



**India Meteorological Department
(Ministry of Earth Sciences)**

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Sub: Cyclonic Storm 'JAWAD' over westcentral Bay of Bengal: Cyclone Warning for north Andhra Pradesh and Odisha coasts – Orange Message.

The **Cyclonic Storm 'JAWAD'** (Pronounced as JOWAD) over westcentral Bay of Bengal continued to move north-northwestwards with a speed of 20 kmph during past 06 hours and lay centered at 1730 hrs IST of today, the 3rd December 2021, over westcentral Bay of Bengal near Lat. 15.5N and Long. 85.0°E, about 300 km south-southeast of Vishakhapatnam (Andhra Pradesh), 420 km nearly south of Gopalpur (Odisha), 480 km south-southwest of Puri (Odisha) and 560 km south-southwest of Paradip (Odisha).

It is likely to move north-northwestwards, intensify further and reach west-central Bay of Bengal off north Andhra Pradesh – south Odisha coasts by tomorrow, the 4th December morning. Thereafter it is likely to recurve north-northeastwards and move along Odisha coast reaching near Puri around 5th December noon. Subsequently it is likely to continue to move north-northeastwards along coastal Odisha towards West Bengal coast.

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. °N/ long. °E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
03.12.21/1730	15.5/85.0	70-80 gusting to 90	Cyclonic Storm
03.12.21/2330	15.9/84.7	75-85 gusting to 95	Cyclonic Storm
04.12.21/0530	16.5/84.4	80-90 gusting to 100	Cyclonic Storm
04.12.21/1130	17.1/84.3	90-100 gusting to 110	Severe Cyclonic Storm
04.12.21/1730	17.9/84.5	90-100 gusting to 110	Severe Cyclonic Storm
05.12.21/0530	19.2/85.3	85-95 gusting to 105	Cyclonic Storm
05.12.21/1730	20.1/86.3	70-80 gusting to 90	Cyclonic Storm
06.12.21/0530	21.0/87.4	55-65 gusting to 75	Deep Depression
06.12.21/1730	21.9/88.5	45-55 gusting to 65	Depression

Warnings:

(i) Rainfall (warning graphics enclosed)

3rd Dec.: Light to moderate rainfall at many places with heavy to very heavy rainfall at isolated places over north coastal Andhra Pradesh and south coastal Odisha.

4th Dec.: Light to moderate rainfall at most places with heavy to very heavy rainfall & extremely heavy falls at isolated places very likely over south coastal Odisha and north coastal Andhra Pradesh and heavy to very heavy rainfall at isolated places over north coastal Odisha & adjoining interior districts and also over coastal districts of Gangetic west Bengal.

5th Dec.: Light to moderate rainfall at many places with heavy to very heavy rainfall at isolated places likely over Gangetic West Bengal & north Odisha and heavy rainfall at isolated places over Assam & Meghalaya, Mizoram and Tripura.

6th Dec.: Light to moderate rainfall at many places with heavy to very heavy rainfall at isolated places likely over Assam & Meghalaya, Mizoram and Tripura and heavy rainfall at isolated places over west Bengal.

(ii) Wind warning

- Gale wind speed reaching 70-80 kmph gusting to 90 kmph prevails over westcentral Bay of Bengal. It would gradually increase becoming 90-100 kmph gusting to 110 kmph over west-central and adjoining northwest Bay of Bengal from the evening of 4th December for the subsequent 12 hours.
- Squally wind speed reaching 45-55 kmph gusting to 65 kmph likely to commence along & off North Andhra Pradesh – Odisha coasts from the mid-night of today, the 3rd December and increase gradually becoming 80-90 kmph gusting to 100 kmph from 4th evening till 5th morning and 70-80 kmph gusting to 90 kmph during subsequent 12 hours.
- Squally wind speed reaching 45-55 kmph gusting to 65 kmph also likely to commence along & off West Bengal coast from 4th December evening and become Gale wind speed reaching 60-70 kmph gusting to 80 kmph from the morning of 5th December for the subsequent 12 hours and gradually decrease thereafter.

(iii) Sea condition

- Sea condition would be High over west central Bay of Bengal during next 12 hours and High to very High over west-central & northwest Bay of Bengal from the early morning of 4th December for the subsequent 24 hours. It is likely to be high over northwest Bay of Bengal on 5th December.
- Sea condition will be rough to very rough over along & off North Andhra Pradesh – Odisha coast from the mid-night of 3rd December and become High to very High from 4th Afternoon, for the subsequent 12 hours.
- It will be rough to very rough along & off West Bengal coast from 4th morning and very rough to High from the same evening for the subsequent 12 hours.

(iv) Storm surge warning. (Graphics enclosed)

- Storm surge of about 0.5 – 1m height above astronomical tide is likely to inundate low lying areas of coastal districts of Odisha around noon of 5th December.
- Fourth December being a new Moon day, higher astronomical tides of about 2-4 m height are likely along the coast of Odisha & West Bengal.

(v) Fishermen Warning

Fishermen are advised not to venture into westcentral and adjoining southeast & eastcentral Bay of Bengal on 3rd December, over west-central & northwest Bay of Bengal and along & off north Andhra Pradesh - Odisha- West Bengal coasts during 3rd - 5th December 2021 (Graphics enclosed).

(vi) Advisory to along & off shore Installations

The off-shore & alongshore operations along north Andhra Pradesh, Odisha & West Bengal coasts are advised to be judiciously regulated on 3rd December and to be suspended on 4th & 5th December 2021, to ensure safety of life & property.

(vii) EXPECTED IMPACT & ACTION SUGGESTED (For Srikakulam, Vizianagaram & Vishakhapatnam districts of north Coastal Andhra Pradesh; Gajapati, Ganjam, Puri, Nayagarh, Khurda, Cuttack, Jagatsinghpur & Kendrapara districts of Odisha)

A. Impact Expected

- Major damage to thatched houses/ huts and possible of damage to vulnerable structure.
- Breaking of tree branches, uprooting of trees.
- Minor damage to power and communication lines.
- Localized Flooding, water logging and inundation in low lying areas due to Heavy rain & Tidal waves and closure of underpasses mainly in urban areas of the affected region.
- Occasional reduction in visibility due to heavy rainfall.
- Disruption of traffic in roads of major cities due to water logging leading to delayed travel.
- Minor damage to kutcha roads.
- Localized Landslides/Mudslides
- Damage to horticulture and standing crops in some areas due to inundation. Damage to banana, Papaya & Moring (Drumstick) trees due to strong winds.
- It may lead to riverine flooding in some river catchments (for riverine flooding please visit Web page of CWC)

B. Action Suggested

- Total suspension of fishing operations.
- 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.
- Harvest the ripen crops like Paddy & Horticultural crops and also secure the harvested crops securely from the damage due to rain and strong winds.

Next Bulletin will be issued at 2330 hrs IST of 3rd December 2021.

(D R Pattanaik)
Scientist-F, RSMC, New Delhi

Copy to: ACWC Kolkata/ CWC Vishakhapatnam/CWC Bhubaneswar/RMC Guwahati
LEGEND: Heavy Rainfall: 64.5 to 115.5mm, **Very Heavy Rainfall:** 115.6 to 204.4mm **Most Places:** more than 76% of total stations, **Isolated Places:** Less than 25% of total stations

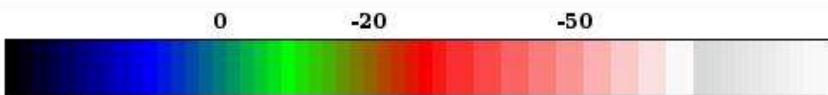
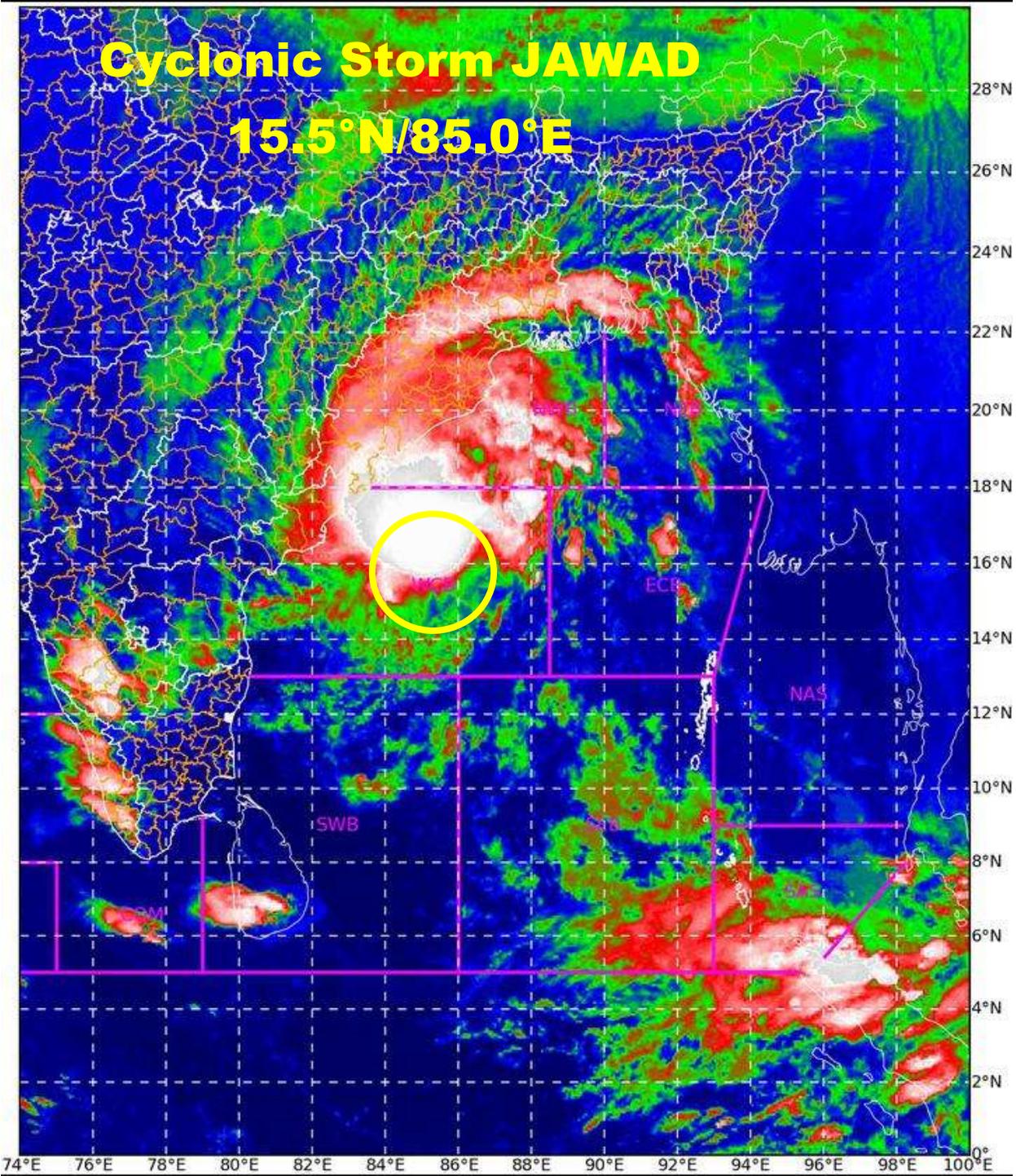
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03-12-2021/(1230 to 1256) GMT

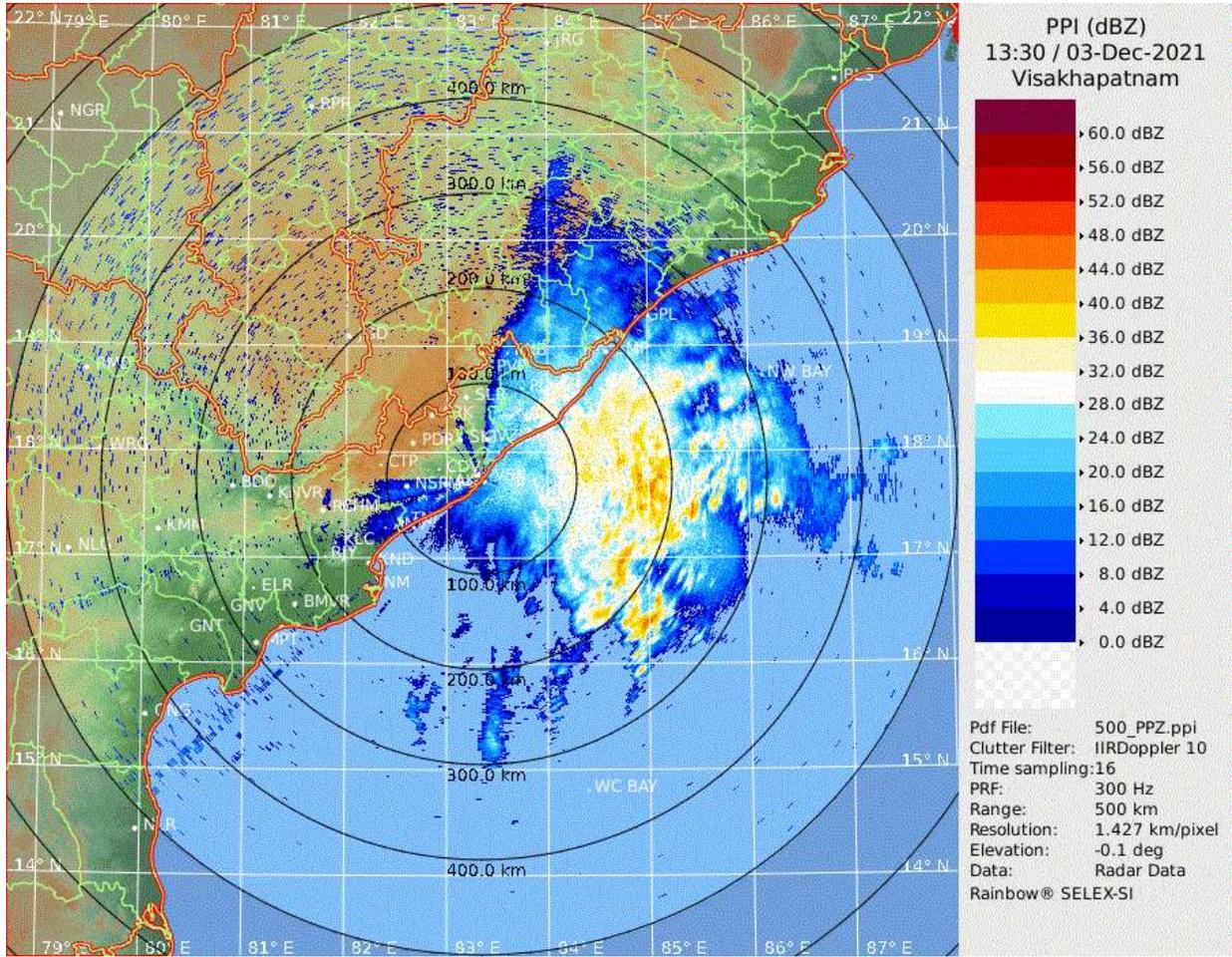
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03-12-2021/(1800 to 1826) IST

L1C Mercator



Celsius
IMD, DELHI



Doppler Weather RADAR imagery from Vishakhapatnam, depicting the approaching convective cloud towards north Andhra Pradesh coast.



OBSERVED AND FORECAST TRACK ALONGWITH CONE OF UNCERTAINTY OF CYCLONIC STORM 'JAWAD' OVER WESTCENTRAL BAY OF BENGAL BASED ON 1200 UTC OF 3rd DECEMBER, 2021



DATE/TIME IN UTC

IST=UTC + 0530

L: LOW PRESSURE AREA

WML: WELL MARKED LOW PRESSURE AREA

D: DEPRESSION (17-27 KT)

DD: DEEP DEPRESSION (28-33 KT)

CS: CYCLONIC STORM (34-47 KT)

SCS: SEVERE CYCLONIC STORM (48-63KT)

VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)

ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)

SuCS: SUPER CYCLONIC STORM (≥ 120 KT)

● LESS THAN 34 KT

⊙ 34-47 KT

⊙ ≥ 48 KT

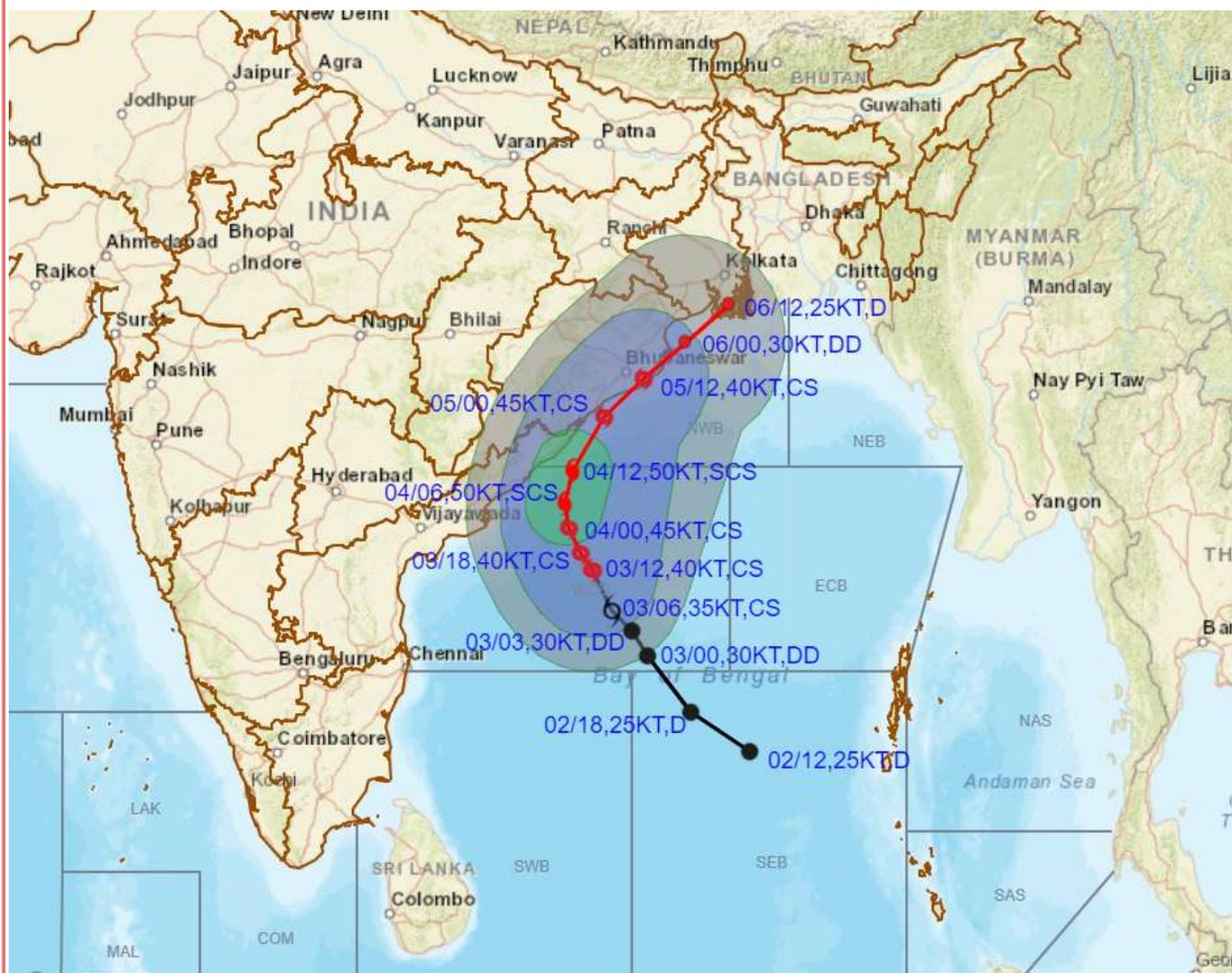
— OBSERVED TRACK

— FORECAST TRACK

▲ CONE OF UNCERTAINTY



OBSERVED AND FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION OF CYCLONIC STORM 'JAWAD' OVER WESTCENTRAL BAY OF BENGAL BASED ON 1200 UTC OF 3rd DECEMBER, 2021



DATE/TIME IN UTC

IST=UTC + 0530

L: LOW PRESSURE AREA

WML: WELL MARKED LOW PRESSURE AREA

D: DEPRESSION (17-27 KT)

DD: DEEP DEPRESSION (28-33 KT)

CS: CYCLONIC STORM (34-47 KT)

SCS: SEVERE CYCLONIC STORM (48-63KT)

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ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)

SuCS: SUPER CYCLONIC STORM (≥ 120 KT)

● LESS THAN 34 KT

○ 34-47 KT

● ≥ 48 KT

— OBSERVED TRACK

— FORECAST TRACK

● CONE OF UNCERTAINTY

AREA OF MAXIMUM SUSTAINED WIND SPEED:

■ 28-33 KT (52-61 KMPH)

■ 34-49 KT (62-91 KMPH)

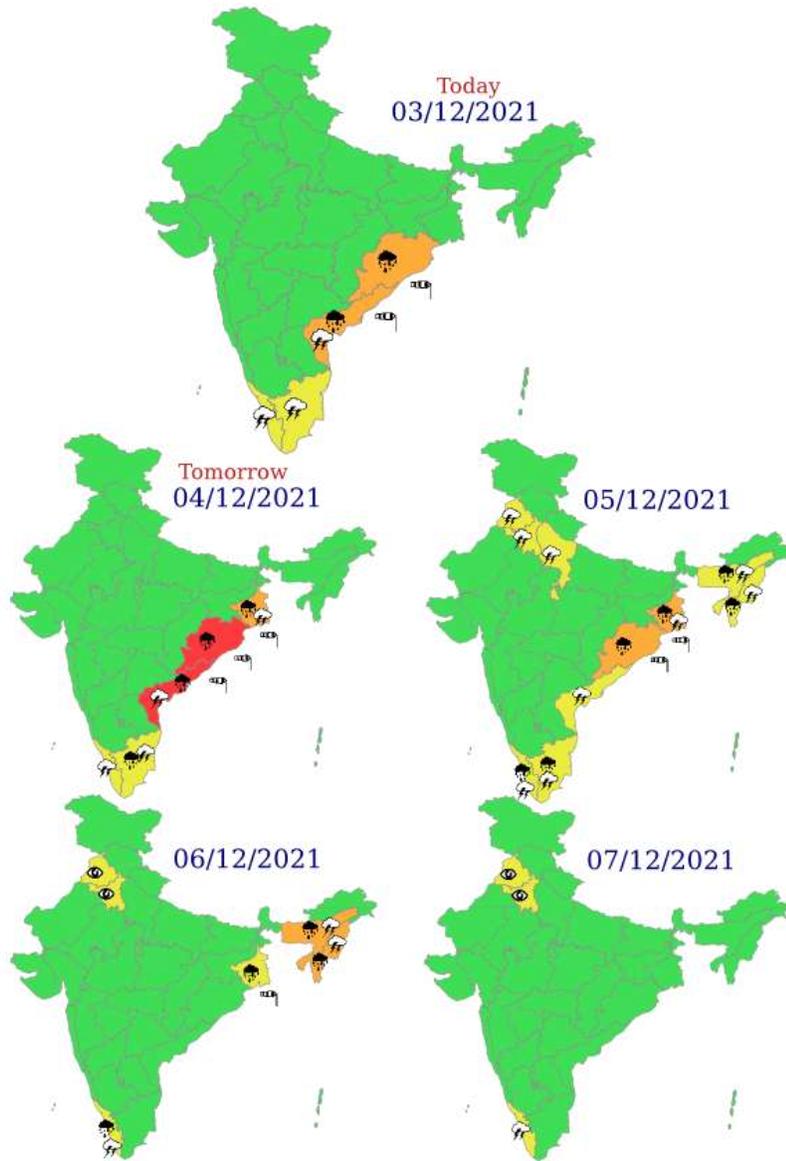
■ 50-63 KT (92-117 KMPH)

■ ≥ 64 KT (≥118 KMPH)

IMPACT OVER THE SEA

MSW (knot/kmph)	Impact	Action
28-33 (52-61)	Very rough seas	Total suspension of fishing operations
34-49 (62-91)	High to very high seas	Total suspension of fishing operations
50-63 (92-117)	Very high seas	Total suspension of fishing operations
≥ 64 (≥118)	Phenomenal	Total suspension of fishing operations

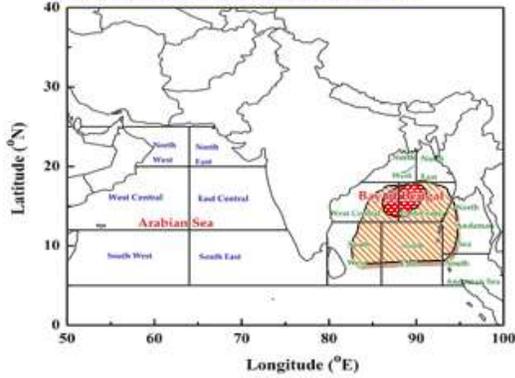
Sub-division wise heavy rainfall warning for next 5 days



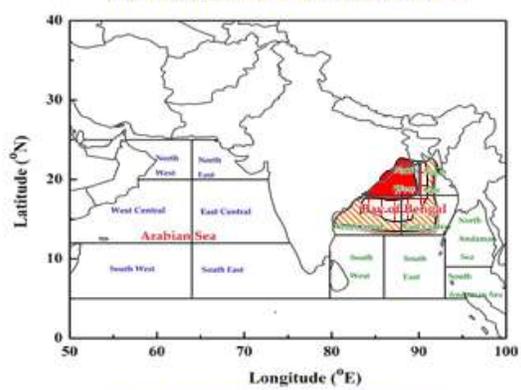
Fishermen Warning

INDIA METEOROLOGICAL DEPARTMENT FISHERMAN WARNING FOR BAY OF BENGAL AND ARABIAN SEA

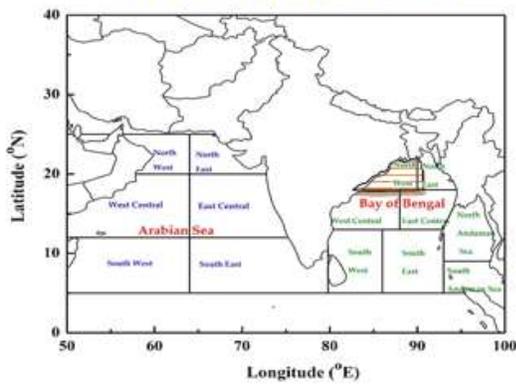
DAY-1: 03-12.2021/0600 UTC TO 04.12.2021/0600 UTC



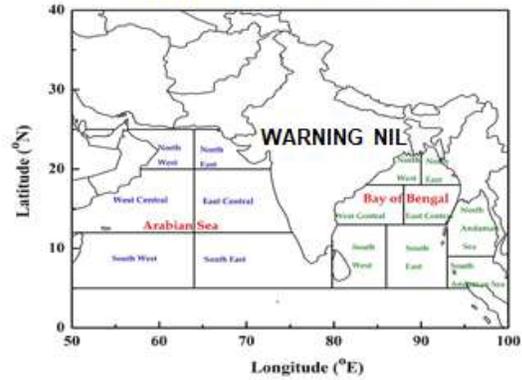
DAY-2: 04.12.2021/0600 UTC TO 05.12.2021/0600 UTC



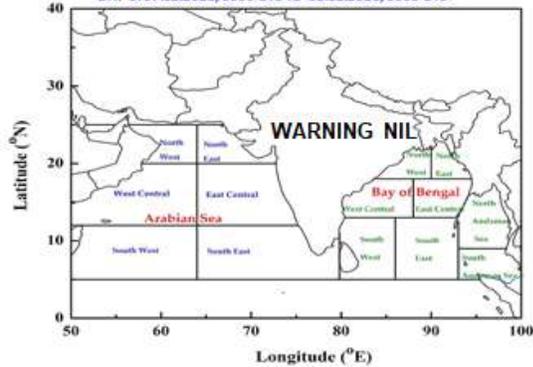
DAY-3: 05.12.2021/0600 UTC TO 06.12.2021/0600 UTC



DAY-4: 06.12.2021/0600 UTC TO 07.12.2021/0600 UTC



DAY-5: 07.12.2021/0600 UTC TO 08.12.2021/0600 UTC



AREA UNDER FISHERMEN WARNING

-  40-50 KMPH G TO 60 KMPH (SQ.WEATHER)
-  45-55 KMPH GUSTING TO 65 KMPH
-  50-60 KMPH G TO 70 KMPH
-  60-70 KMPH G TO 80 KMPH
-  70-80 KMPH G TO 90 KMPH
-  80-90 KMPH G TO 95 KMPH
-  90-100 KMPH G TO 110 KMPH

Model predicted storm surge heights in association with the Cyclone

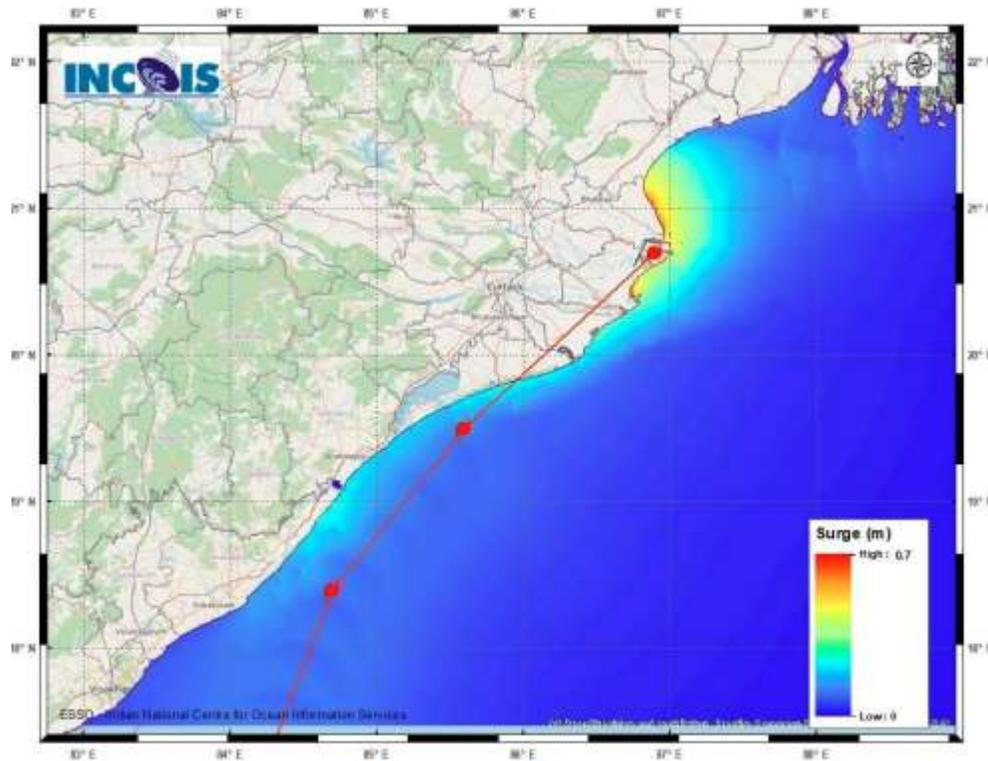


Figure: Storm Surge Map

STORM SURGE HEIGHT INFORMATION:

* The below listed surge heights are over and above astronomical tide.

MANDAL/TALUK	DISTRICT	STATE / UNION TERRITORY	NEAREST PLACE OF HABITATION	STORM SURGE (m) *	EXPECTED INUNDATION EXTENT (km)
Kendraparha	Kendrapara	Odisha	Tikayat Nagar	0.3-0.7	Upto 2.64
Bhadrak	Bhadrak	Odisha	Mohanpur	0.4-0.6	Upto 0.64
Jagatsinghpur	Jagatsinghpur	Odisha	Musadia	0.3-0.6	Upto 2.37
Puri	Puri	Odisha	Chhuriana	0.2-0.6	Upto 1.03
Baleshwar	Baleshwar	Odisha	Srikona	0.2-0.4	Upto 0.78
Brahmapur	Ganjam	Odisha	Golabandha	0.2-0.3	Upto 0.81
Chatrapur	Ganjam	Odisha	Prayagi	0.2-0.3	Upto 0.76
Ichchapuram	Srikakulam	Andhra Pradesh	Burjapadu	0.2-0.3	Upto 0.89
Sompeta	Srikakulam	Andhra Pradesh	Gollagandi	0.2-0.3	Upto 0.68
Tekkali	Srikakulam	Andhra Pradesh	Pedavanka	0.2-0.3	Upto 0.57