



Government of India  
Ministry of Earth Sciences  
India Meteorological Department



Press Release

Date: 28<sup>th</sup> November, 2024

Time of Issue: 1300 hours IST

**Subject: (i) The Deep Depression over Southwest Bay of Bengal is likely to move north-northwestwards and cross north Tamil Nadu-Puducherry coasts between Karaikal and Mahabalipuram around morning of 30<sup>th</sup> November as a deep depression with a wind speed of 50-60 kmph gusting to 70 kmph.**

**(ii) Heavy to very heavy rainfall with isolated extremely heavy rainfall likely over north Tamil Nadu & Puducherry on 29<sup>th</sup> & 30<sup>th</sup>, south Coastal Andhra Pradesh & Yanam & Rayalaseema on 29<sup>th</sup> November, 2024.**

**i. Rainfall Forecast and warning over the country:**

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

- ❖ **Fog conditions observed** (at 0530 & 0830 hours IST of today): **Very dense fog (visibility < 50 m)** reported in isolated pockets of Bihar; **dense fog (visibility 51-200 m)** reported in isolated pockets of East Uttar Pradesh.
- ❖ **Visibility reported** (in m): **Bihar:** Bhagalpur 0, Purnea 200; **East Uttar Pradesh:** Kushinagar 50.

**Weather Systems:**

- ❖ The **Deep Depression** over Southwest Bay of Bengal moved north-northwestwards and lay centred at 0830 hours IST of today, the 28<sup>th</sup> November 2024 over the same region near latitude 9.1°N and longitude 82.1°E, about 110 km east-northeast of Trincomalee, 310 km southeast of Nagapattinam, 410 km southeast of Puducherry and 480 km south-southeast of Chennai. It is very likely to move nearly north-northwestwards skirting Sri Lanka coast during next 12 hours. Thereafter, it will continue to move north-northwestwards and cross north Tamil Nadu-Puducherry coasts between Karaikal and Mahabalipuram around morning of 30<sup>th</sup> November as a **deep depression** with a wind speed of 50-60 kmph gusting to 70 kmph. There is a possibility of marginal intensification of the deep depression into a Cyclonic Storm with wind speed 65-75 kmph gusting to 85 kmph over southwest Bay of Bengal during the evening of 28<sup>th</sup> November to morning of 29<sup>th</sup> November 2024.
- ❖ A Western disturbance seen as a trough in middle tropospheric westerlies runs roughly along Long. 50°E to the north of Lat. 30°N.

**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 28<sup>th</sup> November- 02<sup>nd</sup> December, South Interior Karnataka during 29<sup>th</sup>-02<sup>nd</sup> December, Telangana, Kerala & Mahe & Rayalaseema during 30<sup>th</sup> November-02<sup>nd</sup> December, Coastal & North Interior Karnataka and Lakshadweep on 01<sup>st</sup> & 02<sup>nd</sup> December.
- ✓ Light to moderate rainfall at many places over Andaman & Nicobar Islands during the week.
- ✓ Isolated **heavy to very heavy rainfall** at a few places **with extremely heavy falls** at isolated places very likely over north Tamil Nadu on 29<sup>th</sup> & 30<sup>th</sup>; **heavy to very heavy rainfall with extremely heavy falls** at isolated places very likely over south Andhra Pradesh & Yanam and Rayalaseema on 29<sup>th</sup> November.

- ✓ **Heavy to very heavy rainfall** at isolated places very likely over Kerala & Mahe, South Interior Karnataka on 30<sup>th</sup> November & 01<sup>st</sup> December, Coastal Andhra Pradesh & Yanam & Rayalaseema on 30<sup>th</sup> November and Tamil Nadu, Puducherry & Karaikal on 01<sup>st</sup> December.
- ✓ **Heavy rainfall** at isolated places very likely over coastal Tamil Nadu on 28<sup>th</sup>, Kerala & Mahe and South Interior Karnataka on 29<sup>th</sup> November & 02<sup>nd</sup> December, Andaman & Nicobar Islands on 30<sup>th</sup> November, and Lakshadweep on 02<sup>nd</sup> & 03<sup>rd</sup> December.
- ✓ **Dense fog conditions** very likely to prevail during late night/early morning hours in isolated pockets of Himachal Pradesh, Punjab & Haryana-Chandigarh & Bihar till 30<sup>th</sup> November and Uttar Pradesh till 02<sup>nd</sup> December morning hours.

## 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 isolated places over Bihar; **above normal (1°C to 3°C)** at a few places over Rajasthan, Gujarat State and Gangetic West Bengal; at isolated places over West Uttar Pradesh, Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe. These are **appreciably below normal (-5°C to -3°C)** at most places over Marathwada, Vidarbha; at a few places over Madhya Maharashtra & Telangana; **below normal (-3°C to -1°C)** at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, East Uttar Pradesh, Madhya Pradesh, Konkan & Goa, Assam & Meghalaya, Odisha, Chhattisgarh, Coastal Andhra Pradesh & Yanam and near normal over rest parts of the country. Today, the **lowest minimum temperature** of 6.5°C is reported at **Mandla (East Madhya Pradesh)** 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 2-4°C very likely over west & central India (except Madhya Pradesh) during next 5 days.

## iii. Fishermen & Wind Warnings (Annexure IV):

- ❖ 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 30<sup>th</sup> 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 very likely to prevail over southwest Bay of Bengal till 30<sup>th</sup> forenoon. There could be increase in wind speed becoming gale wind speed reaching 65-75 kmph gusting to 85 kmph over this region during evening of 28<sup>th</sup> November till morning of 29<sup>th</sup> November.
- ❖ **Adjoining areas of westcentral Bay of Bengal:** Squally wind speed reaching 40-50 kmph gusting to 60 kmph is prevailing over adjoining areas of westcentral Bay of Bengal. It is likely to increase becoming 50-60 kmph gusting to 70 kmph from 29<sup>th</sup> evening till 30<sup>th</sup> November afternoon.
- ❖ **Along & off North Tamil Nadu – Puducherry and adjoining South Andhra Pradesh coasts:** Squally wind speed reaching 45-55 kmph gusting to 65 kmph is prevailing along & off **North Tamil Nadu - Puducherry and adjoining South Andhra Pradesh coasts**. It is likely to increase becoming 50-60 kmph gusting to 70 kmph from 29<sup>th</sup> evening till 30<sup>th</sup> November afternoon.

- ❖ **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 29<sup>th</sup> morning. It would decrease gradually thereafter becoming 45-55 kmph gusting to 65 kmph by 30<sup>th</sup> November morning and further decrease thereafter.
- ❖ **Along & off South Tamil Nadu coast and Gulf of Mannar:** Squally wind speed reaching 40-50 kmph gusting to 60 kmph is likely to prevail till 29<sup>th</sup> evening. It would increase thereafter, becoming 45-55 kmph gusting to 65 kmph till 30<sup>th</sup> morning and gradually decrease thereafter.

#### **iv. Weather conditions and forecast over Delhi/NCR during 28<sup>th</sup> Nov. to 01<sup>st</sup> Dec. 2024 (Annexure V)**

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

[https://mausam.imd.gov.in/responsive/all\\_india\\_forecast\\_bulletin.php](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/51/51_bdf575_GRAPHIC.png)

[https://rsmcnewdelhi.imd.gov.in/uploads/archive/1/1\\_72e1e7\\_1.%20National%20Bulletin%20No%201-25Nov2024\\_0830IST.pdf](https://rsmcnewdelhi.imd.gov.in/uploads/archive/1/1_72e1e7_1.%20National%20Bulletin%20No%201-25Nov2024_0830IST.pdf)

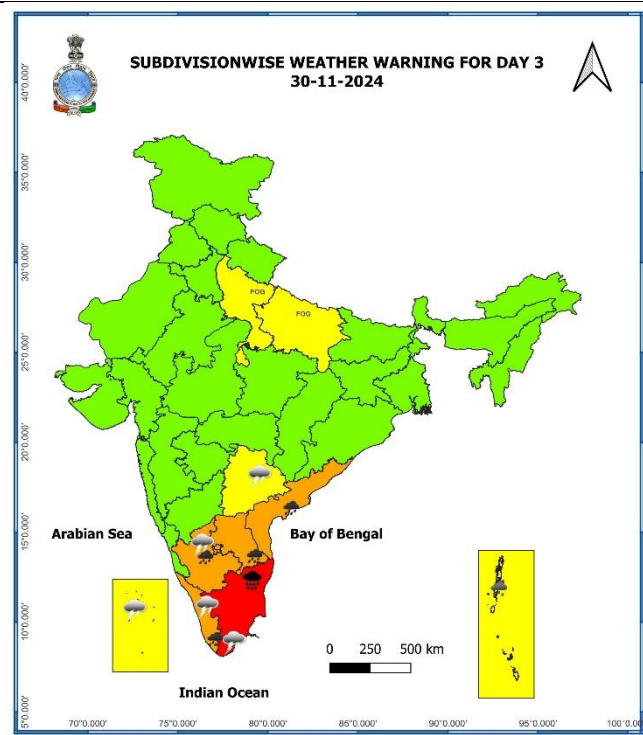
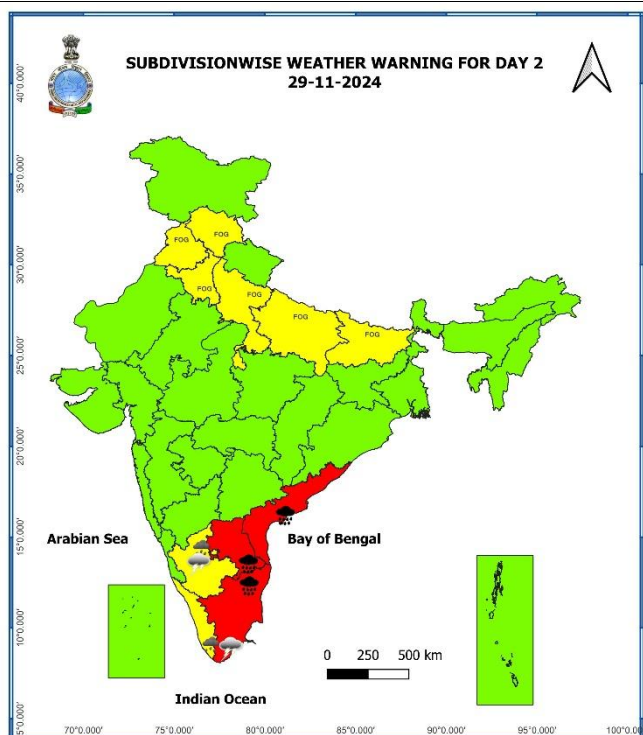
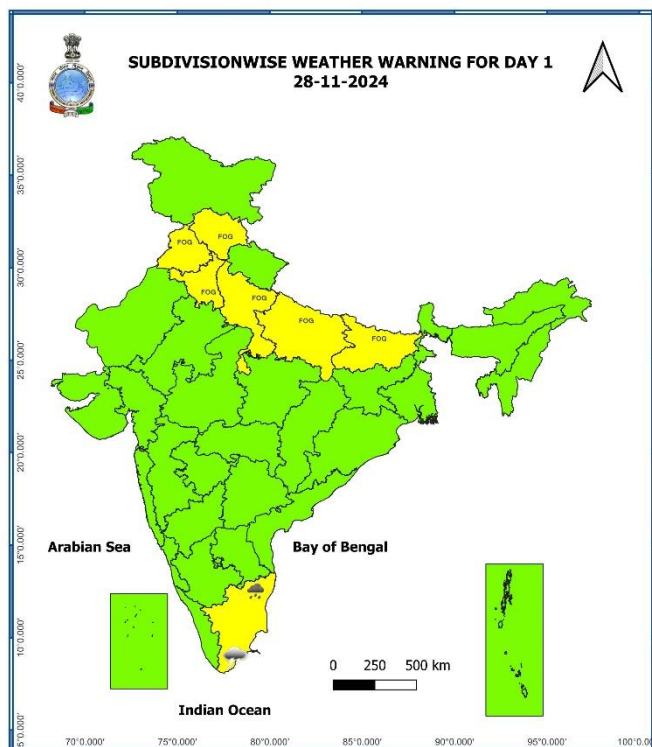
#### **ANNEXURE I**

**Significant Rainfall recorded during past 24 hours till 0830 hours IST of today 28.11.2024 (in cm):**

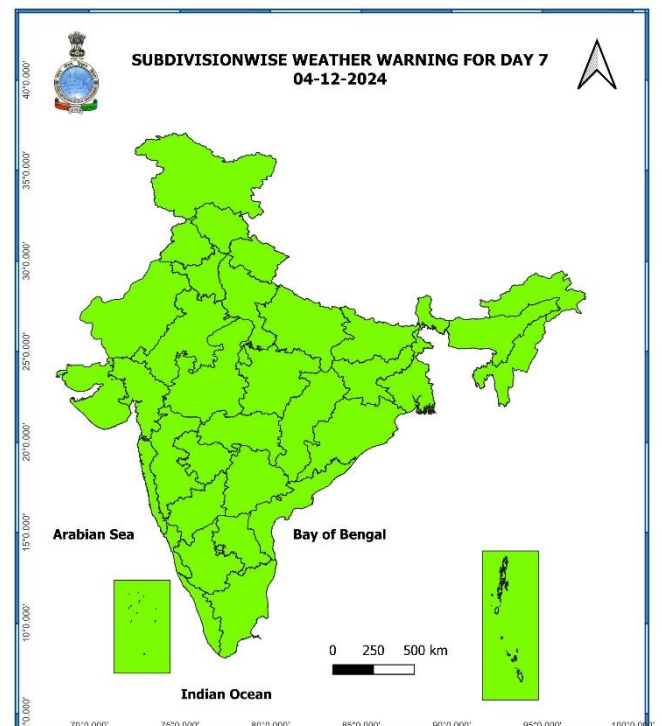
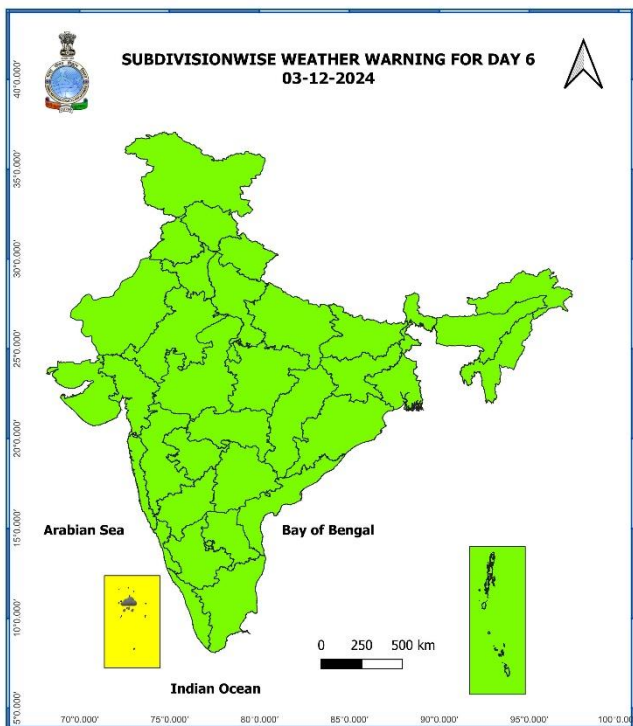
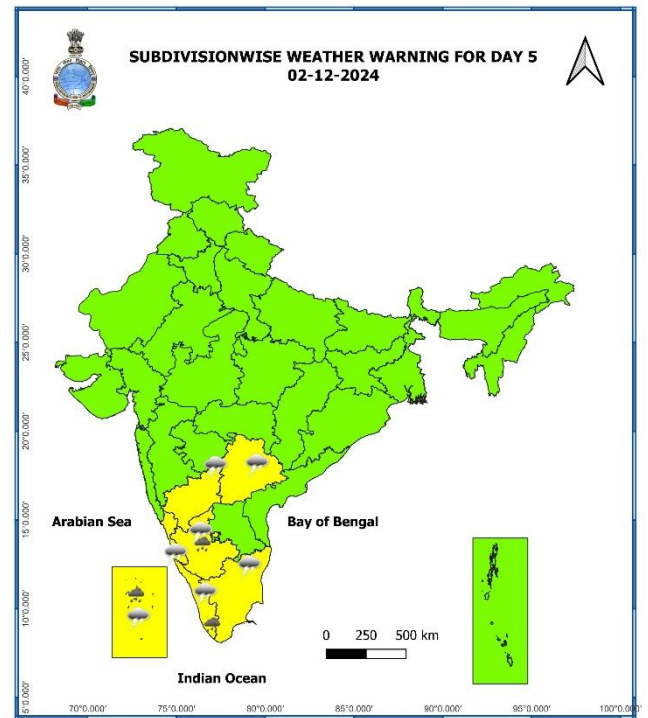
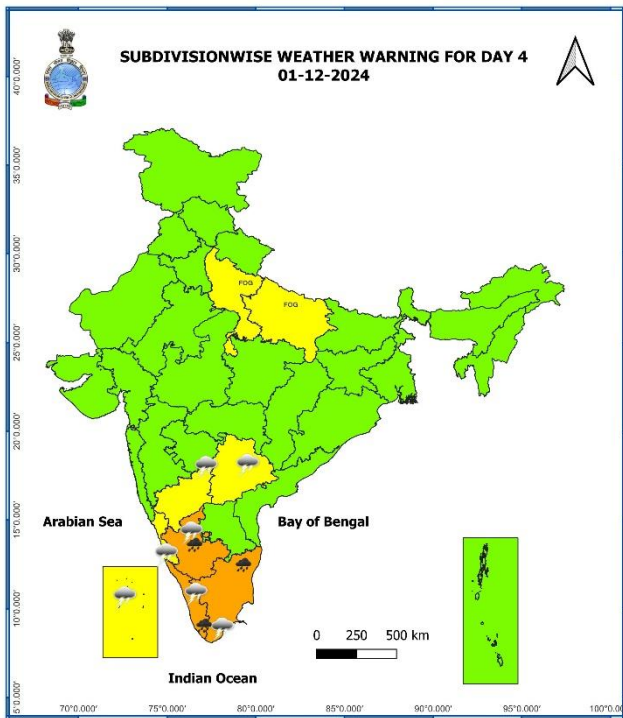
- ❖ **Tamil Nadu, Puducherry & Karaikal:** Nagapattinam AWS (dist Nagapattinam) 6, Velankanni (dist Nagapattinam), Thiruthuraipoondi (dist Thiruvarur), Kodiayakarai (dist Nagapattinam), Tirupoondi (dist Nagapattinam), Thirukuvalai (dist Nagapattinam), Nagapattinam (dist Nagapattinam), Vedaranyam (dist Nagapattinam) 5 each;
- ❖ **Andaman & Nicobar Islands:** Nancowry (dist Nicobar) 3.

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

- As the lead period increases forecast accuracy decreases.





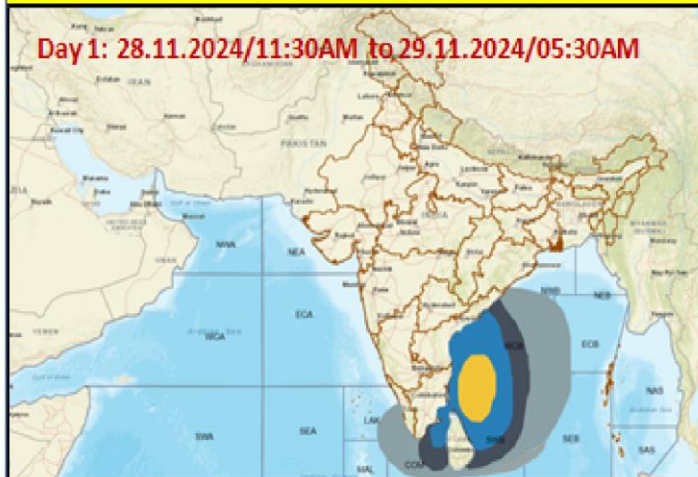


- Action may be taken based on **ORANGE AND RED COLOUR** warnings.
- Vulnerable regions likely urban and hilly areas action may be initiated for heavy rainfall warning.
- As the lead period increases forecast accuracy decreases.

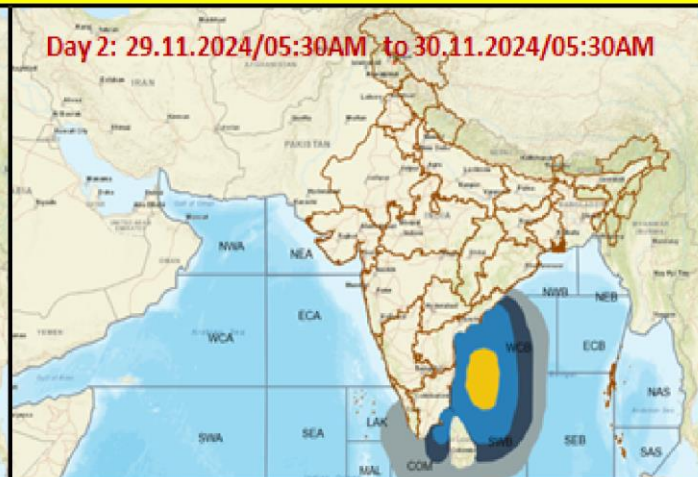


## Fishermen Warning Graphics

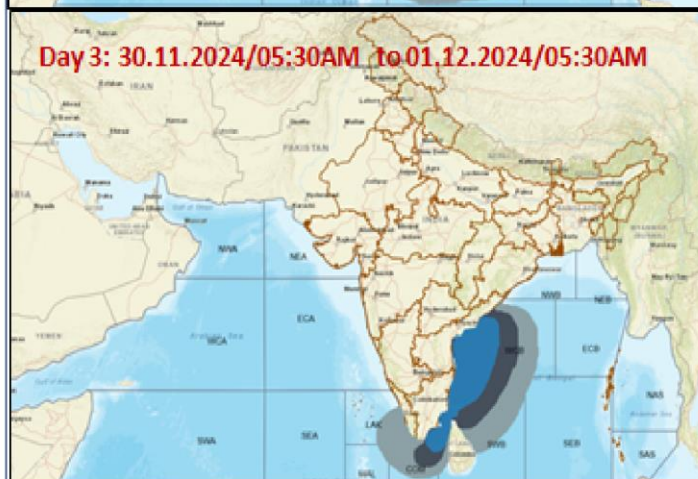
**Day 1: 28.11.2024/11:30AM to 29.11.2024/05:30AM**



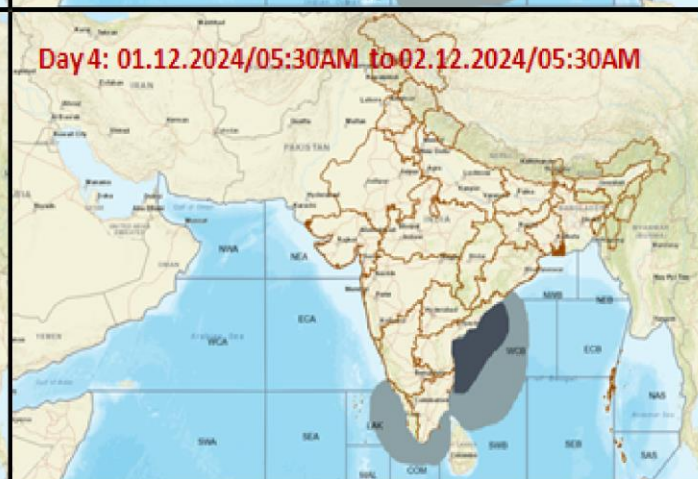
**Day 2: 29.11.2024/05:30AM to 30.11.2024/05:30AM**



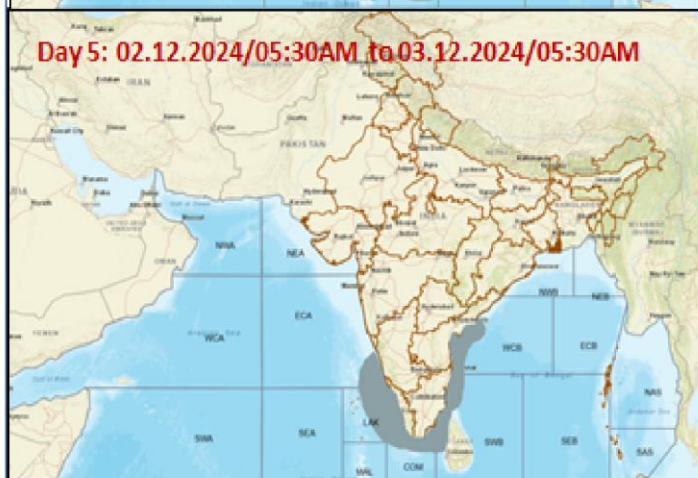
**Day 3: 30.11.2024/05:30AM to 01.12.2024/05:30AM**



**Day 4: 01.12.2024/05:30AM to 02.12.2024/05:30AM**



**Day 5: 02.12.2024/05:30AM to 03.12.2024/05:30AM**



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 28<sup>th</sup> Nov. to 01<sup>st</sup> 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 27°C and 09 to 12°C respectively. The maximum and the minimum temperature were near normal most places over the region. Mainly smog/ shallow fog condition with predominant surface wind from northwest direction with wind speed reaching 06 to 12 kmph prevailed during day time and calm wind during night time on 27.11.2024. Shallow fog reported at Safdarjung airport during early morning today. Safdarjung airport recorded lowest visibility 600 m during 0730 hours to 0800 hours IST which improved thereafter becoming 700m at 0830 hours IST. Mainly smog condition with wind speed less than 05 kmph variable direction prevailed over the region in the forenoon today.

**Weather Forecast:**

**28.11.2024:** Mainly clear sky. The predominant surface wind is likely to be variable direction with wind speed less than 06 kmph till evening. It would decrease thereafter becoming less than 04 kmph from north direction during night. Smog/shallow fog is likely in the evening/night.

**29.11.2024:** Mainly clear sky. The predominant surface wind is likely to be from variable direction with speed less than 04 kmph during morning hours. Smog/ moderate 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/ shallow fog 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 to moderate fog is likely in the morning. The wind speed will gradually increase becoming 06-10 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.

**01.12.2024:** 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 06-10 kmph from 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 on 29<sup>th</sup> & 30<sup>th</sup> November, south Andhra Pradesh & Rayalaseema on 29<sup>th</sup> November.
- ✓ **Isolated heavy to very heavy rainfall** over Kerala & Mahe, South Interior Karnataka on 30<sup>th</sup> November & 01<sup>st</sup> December and Coastal Andhra Pradesh & Yanam & Rayalaseema on 30<sup>th</sup> November, coastal Tamil Nadu & Puducherry on 01<sup>st</sup> December.

#### **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 kutchra 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** and harvesting of matured rice in **Andhra Pradesh** immediately. 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 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 29-11-2024 :**

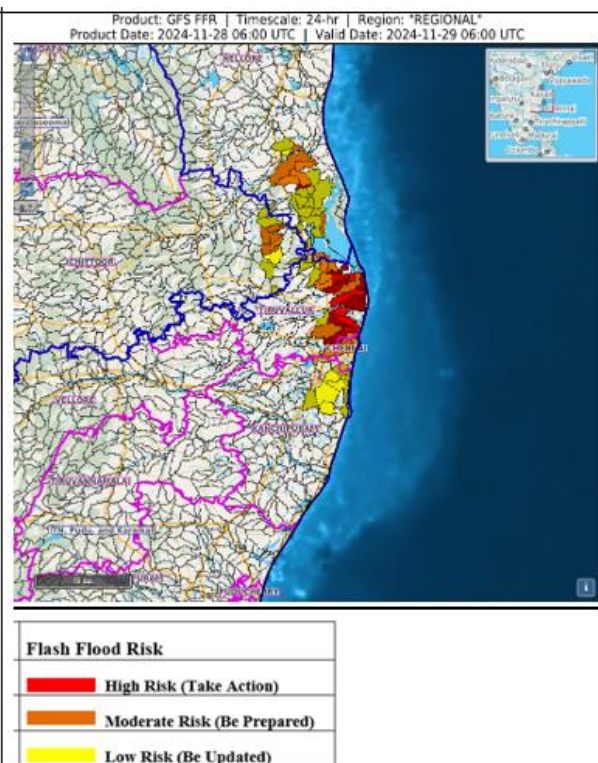
**Low to Moderate flash flood risk** likely over few watersheds & neighbourhoods of following Meteorological Sub-divisions during next 24 hours.

**Rayalaseema** - Chittoor district.

**Coastal Andhra Pradesh** – Nellore district

**Tamil Nadu** - **Puducherry & Karaikal** - Chennai, Kanchipuram 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.

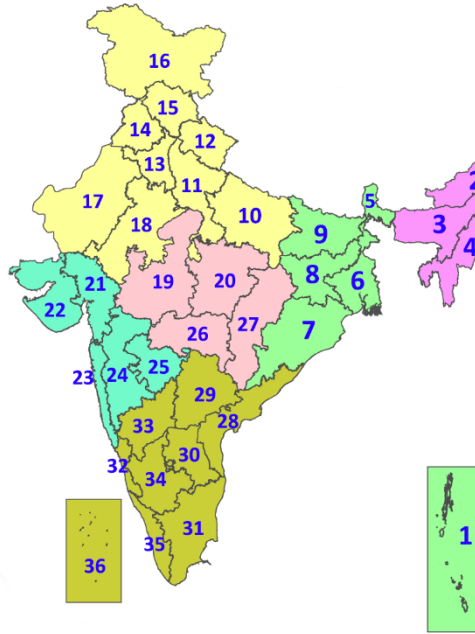


## Legends & abbreviations:

- ❖ **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  $4.5^{\circ}\text{C}$  to  $6.4^{\circ}\text{C}$ .

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  $40^{\circ}\text{C}$

Warm Night: When minimum temperature departure  $4.5^{\circ}\text{C}$  to  $6.4^{\circ}\text{C}$ .

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  $-4.5^{\circ}\text{C}$  to  $-6.4^{\circ}\text{C}$ .

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  $-4.5^{\circ}\text{C}$  to  $-6.4^{\circ}\text{C}$ .

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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