

Government of India Ministry of Earth Sciences India Meteorological Department



Press Release Date: 13th June, 2024 Time of Issue: 1330 hours IST

Subject:

- i. Heavy to very heavy rainfall with isolated extremely heavy falls very likely to continue over Sub-Himalayan West Bengal, Sikkim and Northeast India during next 4-5 days.
- ii. Heat wave to severe heat wave conditions likely to continue over northern parts of India during next 4-5 days.

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

- Yesterday, Heat wave to severe heat wave conditions prevailed in most parts of West Uttar Pradesh; in many parts of Punjab, Haryana-Chandigarh-Delhi, East Uttar Pradesh; in isolated pockets of Bihar, Jharkhand, Odisha and Gangetic West Bengal; Heat wave conditions in some parts of Uttarakhand, northwest Rajasthan; in isolated pockets of Jammu division, Himachal Pradesh, northeast Rajasthan, northeast Madhya Pradesh and north Chhattisgarh.
- Yesterday, Warm night conditions observed in isolated pockets of northwest Rajasthan and West Uttar Pradesh.
- Yesterday, Maximum temperatures were in the range of 45-47°C over some parts of west Jharkhand, south Uttar Pradesh, Haryana-Chandigarh-Delhi, Punjab, north Rajasthan.
- Yesterday, the highest maximum temperature of 47.5°C was reported at Kanpur (East Uttar Pradesh) over the country.
- Heavy to very heavy rainfall with extremely heavy falls observed at isolated places over Meghalaya, Sikkim; Heavy to very heavy rainfall at isolated places over Sub-Himalayan West Bengal; heavy rainfall at isolated places over Assam, Konkan & Goa, Madhya Maharashtra, West Madhya Pradesh, North Interior Karnataka and Telangana.
- *Gusty winds/squally winds* data reported over the country is attached in Annexure II.

Advance of Southwest Monsoon:

- ✤ The Northern Limit of Monsoon continues to pass through 20.5°N/60°E, 20.5°N/63°E, 20.5°N/70°E, Navsari, Jalgaon, Amravati, Chandrapur, Bijapur, Sukma, Malkangiri, Vizianagaram, 19.5°N/88°E, 21.5°N/89.5°E, 23°N/89.5°E and Islampur. (Annexure III)
- Conditions are favourable for further advance of Southwest Monsoon into some more parts of Maharashtra, Chhattisgarh, Odisha, Coastal Andhra Pradesh & northwest Bay of Bengal during next 3-4 days.

Weather Systems and Forecast & Warnings: (Annexure IV)

- A cyclonic circulation lies over northeast Assam & neighbourhood and an east-west trough runs from northwest Bihar to Nagaland in lower tropospheric levels. A north-south trough runs roughly along Long. 91°E to the north of Lat. 23°N in lower & middle tropospheric levels. Strong southwesterly/southerly winds are prevailing from Bay of Bengal to northeastern States in lower tropospheric levels. Under their influence:
 - Widespread light to moderate rainfall accompanied with thunderstorm, lightning & gusty winds (30-40 kmph) likely over Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura and Sub-Himalayan West Bengal & Sikkim during next 7 days.

- ✓ Isolated heavy to very heavy rainfall very likely over Sub-Himalayan West Bengal & Sikkim, Assam & Meghalaya, Arunachal Pradesh during next 5 days and isolated heavy rainfall over Nagaland during 14th-17th June, 2024.
- ✓ Isolated extremely heavy rainfall also likely over Sub-Himalayan West Bengal & Sikkim on 14th and over Meghalaya on 13th & during 15th-17th June, 2024.
- ✓ Isolated to scattered light to moderate rainfall accompanied with thunderstorm, lightning & gusty winds (30-40 kmph) very likely over Gangetic West Bengal, Bihar, Jharkhand, Odisha during next 5 days.
- ✓ Isolated **heavy rainfall** very likely over Odisha on 13th, 14th &17th June, 2024.
- Strong westerly winds are prevailing along the west coast of India. A trough runs from Telangana to central parts of Bay of Bengal in lower & middle tropospheric levels. Under their influence:
 - ✓ Scattered to fairly widespread light to moderate rainfall accompanied with thunderstorm, lightning & gusty winds (40-50 kmph) likely over Konkan & Goa during next 5 days and over Madhya Maharashtra & Marathwada on 13th June, 2024.
 - ✓ Fairly widespread to widespread light to moderate rainfall accompanied with thunderstorm, lightning & gusty winds (30-40 kmph) likely over Karnataka, Kerala & Mahe, Lakshadweep, Andaman & Nicobar Islands; isolated to scattered light to moderate rainfall over Coastal Andhra Pradesh & Yanam, Rayalaseema, Telangana, Tamil Nadu, Puducherry & Karaikal during next 5 days.
 - ✓ Isolated heavy rainfall very likely over Kerala & Mahe on 16th & 17th; Coastal & North Interior Karnataka and Konkan & Goa on 13th June, 2024.
- A cyclonic circulation lies over southwest Rajasthan & neighbourhood in lowest & middle tropospheric levels. Under its influence; light to moderate isolated to scattered rainfall with thunderstorm, lightning & gusty winds (40-60 kmph) very likely over Madhya Pradesh, Vidarbha, Chhattisgarh during next 5 days and over Rajasthan during next 3 days.
- A fresh feeble Western Disturbance as a trough in middle tropospheric westerlies with its axis at 5.8 km above mean sea level runs roughly along Long. 72°E to the north of Lat. 32°N. Under its influence; light to moderate isolated rainfall with **thunderstorm**, lightning very likely over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, Uttarakhand, Rajasthan on 13th & 14th June and Punjab, Haryana on 14th June, 2024.

Maximum temperature forecast for next 5 days:

• No significant change in maximum temperatures very likely over most parts of the country.

Heat Wave and Warm Night warning for next 5 days:

- Heat wave to severe heat wave conditions very likely in some/many parts of Uttar Pradesh during 13th-17th; Gangetic West Bengal, Bihar, Jharkhand during 13th-15th and isolated heat wave over Jharkhand on 16th June, 2024.
- Heat wave conditions very likely in some pockets of Punjab and Haryana-Chandigarh-Delhi during next 5 days with severe heat wave conditions in isolated pockets on 13th, 16th & 17th June.
- Heat wave conditions very likely in isolated to some pockets of Himachal Pradesh, Jammu Division, northeast Madhya Pradesh during 13th-16th; northeast Rajasthan on 13th; northwest Madhya Pradesh on 14th & 15th; Uttarakhand, north Chhattisgarh and Odisha on 13th & 14th and northwest Rajasthan on 13th & 17th June, 2024.
- Warm night conditions very likely in isolated pockets of northeast Madhya Pradesh and West Uttar Pradesh on 13th & 14th June, 2024.

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

Realised Rainfall during past 24 hours till 0830 hours IST of today:

Light to moderate rainfall accompanied with thunderstorm & lightning observed at most places over Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Sub-Himalayan West Bengal & Sikkim, Kerala & Mahe, Coastal Karnataka; at many places over Arunachal Pradesh, Andaman & Nicobar Islands, Konkan & Goa, Interior Karnataka, Rayalaseema; at a few places over Gangetic West Bengal, Madhya Maharashtra, Lakshadweep and at isolated places over Bihar, Jharkhand, Odisha, Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Uttarakhand, Rajasthan, Madhya Pradesh, Chhattisgarh, Vidarbha, Marathwada, Gujarat Region, Coastal Andhra Pradesh & Yanam, Telangana and Tamil Nadu, Puducherry & Karaikal.

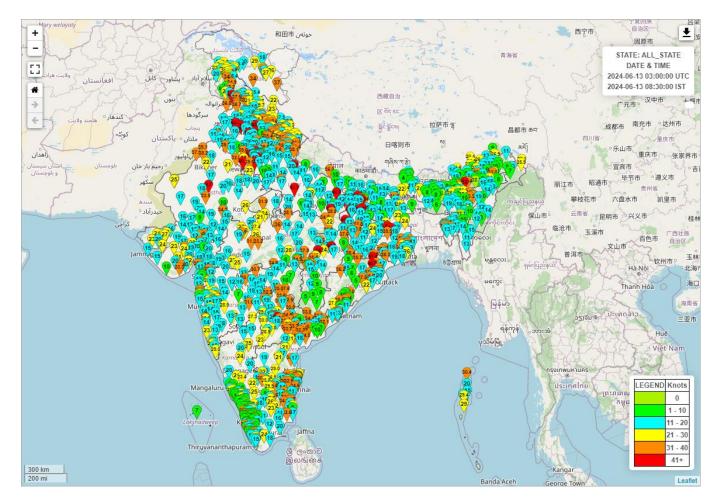
Significant amount of rainfall (in cm):

- Assam & Meghalaya: Sohra ARG (dist. East Khasi Hills) 37, Cherrapunji (dist East Khasi Hills) 35, Cherrapunji(rkm) (dist East Khasi Hills) 29, Mawsynram (dist East Khasi Hills) 26, Mawkyrwat (dist South West Khasi Hills) 13, Mawkyrwat_arg (dist South West Khasi Hills) 13, Shella (dist East Khasi Hills) 12, Jorhat (dist Jorhat) 9, Ranganadi Nt Xing (dist Lakhimpur) 9, Jowai_aws (dist West Jaintia Hills) 9, Bilasipara Arg (dist Dhubri) 9, D/mohanbari Aero (dist Dibrugarh) 8, Kokrajhar (dist Kokrajhar) 8, Mohanbari_aws (dist Dibrugarh) 8, Naharkatia Arg (dist Dibrugarh) 7, Mawphlang (dist East Khasi Hills) 7;
- Sub-Himalayan West Bengal & Sikkim: Mangan (dist Mangan) 22, Rongo (dist Kalimpong) 15, Jhallong (dist Kalimpong) 15, Samsing (dist Darjeeling) 13, Algarah (dist Kalimpong) 13, Jalpaiguri (dist Jalpaiguri) 12, Gajoldoba (dist Jalpaiguri) 9, Chengmari/diana (dist Jalpaiguri) 9, Hasimara (dist Alipurduar) 9, Kumargram (dist Alipurduar) 7;
- Konkan & Goa: Ratnagiri Imd Obsy (dist Ratnagiri) 7, Guhagarh (dist Ratnagiri) 7, Sangameshwar Devrukh (dist Ratnagiri) 7, Panjim Imd Obsy (dist North Goa) 6, Mormugao Pmo Imd (dist South Goa) 6;
- Madhya Maharashtra: Daund (dist Pune) 7, Gaganbawada (dist Kolhapur) 6, Ahmednagar Imd Pt (dist Ahmednagar) 6, Shrirampur (dist Ahmednagar) 5;
- North Interior Karnataka: Narayanpur Hms (dist Yadgir) 7, Munirabad (dist Koppal) 7, Kushtagi (dist Koppal) 6, Nalwatwad (dist Vijayapura) 5, Lingasugur (dist Raichur) 5, Bilgi (irri.) (dist Bagalkote) 5, Sindhanur (dist Raichur) 5;
- Telangana: Kampasagar(a) (dist Nalgonda) 7, Waddepalli (dist Jogulamba Gadwal) 6, Nidamanur (dist Nalgonda) 5;
- West Madhya Pradesh: Sarangpur (dist Rajgarh) 7, Dewas-aws (dist Dewas) 6, Biaora (dist Rajgarh)
 6;
- Tamil Nadu, Puducherry & Karaikal: Avadi (dist Tiruvallur) 6, Zone 02 Manali (dist Chennai), Zone 06 T.V.K Nagar (dist Chennai) 5 each.

Reported maximum wind speed (in kmph) during past 24 hours till 0830 hours IST of today:

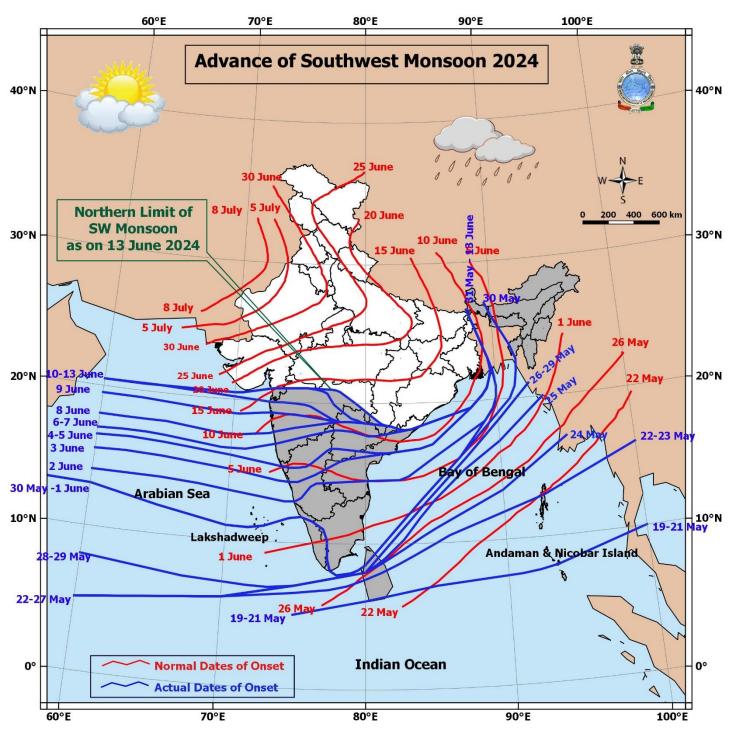
- Sangetic West Bengal: Asansol-76, Hooghly-72, Howrah-57, South 24 Parganas-48
- Assam: Sonitpur-96, Sivasagar-39
- Chhattisgarh: Mungeli-81, Durg-67, Bemetara-48, Bilaspur-44
- Maharashtra: Nanded-72, Jalgaon-46, Pune-41
- Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad: Leh-68, Shopian-63, Kargil-63, Jammu-42
- Madhya Pradesh: Sagar-67, Seoni-52, Agar-50, Sehore-48, Ashoknagar-44, Shajapur-42
- Tamil Nadu: Ranipet-57, Chennai-54, Namakkal-48, Tiruvallur-46, Tirunelveli-44, Karur-42
- Haryana: Mewat-52, Mahendragarh-50
- Gujarat State: Ahmedabad-52, Kachchh-50, Botad-44, Jamnagar-44
- Rajasthan: Jaipur-52, Baran-48, Jaisalmer-46, Alwar-42, Bikaner-41
- Kerala & Mahe: Pathanamthitta-48, Thiruvananthapuram-44, Kottayam-41
- * Karnataka: Koppal-46, Chamarajanagar-46, Davanagere-44
- Himachal Pradesh: Kinnaur-42, Lahaul & Spiti-41
- Telangana: Nalgonda-40, Siddipet-39

Fig.: Gusty winds reported over the country (in knots, 1 Knot = 1.85 kmph) from 0830 hrs IST of 12.06.2024 to 0830 hrs IST of 13.06.2024



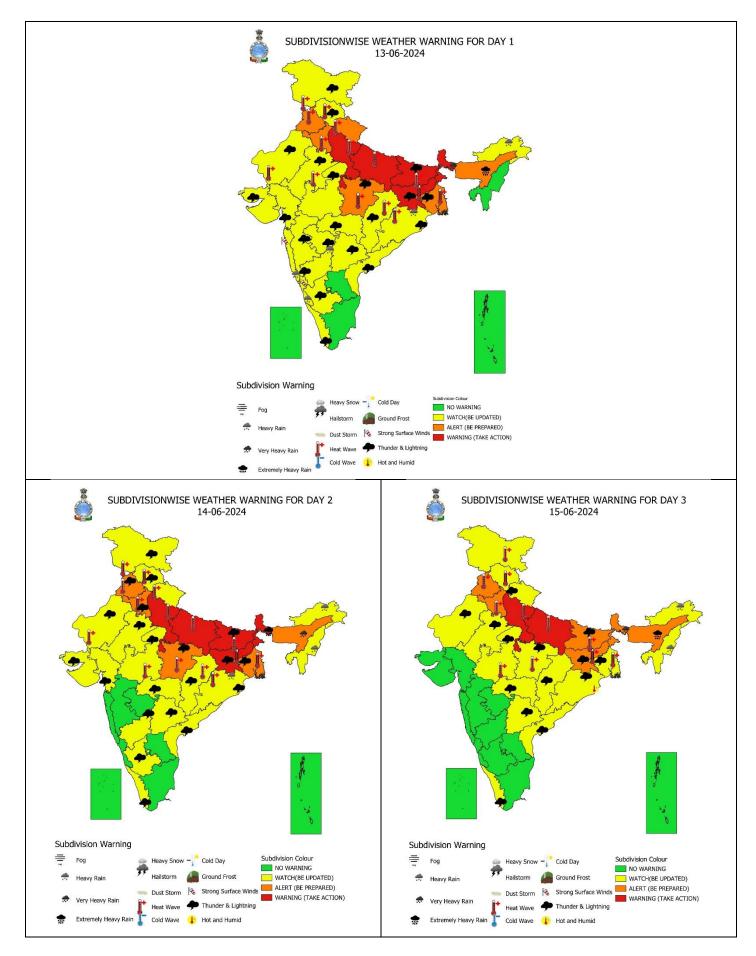
For more details, kindly refer: <u>http://aws.imd.gov.in:8091/</u>

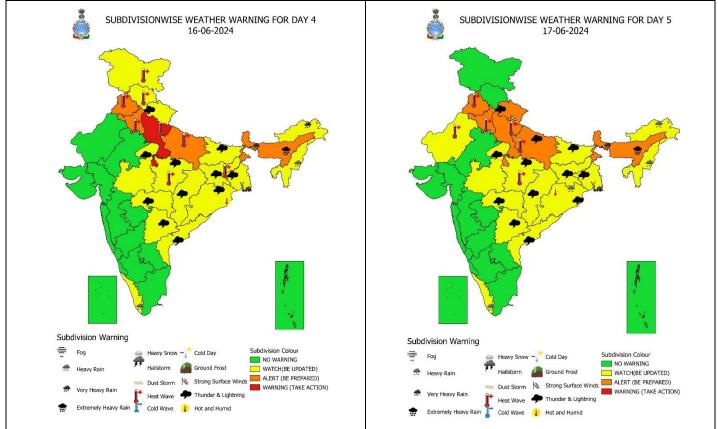
ANNEXURE III



Advance of Southwest Monsoon 2024

ANNEXURE IV





IMPACT & ACTION SUGGESTED due to Heat Wave Conditions:

Red Alert Areas: Bihar, Jharkhand on 13th & 14th; East Uttar Pradesh during 13th-15th; West Uttar Pradesh during 13th-16th;

Orange Alert Areas: Gangetic West Bengal on 13th & 14th; Bihar, Jharkhand on 15th; Haryana-Chandigarh-Delhi, Punjab during 13th-17th;

Yellow Alert Areas: Himachal Pradesh, Jammu-Division, northeast Madhya Pradesh during 13th-16th; Uttarakhand, north Chhattisgarh during 13th-14th; northwest Madhya Pradesh on 14th & 15th; northwest Rajasthan on 13th & 17th June, 2024.

Red alert Areas

- > Very high likelihood of developing heat illness and heat stroke in all ages.
- > Extreme care needed for vulnerable people.

Orange alert Areas:

- ➢ High temperature & increased likelihood of heat illness symptoms in people who are either exposed to sun for a prolonged period or doing heavy work.
- > High health concern for vulnerable people e.g. infants, elderly, people with chronic diseases.
- > Avoid heat exposure keep cool. Avoid dehydration.
- > Drink sufficient water- even if not thirsty.
- Use ORS, homemade drinks like lassi, torani (rice water), lemon water, buttermilk, etc. to keep yourself hydrated.

Yellow alert Areas:

- Moderate temperature & heat is tolerable for general public but moderate health concern likely for vulnerable people e.g. infants, elderly, people with chronic diseases.
- Avoid heat exposure.
- > Wear lightweight, light colour, loose, cotton clothes.
- Cover your head, use a cloth, hat or umbrella.

IMPACT & ACTION SUGGESTED due to very heavy/extremely heavy rainfall over Sub-Himalayan West Bengal & Sikkim, Assam & Meghalaya during 13th-17th June, 2024.

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 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/mudslips/landsinks/mudsinks.
- > 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

- > 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, Gusty winds, Hail Storms and Heat Wave likely over various parts of the country;

- Make provision for draining out excess water from crop fields to avoid water stagnation in Arunachal Pradesh, Assam & amp; Meghalaya, Nagaland, Sub Himalayan West Bengal & Sikkim, Konkan, Coastal Karnataka and North Interior Karnataka.
- Apply light and frequent irrigation to standing crops to avoid heat stress; provide mulching to conserve soil moisture and minimise evaporation in Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Punjab, Haryana, Uttar Pradesh, Rajasthan, North-East & North- West Madhya Pradesh, North Chhattisgarh, Bihar, Jharkhand, Odisha and Gangetic West Bengal.
- Provide mechanical support to horticultural crops & amp; staking to vegetables to prevent damage from gusty winds.

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; dist: District: NH: National Highway; KVK: Krishi Vigyan Kendra; DVC: Damodar Valley Corporation; PTO: Part Time Office.
- ***** 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.

	SPATIAL I	DISTRIBUT	ION (% o	f Stations reporting)
% Station	s Category	/	% Stations	Category
76-100	Widespread (WS/	Most Places)	26-50	Scattered (SCT/ A Few Places)
51-75	Fairly Widespred (FV	VS/ Many Places)	1-25	Isolated (ISOL)
≡,	iog 🍒	Heavy Snow -	Cold Day	Subdivision Colour
~ '	ज्यु मम	Hailstorm	Ground Frost	WATCH(BE UPDATED)
77 H	leavy Rain	Dust Storm 🔞	Strong Surface V	Vinds ALERT (BE PREPARED)
	/ery Heavy Rain	Heat Wave 🌩	Thunder & Lightr	ning
e E	Extremely Heavy Rain	Cold Wave	Hot and Humid	
		Probabilis	tic Forecas	it
		Terms Prol Unlikely Likely Very Likely Most Likely	bability of Occurren < 25 25 - 50 50 - 75 > 75	nce (%)

	(LEGENDS)				
	WARNING Probabilistic Forecast				
	WARNING (TAKE ACTION) Terms Probability of Occurrence (%)				
	ALERT (BE PREPARED) Unlikely <25 Likely 25 - 50				
	WATCH (BE UPDATED) Very Likely 50 - 75				
	NO WARNING (NO ACTION) Most Likely > 75				
	Heavy: 64.5 to 115.5 mm/cm *				
Rain/ Snow *	Very Heavy: 115.6 to 204.4 mm/cm* Extremely Heavy: > 204.4 mm/cm *				
	When maximum temperature of a station reaches ≥40° C for plains and ≥30° C for hilly regio (a) Based on Departure from normal				
	Heat Wave: Maximum Temperature Departure from normal 4.5° C to 6.4° C.				
8.	Severe Heat Wave: Maximum Temperature Departure from normal ≥6.5° C				
87	(b). Based on Actual maximum temperature				
Heat Wave	Heat Wave: When actual maximum temperature ≥45°C.				
	Severe Heat Wave: When actual maximum temperature ≥47°C				
	(c). Criteria for heat wave for coastal stations When maximum temperature departure is >4.5°C from normal. Heat Wave may be described provided maximum				
	temperature ≥37°C				
۹.	When maximum temperature remains 40°C				
Varm Night	Warm Night: When minimum temperature departure 4.5 °C to 6.4 °C.				
	Severe Warm Night: When minimum temperature departure >6.4 °C.				
	When minimum temperature of a station <10°C for plains and <0°C for billy regions				
	When minimum temperature of a station \leq 10°C for plains and \leq 0°C for hilly regions. (a). Based on departure				
	Cold Wave: Minimum Temperature Departure from normal -4.5 °C to -6.4 °C.				
Ω_	Severe Cold Wave: Minimum Temperature Departure from normal ≤ -6.5 °C				
	(b) Based on actual Minimum Temperature (for Plains only)				
Cold Wave	Cold Wave : When Minimum Temperature is ≤ 4.0 °C				
	Severe Cold Wave: When Minimum Temperature is ≤ 2.0 °C				
	(c) For Coastal Stations				
	When Minimum Temperature departure is ≤-4.5 °C & actual Minimum Temperature is ≤ 15 °C				
0	When minimum temperature of a station \leq 10°C for plains and \leq 0°C for hilly regions Based on departure				
_	Cold Day: Maximum Temperature Departure from normal -4.5 °C to -6.4 °C.				
Cold Day	Severe Cold Day: Maximum Temperature Departure from normal ≤ -6.5 °C				
	Phenomenon of small droplets suspended in air and the horizontal visibility < 1km Moderate Fog: When the visibility between 500-200 metres				
Ø	Dense Fog: when the visibility between 50-200 metres				
Fog	Very Dense Fog: when the visibility < 50 metres				
-					
44	Sudden electrical discharges manifested by a flash of light (Lightning) and a sharp rumbling sound (thunder)				
nunderstorm	sound (munder)				
. 🐴					
No.	An ensemble of particles of dust or sand energetically lifted to great heights by a strong and				
Dust/Sand Storm	turbulent wind.				
	les devesite en evenuel				
55	Ice deposits on ground				
Frost	Air temperature ≤4°C (over Plains)				
	A strong wind that rises suddenly, lasts for atleast 1 minute.				
	A strong wind that rises suddenly, lasts for atleast 1 minute. Moderate: Wind speed 52-61 kmph				
	Severe: Wind speed 62-87 kmph				
₹₹	Severe: Wind speed 62-87 kmph				
F Squall	Severe: Wind speed 62-87 kmph Very Severe: Wind speed >87 kmph				
F Squall	Very Severe: Wind speed >87 kmph				
FF Squall					
66	Very Severe: Wind speed >87 kmph 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				
Squall Sea State	Very Severe: Wind speed >87 kmph 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				
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(Very Severe: Wind speed >87 kmph 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				
(Very Severe: Wind speed >87 kmph 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 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)				
(Very Severe: Wind speed >87 kmph 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 Cyclonic Storm: Wind speed 62-87 kmph (34-47 knots) Severe Cyclonic Storm: Wind speed 88-117 kmph (48-63 knots)				