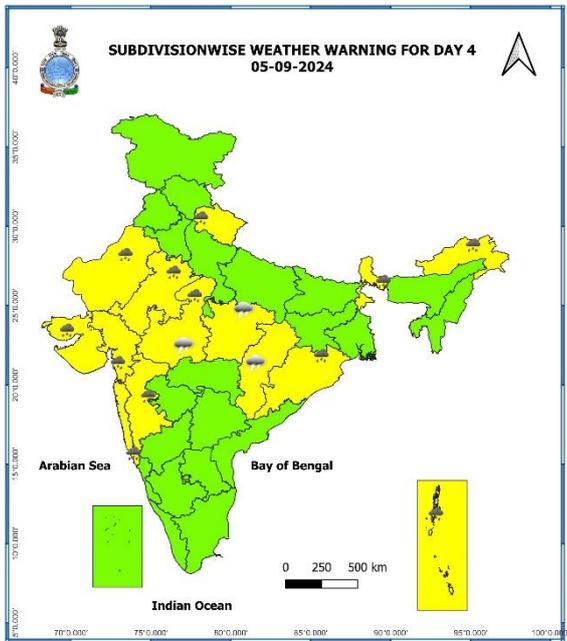
DATE/TIME IN UTC  
 IST=UTC + 0530  
 L: LOW PRESSURE AREA  
 WML: WELL MARKED LOW PRESSURE AREA  
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 VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)  
 ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)  
 SuCS: SUPER CYCLONIC STORM  $\geq$  120 KT)

- LESS THAN 34 KT
- 34-47 KT
- $\geq$  48 KT
- OBSERVED TRACK
- FORECAST TRACK
- CONE OF UNCERTAINTY

7 Days Rainfall Forecast								
S. No.	Subdivision	02-Sep	03-Sep	04-Sep	05-Sep	06-Sep	07-Sep	08-Sep
		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
1	ANDAMAN & NICOBAR ISLANDS	WS	WS	WS	WS	WS	FWS	FWS
2	ARUNACHAL PRADESH	FWS	FWS	FWS	FWS	FWS	SCT	SCT
3	ASSAM & MEGHALAYA	FWS	WS	WS	FWS	FWS	SCT	SCT
4	NAGALAND, MANIPUR, MIZORAM & TRIPURA	FWS	WS	WS	FWS	FWS	FWS	FWS
5	SUB-HIMALAYAN WEST BENGAL & SIKKIM	FWS	FWS	WS	WS	FWS	SCT	SCT
6	GANGETIC WEST BENGAL	SCT	SCT	SCT	FWS	SCT	FWS	FWS
7	ODISHA	SCT	SCT	FWS	FWS	FWS	FWS	FWS
8	JHARKHAND	SCT	SCT	SCT	FWS	FWS	SCT	FWS
9	BIHAR	SCT	SCT	FWS	SCT	SCT	SCT	SCT
10	EAST UTTAR PRADESH	SCT	FWS	FWS	FWS	FWS	SCT	SCT
11	WEST UTTAR PRADESH	FWS	FWS	FWS	FWS	FWS	SCT	SCT
12	UTTARAKHAND	SCT	FWS	FWS	FWS	FWS	FWS	FWS
13	HARYANA CHANDIGARH & DELHI	FWS	SCT	SCT	SCT	SCT	ISOL	ISOL
14	PUNJAB	SCT	SCT	SCT	SCT	SCT	ISOL	ISOL
15	HIMACHAL PRADESH	FWS	FWS	SCT	SCT	SCT	SCT	ISOL
16	JAMMU & KASHMIR AND LADAKH	WS	WS	ISOL	ISOL	SCT	ISOL	DRY
17	WEST RAJASTHAN	SCT	FWS	FWS	SCT	FWS	SCT	SCT
18	EAST RAJASTHAN	WS	WS	FWS	FWS	FWS	FWS	FWS
19	WEST MADHYA PRADESH	FWS	FWS	FWS	FWS	FWS	SCT	SCT
20	EAST MADHYA PRADESH	SCT	SCT	FWS	FWS	FWS	SCT	SCT
21	GUJARAT REGION	WS						
22	SAURASHTRA & KUTCH	WS						
23	KONKAN & GOA	WS						
24	MADHYA MAHARASHTRA	WS	WS	FWS	FWS	FWS	FWS	FWS
25	MARATHAWADA	WS	FWS	SCT	SCT	SCT	SCT	SCT
26	VIDARBHA	WS	WS	WS	FWS	FWS	FWS	FWS
27	CHHATTISGARH	SCT	SCT	SCT	FWS	FWS	FWS	FWS
28	COASTAL ANDHRA PRADESH & YANAM	FWS	FWS	SCT	SCT	SCT	SCT	SCT
29	TELANGANA	FWS	SCT	SCT	SCT	SCT	SCT	SCT
30	RAYALASEEMA	SCT	SCT	ISOL	ISOL	ISOL	ISOL	ISOL
31	TAMILNADU PUDUCHERRY & KARAIKAL	SCT	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL
32	COASTAL KARNATAKA	WS						
33	NORTH INTERIOR KARNATAKA	FWS	SCT	ISOL	SCT	SCT	SCT	SCT
34	SOUTH INTERIOR KARNATAKA	FWS	SCT	ISOL	ISOL	SCT	SCT	SCT
35	KERALA & MAHE	WS	WS	WS	FWS	FWS	SCT	SCT
36	LAKSHADWEEP	WS	WS	FWS	FWS	SCT	SCT	SCT

- As the lead period increases forecast accuracy decreases.

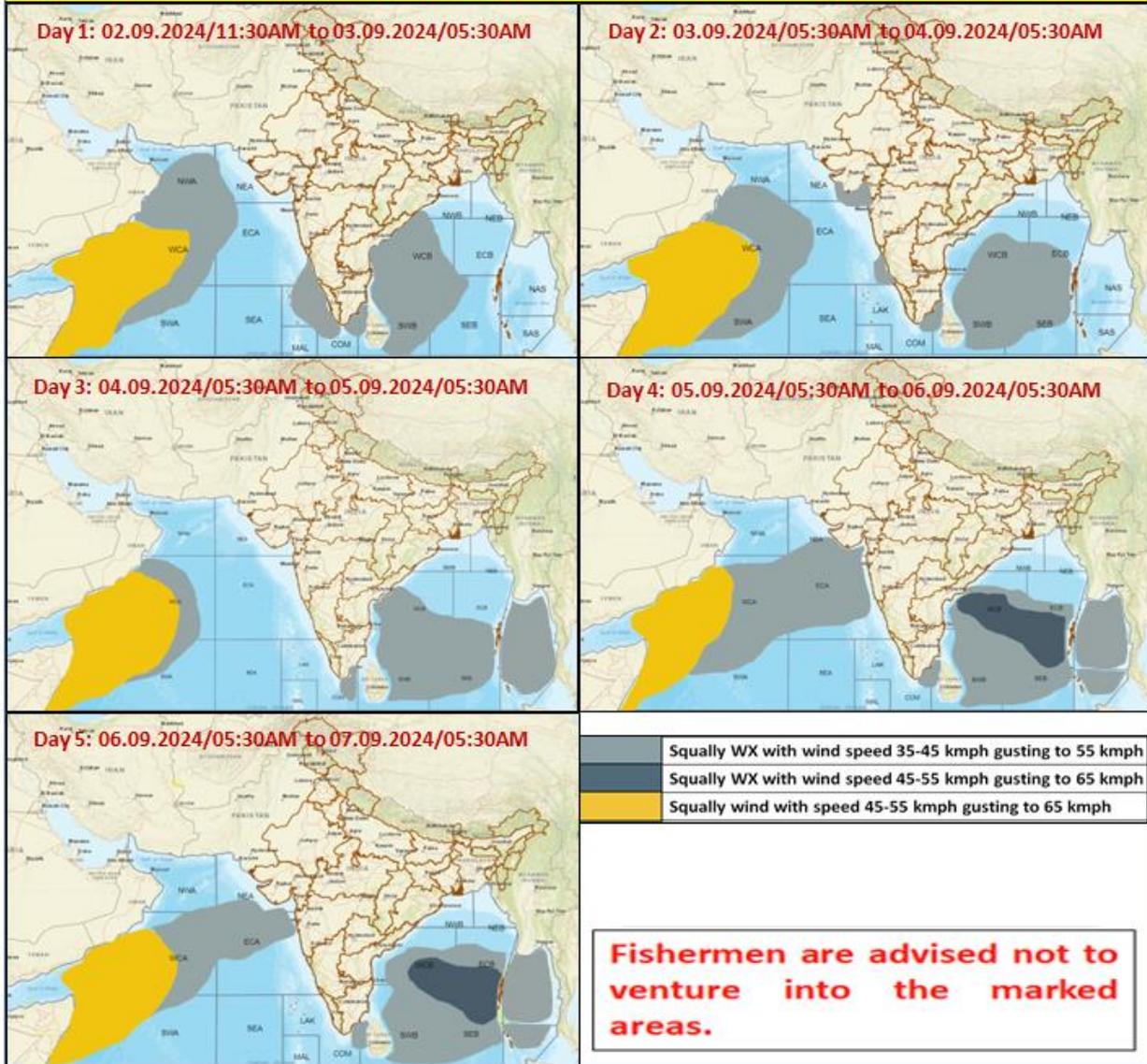




- Action may be taken based on **ORANGE AND RED COLOUR** warnings.
- **Vulnerable regions likely urban and hilly areas** action may be initiated for heavy rainfall warning.
- As the lead period increases forecast accuracy decreases.



### Fishermen Warning Graphics



## Impact due to

- **Heavy to very heavy with isolated extremely heavy rainfall** very likely over Madhya Maharashtra on 02<sup>nd</sup>; Gujarat Region on 02<sup>nd</sup> & 03<sup>rd</sup> September.
- **Very heavy rainfall** at isolated over North Interior Karnataka; Vidarbha, Konkan & Goa, Marathwada, Uttarakhand on 02<sup>nd</sup>; West Madhya Pradesh on 02<sup>nd</sup> & 03<sup>rd</sup>; Gujarat State on 03<sup>rd</sup> & 04<sup>th</sup>; East Rajasthan on 07<sup>th</sup> & 08<sup>th</sup> September.
- **Low to Moderate flash flood risk** likely over few watersheds & neighbourhoods of East Rajasthan, Himachal Pradesh, Madhya Maharashtra, Marathwada a on 01<sup>st</sup> & 02<sup>nd</sup> September. (**ANNEXURE VI**)

## 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.
- ✓ Reduction of visibility over sea area due to sea spray induced by strong wind and heavy rainfall.
- ✓ Disruption of traffic in major cities 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.
- ✓ It may lead to riverine flooding in some river catchments (for riverine flooding please visit Web page of CWC)

## Action Suggested

- ✓ Judicious regulation of offshore/onshore Operations
- ✓ 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 field crops and horticultural crops in Himachal Pradesh, Uttarakhand, East Rajasthan, West Madhya Pradesh, Marathwada, Vidarbha, Madhya Maharashtra, North Interior Karnataka and Telangana.
- Make provision for draining out excess water from standing crop fields and fruit orchards to avoid water stagnation in Andaman & Nicobar Islands and Kerala.
- Drain out excess water from rice, castor, cotton, pearl millet, groundnut, sesame and maize fields in **Gujarat**; from rice, soybean, red gram, maize, cotton and Turmeric in **Telangana** to prevent water logging.
- Store the harvested produce of black gram and green gram at safer places in **Vidarbha, Marathwada** and *Ghat* areas of **Madhya Maharashtra**.
- Provide mechanical support to horticultural crops & staking to vegetables.

**Flash Flood Guidance:**

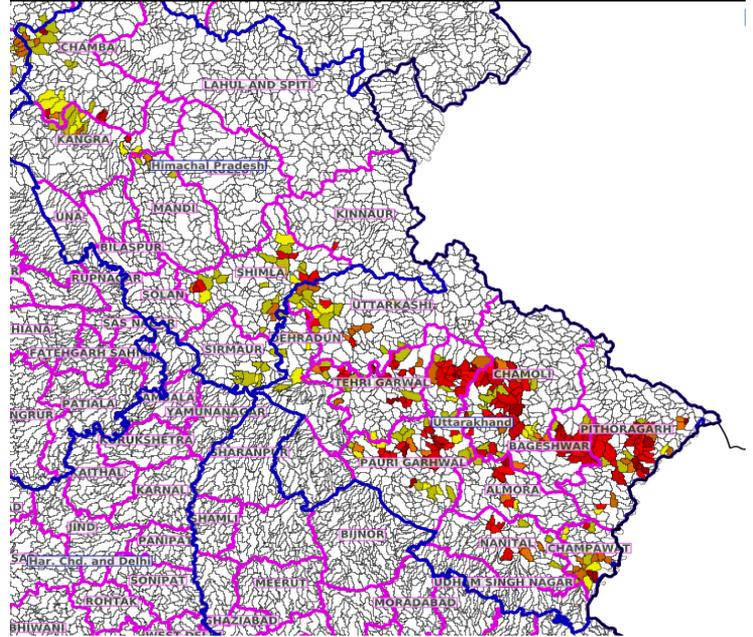
24 hours Outlook for the Flash Flood Risk (FFR) till 1130 IST of 03-09-2024 :

Low to Moderate flash flood risk likely over few watersheds & neighbourhoods of following Met Sub-divisions during next 24 hours.

**Himachal Pradesh** - Chamba, Kangra, Kinnaur, Mandi, Shimla and Sirmaur districts.  
**Uttarakhand** - Almora, Bageshwar, Chamoli, Champawat, Dehradun, Nanital, Pauri Garhwal, Pithoragarh, Rudraprayag, Tehri Garwal and Uttarkashi 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 24 hours.

Product: WRF FFR | Timescale: 24-hr | Region: "INDIA"  
 Product Date: 2024-09-02 06:00 UTC | Valid Date: 2024-09-03 06:00 UTC



24 hours Outlook for the Flash Flood Risk (FFR) till 1130 IST of 03-09-2024 :

Low to Moderate flash flood risk likely over few watersheds & neighbourhoods of following Met Sub-divisions during next 24 hours.

**East Rajasthan** - Banswara, Baran, Bundi, Dungarpur, Jhalawar, Kota, Pratapgarh and Udaipur districts. Telangana - Adilabad, Jagtial, Kamareddy, Kumaram Bheem, Mancherial, Medak, Nirmal, Nizamabad, Peddapalle and Sangareddy districts.

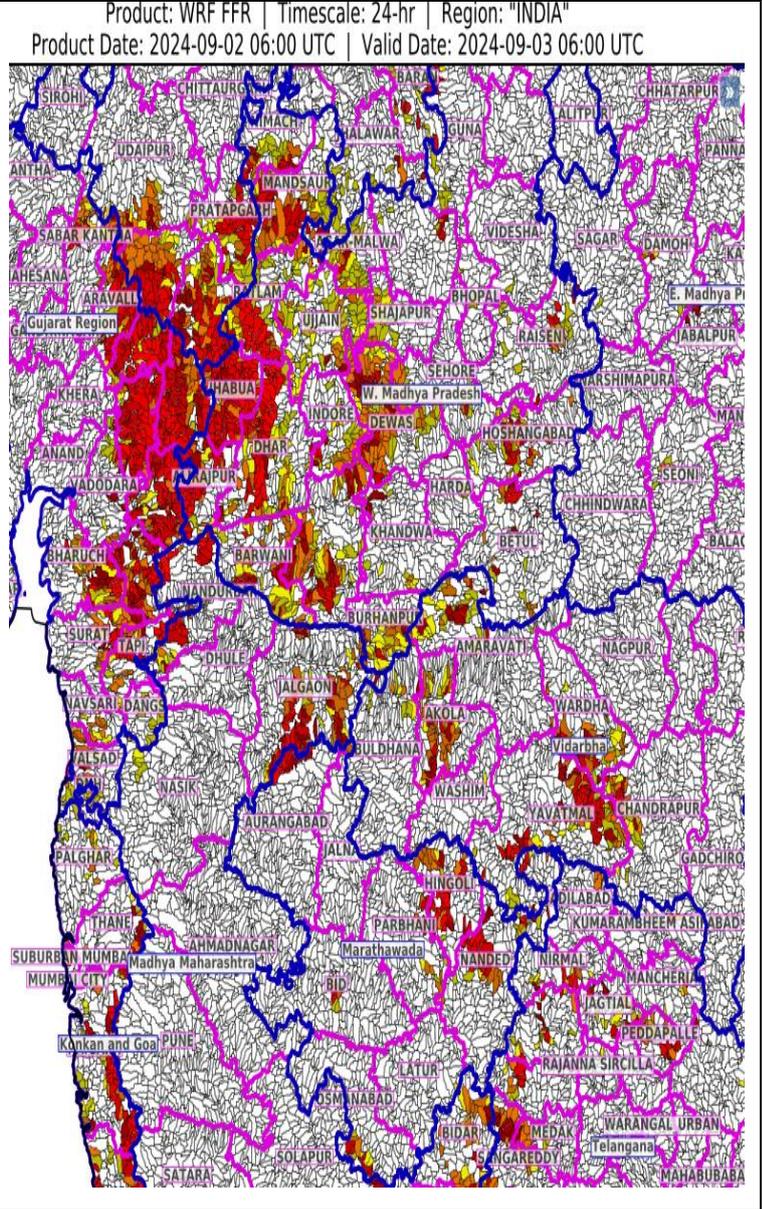
**Vidarbha** - Akola, Amaravati, Buldhana, Chandrapur, Wardha, Washim and Yavatmal districts.

**West Madhya Pradesh** - Agar-Malwa, Alirajpur, Barwani, Betul, Bhopal, Burhanpur, Dewas, Dhar, Guna, Harda, Indore, Jhabua, Khandwa, Khargone, Raisen, Rajgarh, Ratlam, Sehore, Shajapur, Sheopur, Ujjain, Videsha and Hoshangabad districts.

**Gujarat Region** - Aravalli, Bharuch, Chhota Udepur, Dahod, Dangs, Mahisagar, Narmada, Navsari, Panchmahal, Sabar Kantha, Surat, Tapi, Vadodara and Valsad districts. Madhya Maharashtra - Jalgaon, Nandurbar and Nasik districts.

**Marathawada** - Aurangabad, Bid, Hingoli, Nanded, Osmanabad and Parbhani 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 24 hours.

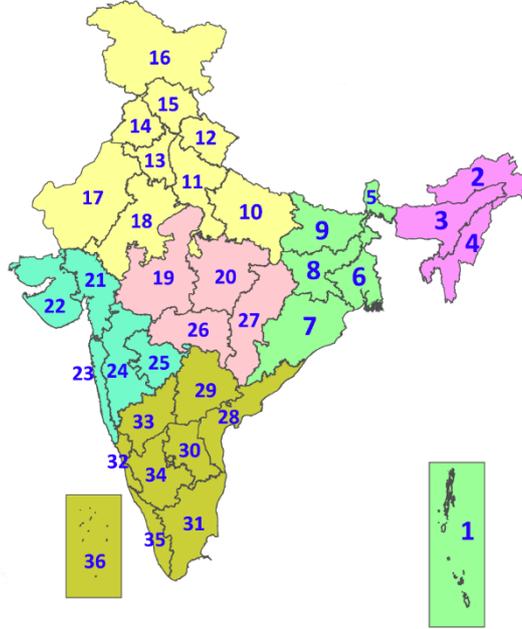


**Legends & abbreviations:**

- ❖ **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.

## 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  $4.5^\circ\text{C}$  to  $6.4^\circ\text{C}$ .  
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  $40^\circ\text{C}$

Warm Night: When minimum temperature departure  $4.5^\circ\text{C}$  to  $6.4^\circ\text{C}$ .  
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  $-4.5^\circ\text{C}$  to  $-6.4^\circ\text{C}$ .  
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  $-4.5^\circ\text{C}$  to  $-6.4^\circ\text{C}$ .  
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)

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