



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

**NATIONAL BULLETIN NO. 4 (ARB/03/2023)**

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**Sub: (A) Deep Depression over southwest Arabian Sea**

**(B) Low pressure Area over southwest and adjoining southeast Bay of Bengal**

**(A) Deep Depression over southwest Arabian Sea**

The deep depression over southwest Arabian Sea moved west-northwestwards with a speed of 11 kmph during past 6 hours and lay centered at 2330 hours IST of 20<sup>th</sup> October over the same region, near latitude 9.5°N and longitude 60.7°E about 820 km east-southeast of Socotra (Yemen), 1100 km south-southeast of Salalah Airport (Oman) and 1180 km east-southeast of Al Ghaidah (Yemen).

It is very likely to move west-northwestwards and intensify into a cyclonic storm over southwest Arabian Sea during next 06 hours. Continuing to move west-northwestwards, it is likely to intensify into a severe cyclonic storm in the evening of 22<sup>nd</sup> October. Thereafter, it would move north-northwestwards from 24<sup>th</sup> morning towards south Oman and adjoining Yemen coasts and cross Oman-Yemen coasts between Salalah (Oman) and Al Ghaidah (Yemen).

**Forecast track and intensity are given below:**

<b>Date/Time(IST)</b>	<b>Position (Lat. °N/ long. °E)</b>	<b>Maximum sustained surface wind speed (Kmph)</b>	<b>Category of cyclonic disturbance</b>
20.10.23/2330	9.5/60.7	55-65 gusting to 75	Deep Depression
21.10.23/0530	9.9/60.2	60-70 gusting to 80	Cyclonic Storm
21.10.23/1130	10.4/59.6	70-80 gusting to 90	Cyclonic Storm
21.10.23/1730	10.8/58.9	75-85 gusting to 95	Cyclonic Storm
21.10.23/2330	11.3/58.2	80-90 gusting to 100	Cyclonic Storm
22.10.23/1130	12.5/56.8	90-100 gusting to 110	Severe Cyclonic Storm
22.10.23/2330	13.5/55.6	95-105 gusting to 115	Severe Cyclonic Storm
23.10.23/1130	14.3/54.8	100-110 gusting to 120	Severe Cyclonic Storm
23.10.23/2330	15.0/54.3	105-115 gusting to 125	Severe Cyclonic Storm
24.10.23/1130	15.7/54.0	95-100 gusting to 110	Severe Cyclonic Storm
24.10.23/2330	16.6/53.7	80-90 gusting to 100	Cyclonic Storm
25.10.23/1130	17.3/53.9	65-75 gusting to 85	Cyclonic Storm
25.10.23/2330	17.9/54.7	55-65 gusting to 75	Deep Depression

### **Warnings:**

#### **(i) Wind warning (warning graphics enclosed):**

- **Southwest Arabian Sea:**

Squally wind speed reaching **55-65 kmph gusting to 75 kmph** is prevailing and likely to increase gradually becoming Gale Wind speed reaching **60-70 kmph gusting to 80 kmph** by morning of 21<sup>st</sup>, **80-90 kmph gusting to 100 kmph** by morning of 22<sup>nd</sup> October. It is likely to decrease gradually thereafter.

- **Westcentral Arabian Sea:**

Squally wind speed reaching **50-60 kmph gusting to 70 kmph** is prevailing and likely to become **Gale wind speed reaching 80-90 kmph gusting to 100 kmph** by morning of 22<sup>nd</sup>, becoming **95-105 kmph gusting to 115 kmph** by morning of 23<sup>rd</sup> and further **105-115 kmph gusting to 125 kmph** in the evening of 23<sup>rd</sup> October. Thereafter, it is likely to decrease gradually becoming **Gale wind speed reaching 85-95 kmph gusting to 115 kmph by 24<sup>th</sup> evening** and **70-80 kmph gusting to 90 kmph** in the morning of 25<sup>th</sup> October.

#### **(ii) Sea Condition**

- **Southwest Arabian Sea:**

**Very rough to high sea condition** is prevailing and likely to become **high to phenomenal** from morning of 21<sup>st</sup> to 23<sup>rd</sup> October. It is likely to improve gradually thereafter.

- **Westcentral Arabian Sea:**

**Rough to very rough sea condition** is prevailing and it is likely to become **very rough to phenomenal** from 22<sup>nd</sup> till 25<sup>th</sup> evening.

#### **(iii) Fishermen Warning (Graphics attached):**

Fishermen are advised not to venture into

- ❖ **Southwest Arabian Sea** till 23<sup>rd</sup> October.
- ❖ **Westcentral Arabian Sea** till 25<sup>th</sup> evening.

Those out at sea are advised to return to coast.

#### **(B) Low Pressure Area over southwest and adjoining southeast Bay of Bengal**

The low pressure area over southwest and adjoining southeast Bay of Bengal persists over the same region at 2330 hours IST of 20<sup>th</sup> October, 2023. It is very likely to move northwestwards and intensify into a depression over westcentral Bay of Bengal around 22<sup>nd</sup> October. Thereafter, it is likely to move north-northeastwards towards Bangladesh and adjoining West Bengal coasts during subsequent 3 days.

## **Warnings:**

### **(i) Rainfall Warning**

#### **Nagaland, Manipur, Mizoram & Tripura:**

Light to moderate rainfall at most places with isolated heavy rainfall is likely on 24<sup>th</sup> and 25<sup>th</sup> October.

**Coastal Districts of Odisha:** Light to moderate rainfall at a few places is likely on 23<sup>rd</sup> and at many places on 24<sup>th</sup> & 25<sup>th</sup> October.

#### **Coastal Districts of West Bengal:**

Light to moderate rainfall at many places is likely on 24<sup>th</sup> and 25<sup>th</sup> October.

### **(ii) Wind warning (warning graphics enclosed):**

- **Southwest and adjoining southeast Bay of Bengal:**

**Squally wind** speed reaching **45-55 kmph gusting to 65 kmph** is likely to prevail near the system on 21<sup>st</sup> & 22<sup>nd</sup> and **50-60 kmph gusting to 70 kmph** on 23<sup>rd</sup> October. It is likely to decrease gradually thereafter.

- **Westcentral Bay of Bengal:**

**Squally wind** speed reaching **40-50 kmph gusting to 60 kmph** is likely to prevail on 21<sup>st</sup> October. It is likely to gradually increase becoming **45-55 kmph gusting to 65 kmph** on 22<sup>nd</sup> and **50-60 kmph gusting to 70 kmph** on 23<sup>rd</sup> & 24<sup>th</sup> October.

- **North Bay of Bengal and along & off Odisha, West Bengal and Bangladesh coasts:**

**Squally wind** speed reaching **45-55 kmph gusting to 65 kmph** is likely to prevail from 24<sup>th</sup> to 26<sup>th</sup> October.

### **(iii) Sea Condition**

- **Southwest and adjoining southeast Bay of Bengal:**

**Moderate to rough sea condition** is likely to prevail near the system on 21<sup>st</sup> and it is likely to become **rough to very rough** on 23<sup>rd</sup> October. It is likely to improve gradually thereafter.

- **Westcentral Bay of Bengal:**

**Rough sea condition** is likely to prevail on 21<sup>st</sup> October. It is likely to become **rough to very rough** from 23<sup>rd</sup> October.

- **North Bay of Bengal and along & off Odisha, West Bengal and Bangladesh coasts:**

**Rough to very rough** sea condition is likely from 24<sup>th</sup> to 26<sup>th</sup> October.

### **(iv) Fishermen Warning (Graphics attached):**

Fishermen are advised not to venture into

- ❖ **Southwest and adjoining southeast Bay of Bengal** till 23<sup>rd</sup> October.

- ❖ **Westcentral Bay of Bengal** from 21<sup>st</sup> October onwards.

- ❖ **North Bay of Bengal and along & off Odisha, West Bengal and Bangladesh coasts** from 24<sup>th</sup> to 26<sup>th</sup> October.

Those out at sea are advised to return to coast.

**Both the systems are under continuous surveillance and the next bulletin will be issued at 0830 hours IST of today, the 21<sup>st</sup> October, 2023.**

**(Shobhit Katiyar)**  
**Scientist D, Cyclone Warning, New Delhi**

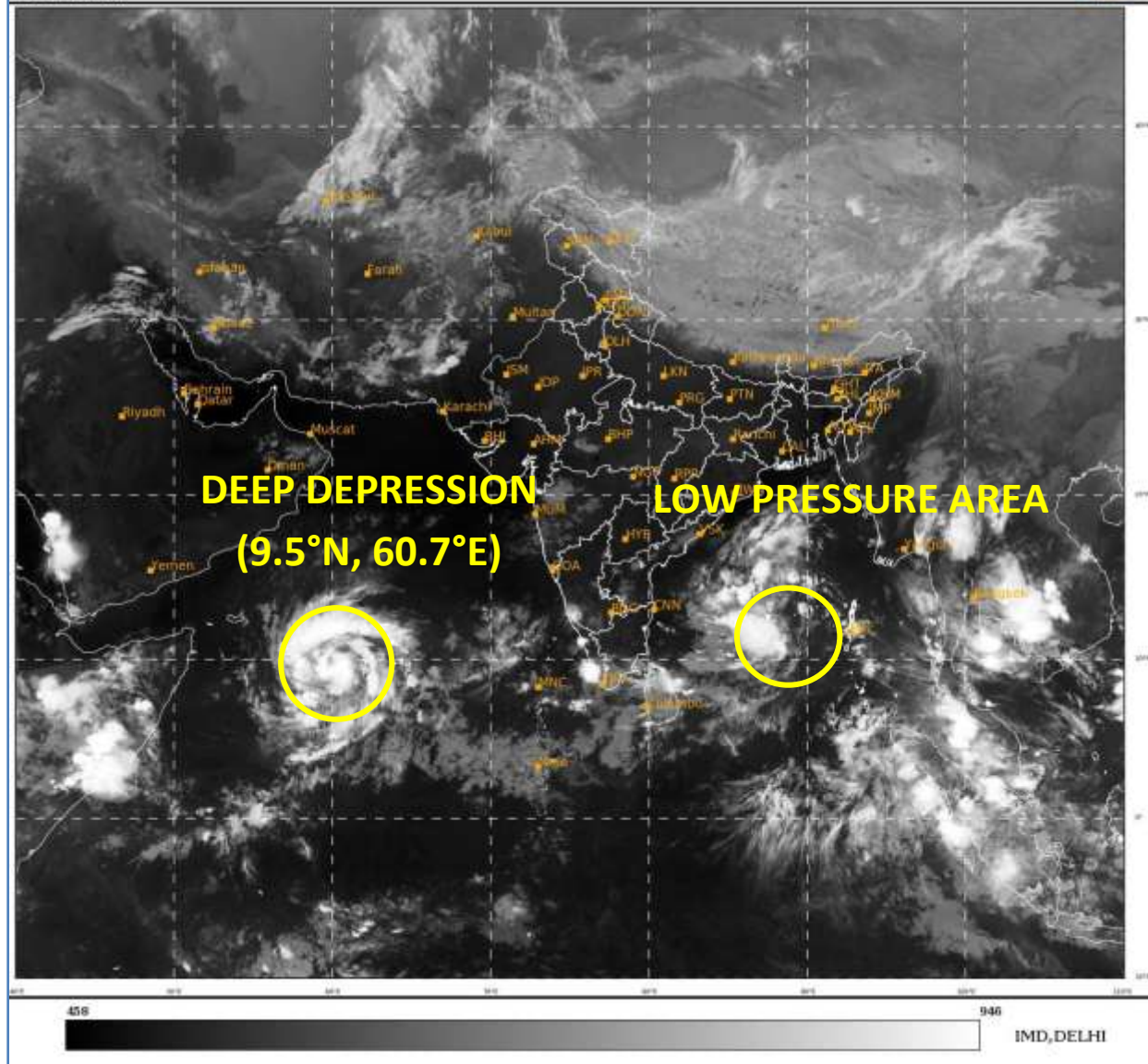
*Copy to: ACWC Mumbai/ ACWC Chennai/ ACWC Kolkata/CWC Ahmedabad/CWC Bhubaneswar/CWC Vishakhapatnam/CWC Thiruvananthapuram/MC Goa*

**Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%**

**Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.**

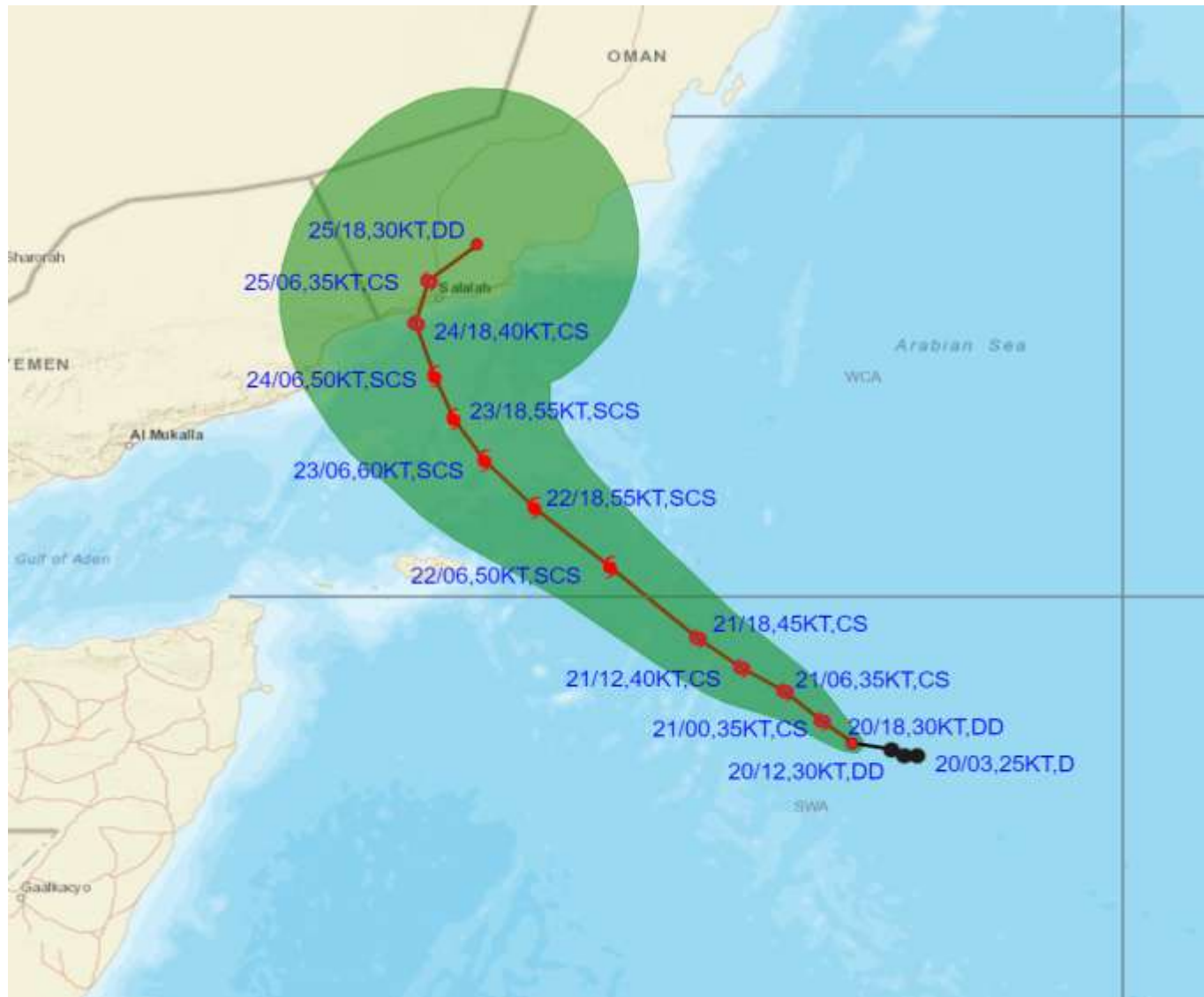
SAT : INSAT-3DR IMG  
IMG\_TIR1 10.8 um  
LIC Mercator

20-10-2023/(1645 to 1712) GMT  
20-10-2023/(2215 to 2242) IST





**OBSERVED AND FORECAST TRACK ALONGWITH CONE OF UNCERTAINTY OF DEEP DEPRESSION OVER SOUTHWEST ARABIAN SEA BASED ON 1800 UTC (2330 IST) OF 20<sup>TH</sup> OCTOBER 2023.**



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 ( $\geq 120$  KT)



LESS THAN 34 KT



34-47 KT



$\geq 48$  KT



OBSERVED TRACK



FORECAST TRACK

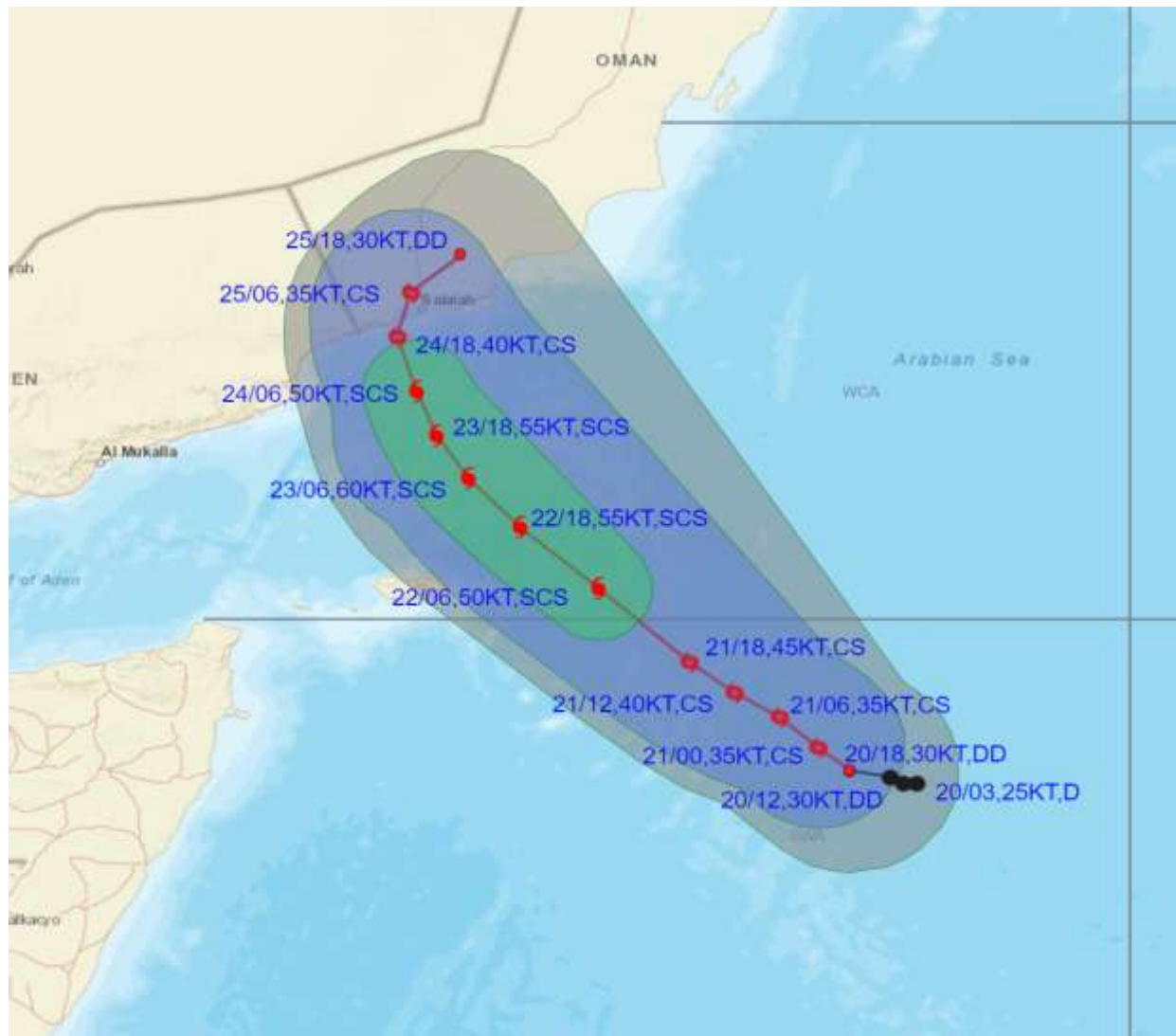


CONE OF UNCERTAINTY





**OBSERVED AND FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION OF DEEP DEPRESSION OVER SOUTHWEST ARABIAN SEA BASED ON 1800 UTC (2330 IST) OF 20TH OCTOBER 2023.**



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 (48-63 KT)

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

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

SuCS: SUPER CYCLONIC STORM ( $\geq 120$  KT)

● LESS THAN 34 KT

○ 34-47 KT

●  $\geq 48$  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)

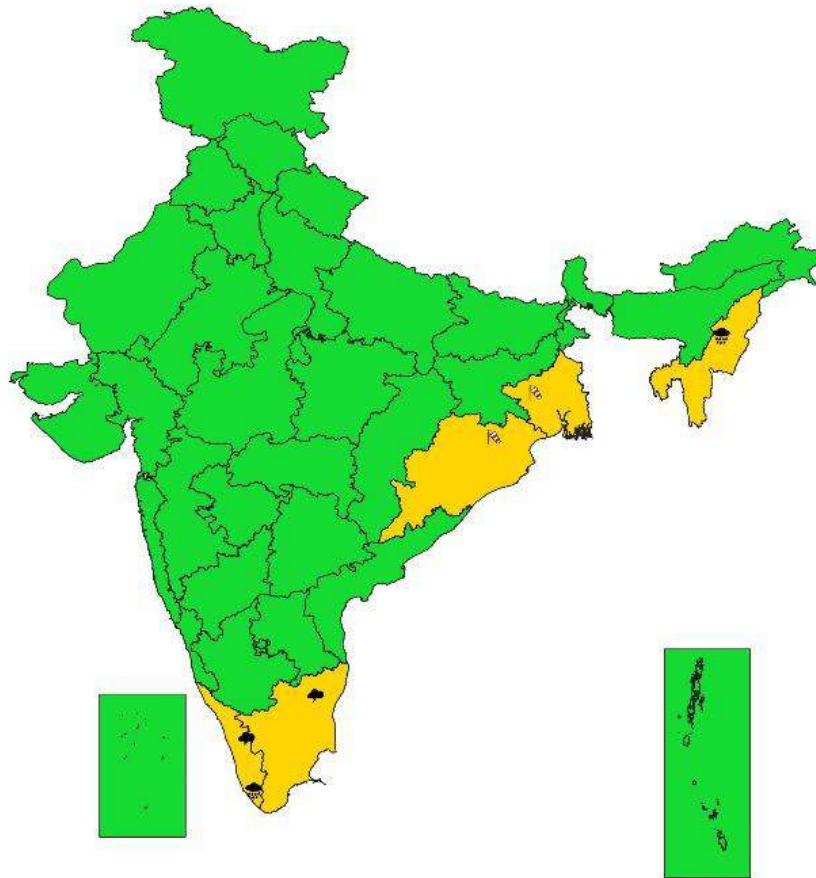
$\geq 64$  KT ( $\geq 118$  KMPH)

**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
$\geq 64$ ( $\geq 118$ )	Phenomenal	Total suspension of fishing operations



## SUBDIVISIONWISE WEATHER WARNING FOR DAY 5 ( 24-10-2023)



### Subdivision Warning

- Heavy Rain
- Heavy Snow
- Thunderstorms & Lightning
- Hailstorm

### Dust Storm

- Strong Surface Winds
- Heat Wave
- Cold wave
- Fog

### Subdivision color

- NO WARNING
- WATCH (BE UPDATED)
- ALERT (BE PREPARED)
- WARNING (TAKE ACTION)

## Fishermen warning graphics

**Day 1: 20.10.2023/17:30AM to 21.10.2023/05:30AM**



**Day 2: 21.10.2023/05:30AM to 22.10.2023/05:30AM**



**Day 3: 22.10.2023/05:30AM to 23.10.2023/05:30AM**



**Day 4: 23.10.2023/05:30AM to 24.10.2023/05:30AM**



**Day 5: 24.10.2023/05:30AM to 25.10.2023/05:30AM**



Squally WX with wind speed 40-45 kmph gusting to 55 kmph

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

Squally wind with speed 50-60 kmph gusting to 70 kmph

CS with Gale wind speed 60-90 kmph gusting to 110 kmph

SCS with Gale wind speed 90-110 kmph gusting to 120 kmph

**Fishermen are advised not to venture into the marked areas.**