



Government of India
Ministry of Earth Sciences
India Meteorological Department



Press Release

Date: 28th August, 2024

Time of Issue: 1440 hours IST

- Subject:** (i) Deep Depression over Saurashtra & Kutch likely to continue to move slowly west-southwestwards and reach Saurashtra & Kutch coast adjoining northeast Arabian Sea by 29th August.
- (ii) Extremely heavy rainfall very likely to continue at isolated places of Saurashtra and Kutch during 28th & 29th August
- (iii) A fresh low-pressure area likely to form over north and adjoining Central Bay of Bengal during next 24 hours.
- (iv) Very heavy to extremely heavy rainfall likely over Odisha, north Coastal Andhra Pradesh, south Chhattisgarh, Vidarbha and Telangana on 30th & 31st August.

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

Exceptionally heavy rainfall observed over Saurashtra & Kutch: Khambhalia (**43cm**) (dist Devbhoomi Dwarka), Jamnagar (**38cm**) (dist Jamnagar).

Heavy to very heavy rainfall with extremely heavy falls at many places over Saurashtra & Kutch, **Heavy to very heavy rainfall** at isolated places Uttarakhand, East Uttar Pradesh, Nagaland, Manipur, Mizoram & Tripura, Madhya Maharashtra; **Heavy rainfall** at isolated places over Gujarat Region, West Uttar Pradesh, East Rajasthan, Andaman & Nicobar Islands, Jharkhand, Odisha, Arunachal Pradesh, Assam & Meghalaya, Konkan & Goa, Coastal Karnataka, South Interior Karnataka.

Weather Systems:

(a) Deep Depression over Saurashtra & Kachchh

The deep depression over Saurashtra & Kachchh moved westwards with a speed of 12 kmph during past 6 hours and lay centered at 0830 hours IST of today, the 28th August over the same region near latitude 23.7°N and longitude 69.7°E, 50 km north-northwest of Bhuj (Gujarat), 100 km east-northeast of Naliya (Gujarat) and 290 km east-southeast of Karachi (Pakistan). It is likely to move slowly west-southwestwards across Saurashtra & Kachchh region and reach Saurashtra & Kachchh coast & adjoining areas of Pakistan and northeast Arabian Sea by morning of 29th August.

(b) A fresh low pressure area is likely to form over north and adjoining Central Bay of Bengal during next 24 hours. It is likely to move west-northwestwards close to south Odisha & north Andhra Pradesh coasts during next 2 days.

(c) A cyclonic circulation lies over southeast Uttar Pradesh and an east-west trough runs from it to the cyclonic circulation over Eastcentral Bay of Bengal in lower tropospheric levels.

(d) Western end of the monsoon trough at mean sea level lies to the south of its normal position while the eastern end runs at its normal position.

Forecast & Warnings (upto 7 days):

❖ **West & Central India (For District wise Extremely heavy rainfall warning maps of Gujarat State for 27th to 30th August, Annexure IV)**

- ✓ Fairly widespread to widespread light/moderate rainfall very likely over West & Central India during the week.
- ✓ **Light to moderate rainfall at most places with heavy to very heavy rainfall at a few places and extremely heavy rainfall at isolated places is likely on 28th August; heavy to extremely heavy rainfall at isolated places on 29th August and heavy rainfall at isolated places on 30th August.**
- ✓ Isolated **extremely heavy rainfall also very likely** over Saurashtra & Kutch on 28th & 29th August with isolated **exceptionally heavy rainfall** over Saurashtra & Kutch today.
- ✓ Isolated **very heavy rainfall** also very likely over Chhattisgarh on 30th & 31st; Vidarbha on 31st; Gujarat Region on 01st & 02nd September; Saurashtra & Kutch on 30th; Konkan & Goa, Madhya Maharashtra on 02nd & 03rd September.
- ✓ Isolated **Heavy rainfall** very likely over Konkan & Goa, Madhya Maharashtra during next 7 days; Gujarat Region on 28th, 31st August, & 03rd September; Saurashtra & Kutch on 31st; Madhya Pradesh during 30th August-03rd September; Vidarbha during 30th August- 02nd September; Chhattisgarh during 29th August – 02nd September; Marathwada on 01st & 02nd September.

❖ **East & Northeast India**

- ✓ Fairly widespread to widespread light/moderate rainfall very likely over East & Northeast India, during the week.
- ✓ Isolated **heavy rainfall** very likely over Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura during next 7 days; Arunachal Pradesh on 28th August and during 31st August – 03rd September; Andaman & Nicobar Islands during 28th – 30th; Jharkhand on 28th & 29th; Odisha during 28th-31st August.
- ✓ Isolated **very heavy rainfall** also very likely over Andaman & Nicobar Islands, Mizoram on 28th; Odisha on 29th -30th August.
- ✓ Isolated **extremely heavy rainfall also very likely** over Odisha on 30th August.

❖ **South Peninsular India:**

- ✓ Scattered to Fairly widespread light/moderate rainfall very likely over Kerala & Mahe, Lakshadweep, Coastal Andhra Pradesh & Yanam, Coastal Karnataka, Interior Karnataka; isolated to scattered rainfall over Tamil Nadu, Puducherry & Karaikal, Rayalaseema & Telangana during the week.
- ✓ Isolated **heavy rainfall** very likely over Kerala & Mahe, Interior Karnataka during 28th August-01st September; Coastal Andhra Pradesh & Yanam during 29th August – 01st September; Telangana on 02nd September; Coastal Karnataka during 28th August-03rd September.
- ✓ Isolated **very heavy rainfall** also very likely over Coastal Karnataka during 29th – 31st; South Interior Karnataka on 29th & 30th Kerala & Mahe on 30th; Coastal Andhra Pradesh & Yanam on 30th & 31st; Telangana on 01st September.
- ✓ Isolated **extremely heavy rainfall also very likely** over Telangana on 30th & 31st August.

❖ **Northwest India**

- ✓ Fairly widespread to widespread light/moderate rainfall very likely over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, Uttarakhand, Rajasthan; isolated to scattered rainfall over Punjab, Uttar Pradesh Haryana-Chandigarh-Delhi during the week.
- ✓ Isolated **heavy rainfall** very likely over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad during 28th - 30th; Himachal Pradesh on 29th; Uttarakhand on 28th, 29th August & 03rd September; Punjab, Haryana-Chandigarh on 28th & 29th; West Uttar Pradesh on 28th, 29th, 02nd & 03rd; East Uttar Pradesh on 28th and during 01st -03rd September; West Rajasthan on 28th August & 03rd September; East Rajasthan during 01st – 03rd September.

- ✓ Isolated **very heavy rainfall** also very likely over Uttarakhand on 28th; Southeast Rajasthan on 02nd & 03rd September.

For more details, kindly refer: https://mausam.imd.gov.in/responsive/all_india_forecast_bulletin.php

For Districtwise warnings refer: <https://mausam.imd.gov.in/responsive/districtWiseWarningGIS.php>

Wind warning:

- Squally wind speed reaching 45-55 kmph gusting to 65 kmph is likely over the districts of South Gujarat Region and Saurashtra & Kutch during 28th -29th August.
- Squally wind speed reaching 55-65 kmph gusting to 75 kmph is very likely to prevail along & off Gujarat coasts & adjoining Pakistan coasts and northeast & adjoining eastcentral Arabian Sea during 28th -30th August.
- Strong surface wind speed reaching 40-50 kmph gusting to 60kmph is very likely to prevail over South Rajasthan on 27th August.
- Strong wind speed reaching 40-50 kmph gusting to 60 kmph is likely to prevail along and off north Maharashtra coasts on 28th - 29th August.

Sea condition:

- Squally weather with Rough to very Rough sea conditions is very likely to prevail along & off Gujarat & adjoining Pakistan and north Maharashtra Coasts and Northeast & adjoining Eastcentral Arabian Sea till 30th August.

Fisherman warning:

- Fishermen are advised not venture into Northeast & adjoining Eastcentral Arabian Sea and along & off Gujarat & adjoining Pakistan and north Maharashtra Coasts till 30th August.

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

Significant Rainfall recorded during past 24 hours till 0830 hours IST of today 28.08.2024 (in cm):

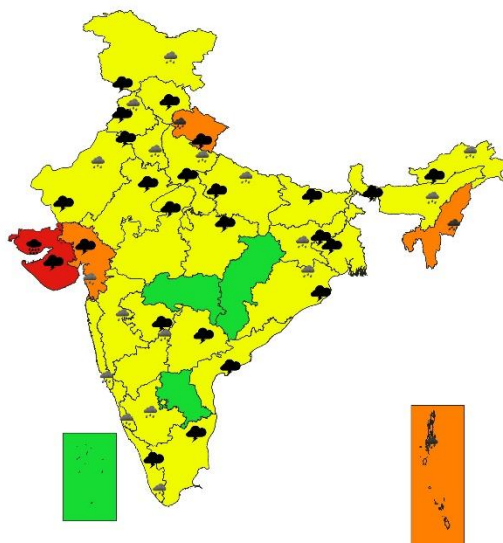
- ❖ **Saurashtra & Kutch:** Khambhalia (dist Devbhoomi Dwarka) 43, Jamnagar (dist Jamnagar) 38, Jamnagar_kvks Aws (dist Jamnagar) 35, Jamjodhpur (dist Jamnagar) 32, Dwarka (dist Devbhoomi Dwarka) 31, Lalpur (dist Jamnagar) 30, Porbandar (dist Porbandar) 28, Ranavav (dist Porbandar) 28, Bhanvad (dist Devbhoomi Dwarka) 24, Kalavad (dist Jamnagar) 24, Kalyanpur (dist Devbhoomi Dwarka) 24, Kotdasangani (dist Rajkot) 23, Dhrol (dist Jamnagar) 18, Lodhika (dist Rajkot) 17, Dhoraji (dist Rajkot) 16, Jamkandorna (dist Rajkot) 16, Jodia (dist Jamnagar) 15, Gondal (dist Rajkot) 15, Kutiana (dist Porbandar) 13, Morbi (dist Morbi) 12, Mangrol(j) (dist Junagadh) 12, Tankara (dist Morbi) 12, Visavadar (dist Junagadh) 12, Rajkot (dist Rajkot) 12, Upleta (dist Rajkot) 11, Vanthali (dist Junagadh) 11, Manavadar (dist Junagadh) 11, Bhesan (dist Junagadh) 10, Talala (dist Gir Somnath) 10, Jetpur (dist Rajkot) 10, Paddhari (dist Rajkot) 10, Junagadh (dist Junagadh) 9, Naliya (dist Kutch) 9, Mendarda (dist Junagadh) 8, Wankaner (dist Morbi) 8, Keshod (dist Junagadh) 8, Babra (dist Amreli) 8, Abdasa (dist Kutch) 8, Botad (dist Botad) 7
- ❖ **East Uttar Pradesh:** Rae Bareilly Cwc (dist Rae Bareilly) 15, Lalganj Aara (dist Pratapgarh) 11, Dhanghata (dist Sant Kabir Nagar) 11, Churk (dist Sonbhadra) 9, Bani (dist Lucknow) 8, Varanasi-b.h.u. (dist Varanasi) 8, Fursatganj (dist Amethi) 8, Rajghat (Vns Cwc) (dist Varanasi) 8, Karchhana (dist Prayagraj) 7, Haidargarh (dist Barabanki) 7, Ghosi (dist Mau) 7, Chandauli (dist Chandauli) 7, Deogaon Lalganj (dist Azamgarh) 7,
- ❖ **Nagaland, Manipur, Mizoram & Tripura:** Hnathial Agri (Dist Hnathial) 14, Hnathial Aws (Dist Hnathial) 12, Eden Laouge Arg (Dist North Tripura) 12, Aizwal (Dist Aizawl) 11, Lunglei (Dist Lunglei) 11, Mizoram University (Dist Aizawl) 11, Saitul Agri (Dist) 9, Lengpui (Dist Aizawl) 7, Ashapara Aws (Dist North Tripura) 7,
- ❖ **MADHYA MAHARASHTRA:** Mahabaleshwar- Imd Obsy (dist Satara) 13, Velhe (dist Pune) 9, Gaganbawada (dist Kolhapur) 9, Shahuwadi (dist Kolhapur) 9, Lonavala_agri (dist Pune) 7,
- ❖ **Uttarakhand:** Uttarkashi (Uttarkashi) 12, Uttarkashi_Cwc (Uttarkashi) 10, Haripur (Dehradun) 10, Purola (Uttarkashi) 7,
- ❖ **Assam:** Moranhat (Dist Dibrugarh) 10,
- ❖ **Coastal Karnataka:** Castle Rock (Dist Uttara Kannada) 9,
- ❖ **South Interior Karnataka:** Kottigehara (Dist Chikkamagaluru) 9, Agumbe Emo (Dist Shivamogga) 8, Linganamakki Hms (Dist Shivamogga) 7,
- ❖ **Orissa:** Rajgangpur (Sundargarh) 9, Lahunipara (Sundargarh) 9, Banaigarh (Sundargarh) 8, Rasagovindapur (Mayurbhanj) 8, Balisankara (Sundargarh) 8, Kutra (Sundargarh) 7, Banspal (Keonjhar) 7, Talcher (Angul) 7,
- ❖ **Konkan & Goa:** Valpoi (dist North Goa) 9, Sangameshwar Devrukh (dist Ratnagiri) 8, Quepem (dist South Goa) 7, Lanja (dist Ratnagiri) 7, Sanguem (dist South Goa) 7, Talasari (dist Palghar) 7, Vaibhavwadi (dist Sindhudurg) 7, Dahanu - Imd Obsy (dist Palghar) 7,
- ❖ **Arunachal Pradesh:** Namsai Kvk Aws (Dist Lohit) 7,
- ❖ **Bihar:** Chenari (Dist Rohtas) 7,
- ❖ **Andaman & Nicobar Islands:** Long Island (Dist North & Middle Andaman) 7
- ❖ **Jharkhand:** Kurdeg (Dist Simdega) 7, Simdega (Dist Simdega) 7,
- ❖ **East Rajasthan:** Mounnt Abu (dist Sirohi) 9,
- ❖ **West Uttar Pradesh:** Orai (dist Jalaun) 8,
- ❖ **Gujarat Region:** Nadiad (dist Kheda) 8, Kapadvanj (dist Kheda) 7,
- ❖ **Jharkhand:** Kurdeg (dist Simdega) 7, Simdega (dist Simdega) 7

7 Days Rainfall Forecast								
S. No.	Subdivision	28-Aug	29-Aug	30-Aug	31-Aug	01-Sep	02-Sep	03-Sep
		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
1	ANDAMAN & NICOBAR ISLANDS	WS	WS	WS	WS	WS	WS	WS
2	ARUNACHAL PRADESH	FWS	SCT	SCT	FWS	FWS	FWS	FWS
3	ASSAM & MEGHALAYA	FWS	FWS	FWS	FWS	WS	WS	WS
4	NAGALAND, MANIPUR, MIZORAM & TRIPURA	FWS	FWS	FWS	FWS	WS	WS	WS
5	SUB-HIMALAYAN WEST BENGAL & SIKKIM	SCT	SCT	SCT	FWS	FWS	FWS	FWS
6	GANGETIC WEST BENGAL	FWS	FWS	FWS	SCT	SCT	SCT	SCT
7	ODISHA	FWS	WS	WS	FWS	SCT	SCT	SCT
8	JHARKHAND	FWS	SCT	SCT	SCT	SCT	SCT	SCT
9	BIHAR	SCT	ISOL	ISOL	SCT	SCT	SCT	SCT
10	EAST UTTAR PRADESH	SCT	SCT	SCT	SCT	SCT	SCT	SCT
11	WEST UTTAR PRADESH	SCT	ISOL	ISOL	ISOL	SCT	SCT	SCT
12	UTTARAKHAND	FWS	SCT	SCT	SCT	SCT	FWS	FWS
13	HARYANA CHANDIGARH & DELHI	SCT	SCT	ISOL	ISOL	ISOL	SCT	SCT
14	PUNJAB	SCT	SCT	SCT	ISOL	ISOL	SCT	SCT
15	HIMACHAL PRADESH	FWS	FWS	FWS	SCT	SCT	FWS	FWS
16	JAMMU & KASHMIR AND LADAKH	WS	WS	FWS	ISOL	ISOL	SCT	SCT
17	WEST RAJASTHAN	SCT	SCT	SCT	SCT	SCT	SCT	SCT
18	EAST RAJASTHAN	SCT	SCT	SCT	SCT	FWS	FWS	FWS
19	WEST MADHYA PRADESH	SCT	SCT	SCT	FWS	WS	WS	WS
20	EAST MADHYA PRADESH	SCT	FWS	FWS	WS	WS	WS	WS
21	GUJARAT REGION	WS	WS	WS	WS	WS	WS	WS
22	SAURASHTRA & KUTCH	WS	WS	WS	WS	FWS	FWS	FWS
23	KONKAN & GOA	WS	WS	WS	WS	WS	WS	WS
24	MADHYA MAHARASHTRA	FWS	FWS	SCT	SCT	FWS	FWS	FWS
25	MARATHAWADA	ISOL	ISOL	SCT	FWS	WS	WS	SCT
26	VIDARBHA	SCT	FWS	WS	WS	WS	WS	WS
27	CHHATTISGARH	SCT	FWS	WS	WS	WS	WS	FWS
28	COASTAL ANDHRA PRADESH & YANAM	SCT	FWS	WS	WS	FWS	SCT	ISOL
29	TELANGANA	ISOL	SCT	WS	WS	WS	SCT	SCT
30	RAYALASEEMA	ISOL	SCT	FWS	FWS	SCT	ISOL	ISOL
31	TAMILNADU PUDUCHERRY & KARAIKAL	ISOL	SCT	SCT	ISOL	ISOL	ISOL	ISOL
32	COASTAL KARNATAKA	WS	WS	WS	WS	WS	WS	WS
33	NORTH INTERIOR KARNATAKA	SCT	SCT	FWS	FWS	FWS	SCT	SCT
34	SOUTH INTERIOR KARNATAKA	SCT	FWS	FWS	FWS	SCT	SCT	SCT
35	KERALA & MAHE	FWS	WS	WS	WS	FWS	FWS	FWS
36	LAKSHADWEEP	FWS	FWS	FWS	FWS	FWS	FWS	FWS

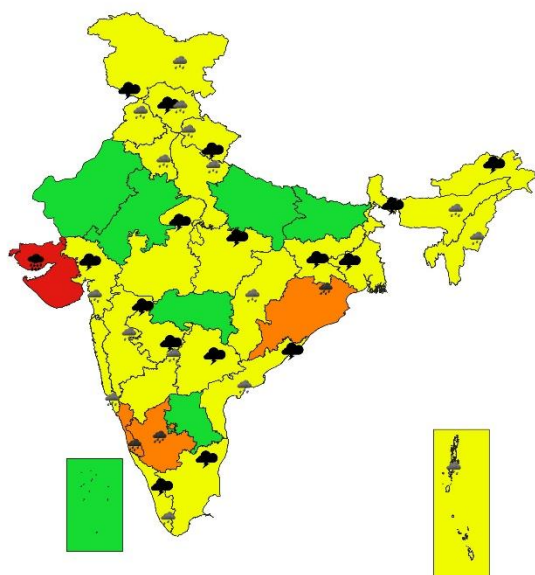
- As the lead period increases forecast accuracy decreases.



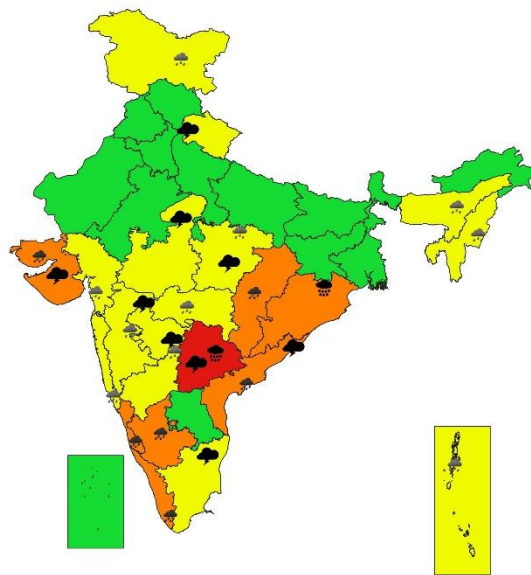
SUBDIVISIONWISE WEATHER WARNING FOR DAY 1
28-08-2024



SUBDIVISIONWISE WEATHER WARNING FOR DAY 2
29-08-2024

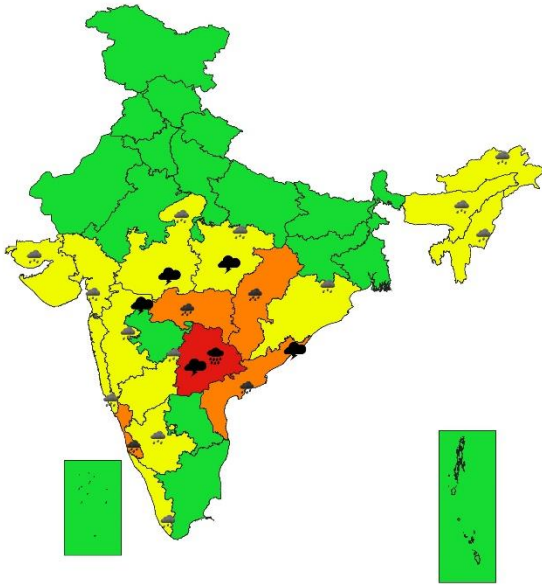


SUBDIVISIONWISE WEATHER WARNING FOR DAY 3
30-08-2024

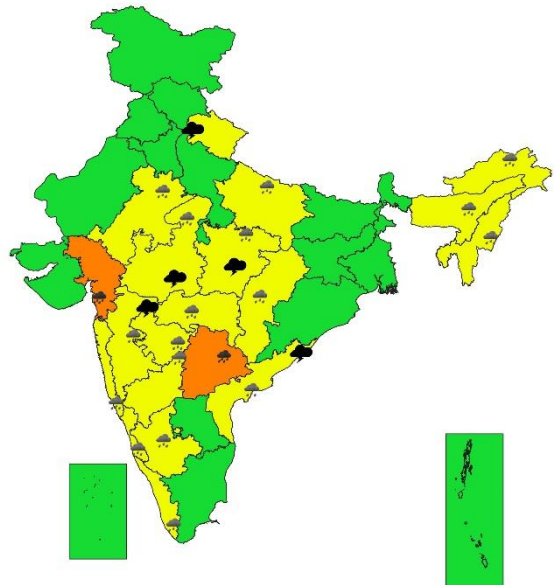




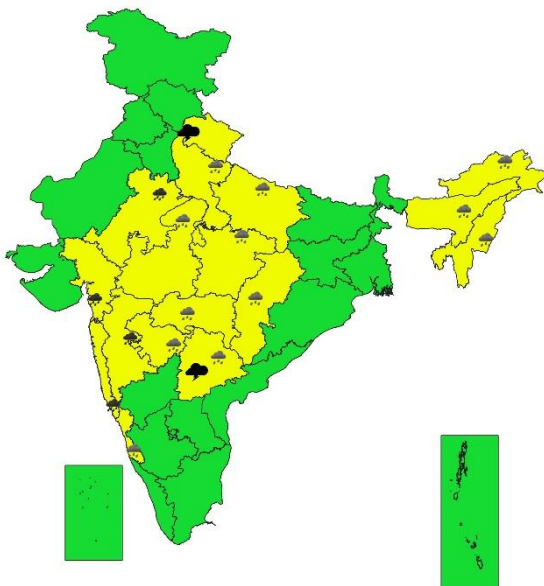
SUBDIVISIONWISE WEATHER WARNING FOR DAY 4
31-08-2024



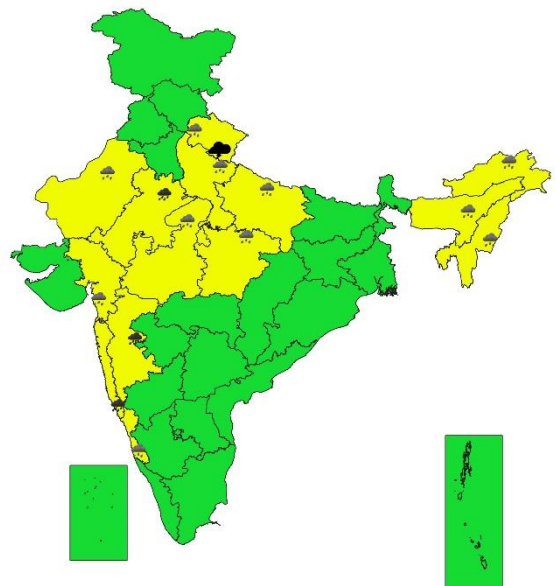
SUBDIVISIONWISE WEATHER WARNING FOR DAY 5
01-09-2024



SUBDIVISIONWISE WEATHER WARNING FOR DAY 6
02-09-2024



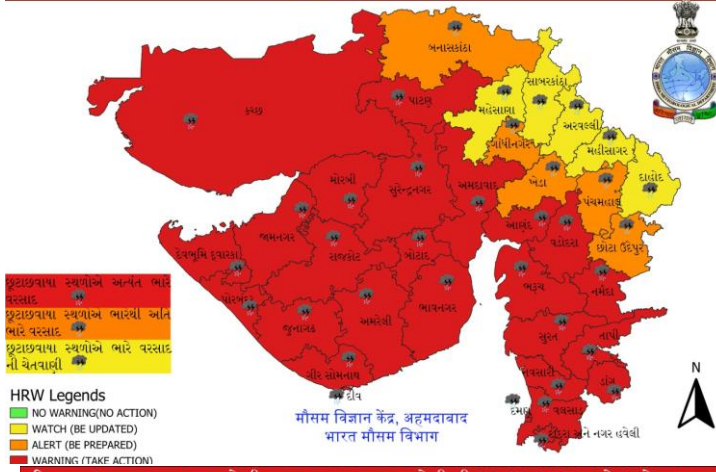
SUBDIVISIONWISE WEATHER WARNING FOR DAY 7
03-09-2024



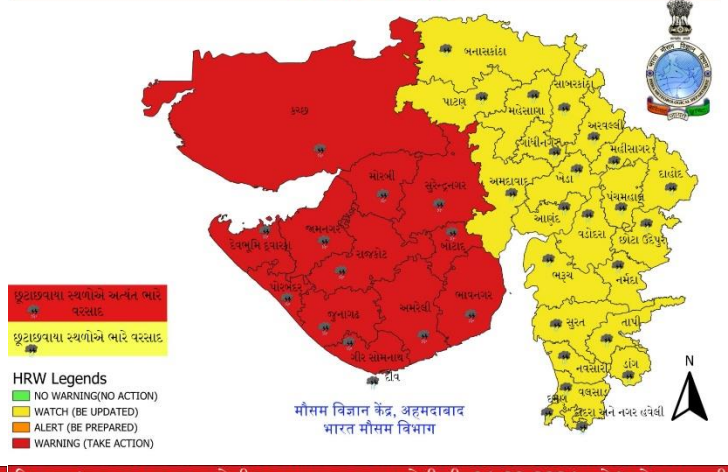
- Action may be taken based on ORANGE AND RED COLOUR warnings.
- Vulnerable regions likely urban and hilly areas action may be initiated for heavy rainfall warning.
- As the lead period increases forecast accuracy decreases.

District wise Warning Graphics

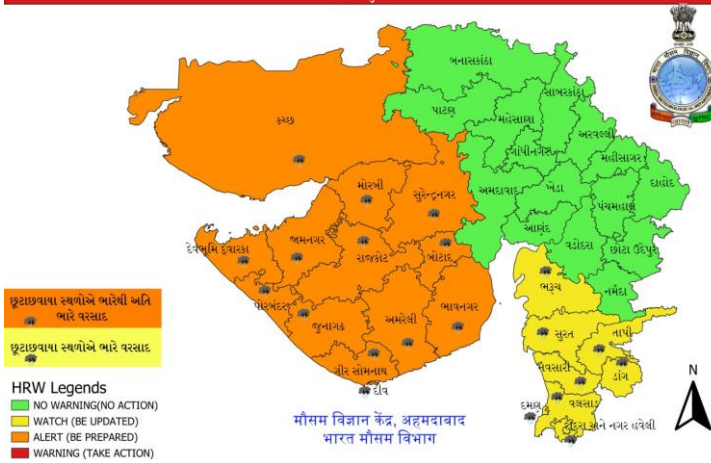
દિવસ - 1 ગુજરાત રાજ્ય અને દીવ, દમણ, દાદરા નગર હવેલી ની 28-08-2024 માટે
'ભારે વરસાદ ની ચેતવણી'



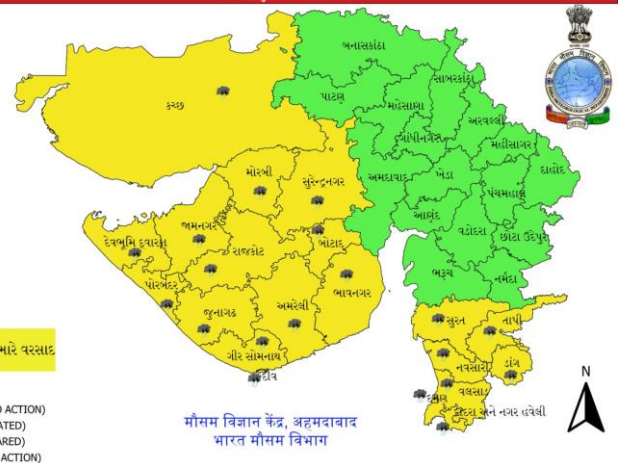
દિવસ - 2 ગુજરાત રાજ્ય અને દીવ, દમણ દાદરા નગર હવેલી ની 29-08-2024 માટે
'ભારે વરસાદ ની ચેતવણી'



દિવસ - 3 ગુજરાત રાજ્ય અને દીવ, દમણ દાદરા નગર હવેલી ની 30-08-2024 માટે 'ભારે વરસાદ ની
ચેતવણી'



દિવસ - 4 ગુજરાત રાજ્ય અને દીવ, દમણ દાદરા નગર હવેલી ની 31-08-2024 માટે 'ભારે વરસાદ ની
ચેતવણી'



Impact due to

- ✓ **Isolated extremely heavy rainfall also very likely** over Saurashtra & Kutch on 28th & 29th August with isolated **exceptionally heavy rainfall** over Saurashtra & Kutch today; Telangana on 30th & 31st August. Odisha on 30th August.
- ✓ **Very heavy rainfall** at isolated over Uttarakhand on 28th; Coastal Karnataka during 29th – 31st; South Interior Karnataka on 29th & 30th; Kerala & Mahe on 30th; Coastal Andhra Pradesh & Yanam, Chhattisgarh on 30th & 31st; Telangana on 01st September; Andaman & Nicobar Islands, Mizoram on 28th; Odisha on 29th -30th August; Vidarbha on 31st; Gujarat Region on 28th August, 01st & 02nd September; Saurashtra & Kutch on 30th; Konkan & Goa, Madhya Maharashtra, Southeast Rajasthan on 02nd & 03rd September.
- ✓ **Moderate flash flood** risk very likely over few watersheds & neighbourhoods of Saurashtra & Kutch & Gujarat Region on 28th & 29th August. **(ANNEXURE V)**

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

- ✓ Fishermen are advised not to venture into Northeast & adjoining Eastcentral Arabian Sea and along & off Gujarat & adjoining Pakistan and north Maharashtra Coasts till 30th August.
- ✓ 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 Gujarat State, Konkan & Goa, Madhya Maharashtra, Uttarakhand, Uttar Pradesh, Andaman & Nicobar Islands Odisha, Jharkhand and Karnataka.
- Make provision for draining out excess water from standing crop fields and fruit orchards to avoid water stagnation in Jammu & Kashmir, Punjab, Haryana, Madhya Pradesh Chhattisgarh, Kerala and Coastal Andhra Pradesh.
- Drain out excess water from kharif rice, groundnut, sesame, soybean, ginger, turmeric and vegetables to prevent water logging in Mizoram; from pigeon pea, soybean, cotton and sesame crop fields in Saurashtra & Kutch; from rice, castor, cotton, pearl millet, groundnut, sesame and maize fields in Gujarat.
- Due to prolonged heavy rainfall, transplanted Aman rice and vegetable crops in low-lying areas of Tripura are submerged, with young rice seedlings unlikely to recover. It is recommended to procure short-duration rice varieties for re-sowing after the cessation of rains, or alternatively, prepare in advance for winter vegetable cultivation.
- Provide mechanical support to horticultural crops & staking to vegetables.

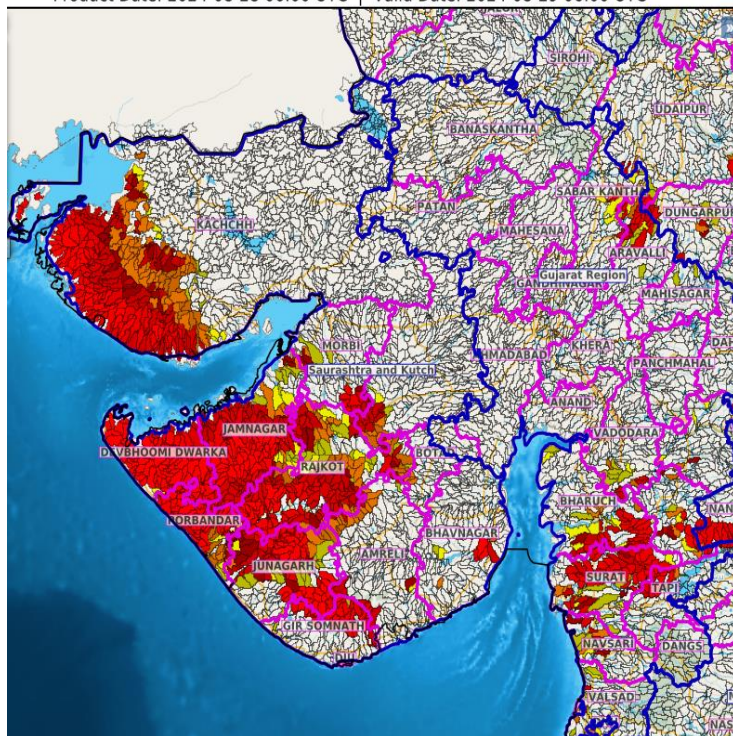
Flash Flood Guidance:**24 hours Outlook for the Flash Flood Risk (FFR) till 1130 IST of 29-08-2024:**

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

Gujarat Region - Daman, Aravalli, Bharuch, Chhota Udepur, Mahisagar, Narmada, Navsari, Sabar Kantha, Surat, Tapi, Vadodara and Valsad districts.
Saurashtra & Kutch - Amreli, Bhavnagar, Botad, Devbhoomi Dwarka, Diu, Gir Somnath, Jamnagar, Junagarh, Porbandar, Rajkot, Surendranagar, Morbi and Kachchh 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.

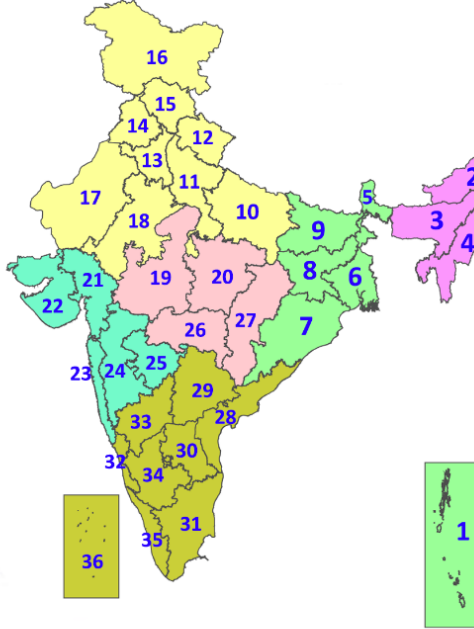
Product: WRF FFR | Timescale: 24-hr | Region: "REGIONAL"
 Product Date: 2024-08-28 06:00 UTC | Valid Date: 2024-08-29 06:00 UTC

**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°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)

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