



**REGIONAL SPECIALISED METEOROLOGICAL CENTRE-TROPICAL CYCLONES, NEW DELHI
SPECIAL TROPICAL WEATHER OUTLOOK**

DEMS-RSMC TROPICAL CYCLONES NEW DELHI DATED 22.10.2022

SPECIAL TROPICAL WEATHER OUTLOOK FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 2030 UTC OF 22.10.2022 BASED ON 1800 UTC OF 22.10.2022.

SUBJECT: DEPRESSION OVER EASTCENTRAL BAY OF BENGAL (PRE-CYCLONE WATCH: WEST BENGAL COAST)

THE DEPRESSION OVER EASTCENTRAL BAY OF BENGAL MOVED NORTHWESTWARDS WITH A SPEED OF 18 KMPH DURING PAST 6 HOURS AND LAY CENTERED AT 1800 UTC OF 22ND OCTOBER OVER EASTCENTRAL BAY OF BENGAL NEAR LATITUDE 14.9⁰N AND LONGITUDE 89.8⁰E, ABOUT 475 KM NORTHWEST OF PORT BLAIR(43333), 780 KM SOUTH-SOUTHEAST OF SAGAR ISLAND (42903) AND 880 KM SOUTH OF BARISAL (41950, BANGLADESH).

IT IS VERY LIKELY TO MOVE NORTHWESTWARD AND INTENSIFY FURTHER INTO A **DEEP DEPRESSION** OVER EASTCENTRAL BAY OF BENGAL DURING NEXT 12 HOURS. IT IS VERY LIKELY TO RECURVE GRADUALLY NORTH-NORTHEASTWARDS AND INTENSIFY INTO A **CYCLONIC STORM** OVER CENTRAL BAY OF BENGAL BY 24TH OCTOBER MORNING. THEREAFTER, IT WOULD CONTINUE TO MOVE NORTH-NORTHEASTWARDS AND CROSS BANGLADESH COAST BETWEEN TINKONA ISLAND AND SANDWIP AROUND 25TH OCTOBER EARLY MORNING (0000 UTC).

FORECAST TRACK & INTENSITY IS GIVEN BELOW:

Date/Time(UTC)	Position (Lat. ⁰ N/ long. ⁰ E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
22.10.22/1800	14.9/89.8	45-55 gusting to 65	Depression
23.10.22/0600	16.2/88.6	55-65 gusting to 75	Deep Depression
23.10.22/1800	17.7/88.2	65-75 gusting to 85	Cyclonic Storm
24.10.22/0600	19.5/88.9	80-90 gusting to 100	Cyclonic Storm
24.10.22/1800	21.2/89.9	85-95 gusting to 105	Severe Cyclonic Storm
25.10.22/0600	23.0/91.2	80-90 gusting to 100	Cyclonic Storm
25.10.22/1800	24.9/92.3	45-55 gusting to 65	Depression

INTENSITY OF THE SYSTEM IS CHARACTERISED AS T 1.5. ASSOCIATED BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER EASTCENTRAL & ADJOINING WESTCENTRAL BAY OF BENGAL BET LAT 14.0N TO 20.0N LONG 87.5⁰E TO 94.0⁰E. MINIMUM CLOUD TOP TEMPERATURE IS MINUS 93 DEGREE CELSIUS. CONVECTION HAS INCREASED DURING LAST 06 HOURS AND INTENSE CONVECTION LIES OVER WESTERN SECTOR OF THE SYSTEM CENTER.

ASSOCIATED MAXIMUM SUSTAINED WIND SPEED (MSW) IS ABOUT 25 KNOTS GUSTING TO 35 KNOTS AROUND SYSTEM AREA. ESTIMATED CENTRAL PRESSURE IS 1007 HPA. SEA CONDITION IS LIKELY TO BE ROUGH OVER SOUTHEAST BAY OF BENGAL & ADJOINING EASTCENTRAL AND NORTH ANDAMAN SEA.

REMARKS:

THE MADDEN JULIAN OSCILLATION INDEX (MJO) CURRENTLY LIES IN PHASE 6 WITH AMPLITUDE GREATER THAN 1. IT WOULD CONTINUE IN SAME PHASE DURING NEXT 5 DAYS WITH GRADUALLY INCREASING AMPLITUDE. HENCE MJO IS NOT SUPPORTIVE FOR ENHANCEMENT OF CONVECTIVE ACTIVITY OVER THE BAY OF BENGAL OF BENGAL.

SEA SURFACE TEMPERATURE (SST) IS AROUND 29-31⁰C OVER ENTIRE BOB. THE OCEAN HEAT CONTENT (OHC) IS >120 KJ/CM² OVER ENTIRE ANDAMAN SEA, CENTRAL BOB AND SOUTH BOB AND 50-70 KJ/CM² OVER WESTERN PARTS OF BOB.

LOW LEVEL VORTICITY IS ABOUT 120 X10⁻⁶ S⁻¹ AROUND SYSTEM CENTRE. VERTICALLY IT IS EXTENDING UPTO 500 HPA LEVEL. LOW LEVEL CONVERGENCE IS AROUND 15 X10⁻⁵ S⁻¹ TO THE NORTHEAST OF SYSTEM CENTRE. UPPER LEVEL DIVERGENCE HAS INCREASED AND IS AROUND 40 X10⁻⁵ S⁻¹ TO THE NORTHEAST OF SYSTEM CENTRE. STRONG EQUATORWARD OUTFLOW IS ALSO SEEN IN UPPER LEVELS. WIND SHEAR IS AROUND 20 KNOTS OVER SOUTHEAST BAY OF BENGAL AND ANDAMAN SEA AND IS HIGH TO THE NORTH OF 15°N. CURRENTLY, THE SYSTEM IS IN A FAVOURABLE ENVIRONMENT FOR FURTHER INTENSIFICATION. UPPER TROPOSPHERIC RIDGE ROUGHLY RUNS ALONG 18°N OVER BAY OF BENGAL. A TROUGH IN MID-LATITUDE WESTERLIES ROUGHLY RUNNING ALONG 79°E UPTO 18°N. THE SYSTEM IS CURRENTLY TRACKING NORTHWARDS ALONG THE PERIPHERY OF RIDGE AND FROM 24TH ONWARDS WOULD BE SHEARED NORTHEASTWARDS UNDER THE INFLUENCE OF TROUGH IN WESTERLIES..

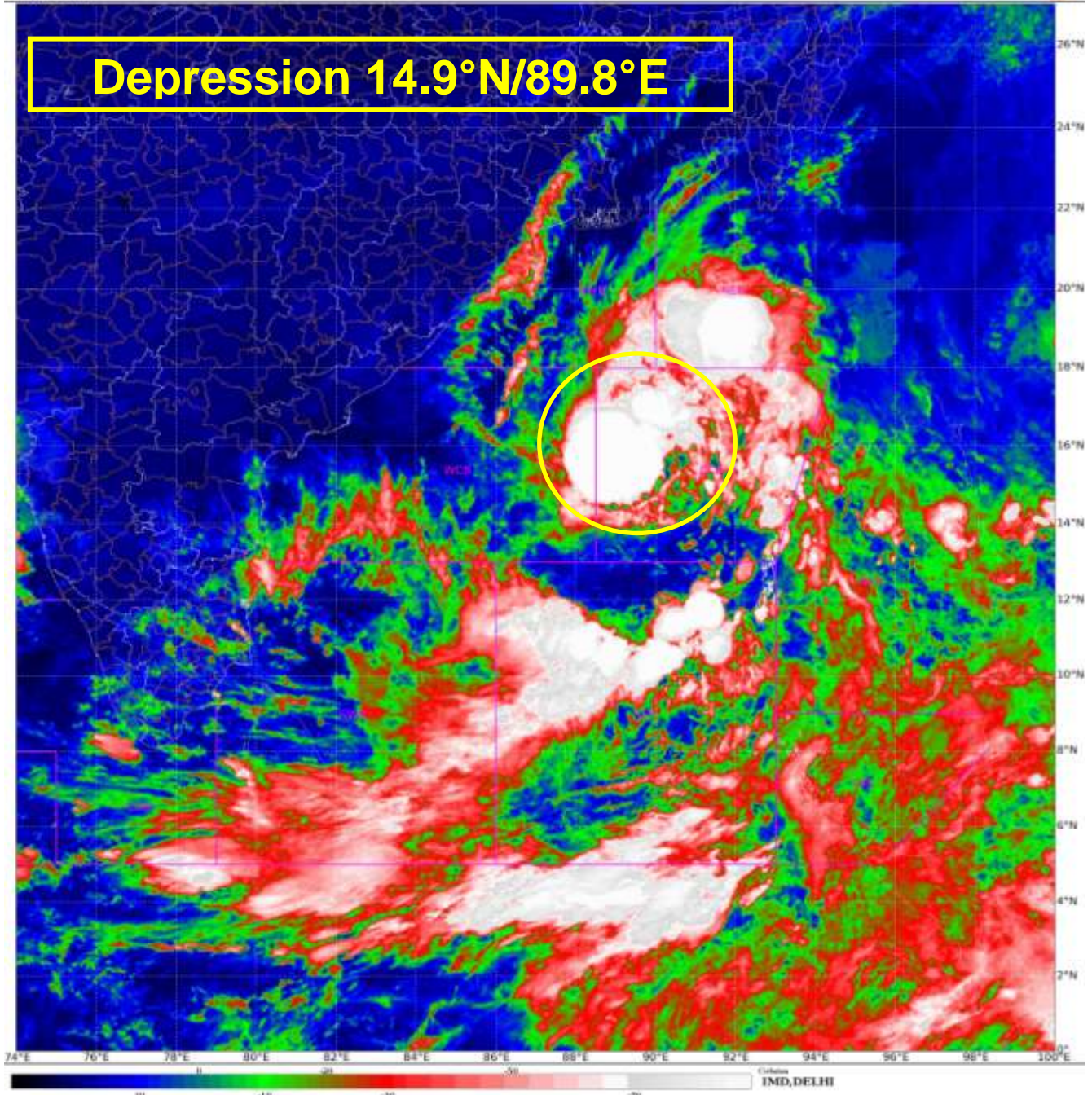
MOST OF THE MODELS ARE INDICATING LIKELY FORMATION OF CYCLONIC STORM ON 24TH OVER WESTCENTRAL & ADJOINING EASTCENTRAL BOB. THE MODELS ARE ALSO INDICATING GRADUAL NORTHEASTWARDS RECURVATURE OF THE SYSTEM FROM 23RD EVENING & INTENSIFICATION INTO A CYCLONIC STORM. MODELS ARE FURTHER INDICATING THE SYSTEM TO CROSS BANGLADESH COAST BETWEEN TINKONA ISLAND AND SANDWIP AROUND 25TH OCTOBER EARLY MORNING (0000 UTC).

IN VIEW OF ALL THE ABOVE, IT IS INFERRED THAT THE DEPRESSION OVER EASTCENTRAL BAY OF BENGAL IS VERY LIKELY TO MOVE NORTHWESTWARD AND INTENSIFY FURTHER INTO A DEEP DEPRESSION OVER EASTCENTRAL BAY OF BENGAL BY 23RD OCTOBER MORNING. SUBSEQUENTLY, IT IS VERY LIKELY TO RECURVE GRADUALLY NORTH-NORTHEASTWARDS AND INTENSIFY INTO A CYCLONIC STORM OVER CENTRAL BAY OF BENGAL BY 24TH OCTOBER MORNING. THEREAFTER, IT WOULD CONTINUE TO MOVE NORTH-NORTHEASTWARDS AND CROSS BANGLADESH COAST BETWEEN TINKONA ISLAND AND SANDWIP AROUND 25TH OCTOBER EARLY MORNING (0000 UTC).

(DR. SHRAVAN MUPPA)
RSMC NEW DELHI



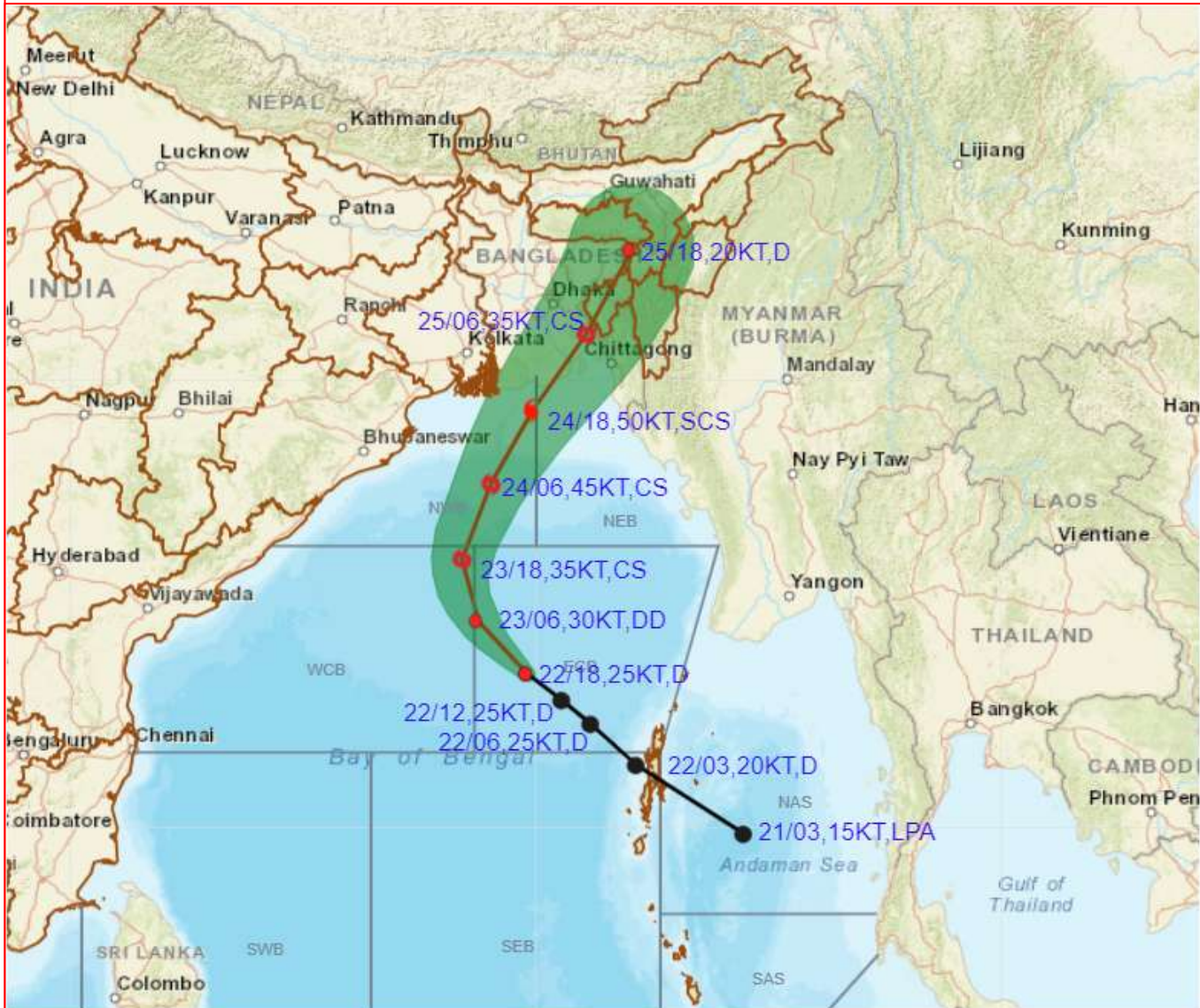
Depression 14.9°N/89.8°E



Cloud distribution: (a) Isolated: <25%, Scattered:25-50%, Broken: 51-75%, Solid:>75%, Convection Intensity: (a) Weak: Cloud Top Temperature (CTT) >-25°C, (b) Moderate: CTT: - 25°C to -40°C, (c) Intense: CTT: - 41°C to -70°C and (d) Very Intense: : Less than -70°C
PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION):NIL: 0%, LOW: 1-33%, , MODERATE: 34-66% AND HIGH: 67-100%
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OBSERVED AND FORECAST TRACK ALONGWITH CONE OF UNCERTAINTY OF DEPRESSION OVER EASTCENTRAL BAY OF BENGAL BASED ON 1800 UTC OF 22nd OCTOBER, 2022



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

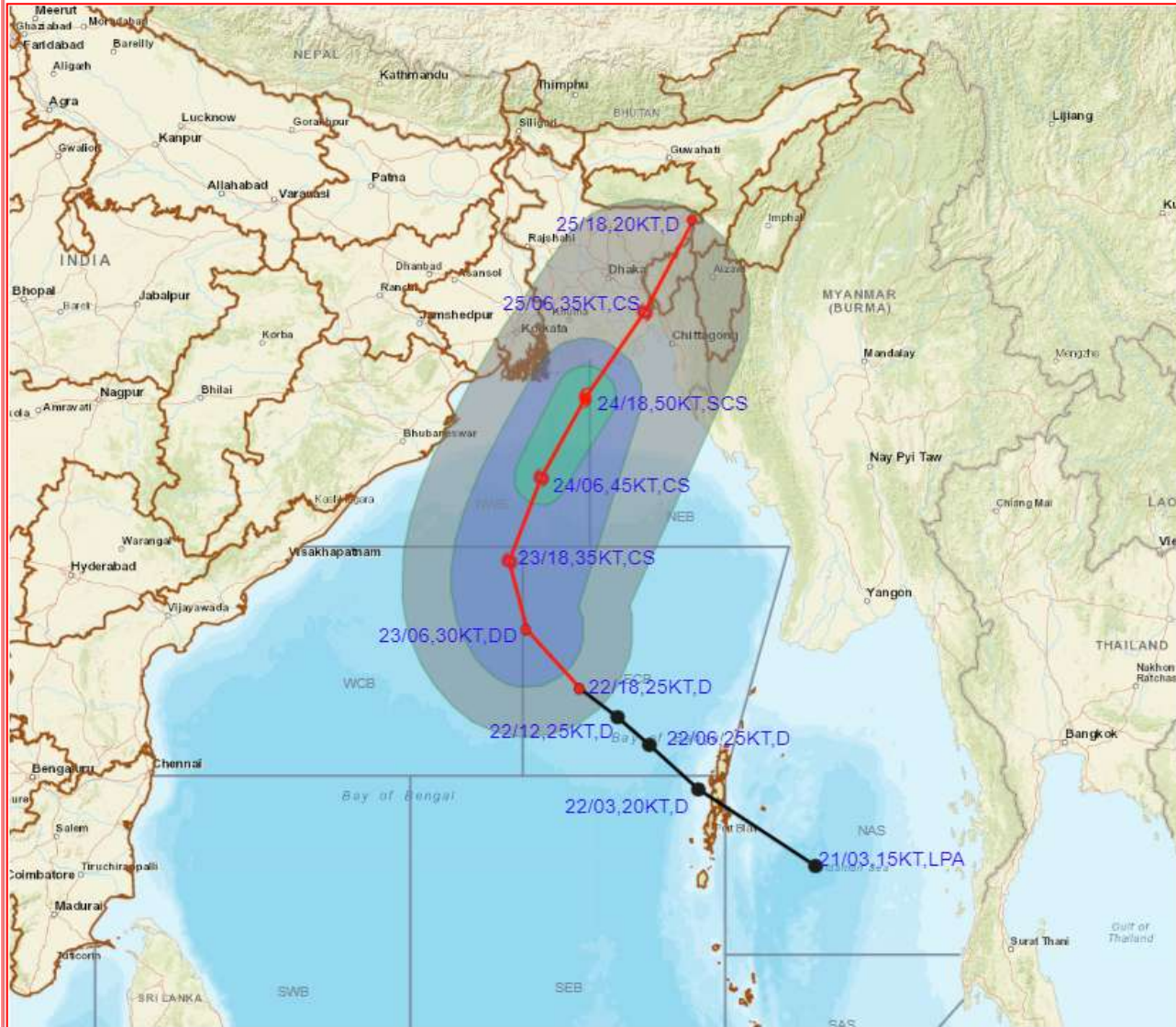
— OBSERVED TRACK

— FORECAST TRACK

▲ CONE OF UNCERTAINTY



OBSERVED AND FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION OF DEPRESSION OVER EASTCENTRAL BAY OF BENGAL BASED ON 1800 UTC OF 22nd OCTOBER, 2022



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 IST=UTC + 0530
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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
- 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

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