



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

**DEMS-RSMC SPECIAL TROPICAL CYCLONES NEW DELHI DATED 19.03.2022**

**TROPICAL WEATHER OUTLOOK FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 0800 UTC OF 19.03.2022 BASED ON 0300 UTC OF 19.03.2022.**

**BAY OF BENGAL:**

THE LOW PRESSURE AREA OVER SOUTHEAST BAY OF BENGAL AND ADJOINING SOUTH ANDAMAN SEA & EAST EQUATORIAL INDIAN OCEAN MOVED EAST-NORTHEASTWARDS AND LAY AS A WELL-MARKED LOW PRESSURE AREA OVER SOUTHEAST BAY OF BENGAL AND ADJOINING SOUTH ANDAMAN SEA AT 0000 UTC OF TODAY, THE 19TH MARCH. IT PERSISTED OVER SAME REGION AT 0300 UTC OF TODAY, THE 19TH MARCH.

IT IS LIKELY TO MOVE NEARLY NORTHWARDS ALONG & OFF ANDAMAN & NICOBAR ISLANDS, INTENSIFY INTO A DEPRESSION BY 0000 UTC OF 20TH MARCH AND INTO A CYCLONIC STORM ON 21ST MARCH. THEREAFTER, IT IS LIKELY TO MOVE NEARLY NORTH-NORTHEASTWARDS AND REACH NEAR NORTH MYANMAR - SOUTHEAST BANGLADESH COASTS ON 22ND MARCH, 2022.

THE CONVECTION HAS ORGANISED DURING PAST 24 HOURS AND THE AREA OF INTENSE CONVECTION HAS MOVED EAST-NORTHEASTWARDS. INTENSITY OF THE SYSTEM IS CHARACTERISED AS T 1.0. BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER SOUTHEAST BAY OF BENGAL AND ADJOINING SOUTH ANDAMAN SEA BETWEEN LATITUDE 5.0N & 11.0N AND LONGITUDE 89.0E & 97.0E IN ASSOCIATION WITH WELL MARKED LOW PRESSURE AREA OVER THE REGION. THE DEPTH OF CONVECTIVE CLOUDS HAS INCREASED DURING PAST 24 HOURS AND ACCORDINGLY, THE MINIMUM CLOUD TOP TEMPERATURE HAS DECREASED FROM - 84°C TO - 93°C.

ESTIMATED MAXIMUM SUSTAINED WIND SPEED ASSOCIATED WITH THE SYSTEM INCREASED AND IS AROUND 15-20 KNOTS GUSTING TO 30 KNOTS AROUND THE SYSTEM CENTRE. MULTISAT WINDS INDICATE 20-25 KNOTS WINDS IN THE SOUTHEAST SETOR. ASCAT PASS AT 0641 UTC INDICATES 20 KNOTS WINDS IN THE SOUTHEAST SECTOR. THE ESTIMATED CENTRAL PRESSURE IS AROUND 1004 HPA. SEA CONDITION IS ROUGH TO VERY ROUGH OVER SOUTHEAST BAY OF BENGAL & ADJOINING SOUTH ANDAMAN SEA.

**PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION) DURING NEXT 120 HRS:**

24 HOURS	24-48 HOURS	48-72 HOURS	72-96 HOURS	96-120 HOURS
MODERATE	HIGH	HIGH	HIGH	NIL

**ARABIAN SEA:**

SCATTERED LOW AND MEDIUM CLOUDS WITH EMBEDDED ISOLATED WEAK TO MODERATE CONVECTION LAY OVER EASTCENTRAL ARABIAN SEA OFF MAHARASHTRA, GOA AND KARNATAKA COASTS.

**PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION) DURING NEXT 120 HRS:**

24 HOURS	24-48 HOURS	48-72 HOURS	72-96 HOURS	96-120 HOURS
NIL	NIL	NIL	NIL	NIL

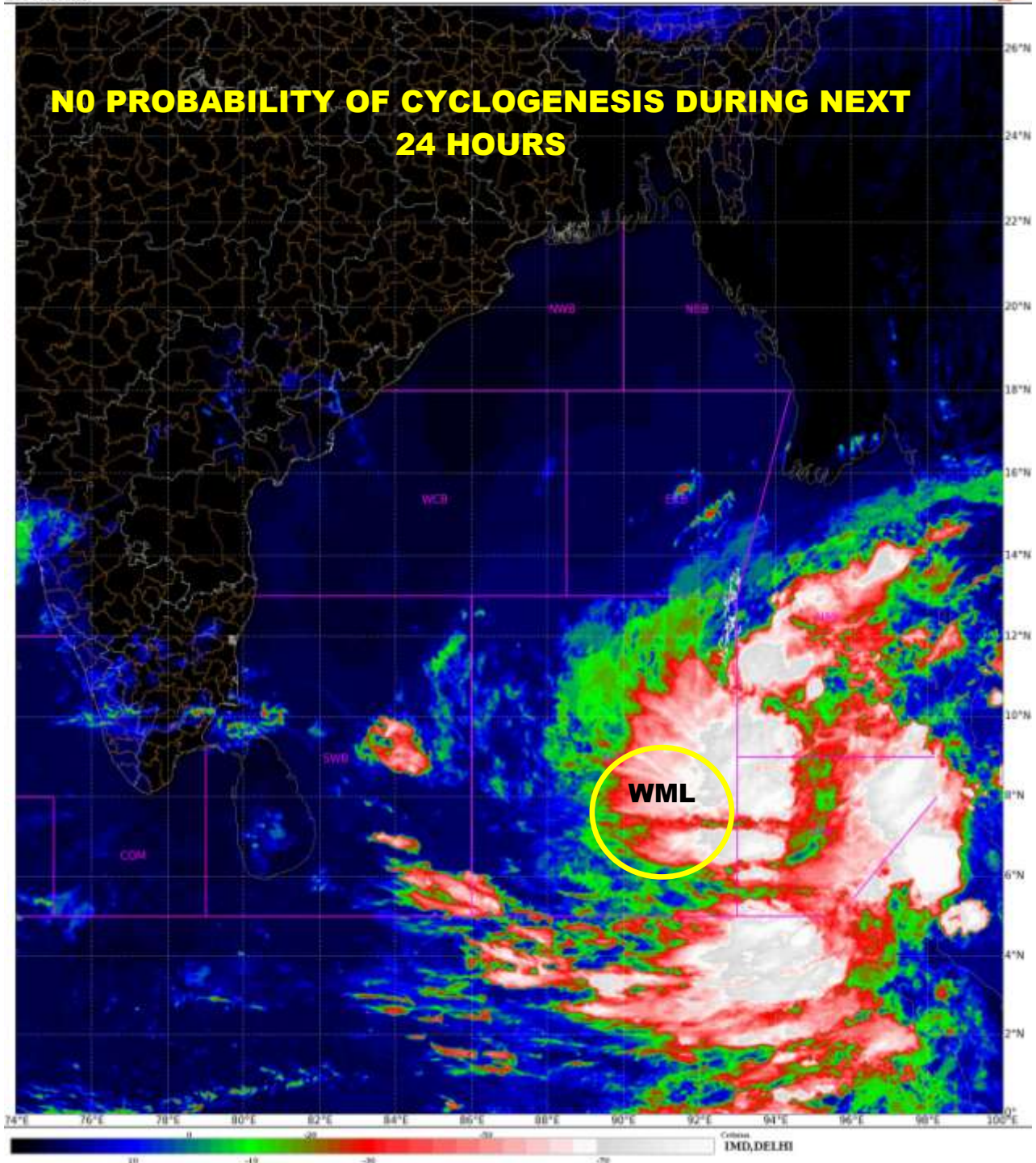
**REMARKS:**

SEA SURFACE TEMPERATURE IS AROUND 29-30°C OVER ANDAMAN SEA, SOUTHEAST AND ADJOINING EASTCENTRAL BAY OF BENGAL (BOB). TROPICAL CYCLONE HEAT POTENTIAL IS AROUND 60-80 KJ/CM<sup>2</sup> OVER THE SAME REGION BECOMING LESS THAN 50 KJ/CM<sup>2</sup> OVER NORTH BOB. THE MADDEN JULIAN OSCILLATION (MJO) INDEX CURRENTLY LIES IN PHASE 3 WITH AMPLITUDE MORE THAN 1. IT WILL CONTINUE IN SAME PHASE FOR NEXT 2 DAYS AND MOVE TO PHASE 4 WITH AMPLITUDE REMAINING MORE THAN 1. THE PHASE AND AMPLITUDE OF MJO IS CONDUCIVE FOR ENHANCED CONVECTION AND HENCE CYCLOGENESIS OVER THE BOB DURING NEXT 3 DAYS. STRONG WESTERLIES, KELVIN WAVES AND EQUATORIAL ROSSBY WAVES ARE LIKELY TO PREVAIL OVER THE REGION DURING NEXT 4 DAYS WHICH WOULD FAVOUR THE GENESIS.

LOW LEVEL VORTICITY INCREASED AT 0000 UTC PRIMARILY DUE TO DIURNAL VARIATIONS. HOWEVER, AT 0300 IT IS ABOUT  $50 \times 10^{-6} \text{ S}^{-1}$  (NO CHANGE IN PAST 24 HOURS) TO THE SOUTHEAST OF SYSTEM CENTRE WITH VERTICAL EXTENSION UPTO 500 HPA LEVEL. LOW LEVEL CONVERGENCE HAS INCREASED AND IS AROUND  $20 \times 10^{-5} \text{ S}^{-1}$  TO THE EAST OF SYSTEM CENTRE. UPPER LEVEL DIVERGENCE HAS INCREASED AND IS AROUND  $30 \times 10^{-5} \text{ S}^{-1}$  TO THE SOUTHEAST OF SYSTEM CENTRE. STRONG EQUATORWARD OUTFLOW IS ALSO SEEN IN UPPER LEVELS. VERTICAL WIND SHEAR IS MODERATE (15-20 KNOTS) AROUND THE SYSTEM CENTRE WITH DECREASING TREND (BECOMING 10-15 KNOTS) ALONG THE EXPECTED TRACK OF THE SYSTEM. CURRENT CONDITIONS INDICATE THAT THE SYSTEM IS LYING IN FAVOURABLE ENVIRONMENT.

NUMERICAL MODELS INCLUDING IMD GFS, ECMWF AND ECMWF ENSEMBLE, NCUM (REGIONAL), NCUM (GLOBAL) AND IMD MULTIMODEL ENSEMBLE (MME) ARE INDICATING LIKELIHOOD OF FORMATION OF DEPRESSION OVER SOUTHEAST BOB & ADJOINING SOUTH ANDAMAN SEA ON 20<sup>TH</sup> MARCH WITH SUBSEQUENT INTENSIFICATION INTO A MARGINAL CYCLONIC STORM AROUND 21<sup>ST</sup> MARCH. HOWEVER, THERE IS VARIATION AMONG THESE MODELS W.R.T. PEAK INTENSITY WITH IMD GFS INDICATING HIGHER INTENSITY AND ECMWF & NCUM INDICATING INTENSIFICATION UPTO DEEP DEPRESSION STAGE ONLY. HOWEVER, ALL MODELS ARE UNANIMOUS REGARDING MOVEMENT OF SYSTEM TOWARDS MYANMAR AND ADJOINING SOUTHEAST BANGLADESH COASTS.

IN VIEW OF ALL THE ABOVE, IT IS INFERRED THAT THE WELL MARKED LOW PRESSURE AREA OVER SOUTHEAST BOB AND ADJOINING SOUTH ANDAMAN SEA IS LIKELY TO MOVE NEARLY NORTHWARDS AND INTENSIFY INTO A DEPRESSION AROUND 0000 UTC OF 20<sup>TH</sup> & INTO A CYCLONIC STORM ON 21<sup>ST</sup> MARCH. IT WOULD THEREAFTER MOVE NORTH-NORTHEASTWARDS AND REACH NEAR NORTH MYANMAR-BANGLADESH COASTS ON 22<sup>ND</sup> MARCH.



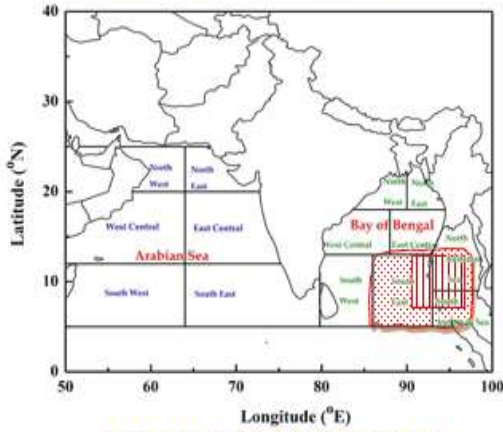
WML: WELL MARKED LOW PRESSURE AREA

# Fishermen warning Graphics

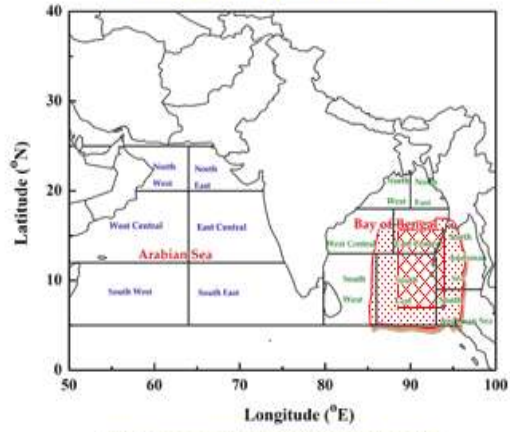
## INDIA METEOROLOGICAL DEPARTMENT

### FISHERMAN WARNING FOR BAY OF BENGAL AND ARABIAN SEA

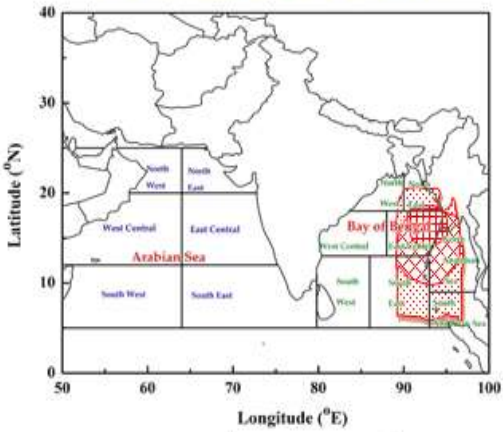
DAY-1: 19.03.2022/0600 UTC TO 20.03.2022/0600 UTC



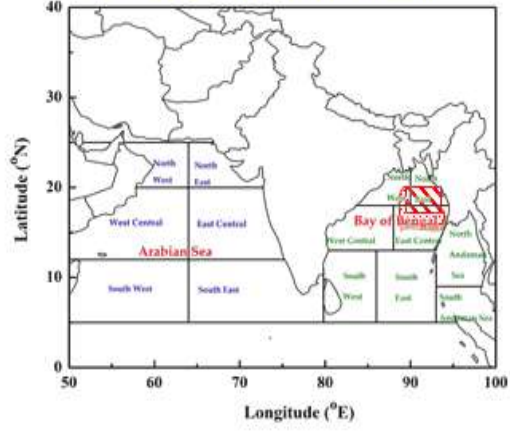
DAY-2: 20.03.2022/0600 UTC TO 21.03.2022 /0600 UTC



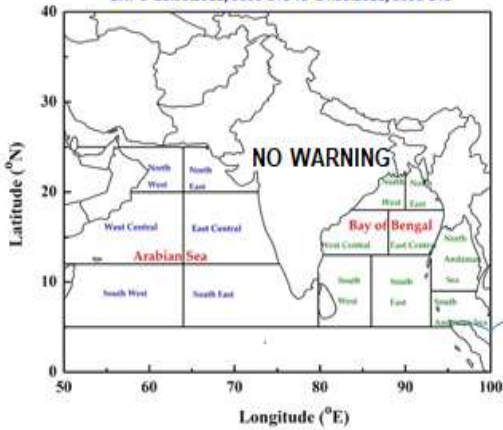
DAY-3: 21.03.2022/0600 UTC TO 22.03.2022/0600 UTC



DAY-4 22.03.2022/0600 UTC TO 23.03.2022/0600 UTC



DAY-5 23.03.2022/0600 UTC TO 24.03.2022/0600 UTC

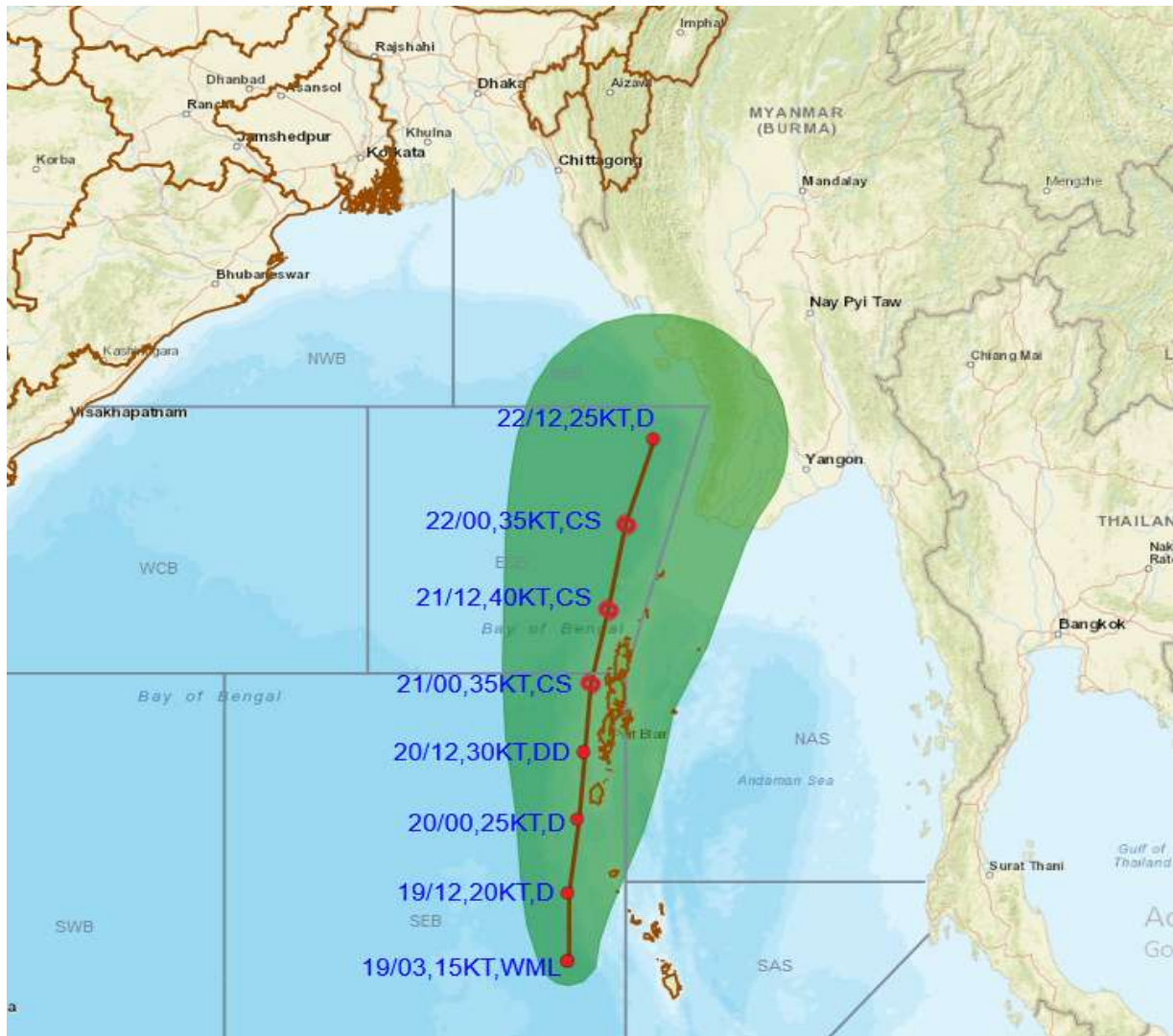


#### AREA UNDER FISHERMEN WARNING

- 40-50 KMPH GUSTING TO 55 KMPH (SQUALLY WEATHER)
- 45-55 KMPH GUSTING TO 65 KMPH
- 50-60 KMPH GUSTING TO 70 KMPH
- 60-70 KMPH GUSTING TO 80 KMPH
- 70-80 KMPH GUSTING TO 90 KMPH



**EXPERIMENTAL PRE-GENESIS TRACK AND INTENSITY FORECAST  
ALONGWITH CONE OF UNCERTAINTY ISSUED AT THE STAGE OF LOW  
PRESSURE AREA OVER SOUTHEAST BAY OF BENGAL AND ADJOINING  
SOUTH ANDAMAN SEA ON 0300 UTC OF 19<sup>TH</sup> MARCH 2022**

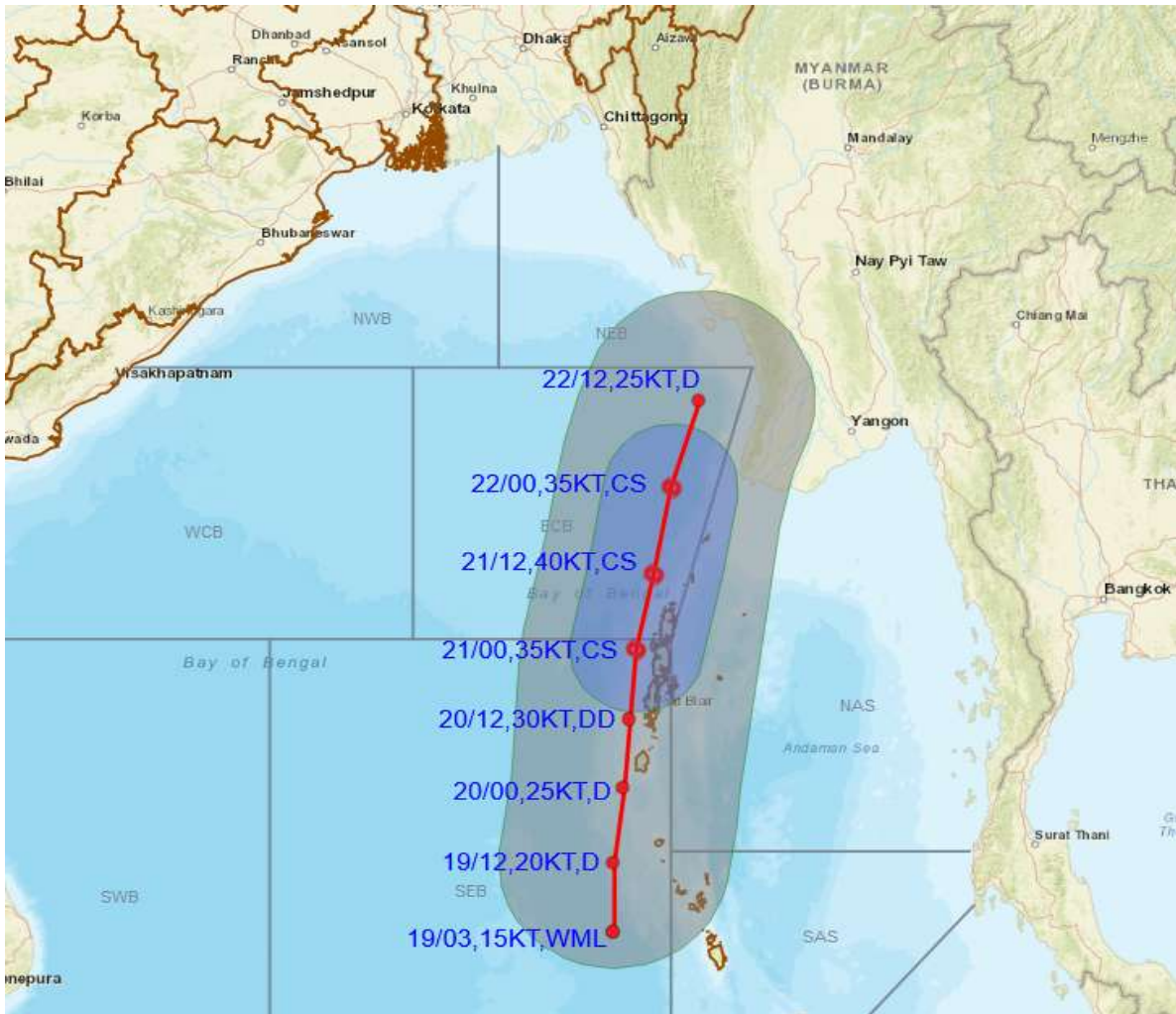


DATE/TIME IN UTC  
IST=UTC + 0530  
L: LOW PRESSURE AREA  
WML: WELL MARKED LOW PRESSURE AREA  
D: DEPRESSION (17-27 KT)  
DD: DEEP DEPRESSION (28-33 KT)  
CS: CYCLONIC STORM (34-47 KT)  
SCS: SEVERE CYCLONIC STORM (48-63KT)  
VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)  
ESCS: EXTREMELY SEVERE CYCLONIC 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



**EXPERIMENTAL PRE-GENESIS TRACK AND INTENSITY FORECAST ALONGWITH QUADRANT WIND DISTRIBUTION ISSUED AT THE STAGE OF LOW PRESSURE AREA OVER SOUTHEAST BAY OF BENGAL AND ADJOINING SOUTH ANDAMAN SEA ON 0300 UTC OF 19<sup>TH</sup> MARCH 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 (48-63 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