

# Government of India Ministry of Earth Sciences India Meteorological Department



Press Release Date: 21<sup>st</sup> October, 2025 Time of Issue: 1330 hours IST

Subject: (i) A Well-marked Low Pressure area lay over southeast Arabian Sea and another Well-marked Low Pressure area lay over southwest Bay of Bengal.

(ii) Heavy to very heavy rainfall (7-20cm) over south peninsular India during  $21^{st}$ - $24^{th}$  with extremely heavy falls ( $\geq 21$ cm) over Tamil Nadu on  $21^{st}$  &  $22^{nd}$  and over Kerala on  $22^{nd}$  October, 2025.

#### Realised weather during past 24 hours ending at 0830 hours IST of today, the 21st October, 2025:

- Heavy to very heavy rainfall (7-20 cm) has been recorded at isolated places over Tamil Nadu, Puducherry.
- Heavy rainfall (7- 11 cm) has been recorded at isolated places over Kerala, Rayalaseema, Coastal & South Interior Karnataka.

For more details of realised weather, kindly refer ANNEXURE I.

#### Weather Systems, Forecast and Warnings (refer to ANNEXURE II & III):

- ❖ Yesterday's **Well marked Low Pressure** area over southeast Arabian Sea persisted over the same region at 0830 hrs IST of today, 21st October 2025. It is likely to move slowly westwards and intensify into a depression during next 24 hours.
- ❖ Under the influence of an **upper air cyclonic circulation** over southeast and adjoining southwest Bay of Bengal, a low-pressure area has formed over southwest Bay of Bengal at 0530 hrs IST of today. It became a **Well-marked low pressure area** over the same region at 0830 hrs IST of today, the 21<sup>st</sup> October 2025. It is likely to move west-northwestwards and intensify into a depression over southwest & adjoining Westcentral Bay of Bengal off north Tamil Nadu & south Andhra Pradesh coasts by afternoon of tomorrow, the 22<sup>nd</sup> October 2025. Thereafter, it is likely to continue to move west-northwestwards towards north Tamil Nadu, Puducherry & south Andhra Pradesh coasts and intensify further during subsequent 24 hours.
- ❖ An **upper air cyclonic circulation** lay over south Andaman Sea & neighbourhood between lower and middle tropospheric level.
- ❖ A **Western Disturbance** as a trough in middle and upper tropospheric westerlies runs roughly along Long. 68°E to the north of Lat. 25°N.

Under the influence of these systems, the following weather is likely:

## **South Peninsular India:**

- Light to moderate rainfall/thunderstorm at many/some places with isolated heavy rainfall over Tamil Nadu, Puducherry, Coastal & South Interior Karnataka during 21st-24th; Kerala, Coastal Andhra Pradesh & Yanam, Rayalaseema during 21st-27th; North Interior Karnataka on 23rd & 24th; Telangana during 23rd-25th with very heavy rainfall over Coastal Andhra Pradesh & Yanam, Rayalaseema during 21st-23rd; South Interior Karnataka on 21st & 22rd, Tamil Nadu on 23rd, Kerala on 21st & 23rd and Coastal Karnataka on 22rd & 23rd October.
- **❖** Extremely heavy rainfall (≥ 21cm) very likely over Tamil Nadu on 21st & 22nd and Kerala on 22nd October.
- ❖ Thunderstorm with lightning likely over the region during next 5 days.

#### East & Central India:

- Light to moderate rain/thunderstorm at many places with isolated **heavy rainfall** over Andaman & Nicobar Islands during 21st-27th and Odisha on 25th & 26th October.
- ❖ Thunderstorm with lightning and gusty winds (speed reaching 30-50 kmph) likely over Andaman & Nicobar Islands during 21st-27th; Odisha during 21st-25th and with lightning over Madhya Pradesh, Vidarbha and Chhattisgarh during 21st-25th October.

#### West India:

❖ Thunderstorm with lightning likely over Konkan & Goa, Marathawada and Madhya Maharashtra during next 5 days.

#### North India:

❖ Thunderstorm with lightning likely over Uttarakhand on 22<sup>nd</sup> and Himachal Pradesh on 21<sup>st</sup> & 22<sup>nd</sup> October.

# Warning for Arabian Sea, Lakshadweep & Comorin Area and along & off Karnataka, Kerala and adjoining Tamil Nadu coasts

#### Wind warning:

Squally weather with wind speed reaching 35-45 gusting to 55 kmph is likely to prevail over Southeast and adjoining Southwest & Eastcentral Arabian Sea, Lakshadweep & Comorin Area and along & off Karnataka, Kerala and adjoining South Tamil Nadu coasts till 24th October. It is likely to increase becoming squally wind with speed reaching 40-50 kmph gusting to 60 kmph over Southeast and adjoining Southwest & Eastcentral Arabian Sea from evening of today, the 21st October, over **central parts of south Arabian Sea and adjoining central Arabian Sea on 22nd & 23** rd **October.** 

#### Sea condition:

Sea condition is moderate to rough over Southeast and adjoining southwest & Eastcentral Arabian Sea, Lakshadweep & Comorin Area and along & off Karnataka, Kerala and adjoining South Tamil Nadu coasts. It would become rough to very rough over Southeast & adjoining southwest & Eastcentral Arabian Sea from evening of today, the 21st October, over central parts of south Arabian Sea and adjoining central Arabian Sea on 22nd & 23rd October.

#### Fishermen warnings:

Fishermen are advised not to venture into Southeast & adjoining Eastcentral Arabian Sea, Lakshadweep & Comorin Area and along & off Karnataka, Kerala and adjoining South Tamil Nadu coasts till 21st October and over central parts of south Arabian Sea and adjoining central Arabian Sea during 22nd to 23 rd October 2025.

#### Warning for Areas of Bay of Bengal and adjoining South Andaman Sea

#### Wind warning:

Squally wind with speed reaching 40-50 kmph gusting to 60 kmph likely is prevailing over southwest Bay of Bengal and adjoining areas of southeast & central Bay of Bengal. It is likely to increase becoming 50-60 kmph gusting to 70 kmph over Southwest and adjoining Westcentral Bay of Bengal during 22nd to 24th October. Squally wind with speed reaching 35-45 kmph gusting to 55 kmph is prevailing along & off Tamil Nadu & south Andhra Pradesh coasts. It is likely to increase becoming 40-50 kmph gusting to 60 kmph on 22nd and 50-60 kmph gusting to 70 kmph during 23rd to 24th October. Squally weather with wind speed reaching 35-45 gusting to 55 kmph is likely to prevail over Andaman Sea and remaining parts of South Bay of Bengal till 25th October.

# Sea conditions:

Sea condition is rough over southwest Bay of Bengal and adjoining areas of southeast & central Bay of Bengal and likely to become rough to very rough thereafter till 24th October. Sea condition is rough along & off Tamil Nadu & south Andhra Pradesh coasts and thereafter likely to become rough to very rough till 23rd October. Sea condition is likely to be moderate to rough over Andaman Sea and remaining parts of South Bay of Bengal during till 25th October.

#### **Fishermen Warning:**

Fishermen are advised not to venture into South and adjoining central Bay of Bengal till  $24^{th}$  October. Those fishermen out at sea should return to coast.

# ii. Weather conditions and forecast over Delhi/NCR during 21st to 24th October, 2025 (ANNEXURE IV)

#### For more details, kindly refer National Weather Bulletin:

https://mausam.imd.gov.in/responsive/all\_india\_forcast\_bulletin.php

For District wise warnings refer: <a href="https://mausam.imd.gov.in/responsive/districtWiseWarningGIS.php">https://mausam.imd.gov.in/responsive/districtWiseWarningGIS.php</a>

For Fishermen warning refer <a href="https://rsmcnewdelhi.imd.gov.in/fishermen-warning.php">https://rsmcnewdelhi.imd.gov.in/fishermen-warning.php</a>

#### Rainfall recorded (in cm) during past 24 hours till 0830 hours IST of today, the 21st October (≥ 7cm):

Tamil Nadu, Puducherry & Karaikal: Thangachimadam (dist Ramanathapuram) 17; Pamban (dist Ramanathapuram) 15; Mandapam (dist Ramanathapuram) 14; Varattupallam (dist Erode) 13; Chidambaram (dist Cuddalore), Chidambaram AWS (dist Cuddalore), Annamalai Nagar (dist Cuddalore), Velankanni (dist Nagapattinam) 10 Each; Nagapattinam (dist Nagapattinam), Karaikal (dist Karaikal), Rameswaram (dist Ramanathapuram), Tirupoondi (dist Nagapattinam) 9 Each; Thalaignayer (dist Nagapattinam), Ayyampettai (dist Thanjavur), Sholinganallur (dist Chennai), Vettikadu (dist Thanjavur) 8 Each; Parangipettai (dist Cuddalore), Mayiladuthurai (dist Mayiladuthurai), Sirkali (dist Mayiladuthurai), Tiruvarur (dist Tiruvarur) 7 Each;

**Kerala & Mahe**: Neyyattinkara (dist Thiruvananthapuram) 11; Quilandi (dist Kozhikode) 9; Irinjalakuda (dist Thrissur), Piravam (dist Ernakulam) 7 Each;

Rayalaseema: Sullurpeta (dist Tirupati) 7.

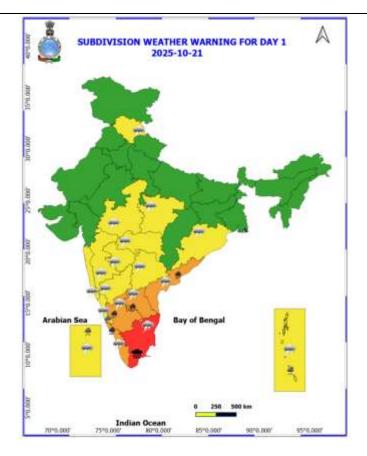
Coastal Karnataka: Dakshina Kannada\_Bantwal\_Kavalamuduru 8

South Interior Karnataka: Hassan\_Alur 7, Chikkamagaluru\_Kadur\_Kadur(Rural) 7

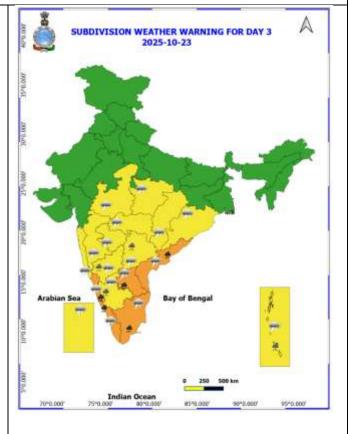
#### **ANNEXURE II**

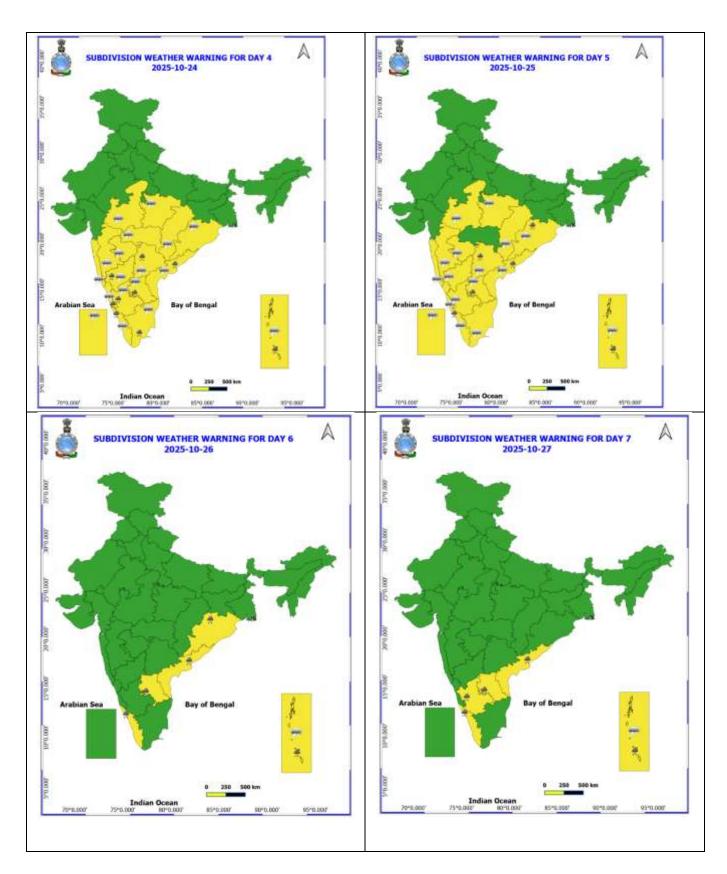
	Table										
7 Days Rainfall Forecast											
S.No.	Subdivision	21- Oct	22- Oct	23- Oct	24- Oct	25- Oct	26- Oct	27- Oc			
	Cubalvision		Day 2	Day 3	Day 4	Day 5	Day 6	Day 7			
1	ANDAMAN & NICOBAR ISLANDS	FWS	FWS	FWS	FWS	FWS					
2	ARUNACHAL PRADESH	DRY	DRY	DRY	ISOL	SCT	SCT	ISO			
3	ASSAM & MEHGHALAYA	DRY	DRY	ISOL	ISOL	ISOL	ISOL	ISO			
4	NAGALAND, MANIPUR, MIZORAM AND TRIPURA	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL	ISO			
5	SUB HIMALAYAN WEST BENGAL & SIKKIM	DRY	DRY	ISOL	ISOL	ISOL	ISOL	ISO			
6	GANGETIC WEST BENGAL	DRY	DRY	DRY	ISOL	ISOL	ISOL	SC			
7	ODISHA	ISOL	ISOL	SCT	FWS	FWS	FWS	FW:			
8	JHARKHAND	DRY	DRY	DRY	ISOL	SCT	SCT	ISO			
9	BIHAR	DRY	DRY	DRY	DRY	ISOL	ISOL	ISO			
10	EAST UTTAR PRADESH	DRY	DRY	DRY	DRY	DRY	DRY	DR'			
11	WEST UTTAR PRADESH	ISOL	ISOL	DRY	DRY	DRY	DRY	DR			
12	UTTARAKHAND	ISOL			DRY			DR			
13	HARYANA, CHANDIGARH & DELHI	DRY			DRY			DR'			
14	PUNJAB	DRY			DRY	DRY	DRY	DR			
	HIMACHAL PRADESH	SCT		ISOL	DRY		DRY	DR'			
	JAMMU AND KASHMIR AND LADAKH	ISOL					DRY	DR'			
17		ISOL	DRY				DRY	DR			
18	EAST RAJASTHAN	ISOL						ISO			
	WEST MADHYA PRADESH	ISOL						ISO			
20	EAST MADHYA PRADESH	ISOL			ISOL			ISO			
21		ISOL			ISOL	A CONTRACTOR OF THE PARTY OF TH	ISOL	ISO			
22	SAURASHTRA & KUTCH	DRY	and the second second				ISOL	ISO			
23	KONKAN & GOA	SCT	THE RESERVE OF THE PERSON NAMED IN		SCT	THE RESERVE AND ADDRESS OF THE PERSON NAMED IN COLUMN 2 IN COLUMN	ISOL	ISO			
24		ISOL					ISOL	ISO			
25	MARATHWADA	ISOL			ISOL	ISOL	ISOL	ISO			
26	VIDARBHA	ISOL			Name and Address of the Owner,		ISOL	ISO			
27	CHHATTISGARH	ISOL	-								
	COASTAL ANDHRA PRADESH	FWS									
	TELANGANA	SCT									
	RAYALASEEMA	FWS					FWS				
31	TAMILNADU & PUDUCHERRY	FWS						ISO			
32		1	We	W	No.	Wi	THE RES	T W			
	NORTH INTERIOR KARNATAKA	SCT	SCT	FWS	SCT	SCT	SCT	SC			
	SOUTH INTERIOR KARNATAKA	FWS			296	18/10	3000	W			
	KERALA AND MAHE	948	796	WS	143	VVS	WE	W			
-	LAKSHADWEEP	27.5	WS	VA.	740	1,179	WS	Wi			

• As the lead period increases forecast accuracy decrease.









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

 $Detailed district wise Multi Hazard weather warning for next five days available at \\ \underline{https://mausam.imd.gov.in/responsive/districtWiseWarning GIS.php}$ 

#### Weather forecast over Delhi/NCR during 21th to 24th October 2025

#### Past Weather:

There has been rise in the minimum temperature up to  $1-2^{\circ}\text{C}$  and no large change in maximum temperature over Delhi/NCR during the past 24 hours. The maximum and minimum temperatures over Delhi were around 31 to 33°C and 20 to 22°C respectively. The minimum temperature was above normal up to  $2-4^{\circ}\text{C}$  and maximum temperature was near normal. Moderate fog was reported at Safdarjung airport. Safdarjung airport recorded the lowest visibility 400 m at 0730 hours on 21.10.2025 which thereafter improved becoming 500 m at 0800 hours IST. Palam airport recorded the lowest visibility 600 m from 0330 hours to 0500 hours IST which thereafter improved becoming 700 m at 0530 hours IST on 21.10.2025. Mainly clear sky conditions with predominant surface wind from the northeast direction with wind speeds up to 08 kmph prevailed during the past 24 hours. Partly cloudy sky conditions with haze/mist associated with calm wind as gradually increase becoming up to 08 kmph from the southeast direction prevailed over the region in the forenoon today.

#### Weather Forecast:

**21.10.2025:** Partly cloudy sky with mist/haze from noon onwards. The maximum and minimum temperatures over Delhi are likely to be in the range of 31 to 33°C. The maximum temperature will be near normal. The predominant surface wind will likely to be from the east direction with a wind speed of up to 00 -05 kmph during afternoon hours. The wind speed will decrease becoming less than 05 kmph from the east direction during the evening and night.

**22.10.2025:** Smog/shallow fog is likely at many places with moderate fog at isolated places during morning hours becoming partly cloudy sky with mist/haze from noon onwards. The maximum and minimum temperatures over Delhi are likely to be in the range of 32 to  $34^{\circ}$ C and 19 to  $21^{\circ}$ C respectively. The minimum temperature will be above normal up to  $1-3^{\circ}$ C and the maximum temperature will be near normal. The predominant surface wind will likely to be from the west direction with a wind speed of up to 05-10 kmph during morning hours. The wind speed will gradually increase becoming less than 12 kmph from the northwest direction in the afternoon. The wind speed will decrease becoming less than 08 kmph from the north direction during the evening and night.

**23.10.2025:** Smog/shallow to moderate fog is likely at many places during morning hours becoming mainly clear sky with mist/haze from noon onwards. The maximum and minimum temperatures over Delhi are likely to be in the range of 31 to 33°C and 18 to 20°C respectively. The minimum temperature will be above normal up to 1 - 2°C and the maximum temperature will be near normal. The predominant surface wind will likely to be from the northwest direction with a wind speed of up to 00 - 05 kmph during morning hours. The wind speed will increase becoming less than 12 kmph from the northwest direction in the afternoon. The wind speed will gradually decrease becoming less than 10 kmph from the north direction during the evening and night.

**24.10.2025:** Smog/shallow fog is likely at many places during morning hours becoming mainly clear sky with mist/haze from noon onwards. The maximum and minimum temperatures over Delhi are likely to be in the range of 32 to 34°C and 18 to 20°C respectively. The minimum temperature will be above normal up to 1 - 2°C and the maximum temperature will be near normal. The predominant surface wind will likely to be from the north direction with a wind speed of up to 00 - 05 kmph during morning hours. The wind speed will increase becoming less than 06 kmph from the north direction in the afternoon.

#### Impact & Action Suggested due to

- **❖** Extremely heavy rainfall very likely over Tamil Nadu on 21st & 22nd and Kerala on 22nd October.
- ♦ Very heavy rainfall over Tamil Nadu, Kerala during 21st 24th; Coastal Karnataka on 22nd & 23rd; South Interior Karnataka on 21st & 22nd; Coastal Andhra Pradesh & Yanam and Rayalaseema during 21st-23rd October.

## **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 mainly over Bihar, Jharkhand and West Bengal (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 likely impact of Heavy / Heavy to Very Heavy Rainfall

- In Tamil Nadu, store the harvested produce of rice and groundnut in safer places. Drain out excess water from fields of rice, cotton, black gram, maize, tapioca and vegetables and plantations of coconut, banana and black pepper to avoid water stagnation.
- ➤ In Kerala, keep the harvested produce of rice in safer places. Drain out excess water from fields of rice, vegetables and plantations of banana, coconut, arecanut, cardamom and black pepper.
- ➤ In Andhra Pradesh, harvest matured groundnut crop and matured cobs of maize during fair weather / non-rainy period only and store the produce in safe places. Provide adequate drainage facilities in fields of rice, maize, pigeon pea, black gram, green gram, groundnut, turmeric, ginger, vegetables and plantations of banana, coconut and arecanut.
- In Coastal Karnataka, drain out excess water from fields of rice and plantations of coconut, arecanut and black pepper. In South Interior Karnataka, keep the harvested produce of groundnut and maize in dry, covered and ventilated areas or cover with tarpaulins in the fields. Harvest matured crops such as rice, pulses, vegetables, cardamom and coffee during dry intervals and store the harvested produce in well-ventilated and moisture-free places. Make necessary arrangements to drain out excess water from fields of rice, maize, finger millet, pulses, groundnut and vegetables and plantations of banana, black pepper, cardamom, coffee, coconut and arecanut to avoid waterlogging.
- ➤ In Andaman and Nicobar Islands, store the harvested paddy at safe places to avoid their degradation. Make proper arrangements for drainage of excess water from the fields of paddy, vegetable and plantation crops.

#### **Livestock / Fishery**

- Keep the animals inside the shed during heavy rainfall and provide them balanced feed.
- Store feed and fodder in a safe place to prevent spoilage.
- > Construct an outlet with proper netting around the ponds to drain out excess water, thereby preventing fish from escaping in case of overflow.
- Agromet advisories for likely impact of Thunderstorm / Gusty Winds / Squally Winds

- > (Based on the IBF and advisories issued by different AMFUs)
- Provide mechanical support to horticultural crops and staking or support to vegetables and young fruit plants / fruit-bearing plants to avoid lodging due to strong winds.
- > Tie the harvested crops properly and cover them to minimise the risk of displacement due to strong surface winds.

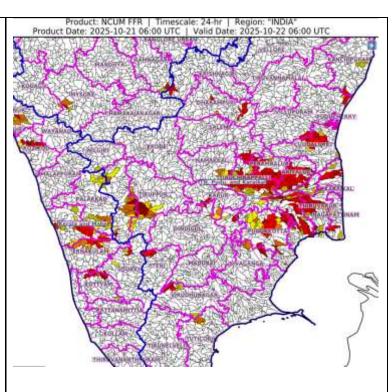
#### Flash flood guidance:

24 hours Outlook for the Flash Flood Risk (FFR) till 1130 IST of 22-10-2025 :

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

Kerala & Mahe - Ernakulam, Idukki, Kottvam, Palakkad and Trishur districts. Tamil Nadu - Puducherry & Karaikal -Puduchery, Karaikal, Ariyalur, Coimbatore, Cuddalore, Dharampuri, Kanchipuram, Karur, Nagapattinam, Perambalur, Namakkal, Pudukkottai, Sivaganga, Thanjavur, Thiruvarur, Tiruchirappalli, Tiruppur, Tuticorin and Virudhunagar districts.

Surface runoff/ Inundation may occur at some fully saturated soils & low-lying areas over Area of Concern (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; 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.



# राष्ट्रीय मौसम पूर्वानुमान केन्द्र भारत मौसम विज्ञान विभाग पृथ्वी विज्ञान मंत्रालय



#### **National Weather Forecasting Centre** India Meteorological Department Ministry of Earth Sciences

# LEGENDS



# SPATIAL DISTRIBUTION (% of Stations reporting)

% Stations Category		Category	% Stations	Cate	Category			
76-100	76-100 Widespread (WS/Most Places)		26-50	Scattered (SCT/A Few Places)				
51-75	Fairly Widesp	read (FWS/Many Places)	1-25	isolated (ISOL)				
Fog		Heavy Snow	Cold Wave	COLOUR CO	COLOUR CODED WARNING			
Heavy Rain		•	1	No Warni	No Warning (No Action)  Watch (Be Aware)			
		Dust Storm	Cold Day	Watch (B				
Very Heav	y Rain	+ Heat Wave	Ground Fro	Alert (Be	Alert (Be Prepared To Take Action)			
Extremely	Heavy Rain	+ Warm Night		Warning	Warning (Take Action)			
Thunder	& Lightning	+ Hot Day			Probabilistic Forecast  Terms Probability of Occurrence (%			
Hailstorm				Unlikely Likely Very Likely	< 25 25 - 50			
: Dust Raisi	ng Winds	Strong Surface Win	Strong Surface Winds		50 - 75 > 75			





#### DEFINITION/CRITERIA Heavy: 64.5 to 115.5 mm/cm \* Very Heavy: 115.6 to 204.4 m Rain/ Snow \* Extremely Heavy: > 204.4 mm/cm When maximum temperature of a station reaches ≥40° C for plains and ≥30° 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 ≥6.5° C **Heat Wave** (b). Based on Actual maximum temperature 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 When maximum temperature remains 40°C nimum temperature departure 4.5 °C to 6.4 °C Warm Night: When minimum temperature departure 4.5 °C to 6.4 °C Severe Warm Night: When minimum temperature departure >6.4 °C Warm Night When minimum temperature of a station ≤10°C for plains and ≤0°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 < -6.5 °C **Cold Wave** (b) Based on actual Minimum Temperature (for Plains only) 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 When minimum temperature of a station ≤10°C for plains and ≤0°C for hilly regions Based on departure Cold Day Cold Day: Maximum Temperature Departure from normal -4.5 °C to -6.4 °C. Severe Cold Day: Maximum Temperature Departure from normal s -6.5 °C Phenomenon of small droplets suspended in air and the horizontal visibility < 1km 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 Fog Sudden electrical discharges manifested by a flash of light (Lightning) and a sharp rumbling sound (thunder) Thunderstorm An ensemble of particles of dust or sand energetically lifted to great heights by a strong and **Dust/Sand** turbulent wind. Ice deposits on ground Frost Air temperature ≤4°C ( over Plains) A strong wind that rises suddenly, lasts for atleast 1 minute. Moderate: Wind speed 52-61 kmph Squall Severe: Wind speed 62-87 kmph 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 Sea State 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) Cyclone

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