



Government of India
Ministry of Earth Sciences
India Meteorological Department



Press Release

Date: 30th November, 2024

Time of Issue: 1400 hours IST

Subject: (i) The Cyclonic Storm “FENGAL” [pronounced as FEINJAL] over southwest Bay of Bengal is likely to cross north Tamil Nadu-Puducherry coasts between Karaikal and Mahabalipuram close to Puducherry as a cyclonic storm with a wind speed of 70-80 kmph gusting to 90 kmph during evening of 30th November.
(ii) Heavy to very heavy rainfall with isolated extremely heavy rainfall likely over north Tamil Nadu & Puducherry on 30th November & 01st December and south Coastal Andhra Pradesh & Yanam & Rayalaseema on 30th November.

i. Realised weather during past 24 hours till 0830 hours IST of today

Rainfall realized over the country: (details in Annexure I)

- ❖ **Heavy to very heavy rainfall** has been recorded at isolated places over north coastal Tamil Nadu and isolated **heavy rainfall** occurred over south Coastal Andhra Pradesh.

Fog conditions realized over the country:

- ❖ **Dense fog conditions prevailed** (upto 0830 hours IST of today): **Dense fog (visibility 50-200 m)** reported in isolated pockets of West Uttar Pradesh.
- ❖ **Visibility reported** (in metre): **West Uttar Pradesh:** Moradabad 100

Weather Systems:

- ❖ The yesterday's **Deep Depression** over Southwest Bay of Bengal intensified into a cyclonic storm “FENGAL” [pronounced as FEINJAL] over the same region at 1430 hours IST of 29th November 2024. Today morning at 0830 hours IST, it moved in the west-northwest direction with a speed of 13 kmph during past 6 hours and lay centred over the same region near latitude 12.3°N and longitude 80.9°E, about 120 km east-northeast of Puducherry, 110 km southeast of Chennai, 200 km north-northeast of Nagapattinam and 420 km north of Trincomalee. It is likely to move nearly westwards and cross north Tamil Nadu-Puducherry coasts between Karaikal and Mahabalipuram close to Puducherry as a cyclonic storm with a wind speed of 70-80 kmph gusting to 90 kmph during evening of 30th November.
- ❖ A **Western disturbance** lies as a trough in middle tropospheric westerlies roughly running along Long. 62°E to the north of Lat. 32°N.

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

- ✓ **Heavy to very heavy rainfall with extremely heavy falls** at isolated places very likely over north Tamil Nadu on 30th November & 01st December, south Coastal Andhra Pradesh & Yanam and Rayalaseema on 30th November. **Heavy to very heavy rainfall** at isolated places over Interior Tamil Nadu on 02nd December, South Interior Karnataka & Kerala & Mahe on 02nd & 03rd December. **Heavy rainfall** at isolated places very likely over South Interior Karnataka on 01st, Coastal Andhra Pradesh & Yanam &

Rayalaseema on 01st & 02nd, Tamil Nadu 03rd, Kerala & Mahe on 01st & 04th and Lakshadweep on 03rd & 04th December.

- ✓ Light to moderate rainfall at a few places accompanied with isolated thunderstorm & lightning very likely over Kerala & Mahe during 30th November-04th December and South Interior Karnataka during 01st -03rd December.
- ✓ **Dense fog conditions** very likely to prevail during late night/early morning hours in isolated pockets of Uttar Pradesh till 02nd December morning hours.

ii. Temperature conditions and Forecast:

Temperature Conditions during past 24 hours till 0830 hours IST of today

There was no significant change in minimum temperature over most parts of the country during past 24 hours. Minimum temperatures are **appreciably above normal (3°C to 5°C)** at many places over Odisha; at a few places over Chhattisgarh, Rayalaseema; at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, West Rajasthan, Telangana, Haryana, Bihar; **above normal (1°C to 3°C)** at a few places over Coastal Andhra Pradesh & Yanam, Andaman & Nicobar Islands; at isolated places over Nagaland, Manipur, Mizoram & Tripura, Gangetic West Bengal. These are markedly **below normal (-5°C or less)** at isolated places over Madhya Maharashtra; **appreciably below normal (-5°C to -3°C)** at isolated places over Marathwada, West Madhya Pradesh, Delhi; **below normal (-3°C to -1°C)** at isolated places over Saurashtra & Kutch, East Rajasthan, East Madhya Pradesh, Vidarbha, Konkan & Goa, East Uttar Pradesh and near normal over rest parts of the country. Today, **the lowest minimum temperature** of 7.0°C is reported at **Adampur IAF (Punjab)** over the plains of the country.

Forecast of temperature:

- ❖ No large Change in minimum temperatures very likely over Gujarat State during next 3 days and gradual rise by 2-4°C during subsequent 2 days.
- ❖ Gradual rise in minimum temperatures very likely over Madhya Maharashtra & Marathwada by 3-5°C during next 3-4 days.
- ❖ Gradual rise in minimum temperatures very likely over Vidarbha & Chhattisgarh by 2-4°C during next 5 days no large Change in minimum temperatures over rest parts of central India.
- ❖ No large Change in minimum temperatures very likely over rest parts of the country during next 4-5 days.

iii. Fishermen & Wind Warnings (Annexure IV):

Fishermen Warnings:

- ✓ Total suspension of fishing operations and fishermen are advised not venture into southwest Bay of Bengal adjoining areas of westcentral Bay of Bengal, Gulf of Mannar and along & off Tamil Nadu-Puducherry, South Andhra Pradesh and East Sri Lanka coasts till 30th November.
- ✓ Fishermen out at sea are advised to return to coast.

Wind Warnings:

- ❖ **Southwest Bay of Bengal:** Gale wind speed reaching 75-85 gusting to 95 is prevailing over southwest Bay of Bengal. It is likely to decrease gradually becoming 55-65 kmph gusting to 75 kmph by night of 30th November.
- ❖ **Adjoining areas of westcentral Bay of Bengal:** Squally wind speed reaching 55-65 kmph gusting to 75 kmph is likely to prevail over adjoining areas of westcentral Bay of Bengal till night of 30th November. It is likely to decrease thereafter.
- ❖ **Along & off North Tamil Nadu – Puducherry and adjoining South Andhra Pradesh coasts:** Gale wind speed reaching 75-85 gusting to 95 is prevailing along & off **North Tamil Nadu - Puducherry and adjoining South Andhra Pradesh coasts**. It is likely to prevail till evening of 30th November and gradually decrease thereafter.

- ❖ **Costal districts of north Tamil Nadu & south Andhra Pradesh:** Gale wind speed reaching 60-70 kmph gusting to 80 kmph is prevailing over costal districts of Tamil Nadu (Tiruvallur, Chennai, Chengalpattu, Villupuram and Puducherry) and Andhra Pradesh (Tirupati and Nellore). It is likely to increase becoming 75-85 gusting to 95 kmph over costal districts of Tamil Nadu (**Tiruvallur, Chennai, Chengalpattu, Villupuram, Puducherry Cuddalore, Mayiladuthurai and Nagapattinam**) and Andhra Pradesh (**Tirupati, Nellore and Prakasham**) from 30th November morning to evening of 30th November. It is likely to decrease thereafter.
- ❖ **Along & off South Tamil Nadu coast and Gulf of Mannar:** Squally wind speed reaching 45-55 kmph gusting to 65 kmph is likely to prevail till 30th evening and gradually decrease thereafter.

iv. Weather conditions and forecast over Delhi/NCR during 30th Nov. to 03rd Dec. 2024 (Annexure V)

For more details, kindly refer National Weather Bulletin:

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

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

For updates on cyclonic storm “FENGAL” kindly refer:

<https://rsmcnewdelhi.imd.gov.in/>

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

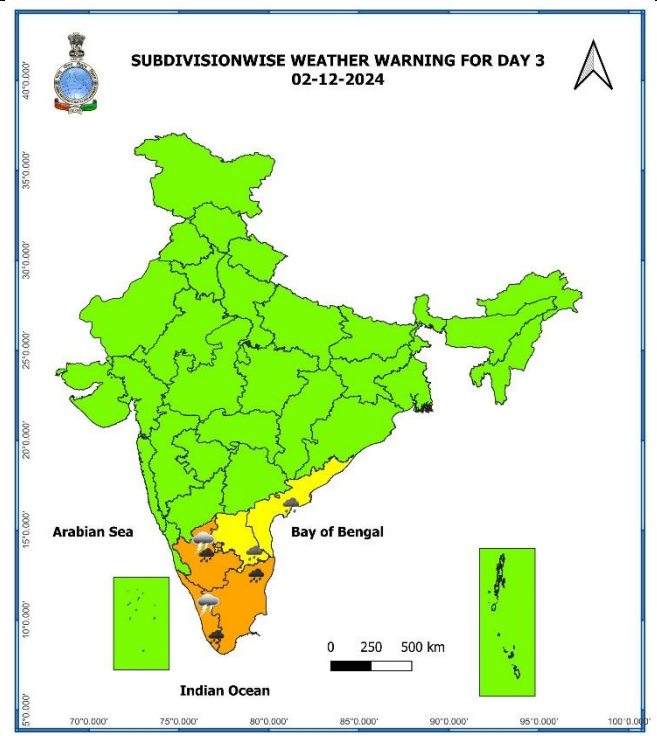
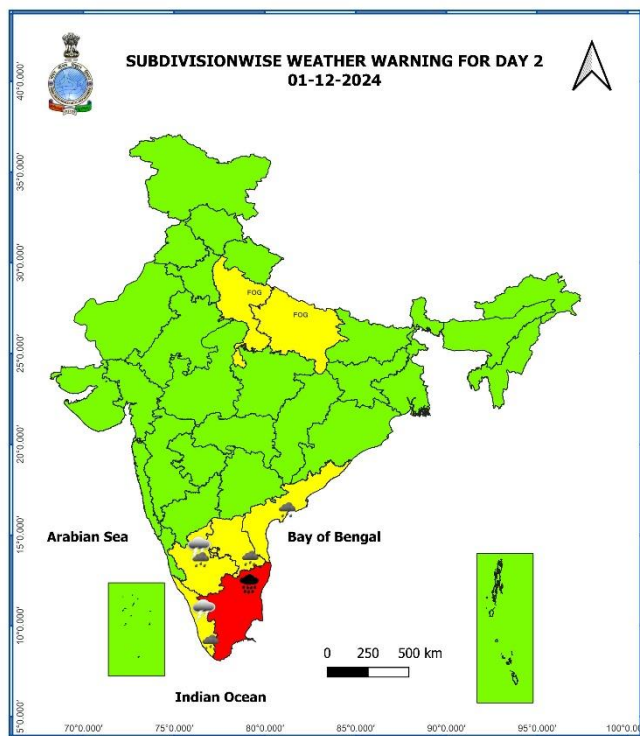
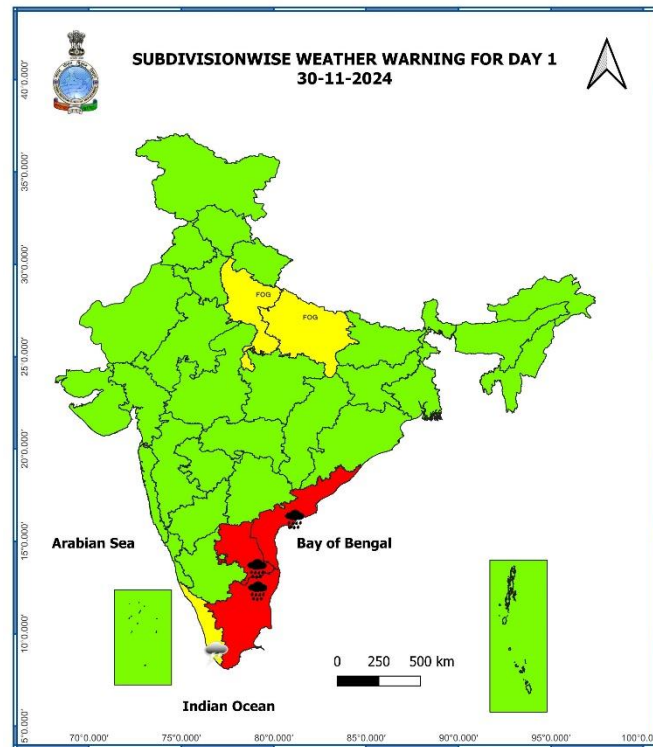
ANNEXURE I

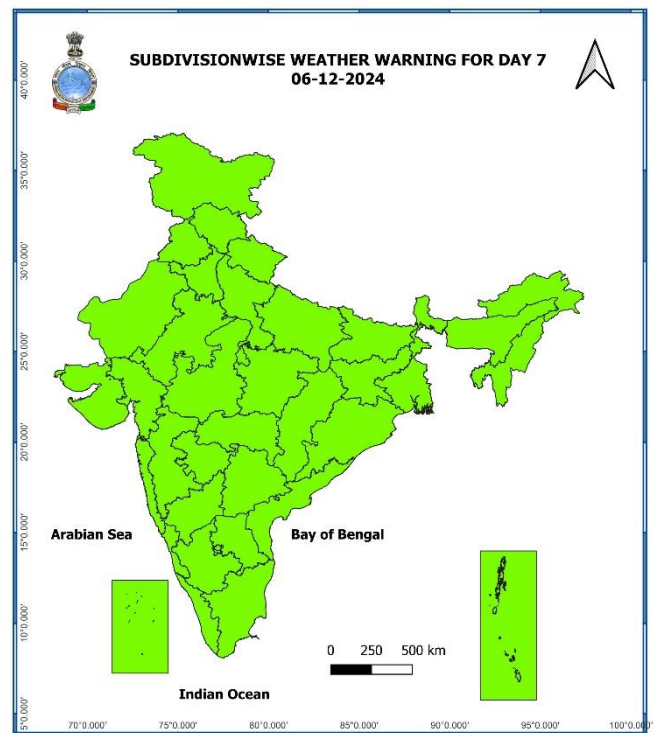
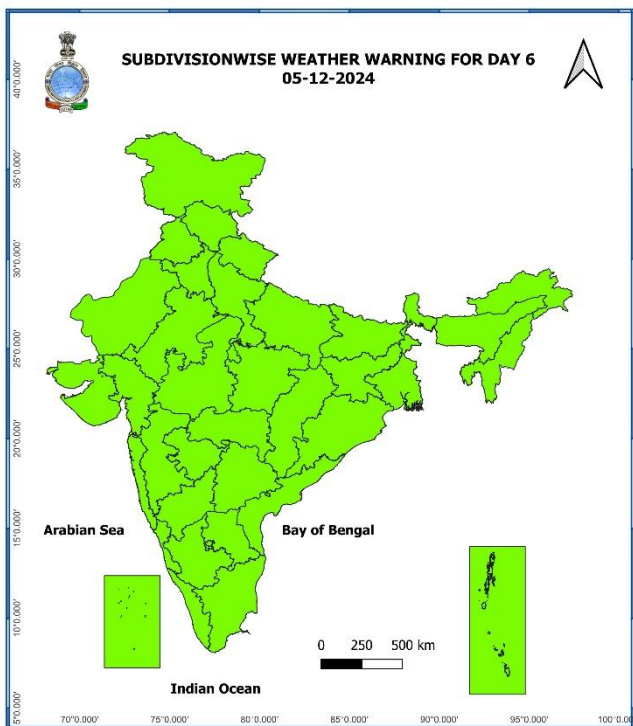
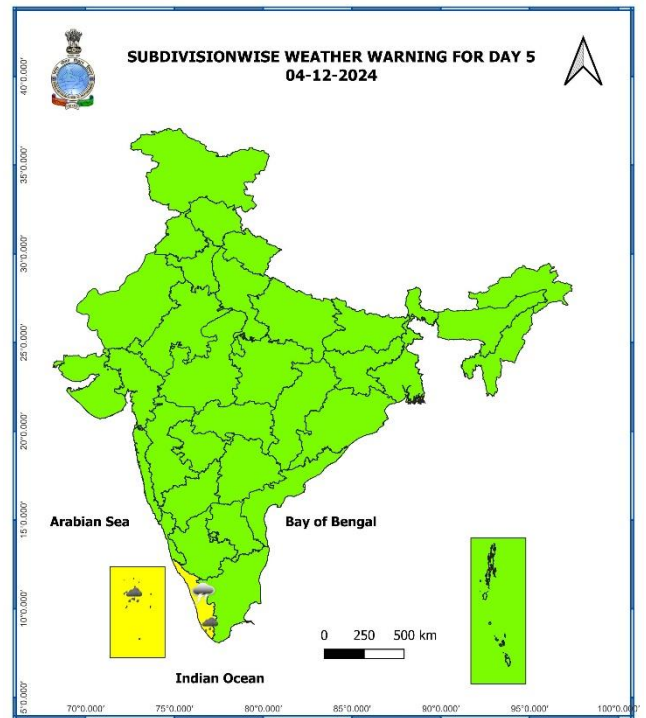
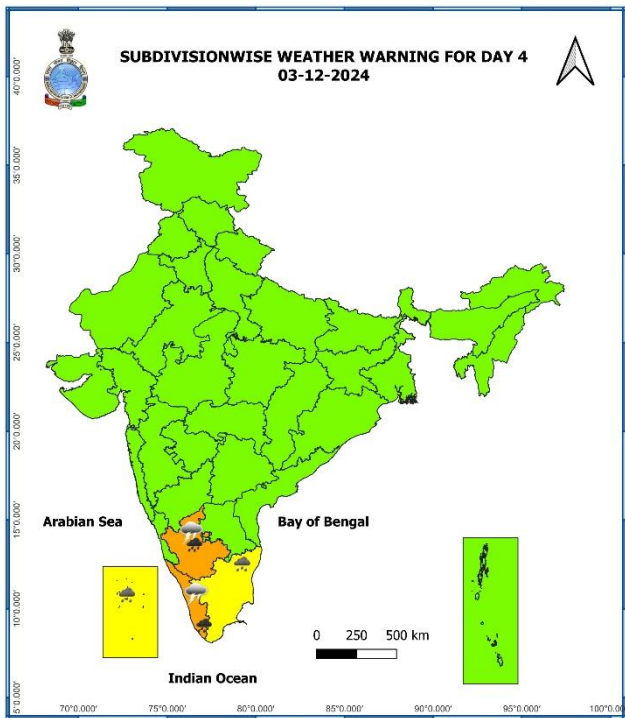
Significant Rainfall recorded during past 24 hours till 0830 hours IST of today 30.11.2024 (in cm):

- ❖ **Tamil Nadu, Puducherry & Karaikal:** Ennore AWS (dist Tiruvallur) 13, Zone 01 Kathivakkam (dist Chennai) 12, Zone 01 Thiruvottiur (dist Chennai), Zone 04 Tondiarpet (dist Chennai), Sholinganallur (dist Chennai), CD Hospital Tondiarpet (dist Chennai), Zone 09 Basin Bridge (dist Chennai) 9 each, Ponneri (dist Tiruvallur), Zone 02 Manali (dist Chennai), Zone 10 Ice House (dist Chennai), Chennai (N) (dist Chennai), Zone 05 Chennai Central (dist Chennai) 8 each, Zone 13 Adyar (dist Chennai), Zone 12 Alandhur (dist Chennai), Zone 06 Kolathur (dist Chennai), YMCA Nandnam ARG (dist Chennai), Zone 03 Madhavaram (dist Chennai), Anna University ARG (dist Chennai), Chennai Collector Office (dist Chennai), DGP Office (dist Chennai), Zone 15 Sholinganallur (dist Chennai), Zone 03 Puzhal (dist Chennai), Hindustan_University (dist Chengalpattu), Zone 02 Manali New Town (dist Chennai), Zone 10 Vadapalani (dist Chennai) 7 each;
- ❖ **Rayalaseema:** Sullurpeta (dist Tirupati) 6

7 Days Rainfall Forecast								
S. No.	Subdivision	30-Nov	01-Dec	02-Dec	03-Dec	04-Dec	05-Dec	06-Dec
		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
1	ANDAMAN & NICOBAR ISLANDS	FWS	FWS	SCT	SCT	FWS	FWS	FWS
2	ARUNACHAL PRADESH	DRY	DRY	DRY	DRY	DRY	DRY	DRY
3	ASSAM & MEGHALAYA	DRY	DRY	DRY	DRY	DRY	DRY	DRY
4	NAGALAND, MANIPUR, MIZORAM & TRIPURA	ISOL	ISOL	ISOL	DRY	DRY	DRY	DRY
5	SUB-HIMALAYAN WEST BENGAL & SIKKIM	DRY	DRY	DRY	DRY	DRY	DRY	DRY
6	GANGETIC WEST BENGAL	SCT	ISOL	DRY	DRY	DRY	DRY	DRY
7	ODISHA	ISOL	ISOL	ISOL	ISOL	DRY	DRY	DRY
8	JHARKHAND	ISOL	DRY	DRY	DRY	DRY	DRY	DRY
9	BIHAR	DRY	DRY	DRY	DRY	DRY	DRY	DRY
10	EAST UTTAR PRADESH	DRY	DRY	DRY	DRY	DRY	DRY	DRY
11	WEST UTTAR PRADESH	DRY	DRY	DRY	DRY	DRY	DRY	DRY
12	UTTARAKHAND	DRY	DRY	DRY	DRY	DRY	DRY	DRY
13	HARYANA CHANDIGARH & DELHI	DRY	DRY	DRY	DRY	DRY	DRY	DRY
14	PUNJAB	DRY	DRY	DRY	DRY	DRY	DRY	DRY
15	HIMACHAL PRADESH	ISOL	ISOL	ISOL	ISOL	DRY	DRY	DRY
16	JAMMU & KASHMIR AND LADAKH	SCT	ISOL	SCT	ISOL	DRY	DRY	DRY
17	WEST RAJASTHAN	DRY	DRY	DRY	DRY	DRY	DRY	DRY
18	EAST RAJASTHAN	DRY	DRY	DRY	DRY	DRY	DRY	DRY
19	WEST MADHYA PRADESH	DRY	DRY	DRY	DRY	DRY	DRY	DRY
20	EAST MADHYA PRADESH	DRY	DRY	DRY	DRY	DRY	DRY	DRY
21	GUJARAT REGION	DRY	DRY	DRY	DRY	DRY	DRY	DRY
22	SAURASHTRA & KUTCH	DRY	DRY	DRY	DRY	DRY	DRY	DRY
23	KONKAN & GOA	DRY	DRY	ISOL	ISOL	ISOL	DRY	DRY
24	MADHYA MAHARASHTRA	DRY	DRY	ISOL	ISOL	ISOL	DRY	DRY
25	MARATHAWADA	DRY	DRY	ISOL	ISOL	DRY	DRY	DRY
26	VIDARBHA	DRY	ISOL	ISOL	ISOL	ISOL	ISOL	DRY
27	CHHATTISGARH	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL
28	COASTAL ANDHRA PRADESH & YANAM	WS	FWS	FWS	SCT	ISOL	ISOL	ISOL
29	TELANGANA	ISOL	ISOL	SCT	SCT	ISOL	ISOL	ISOL
30	RAYALASEEMA	WS	FWS	FWS	SCT	ISOL	ISOL	ISOL
31	TAMILNADU PUDUCHERRY & KARAIKAL	FWS	FWS	FWS	SCT	SCT	ISOL	ISOL
32	COASTAL KARNATAKA	DRY	DRY	FWS	FWS	SCT	DRY	DRY
33	NORTH INTERIOR KARNATAKA	DRY	DRY	ISOL	ISOL	ISOL	DRY	DRY
34	SOUTH INTERIOR KARNATAKA	ISOL	SCT	FWS	SCT	ISOL	DRY	DRY
35	KERALA & MAHE	ISOL	SCT	WS	WS	FWS	SCT	SCT
36	LAKSHADWEEP	SCT	SCT	SCT	WS	WS	WS	SCT

- As the lead period increases forecast accuracy decreases.



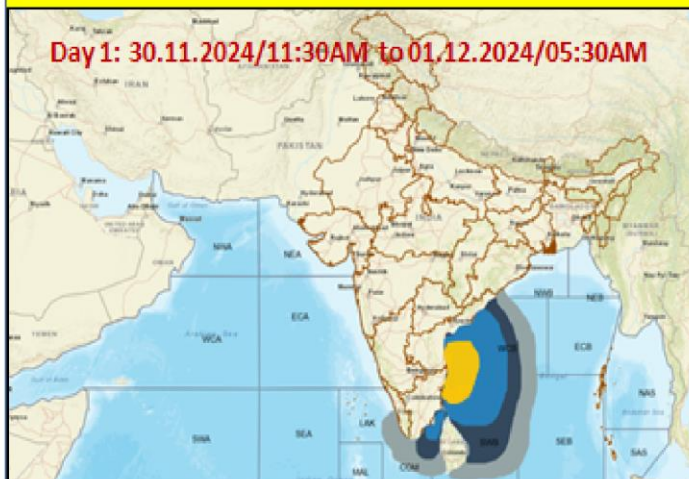


- Action may be taken based on **ORANGE AND RED COLOUR** warnings.
- Vulnerable regions likely urban and hilly areas action may be initiated for heavy rainfall warning.
- As the lead period increases forecast accuracy decreases.

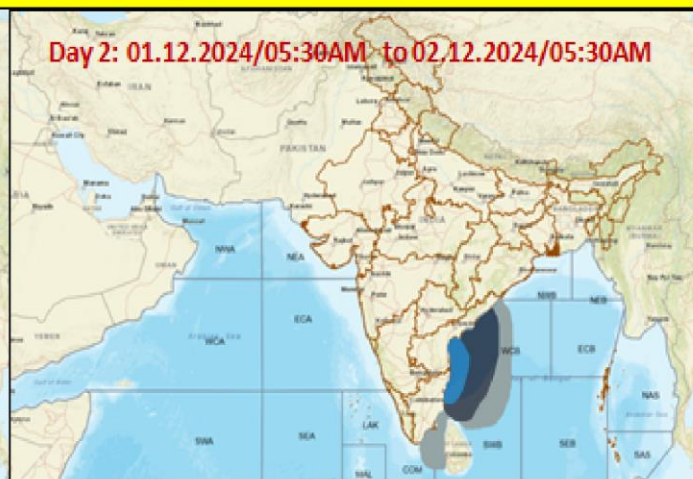


Fishermen Warning Graphics

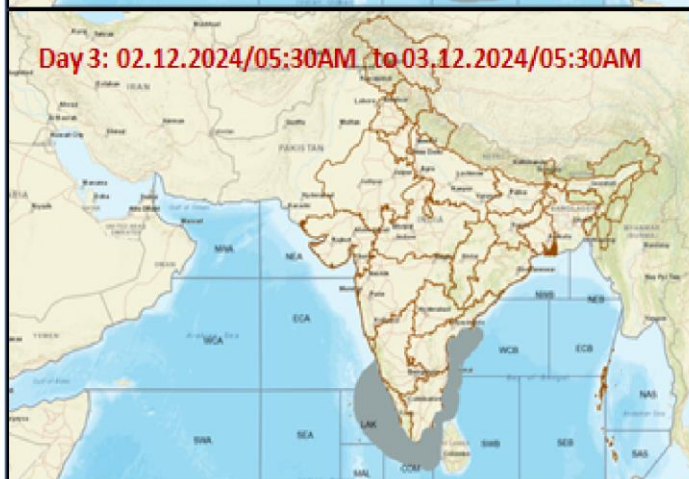
Day 1: 30.11.2024/11:30AM to 01.12.2024/05:30AM



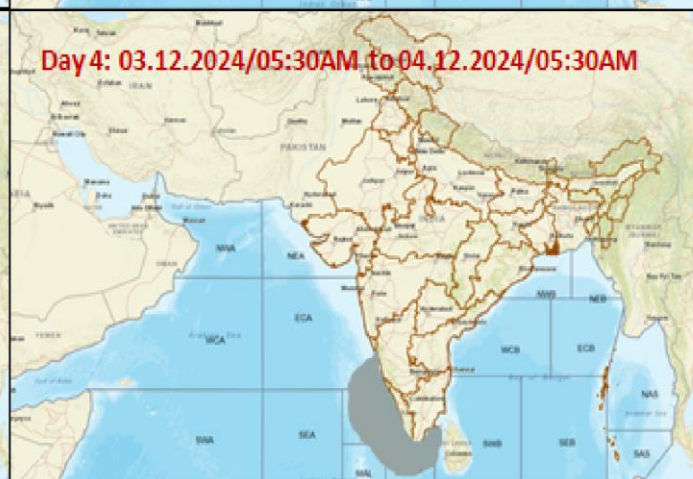
Day 2: 01.12.2024/05:30AM to 02.12.2024/05:30AM



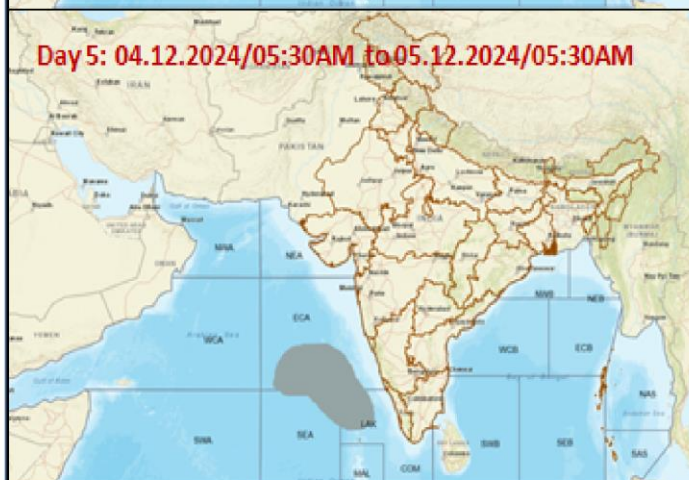
Day 3: 02.12.2024/05:30AM to 03.12.2024/05:30AM



Day 4: 03.12.2024/05:30AM to 04.12.2024/05:30AM



Day 5: 04.12.2024/05:30AM to 05.12.2024/05:30AM



Squally Weather with wind speed 35-45 kmph gusting to 55 kmph

Squally wind with speed 45-55 kmph gusting to 65 kmph

Deep depression with wind speed 55-65 kmph gusting to 75 kmph

CS with Gale winds with speed 60-80 kmph gusting to 90 kmph

Fishermen are advised not to venture into the marked areas.

Weather Realised (past 24 hours) & forecast (during 30th Nov. to 03rd Dec. 2024) over Delhi/NCR**Past Weather:**

There has been a slight rise in minimum temperature and slight fall in maximum temperature over Delhi/NCR during past 24hr. The Maximum and Minimum temperature over Delhi is in the range of 24 to 27°C and 09 to 12°C respectively. The maximum temperature was near normal and the minimum temperature was near normal over most places. Mainly smog/ shallow fog condition with predominant surface wind from northwest direction with wind speed reaching 04 to 08 kmph prevailed during day time and calm wind during night time on 29.11.2024. Shallow fog reported at Safdarjung airport during early morning today. Safdarjung airport recorded lowest visibility 600 m during 0700 hours to 0900 hours IST which improved thereafter becoming 800m at 1000 hours IST. Palam airport recorded lowest visibility 800 m during 0800 hours to 0900 hours IST which improved thereafter becoming 1000m at 0930 hours IST. Mainly smog condition with wind speed less than 06 kmph northwest direction prevailed over the region in the forenoon today.

Weather Forecast:

30.11.2024: Mainly clear sky. The predominant surface wind is likely to be northwest direction with wind speed less than 08 kmph till evening. It would decrease thereafter becoming less than 04 kmph from northwest direction during night. Smog/mist is likely in the evening/night.

01.12.2024: Mainly clear sky. The predominant surface wind is likely to be from variable direction with speed less than 04 kmph during morning hours. Smog/ shallow to moderate fog is likely in the morning. The wind speed will increase thereafter becoming less than 08 kmph from northwest direction during afternoon. It will decrease thereafter becoming less than 04 kmph from north direction during evening and night. Smog/Mist is likely in the evening/night.

02.12.2024: Mainly clear sky. The predominant surface wind is likely to be from north direction with speed less than 04 kmph during morning hours. Smog/moderate fog is likely in the morning. The wind speed will gradually increase becoming 04-06 kmph from variable direction during afternoon. It will decrease thereafter becoming less than 04 kmph from north direction during evening and night. Smog/ shallow fog is likely in the evening/night.

03.12.2024: Mainly clear sky. The predominant surface wind is likely to be from variable direction with wind speed less than 04 kmph during morning hours. Smog/shallow to moderate fog in the morning. The wind speed will increase thereafter becoming 06-08 kmph from north/northwest direction during afternoon. It will gradually decrease becoming less than 06 kmph from north direction during evening and night. Smog/ shallow fog is likely in the evening/night.

Impact & Action Suggested due to Tropical Cyclone “FENGAL”

Impact Expected [POST LANDFALL OUTLOOK] over coastal districts of North Tamil Nadu (Tiruvallur, Chennai, Chengalpattu, Puducherry Cuddalore, Mayiladuthurai, Nagappattinam, Dharampuri, Krishnagiri and Villupuram) and Andhra Pradesh (Tirupati, Nellore, Kadapa and Prakasham)]

- Damage to thatched huts.
- Minor damage to power and communication lines due to breaking of branches.
- Major damage to Kutcha and minor damage to Pucca roads.
- Some damage to paddy crops, banana, papaya trees and orchards.
- Sea water inundation in low lying areas after erosion of Kutcha embankments.
- 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.
- Damage to horticulture and standing crops in some areas due to inundation.
- Breaking of tree branches, uprooting of small trees including banana, papaya and drumstick.

Action Suggested

- ❖ Total suspension of fishing operations.
- ❖ Fishermen are advised not venture into southwest Bay of Bengal adjoining areas of westcentral Bay of Bengal, Gulf of Mannar and along & off Tamil Nadu-Puducherry, South Andhra Pradesh and East Sri Lanka coasts till 30th November.
- ❖ Fishermen out at sea are advised to return to coast.
- ❖ The ships plying over the area need to be regulated.
- ❖ People should stay in safe places during 30th morning to evening.
- ❖ 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.
- ❖ Special care may be taken for fishing ponds and poultry over coastal areas.
- ❖ Avoid staying in vulnerable structure.

Agromet advisories [over coastal districts of Tamil Nadu – Puducherry and adjoining south Andhra Pradesh]

Provide adequate drainage facilities for the removal of excess water from rice, cotton, sugarcane, turmeric and vegetable fields, coconut and banana orchards. Provide mechanical support to banana plants to prevent lodging.

- Make arrangements to drain out excess water from the standing crop fields and fruit orchards in Kerala and Coastal Andhra Pradesh.
- Harvest the matured crops and keep it in safe place.
- Provide mechanical support to horticultural crops and staking to vegetables.

Impact expected due to dense fog in the night /morning hour:

- ❖ Transport and Aviation:
 - May affect some airports, highways and railway routes in the areas of met- sub-division.
 - Difficult driving conditions with slower journey times.
 - Unless taken precautionary measures, it may lead to some road traffic collisions.
- ❖ Power Sector:
 - Chances of Tripping of Power lines in the very dense fog routes.
- ❖ Human Health:
 - Lung related health impacts: Dense fog contains particulate matter and other pollutants and in case exposed it gets lodged in the lungs, clogging them and decreasing their functional capacity which increases episodes of wheezing, coughing and shortness of breath.
 - Impact on people having asthma bronchitis: Long time exposure to dense fog may cause respiratory problem for people having asthma bronchitis and other lung related health problems.
 - Eye Irritation: Dense fog contains pollutions of various types and these Pollutants in the air if exposed may tend to irritate the membranes of the eye causing various infections leading to redness or swelling of the eye.

Action suggested:

❖ Transport and Aviation:

- Be careful while driving or outing through any transport.
- Use fog lights during driving.
- Be in touch with airlines, railways and state transport for schedule of your journey.

❖ Power Sector:

- To keep ready Maintenance Team
- Human Health: To avoid outing until unless emergency and to cover the face.

FLASH FLOOD GUIDANCE:

24 hours Outlook for the Flash Flood Risk (FFR) till 1130 IST of 01-12-2024:

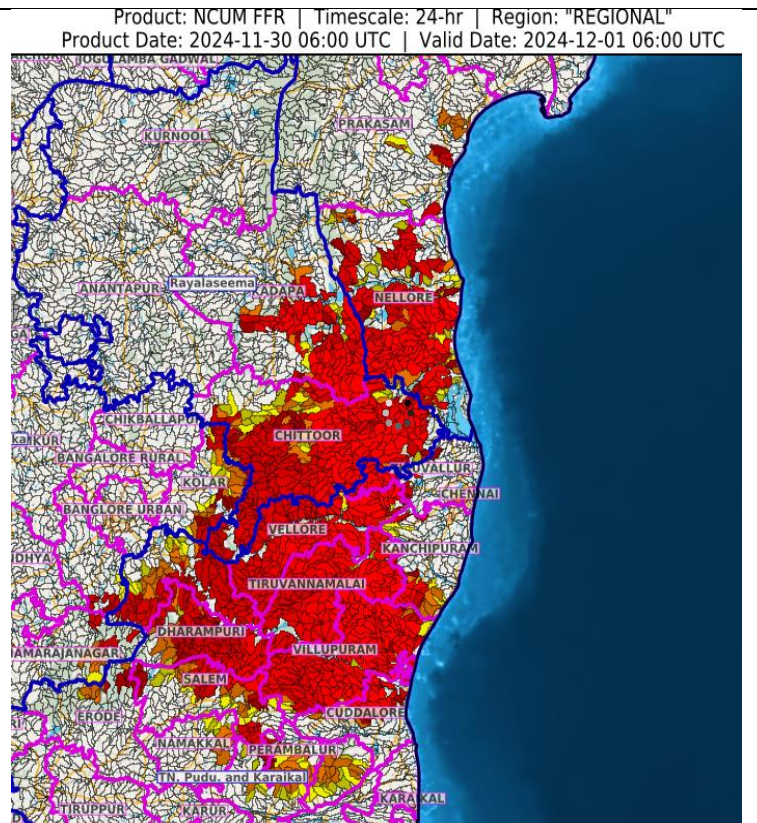
Moderate to High flash flood risk likely over few watersheds & neighbourhoods of following Met Sub-divisions during next 24 hours.

Coastal Andhra Pradesh & Yanam - Prakasam and Nellore districts.
Rayalaseema - Chittoor and Kadapa districts.

South Interior Karnataka - Chamarajanagar, Kolar and Ramnagar districts.

Tamil Nadu - Puducherry & Karaikal - Ariyalur, Chennai, Cuddalore, Dharampuri, Erode, Kanchipuram, Krishnagiri, Namakkal, Perambalur, Salem, Tiruchirappalli, Tiruvallur, Tiruvannamalai, Puducherry and Vellore 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.

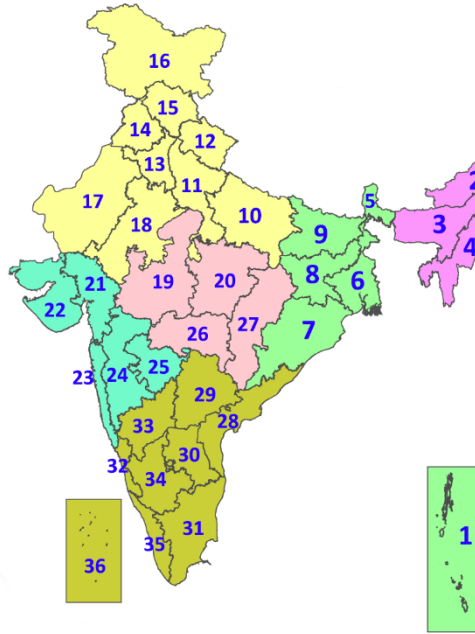


Legends & abbreviations:

- ❖ **Heavy Rain:**64.5-115.5mm; **Very Heavy Rain:**115.6-204.4mm; **Extremely Heavy Rain:** >204.4mm.
- ❖ **Obsy:** Observatory; **AWS:** Automatic Weather Station; **ARG:** Automatic Rain Gauge; **dist:** District; **NH:** National Highway; **KVK:** Krishi Vigyan Kendra; **DVC:** Damodar Valley Corporation; **PTO:** Part Time Office, **Aero:** Aerodrome, **IAF:** Indian Air Force.
- ❖ **Region wise classification of meteorological Sub-Divisions:**
 - **Northwest India:** Western Himalayan Region (Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh and Uttarakhand); Punjab, Haryana-Chandigarh-Delhi; West Uttar Pradesh, East Uttar Pradesh, West Rajasthan and East Rajasthan.
 - **Central India:** West Madhya Pradesh, East Madhya Pradesh, Vidarbha and Chhattisgarh.
 - **East India:** Bihar, Jharkhand, Sub-Himalayan West Bengal & Sikkim; Gangetic West Bengal, Odisha and Andaman & Nicobar Islands.
 - **Northeast India:** Arunachal Pradesh, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura.
 - **West India:** Gujarat Region, Saurashtra & Kutch, Konkan & Goa, Madhya Maharashtra and Marathawada.
 - **South India:** Coastal Andhra Pradesh & Yanam, Telangana, Rayalaseema, Coastal Karnataka, North Interior Karnataka, South Interior Karnataka, Kerala & Mahe, Tamil Nadu, Puducherry & Karaikal and Lakshadweep.

LEGENDS

1. अंडमान और निकोबार द्वीपसमूह
2. अरुणाचल प्रदेश
3. असम और मेघालय
4. नागालैंड, मणिपुर, मिजोरम और त्रिपुरा
5. उप-हिमालयी पश्चिम बंगाल और सिक्किम
6. गंगीय पश्चिम बंगाल
7. ओडिशा
8. झारखंड
9. बिहार
10. पूर्वी उत्तर प्रदेश
11. पश्चिम उत्तर प्रदेश
12. उत्तराखंड
13. हरियाणा, चंडीगढ़ और दिल्ली
14. पंजाब
15. हिमाचल प्रदेश
16. जम्मू और कश्मीर और लद्दाख
17. पश्चिम राजस्थान
18. पूर्वी राजस्थान
19. पश्चिम मध्य प्रदेश
20. पूर्वी मध्य प्रदेश
21. गुजरात
22. सौराष्ट्र
23. कोंकण और गोवा
24. मध्य महाराष्ट्र
25. मराठवाड़ा
26. विदर्भ
27. छत्तीसगढ़
28. तटीय आंध्र प्रदेश और यनम
29. तेलंगाना
30. रायलसीमा
31. तमिलनाडु, पुडुचेरी और कराईकल
32. तटीय कर्नाटक
33. आंतरिक उत्तरी कर्नाटक
34. आंतरिक दक्षिणी कर्नाटक
35. केरल और माहे
36. लक्षद्वीप



1. Andaman & Nicobar Islands
2. Arunachal Pradesh
3. Assam & Meghalaya
4. Nagaland, Manipur, Mizoram & Tripura
5. Sub-Himalayan West Bengal & Sikkim
6. Gangetic West Bengal
7. Odisha
8. Jharkhand
9. Bihar
10. East Uttar Pradesh
11. West Uttar Pradesh
12. Uttarakhand
13. Haryana, Chandigarh & Delhi
14. Punjab
15. Himachal Pradesh
16. Jammu & Kashmir and Ladakh
17. West Rajasthan
18. East Rajasthan
19. West Madhya Pradesh
20. East Madhya Pradesh
21. Gujarat
22. Saurashtra
23. Konkan & Goa
24. Madhya Maharashtra
25. Marathwada
26. Vidarbha
27. Chhattisgarh
28. Coastal Andhra Pradesh & Yanam
29. Telangana
30. Rayalaseema
31. Tamilnadu, Puducherry & Karaikal
32. Coastal Karnataka
33. North Interior Karnataka
34. South Interior Karnataka
35. Kerala & Mahe
36. Lakshadweep

SPATIAL DISTRIBUTION (% of Stations reporting)

% Stations	Category	% Stations	Category
76-100	Widespread (WS/Most Places)	26-50	Scattered (SCT/A Few Places)
51-75	Fairly Widespread (FWS/Many Places)	1-25	Isolated (ISOL)



Fog



Heavy Snow



Cold Wave



Heavy Rain



Dust Storm



Cold Day



Very Heavy Rain



Heat Wave



Ground Frost



Extremely Heavy Rain



Warm Night



Thunder & Lightning



Hot Day



Hailstorm



Hot & Humid



Dust Raising Winds



Strong Surface Winds

COLOUR CODED WARNING

No Warning (No Action)
Watch (Be Aware)
Alert (Be Prepared To Take Action)
Warning (Take Action)

Probabilistic Forecast

Terms	Probability of Occurrence (%)
Unlikely	< 25
Likely	25 - 50
Very Likely	50 - 75
Most Likely	> 75

* Red colour warning does not mean "Red Alert", Red colour warning means "Take Action".
Forecast and Warning for any day is valid from 0830 hours IST of day till 0830 hours IST of next day.
For more details, kindly visit <https://mausam.imd.gov.in> or contact: 011-2434-4599
(Service to the Nation since 1875)

DEFINITION/CRITERIA

Rain/ Snow *

Heavy: 64.5 to 115.5 mm/cm *
Very Heavy: 115.6 to 204.4 mm/cm*
Extremely Heavy: > 204.4 mm/cm *

Heat Wave

When maximum temperature of a station reaches $\geq 40^{\circ}\text{C}$ for plains and $\geq 30^{\circ}\text{C}$ for hilly regions
(a) Based on Departure from normal

Heat Wave: Maximum Temperature Departure from normal 4.5°C to 6.4°C .

Severe Heat Wave: Maximum Temperature Departure from normal $\geq 6.5^{\circ}\text{C}$

(b). Based on Actual maximum temperature

Heat Wave: When actual maximum temperature $\geq 45^{\circ}\text{C}$.

Severe Heat Wave: When actual maximum temperature $\geq 47^{\circ}\text{C}$

(c) Criteria for heat wave for coastal stations

When maximum temperature departure is $> 4.5^{\circ}\text{C}$ from normal. Heat Wave may be described provided maximum temperature $\geq 37^{\circ}\text{C}$

Warm Night

When maximum temperature remains 40°C

Warm Night: When minimum temperature departure 4.5°C to 6.4°C .

Severe Warm Night: When minimum temperature departure $> 6.4^{\circ}\text{C}$.

Cold Wave

When minimum temperature of a station $\leq 10^{\circ}\text{C}$ for plains and $\leq 0^{\circ}\text{C}$ for hilly regions.

(a). Based on departure

Cold Wave: Minimum Temperature Departure from normal -4.5°C to -6.4°C .

Severe Cold Wave: Minimum Temperature Departure from normal $\leq -6.5^{\circ}\text{C}$

(b) Based on actual Minimum Temperature (for Plains only)

Cold Wave: When Minimum Temperature is $\leq 4.0^{\circ}\text{C}$

Severe Cold Wave: When Minimum Temperature is $\leq 2.0^{\circ}\text{C}$

(c) For Coastal Stations

When Minimum Temperature departure is $\leq -4.5^{\circ}\text{C}$ & actual Minimum Temperature is $\leq 15^{\circ}\text{C}$

Cold Day

When minimum temperature of a station $\leq 10^{\circ}\text{C}$ for plains and $\leq 0^{\circ}\text{C}$ for hilly regions

Based on departure

Cold Day: Maximum Temperature Departure from normal -4.5°C to -6.4°C .

Severe Cold Day: Maximum Temperature Departure from normal $\leq -6.5^{\circ}\text{C}$

Fog

Phenomenon of small droplets suspended in air and the horizontal visibility $< 1\text{ km}$

Moderate Fog: When the visibility between 500-200 metres

Dense Fog: when the visibility between 50- 200 metres

Very Dense Fog: when the visibility < 50 metres

Thunderstorm

Sudden electrical discharges manifested by a flash of light (Lightning) and a sharp rumbling sound (thunder)

Dust/Sand Storm

An ensemble of particles of dust or sand energetically lifted to great heights by a strong and turbulent wind.

Frost

Ice deposits on ground

Air temperature $\leq 4^{\circ}\text{C}$ (over Plains)

Squall

A strong wind that rises suddenly, lasts for atleast 1 minute.

Moderate: Wind speed 52-61 kmph

Severe: Wind speed 62-87 kmph

Very Severe: Wind speed > 87 kmph

Sea State

Effect of various waves in the sea over specific area

Rough to very rough: Wind speed 41-62 kmph (22-33 knots) & Wave height 2.5-6 metre

High to very high: Wind speed 63-117 kmph (34-63 knots) & Wave height 6-14 metre

Phenomenal: Wind speed > 117 kmph (> 63 knots) & Wave height > 14 metre

Cyclone

Cyclonic Storm: Wind speed 62-87 kmph (34-47 knots)

Severe Cyclonic Storm: Wind speed 88-117 kmph (48-63 knots)

Very Severe Cyclonic Storm: Wind speed 118-165 kmph (64 - 89 knots)

Extremely Severe Cyclonic Storm: Wind speed 166-220 kmph (90 -119 knots)

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

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