



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

Saturday, November 30, 2024 Time of Issue: 2000 hours IST (NIGHT)

## **All India Impact Based Weather Warning Bulletin**

Weather Warnings for next 7 days is given below: (Graphics for warnings & rainfall distribution (Table 1) are given below the text:

## 30 November (Day 1):

- ★ Heavy to very Heavy rainfall with extremely heavy falls (≥ 20 cm) at a few places Coastal Tamil Nadu; Heavy to very Heavy with extremely heavy falls (≥ 20 cm) at isolated places over at isolated places over remaining parts of Tamil Nadu, Puducherry & Karaikal, Rayalaseema and Coastal Andhra Pradesh.
- **Dense fog** very likely in isolated pockets of Uttar Pradesh in night/morning hours.
- **Thunderstorm accompanied with lightning** very likely at isolated places over Kerala & Mahe.
- ❖ Squally wind speed reaching 45-55 kmph gusting to 65 kmph is likely to prevail along & off South Tamil Nadu coast and Gulf of Mannar; Squally wind speed reaching 55-65 kmph gusting to 75 kmph is likely to prevail over adjoining areas of westcentral Bay of Bengal; Squally wind speed reaching 55-65 kmph gusting to 75 kmph is very likely to prevail Along & off East Sri Lanka coasts; Gale wind speed reaching 75-85 kmph gusting to 95 kmph is likely to prevail over southwest Bay of Bengal, along & off North Tamil Nadu Puducherry and adjoining South Andhra Pradesh coasts. Fishermen are advised not to venture into these areas.

#### 01 December (Day 2):

- ❖ Heavy to very Heavy rainfall with extremely heavy falls (≥ 20 cm) at a few places Coastal Tamil Nadu; Heavy to very Heavy with extremely heavy falls (≥ 20 cm) at isolated places over remaining parts of Tamil Nadu, Puducherry & Karaikal; Heavy rainfall (≥ 7 cm) at isolated places over Kerala & Mahe, Coastal Andhra Pradesh & Yanam, Rayalaseema, South Interior Karnataka.
- ❖ **Dense fog** very likely in isolated pockets of Uttar Pradesh in night/morning hours.
- ❖ Thunderstorm accompanied with lightning very likely at isolated places over Kerala & Mahe and South Interior Karnataka.
- ❖ Squally wind speed reaching 45-55 kmph gusting to 65 kmph likely to prevail along & off South Tamil Nadu coast and Gulf of Mannar, Along & off East Sri Lanka coasts, along & off North Tamil Nadu − Puducherry and adjoining South Andhra Pradesh coasts & adjoining areas of westcentral Bay of Bengal. Fishermen are advised not to venture into these areas.





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#### 02 December (Day 3):

- ❖ Heavy to very Heavy rainfall (≥ 12 cm) very likely at isolated places over Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe, South Interior Karnataka; Heavy rainfall (≥ 7 cm) at isolated places over Coastal Andhra Pradesh & Yanam, Rayalaseema.
- ❖ Thunderstorm accompanied with lightning very likely at isolated places over Kerala & Mahe and South Interior Karnataka.
- ❖ Squally wind speed reaching 45-55 kmph gusting to 65 kmph likely to prevail along & off South Tamil Nadu coast and Gulf of Mannar, Along & off East Sri Lanka coasts, along & off North Tamil Nadu − Puducherry and adjoining South Andhra Pradesh coasts & adjoining areas of westcentral Bay of Bengal. Fishermen are advised not to venture into these areas.

## 03 December (Day 4):

- ❖ Heavy to very Heavy rainfall (≥ 12 cm) likely at isolated places over Kerala & Mahe, South Interior Karnataka; Heavy rainfall (≥ 7 cm) at isolated places over Tamil Nadu, Puducherry & Karaikal, Lakshadweep.
- **Thunderstorm accompanied with lightning** likely at isolated places over Kerala & Mahe and South Interior Karnataka.

#### 04 December (Day 5):

- **♦ Heavy rainfall (≥ 7 cm)** at isolated places over Kerala & Mahe, Lakshadweep.
- **Thunderstorm accompanied with lightning** likely at isolated places over Kerala & Mahe.

## 05 December (Day 6):

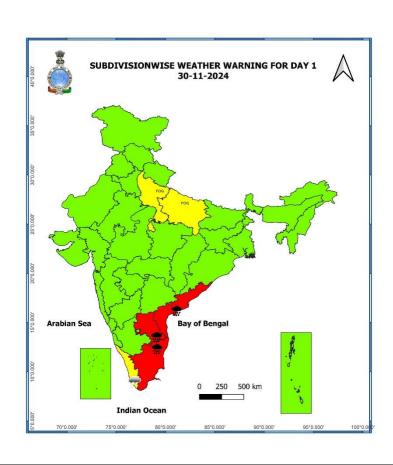
**❖** No Warning.

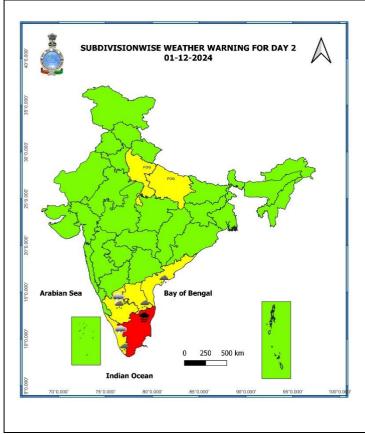
#### 06 December (Day 7):

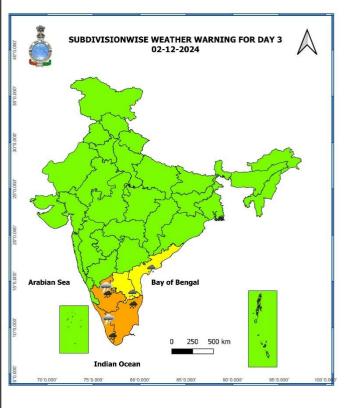
**❖** No Warning.







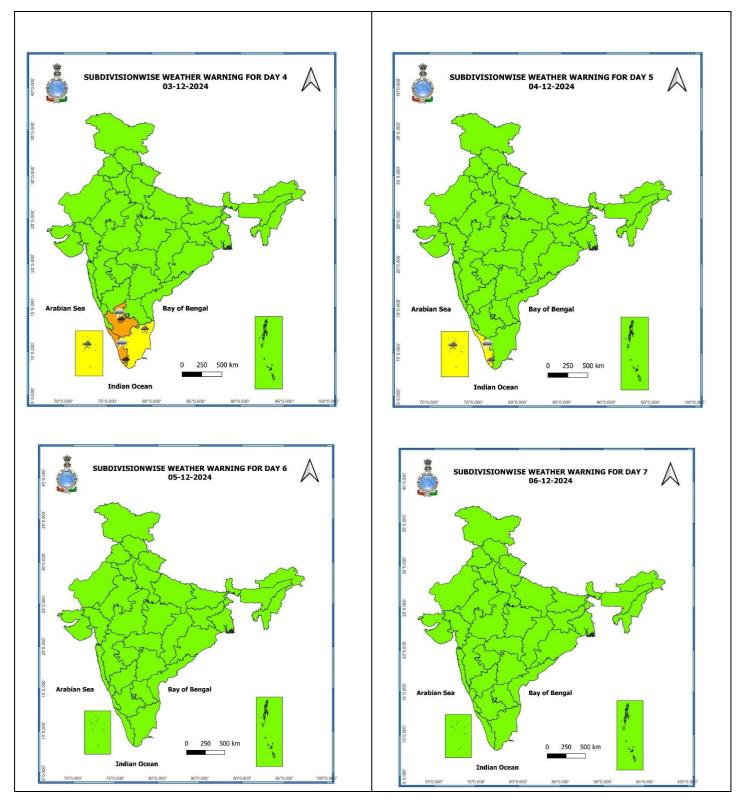








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- Action may be taken based on **ORANGE** AND **RED** COLOUR warnings.
- Vulnerable regions likely urban and hilly areas action may be initiated for heavy rainfall warning.
- As the lead period increases forecast accuracy decreases.





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

## Table-1

To Days Rainfall Forecast  Subdivision  Subd		I at	ole-1						
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	14	PUNJAB	DRY	DRY	DRY	DRY	DRY	DRY	DRY
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• As the lead period increases forecast accuracy decreases.





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## Impact & Action Suggested due to Tropical Cyclonic Storm "FENGAL"

Impact Expected due to Cyclonic Storm "FENGAL" [pronounced as FEINJAL] 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 tress 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 30<sup>th</sup> November.
- ❖ Fishermen out at sea are advised to return to coast.
- The ships plying over the area need to regulated.
- ❖ People should stay in safe places during 30<sup>th</sup> 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 poultries over coastal areas.
- Avoid staying in vulnerable structure.

#### Impact expected due to Heavy Rainfall

- ✓ **Heavy to very Heavy rainfall with extremely heavy falls** at isolated places over north Tamil Nadu on 30<sup>th</sup> November and 1<sup>st</sup> December; Rayalaseema & Coastal Andhra Pradesh on 30<sup>th</sup> November.
- ✓ **Isolated heavy to very heavy rainfall** over Interior Tamil Nadu on  $02^{nd}$  December; Kerala & Mahe and South Interior Karnataka on  $2^{nd}$   $3^{rd}$  December.

**Moderate to High flash flood risk** likely over Tamil Nadu, Puducherry & Karaikal, Rayalaseema and Coastal Andhra Pradesh & Yanam and South Interior Karnataka on 30<sup>th</sup> November & 01<sup>st</sup> December. **(ANNEXURE I)** 

#### 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.
- Possibilities of damage to vulnerable structure.
- ❖ Localized Landslides/Mudslides
- ❖ Damage to horticulture and standing crops in some areas due to inundation.
- ❖ It may lead to riverine flooding in some river catchments (for riverine flooding please visit Web page of CWC).

#### **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.





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## Impact expected due to dense/very dense fog in the late night/morning hours

- 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 Tamil Nadu, Kerala, South Interior Karnataka Coastal Andhra Pradesh and Rayalaseema:

- ➤ In **Tamil Nadu**, drain out excess water from rice, sugarcane, cotton, turmeric, vegetables, and other standing crop fields, as well as 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 immediately in **South Interior Karnataka**.
- > Postpone harvesting of rice in **South Coastal Andhra Pradesh** and **Rayalaseema**.
- > 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 the catchment areas.



Flash Flood Guidance: ANNEXURE I

# 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.

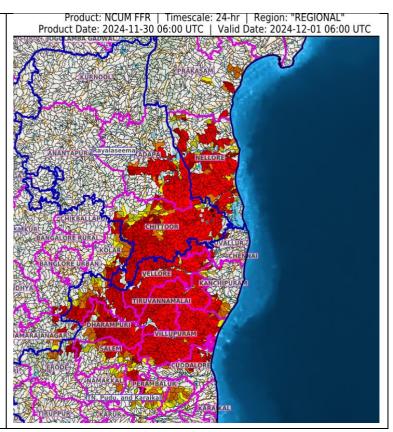
Coastal Andhra Pradesh & Yanam - Prakasam and Nellore districts.

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.



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## **LEGENDS**



## **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 Wa	ve COLOUR CODED WARNING





Rain/ Snow *	Heavy: 64.5 to 115.5 mm/cm *  Very Heavy: 115.6 to 204.4 mm/cm*
kain/ 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
Warm Night	Warm Night: When minimum temperature departure 4.5 °C to 6.4 °C.
	Severe Warm Night: When minimum temperature departure >6.4 °C.
	When minimum temperature of a station ≤10°C for plains and ≤0°C for hilly regions. (a). Based on departure
	Cold Wave: Minimum Temperature Departure from normal -4.5 °C to -6.4 °C.
Cold Wave	Severe Cold Wave: Minimum Temperature Departure from normal ≤ -6.5 °C
ooid 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
Cold Day	When minimum temperature of a station ≤10°C for plains and ≤0°C for hilly regions  Based on departure  Cold Day: Maximum Temperature Departure from normal -4.5 °C to -6.4 °C.
co.a bay	Severe Cold Day: Maximum Temperature Departure from normal ≤ -6.5 °C
	Phenomenon of small droplets suspended in air and the horizontal visibility < 1km  Moderate Fog: When the visibility between 500-200 metres
Fog	Dense Fog: when the visibility between 50-200 metres
	Very Dense Fog: when the visibility < 50 metres
Dust/Sand	Sudden electrical discharges manifested by a flash of light (Lightning) and a sharp rumbling sound (thunder)  An ensemble of particles of dust or sand energetically lifted to great heights by a strong and turbulent wind.
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Dust/Sand Storm  Frost  Squall	An ensemble of particles of dust or sand energetically lifted to great heights by a strong and turbulent wind.    Ce deposits on ground
Dust/Sand Storm  Frost  Squall	An ensemble of particles of dust or sand energetically lifted to great heights by a strong and turbulent wind.    Ice deposits on ground
Dust/Sand Storm  Frost  Squall  Sea State	An ensemble of particles of dust or sand energetically lifted to great heights by a strong and turbulent wind.    Ce deposits on ground
Frost	An ensemble of particles of dust or sand energetically lifted to great heights by a strong and turbulent wind.    Ce deposits on ground