



Government of India
Ministry of Earth Sciences
India Meteorological Department



Press Release

Date: 29th November, 2024

Time of Issue: 1330 hours IST

Subject: (i) The Deep Depression over Southwest Bay of Bengal is likely to move northwestwards and intensify as Cyclonic Storm and cross north Tamil Nadu-Puducherry coasts between Karaikal and Mahabalipuram close to Puducherry with a wind speed of 70-80 kmph gusting to 90 kmph during afternoon of 30th November.
(ii) Heavy to very heavy rainfall likely with isolated extremely heavy rainfall over north Tamil Nadu & Puducherry, Rayalaseema on 29th and 30th November. Heavy to very heavy rainfall likely over south Coastal Andhra Pradesh & Yanam on 29th and 30th November with isolated extremely heavy rainfall on 30th November.

i. Rainfall Forecast and warning over the country:

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

- ❖ **Cold wave conditions** observed in isolated pockets of Madhya Maharashtra.
- ❖ **Fog conditions observed** (at 0830 hours IST of today): **Dense fog (visibility 50-200 m)** reported in isolated pockets of Uttar Pradesh.
- ❖ **Visibility reported** (in m): **West Uttar Pradesh:** Moradabad 50; **East Uttar Pradesh:** Kushinagar 150.

Weather Systems:

- ❖ The **Deep Depression** over Southwest Bay of Bengal lay centred at 0830 hours IST of today, the 29th November 2024 over the same region near latitude 10.6°N and longitude 82.6°E, about 270 km north-northeast of Trincomalee, 300 km east of Nagapattinam, 340 km east-southeast of Puducherry and 380 km southeast of Chennai. It is likely to move northwestwards and intensify into a **cyclonic storm** during next 06 hours. Thereafter, it is likely to continue to move northwestwards 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 afternoon 30th November.
- ❖ A **Western disturbance** seen as a trough in middle tropospheric westerlies runs roughly along Long. 54°E to the north of Lat. 32°N.
- ❖ A **Cyclonic circulation** lies over southeast Bangladesh in lower tropospheric levels.

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

- ✓ Light to moderate rainfall at a few places accompanied with isolated thunderstorm & lightning very likely over Tamil Nadu & Puducherry, Andhra Pradesh & Yanam during 29th November- 03rd December, Kerala & Mahe, South Interior Karnataka & Telangana during 30th November-03rd December, Coastal Andhra Pradesh & Yanam & Rayalaseema on 29th & 30th November, Coastal Karnataka during 01st -03rd, Lakshadweep on 02nd & 03rd December.
- ✓ Light to moderate rainfall at many places over Andaman & Nicobar Islands during the week.

- ✓ **Heavy to very heavy rainfall with extremely heavy falls** at isolated places very likely over north Tamil Nadu & Rayalaseema on 29th & 30th, south Coastal Andhra Pradesh & Yanam on 30th November. **Heavy to very heavy rainfall** at isolated places very likely over Interior Tamil Nadu on 01st December, **Heavy rainfall** at isolated places very likely over Tamil Nadu & Lakshadweep on 02nd & 03rd, Coastal Andhra Pradesh & Yanam & Rayalaseema on 01st December.
- ✓ **Heavy rainfall** at isolated places very likely over Kerala & Mahe on 30th November & 03rd December & South Interior Karnataka on 30th November. **Heavy to very heavy rainfall** at isolated places very likely over Kerala & Mahe & South Interior Karnataka on 01st & 02nd December.
- ✓ **Heavy rainfall** at isolated places very likely over Andaman & Nicobar Islands on 30th November.
- ✓ **Dense fog conditions** very likely to prevail during late night/early morning hours in isolated pockets of Uttar Pradesh till 02nd December morning hours.
- ✓ **Cold wave** conditions very likely in isolated pockets over Madhya Maharashtra on 29th November.

ii. Temperature conditions and Forecast:

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

No significant change in minimum temperature observed over most parts of the country during past 24 hours. Minimum temperatures are **appreciably above normal (3°C to 5°C)** at a few places over Odisha; at isolated places over West Rajasthan, Gujarat Region, Bihar, Gangetic West Bengal, Nagaland, Manipur, Mizoram & Tripura, Telangana and Coastal Andhra Pradesh & Yanam; **above normal (1°C to 3°C)** at isolated places over Uttar Pradesh, Saurashtra & Kutch, Kerala & Mahe and Tamil Nadu, Puducherry & Karaikal. 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 East Madhya Pradesh, Konkan & Goa, Marathwada and Vidarbha; **below normal (-3°C to -1°C)** at a few places over West Madhya Pradesh; at isolated places over East Rajasthan and Assam & Meghalaya and near normal over rest parts of the country. Today, **the lowest minimum temperature** of 6.0°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 northwest & east India and Madhya Pradesh during next 5 days.
- ❖ Gradual rise in minimum temperatures by 3-4°C very likely over central India (except Madhya Pradesh) during next 3-4 days.
- ❖ No large Change in minimum temperatures very likely over West India during next 24 hours and gradual rise by 3-4°C during subsequent 2-4 days.

iii. Fishermen & Wind Warnings (Annexure IV):

Fishermen Warnings:

- ✓ 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 evening.
- ✓ Fishermen out at sea are advised to return to coast.

Wind Warnings:

- ❖ **Southwest Bay of Bengal:** Squally wind speed reaching 55-65 kmph gusting to 75 kmph is prevailing over southwest Bay of Bengal. It is likely to increase becoming Gale wind speed reaching 60-70 kmph gusting to 80 kmph from evening of 29th and 70-80 kmph gusting to 90 kmph by morning of 30th November. Thereafter, it is likely to decrease becoming 55-65 kmph gusting to 75 kmph by evening of 30th November.

- ❖ **Adjoining areas of westcentral Bay of Bengal:** Squally wind speed reaching 50-60 kmph gusting to 70 kmph is likely to prevail over adjoining areas of westcentral Bay of Bengal till evening of 30th November. It is likely to decrease thereafter.
- ❖ **Along & off North Tamil Nadu – Puducherry and adjoining South Andhra Pradesh coasts:** Squally wind speed reaching 50-60 kmph gusting to 70 kmph is prevailing along & off **North Tamil Nadu - Puducherry and adjoining South Andhra Pradesh coasts**. It is likely to increase becoming Gale wind speed reaching 60-70 kmph gusting to 80 kmph from evening of 29th and 70-80 kmph gusting to 90 kmph from 30th November morning to evening of 30th November. It is likely to decrease thereafter.
- ❖ **Along & off East Sri Lanka coasts:** Squally wind speed reaching 55-65 kmph gusting to 75 kmph is very likely to prevail **Along & off East Sri Lanka coasts** till 29th November. It would 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 29th Nov. to 02nd 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 Fishermen warnings & National bulletin for depression over Bay of Bengal, kindly refer:

https://rsmcnewdelhi.imd.gov.in/uploads/archive/51/51_bdf575_GRAPHIC.png

https://rsmcnewdelhi.imd.gov.in/uploads/archive/1/1_72e1e7_1.%20National%20Bulletin%20No%201-25Nov2024_0830IST.pdf

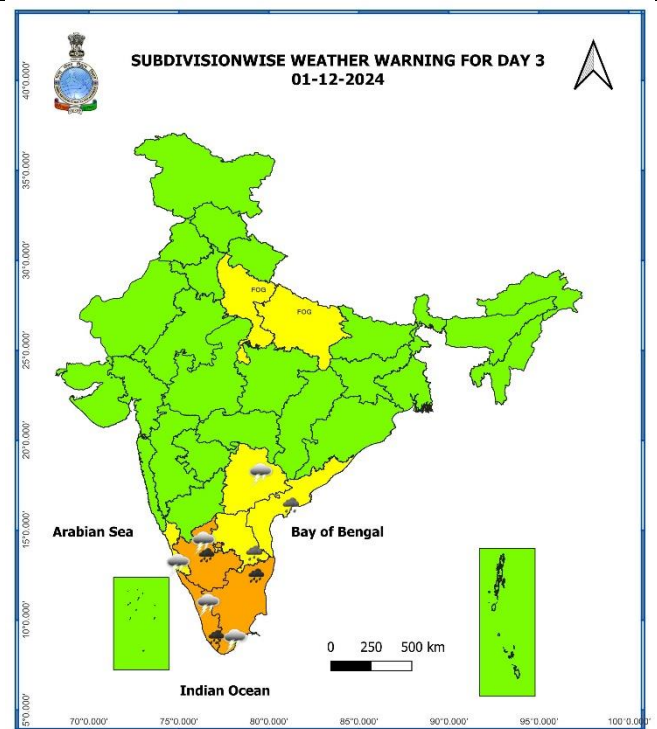
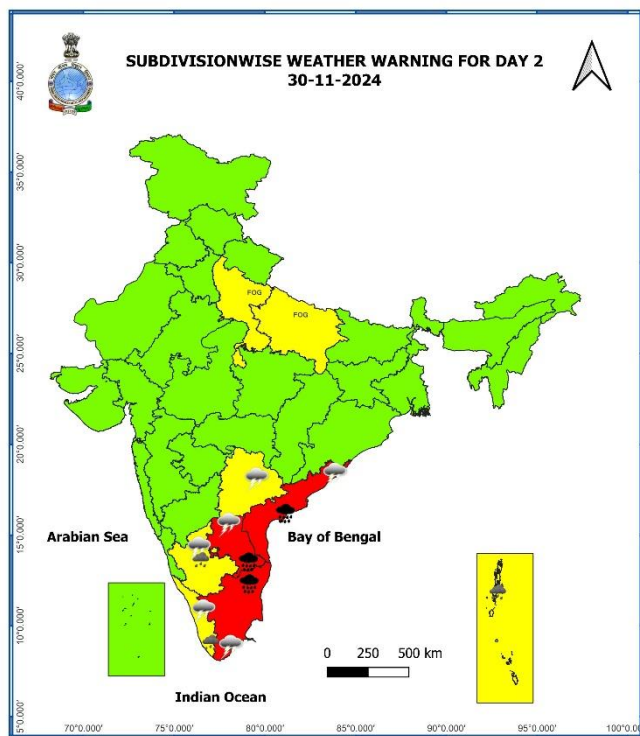
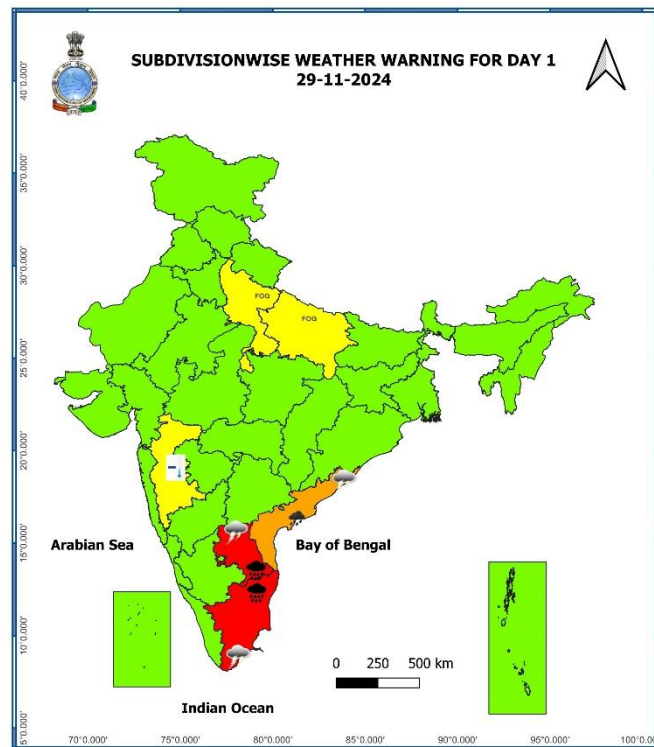
ANNEXURE I

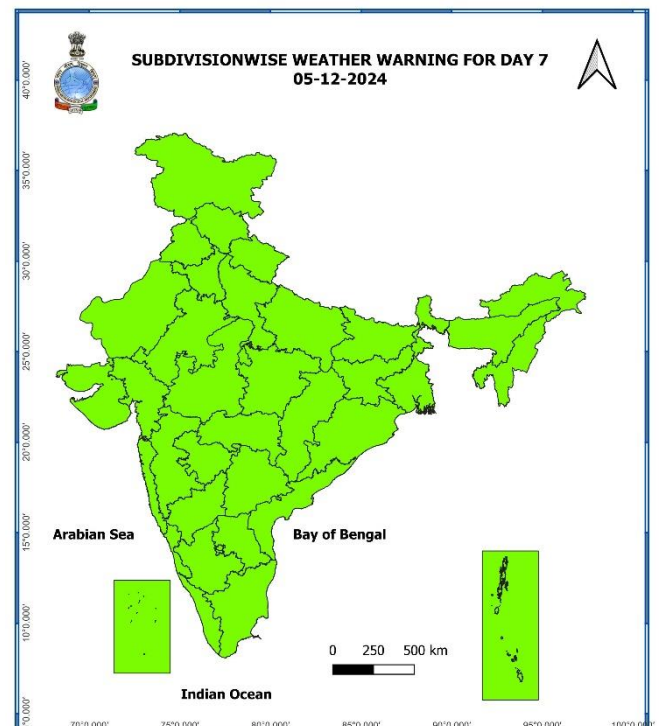
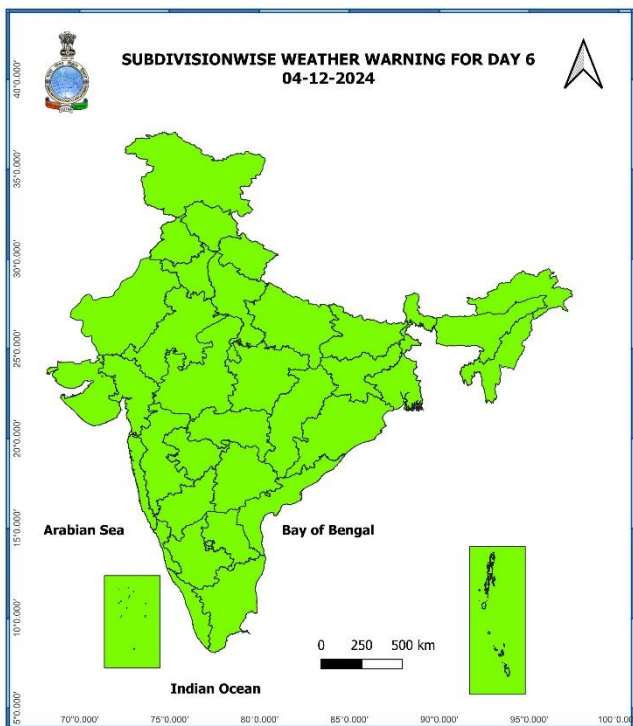
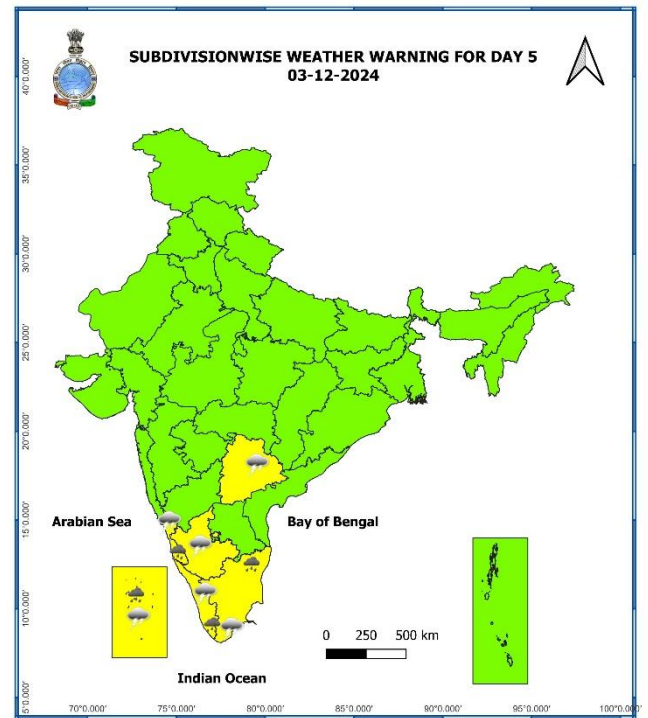
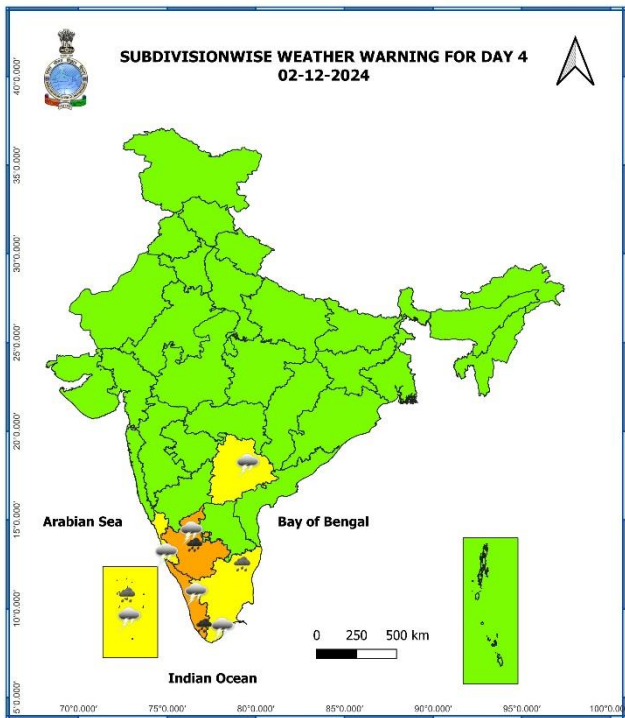
Significant Rainfall recorded during past 24 hours till 0830 hours IST of today 29.11.2024 (in cm):

- ❖ **Tamil Nadu, Puducherry & Karaikal:** Zone 01 Kathivakkam (dist Chennai), Chennai Collector Office (dist Chennai), DGP Office (dist Chennai) 6 each, CD Hospital Tondiarpet (dist Chennai), Zone 05 Basin Bridge (dist Chennai), Anna University ARG (dist Chennai), YMCA Nandnam ARG (dist Chennai), Chennai(N) AWS (dist Chennai), Zone 04 Tondiarpet (dist Chennai), Zone 01 Thiruvottiyur (dist Chennai), Anna University (dist Chennai) 5 each;
- ❖ **Rayalaseema:** Sullurpeta (dist Tirupati) 2

| 7 Days Rainfall Forecast | | | | | | | | |
|--------------------------|--------------------------------------|--------|--------|--------|--------|--------|--------|--------|
| S. No. | Subdivision | 29-Nov | 30-Nov | 01-Dec | 02-Dec | 03-Dec | 04-Dec | 05-Dec |
| | | Day 1 | Day 2 | Day 3 | Day 4 | Day 5 | Day 6 | Day 7 |
| 1 | ANDAMAN & NICOBAR ISLANDS | FWS | WS | WS | FWS | SCT | SCT | SCT |
| 2 | ARUNACHAL PRADESH | ISOL | ISOL | DRY | DRY | DRY | ISOL | ISOL |
| 3 | ASSAM & MEGHALAYA | ISOL | DRY | DRY | DRY | DRY | DRY | DRY |
| 4 | NAGALAND, MANIPUR, MIZORAM & TRIPURA | FWS | SCT | SCT | ISOL | ISOL | ISOL | ISOL |
| 5 | SUB-HIMALAYAN WEST BENGAL & SIKKIM | DRY | DRY | DRY | DRY | DRY | DRY | DRY |
| 6 | GANGETIC WEST BENGAL | DRY | ISOL | ISOL | DRY | DRY | DRY | DRY |
| 7 | ODISHA | ISOL | ISOL | DRY | DRY | ISOL | ISOL | ISOL |
| 8 | JHARKHAND | DRY | 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 | SCT | DRY | DRY | DRY |
| 16 | JAMMU & KASHMIR AND LADAKH | ISOL | ISOL | ISOL | SCT | ISOL | 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 | DRY | ISOL | ISOL | DRY | DRY |
| 24 | MADHYA MAHARASHTRA | DRY | DRY | DRY | ISOL | ISOL | DRY | DRY |
| 25 | MARATHAWADA | DRY | DRY | DRY | ISOL | ISOL | DRY | DRY |
| 26 | VIDARBHA | DRY | DRY | ISOL | ISOL | DRY | DRY | DRY |
| 27 | CHHATTISGARH | DRY | ISOL | ISOL | ISOL | ISOL | ISOL | ISOL |
| 28 | COASTAL ANDHRA PRADESH & YANAM | FWS | FWS | SCT | SCT | SCT | ISOL | ISOL |
| 29 | TELANGANA | ISOL | ISOL | SCT | SCT | ISOL | ISOL | ISOL |
| 30 | RAYALASEEMA | FWS | FWS | SCT | SCT | SCT | ISOL | ISOL |
| 31 | TAMILNADU PUDUCHERRY & KARAIKAL | FWS | FWS | FWS | FWS | SCT | SCT | SCT |
| 32 | COASTAL KARNATAKA | DRY | ISOL | SCT | FWS | FWS | FWS | FWS |
| 33 | NORTH INTERIOR KARNATAKA | DRY | DRY | DRY | ISOL | ISOL | ISOL | ISOL |
| 34 | SOUTH INTERIOR KARNATAKA | ISOL | ISOL | SCT | FWS | FWS | FWS | FWS |
| 35 | KERALA & MAHE | ISOL | FWS | WS | FWS | SCT | ISOL | ISOL |
| 36 | LAKSHADWEEP | DRY | DRY | SCT | FWS | FWS | FWS | FWS |

- As the lead period increases forecast accuracy decreases.



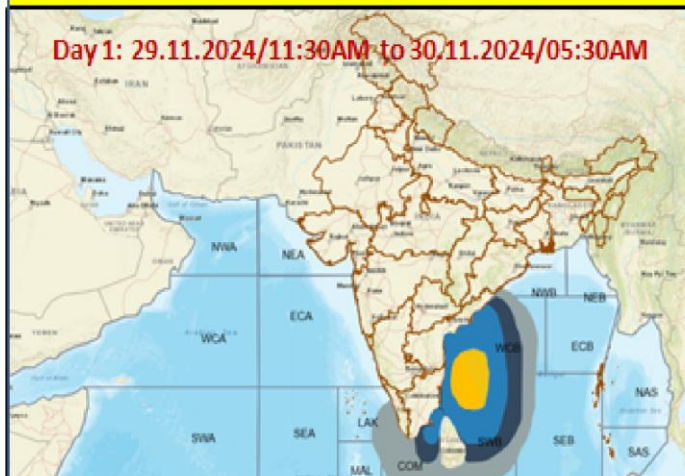


- Action may be taken based on **ORANGE AND RED COLOUR** warnings.
- Vulnerable regions likely urban and hilly areas action may be initiated for heavy rainfall warning.
- As the lead period increases forecast accuracy decreases.

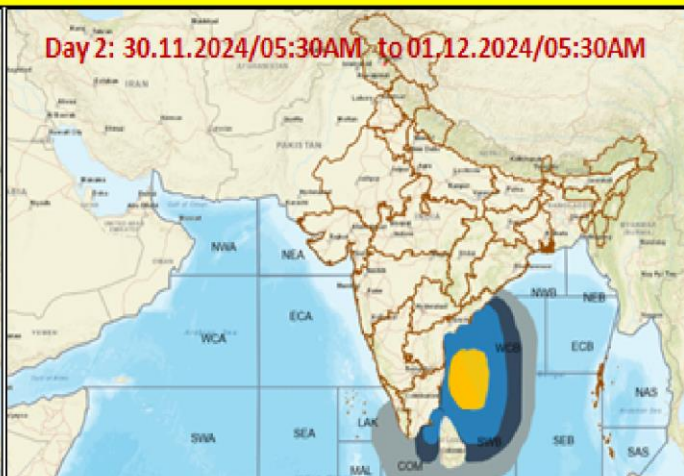


Fishermen Warning Graphics

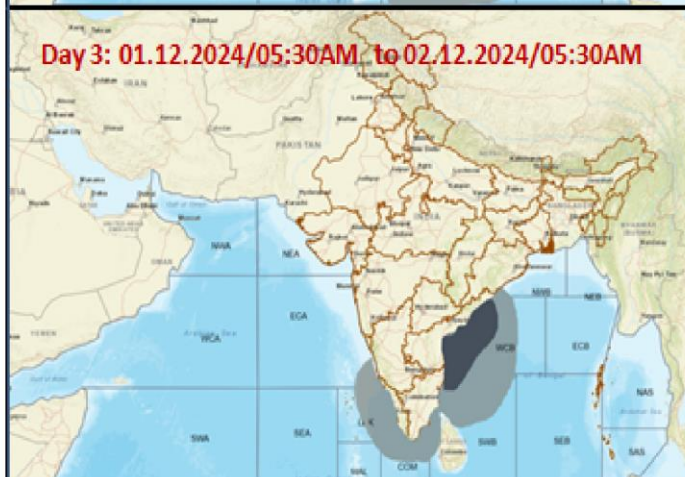
Day 1: 29.11.2024/11:30AM to 30.11.2024/05:30AM



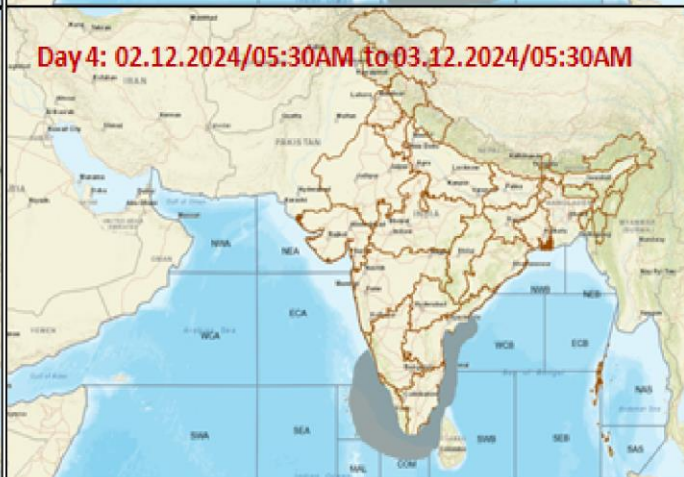
Day 2: 30.11.2024/05:30AM to 01.12.2024/05:30AM



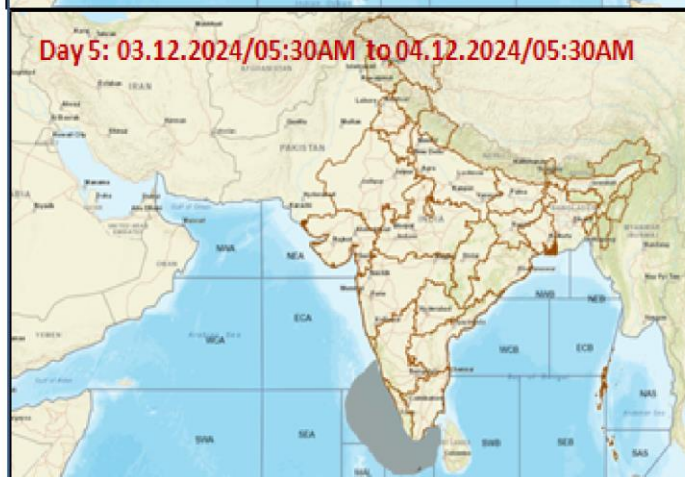
Day 3: 01.12.2024/05:30AM to 02.12.2024/05:30AM



Day 4: 02.12.2024/05:30AM to 03.12.2024/05:30AM



Day 5: 03.12.2024/05:30AM to 04.12.2024/05:30AM



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 forecast over Delhi/NCR during 29th Nov. to 02nd Dec. 2024**Past Weather:**

There has been a slight fall in minimum temperature and slight rise in maximum temperature over Delhi/NCR during past 24hr. The Maximum and Minimum temperature over Delhi is in the range of 25 to 28°C and 08 to 12°C respectively. The maximum temperature was above normal by 1 to 2°C and the minimum temperature was below normal by 1 to 4°C 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 28.11.2024. Shallow fog reported at Safdarjung airport during early morning today. Safdarjung airport recorded lowest visibility 1000 m during 0730 hours to 0930 hours IST which improved thereafter becoming 1000m at 1000 hours IST. Mainly smog condition with calm wind prevailed over the region in the forenoon today.

Weather Forecast:

29.11.2024: Mainly clear sky. The predominant surface wind is likely to be variable direction with wind speed less than 04 kmph till evening. It would decrease thereafter becoming calm during night. Smog/mist is likely in the evening/night.

30.11.2024: 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 fog is likely in the morning. The wind speed will increase thereafter becoming less than 06 kmph from variable direction during afternoon. It will decrease thereafter becoming less than 04 kmph from variable direction during evening and 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 gradually increase becoming 06-08 kmph from northwest direction during afternoon. It will decrease thereafter becoming less than 04 kmph from northwest direction during evening and night. Smog/ shallow fog is likely in the evening/night.

02.12.2024: 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 04 kmph from north direction during evening and night. Smog/ shallow fog is likely in the evening/night.

Impact & Action Suggested due to

- ✓ **Isolated extremely heavy rainfall** very likely over north Tamil Nadu & Puducherry & Rayalaseema on 29th & 30th, south Andhra Pradesh on 29th November.
- ✓ **Isolated heavy to very heavy rainfall** over south Coastal Andhra Pradesh on 29th November; Interior Tamil Nadu on 01st December; Kerala & Mahe and South Interior Karnataka on 01st & 02nd December.
- ✓ **Moderate to high flash flood** risk likely over Tamil Nadu, Puducherry & Karaikal, Rayalaseema and Coastal Andhra Pradesh & Yanam on 29th & 30th November.

A. 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.
- ❖ Damage to horticulture and standing crops in some areas due to inundation.

B. 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.

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.

Agromet advisories for Heavy Rainfall likely over various parts of the country

- In **Tamil Nadu**, drain out excess water from rice, sugarcane, cotton, turmeric, vegetables and other standing crop fields; coconut and banana orchards. Undertake propping in sugarcane. Provide mechanical support to banana plants to prevent lodging.
- Undertake picking of matured cotton bolls and harvesting of matured rice, maize, groundnut, finger millet, pigeon pea, arecanut, fruits and vegetables in **South Interior Karnataka**.
- Postpone harvesting of rice in **Andhra Pradesh**.
- Keep the harvested produce in safer places or cover the produce with tarpaulin sheets in the fields.
- Provide adequate drainage facilities for removal of excess water from standing crop fields and fruit orchards in Andhra Pradesh, Kerala and South Interior Karnataka.
- Provide mechanical support to horticultural crops and staking to vegetables

Livestock and Fishery

- Keep the animals inside the shed during heavy rainfall and provide balanced feed.
- Store the feed and fodder at safer place to avoid spoilage from rainfall.
- Hang gunny bags all around poultry sheds.
- Construct an outlet with proper netting around the pond to drain out excess rain water, thereby preventing fishes/fingerlings from escaping in case of overflowing.
- Check and repair dykes around the ponds to avoid entry of runoff water from catchment area.

FLASH FLOOD GUIDANCE:

24 hours Outlook for the Flash Flood Risk (FFR) till 1130 IST of 30-11-2024:

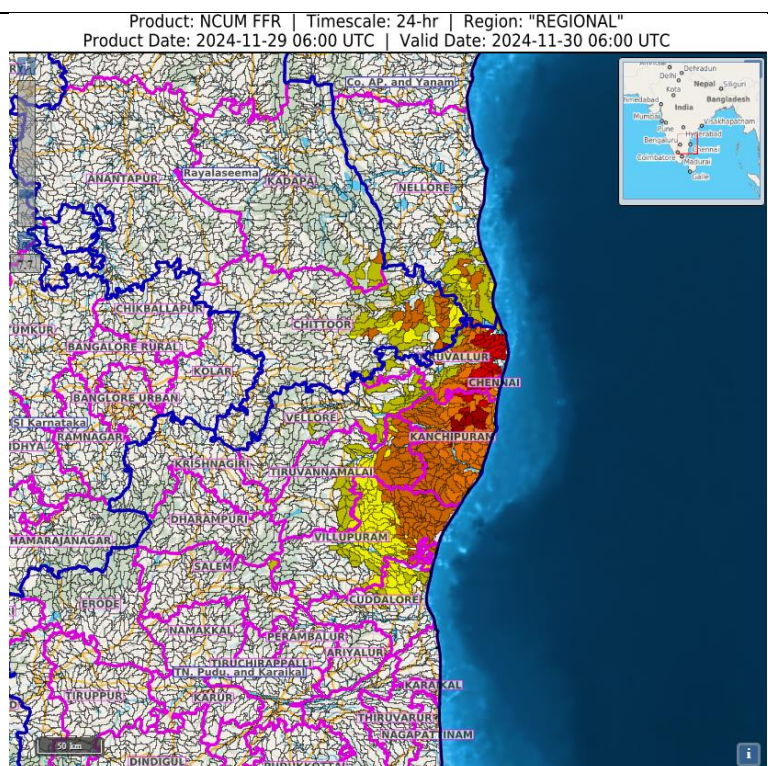
Moderate to high flash flood risk likely over few watersheds & neighbourhoods of following Meteorological subdivision in next 24 hours.

Coastal Andhra Pradesh – Thirupati and Nellore district

Rayalaseema – Chittoor, Annamaya and Kadapa district

Tamil Nadu, Puducherry & Karaikal - Chennai, Kanchipuram, Vellupuram, Cuddalore, Vellore, Tiruvannamalai and Tiruvallur districts.

Surface runoff/ Inundation may occur at some fully saturated soils & low-lying areas over Area of Concern as shown in map due to expected rainfall occurrence in next 24 hours.

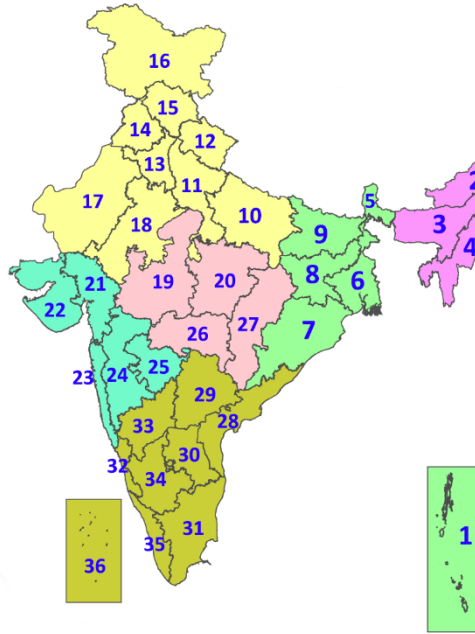


Legends & abbreviations:

- ❖ **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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