



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

DEMS-RSMC SPECIAL TROPICAL CYCLONES NEW DELHI DATED 20.03.2022

SPECIAL TROPICAL WEATHER OUTLOOK FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 2000 UTC OF 20.03.2022 BASED ON 1800 UTC OF 20.03.2022.

SUB: DEPRESSION OVER NORTH ANDAMAN SEA AND ADJOINING SOUTHEAST BAY OF BENGAL

THE DEPRESSION OVER SOUTHEAST BAY OF BENGAL AND ADJOINING SOUTH ANDAMAN SEA, MOVED NORTH-NORTHEASTWARDS AT A SPEED OF 08 KMPH DURING PAST 06 HOURS AND LAY CENTERED AT 1800 UTC OF 20TH MARCH, OVER NORTH ANDAMAN SEA AND ADJOINING SOUTHEAST BAY OF BENGAL, NEAR LATITUDE 11.3°N AND LONGITUDE 93.4°E, ABOUT 250 KM NORTH-NORTHEAST OF CAR NICOBAR (43367) (NICOBAR ISLANDS), 80 KM EAST-SOUTHEAST OF PORT BLAIR (43333) (ANDAMAN ISLANDS) AND 680 KM SOUTH-SOUTHWEST OF YANGON (48097) (MYANMAR). IT IS LIKELY TO MOVE NEARLY NORTHWARDS ALONG & OFF ANDAMAN & NICOBAR ISLANDS, INTENSIFY INTO A DEEP DEPRESSION BY 0000UTC OF 21ST MARCH AND INTO A CYCLONIC STORM BY 1200UTC OF 21ST MARCH.

FORECAST TRACK AND INTENSITY ARE GIVEN IN THE FOLLOWING TABLE:

DATE/TIME(UTC)	POSITION (LAT. °N/ LONG. °E)	MAXIMUM SUSTAINED SURFACE WIND SPEED (KMPH)	CATEGORY OF CYCLONIC DISTURBANCE
20.03.22/1800	11.3/93.4	45-55 GUSTING TO 65	DEPRESSION
21.03.22/0600	12.8/93.9	55-65 GUSTING TO 75	DEEP DEPRESSION
21.03.22/1800	14.4/93.8	65-75 GUSTING TO 85	CYCLONIC STORM
22.03.22/0600	16.0/93.8	65-75 GUSTING TO 85	CYCLONIC STORM
22.03.22/0800	17.6/94.0	55-65 GUSTING TO 75	DEEP DEPRESSION

AS PER INSAT 3D IMAGERY, 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 ANDAMAN SEA AND ADJOINING SOUTHEAST BAY OF BENGAL BETWEEN LATITUDE 7.0N & 15.0N AND LONGITUDE 90.0E & 98.0E AND ANDAMAN & NICOBAR ISLANDS. MINIMUM CLOUD TOP TEMPERATURE IS AROUND MINUS 93 DEG C. INTENSE CONVECTION LIES IN EAST SECTOR OF THE SYSTEM CENTRE.

THE ESTIMATED MAXIMUM SUSTAINED WIND SPEED IS 25 KNOTS GUSTING TO 35 KNOTS. THE SEA CONDITION IS ROUGH TO VERY ROUGH OVER ANDAMAN SEA AND ADJOINING SOUTHEAST BAY OF BENGAL. THE ESTIMATED CENTRAL PRESSURE IS 1002 HPA.

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/CM² OVER THE SAME REGION BECOMING LESS THAN 50 KJ/CM² 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 2 DAYS. STRONG WESTERLIES, KELVIN WAVES AND EQUATORIAL ROSSBY WAVES ARE LIKELY TO PREVAIL OVER THE REGION DURING NEXT 3 DAYS WHICH WOULD FAVOUR INTENSIFICATION.

LOW LEVEL VORTICITY IS ABOUT $50 \times 10^{-6} \text{ S}^{-1}$ AROUND THE SYSTEM CENTRE WITH VERTICAL EXTENSION UPTO 500 HPA LEVEL. LOW LEVEL CONVERGENCE IS $10\text{-}15 \times 10^{-5} \text{ S}^{-1}$ SOUTH EAST OF THE SYSTEM CENTRE. UPPER LEVEL DIVERGENCE IS AROUND $15 \times 10^{-5} \text{ S}^{-1}$ AROUND THE SYSTEM CENTRE WITH STRONG EQUATORWARD OUTFLOW. 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 SYSTEM TO BECOME A DEEP DEPRESSION ON 21ST MARCH AND INTO A MARGINAL CYCLONIC STORM AROUND 22ND 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, MOST OF THE MODELS ARE UNANIMOUS REGARDING MOVEMENT OF SYSTEM TOWARDS MYANMAR AND ADJOINING SOUTHEAST BANGLADESH COASTS.

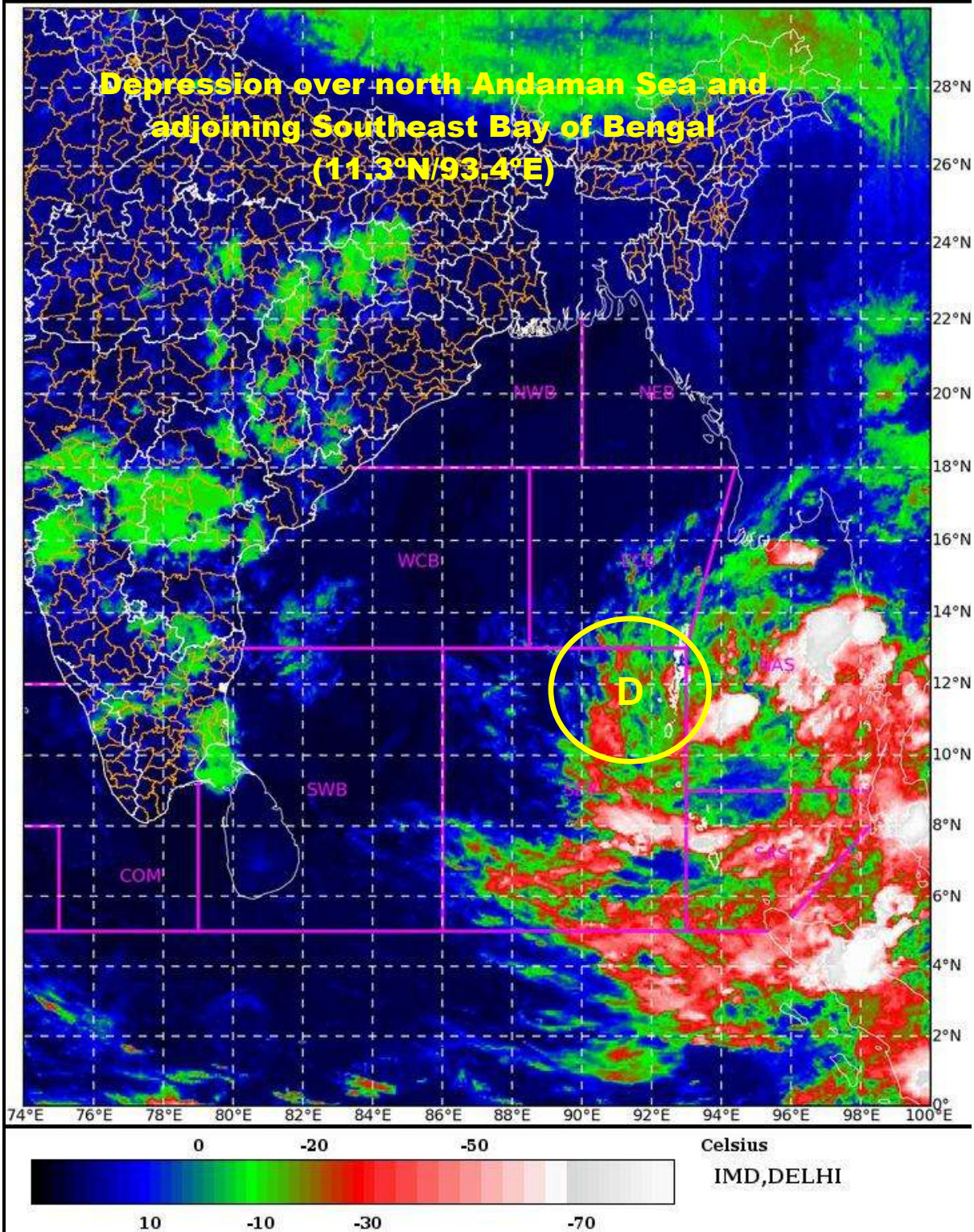
IN VIEW OF ABOVE, THE SYSTEM IS LIKELY TO MOVE NEARLY NORTHWARDS ALONG & OFF ANDAMAN & NICOBAR ISLANDS AND INTENSIFY GRADUALLY INTO A DEPRESSION DURING NEXT 12 HOURS & INTO A MARGINAL CYCLONIC STORM DURING SUBSEQUENT 12 HOURS.

(S. P. SINGH)
SCIENTIST-C
RSMC NEW DELHI

SAT : INSAT-3D IMG 20-03-2022/(1700 to 1726) GMT

IMG_TIR1_TEMP 10.8 um 20-03-2022/(2230 to 2256) IST

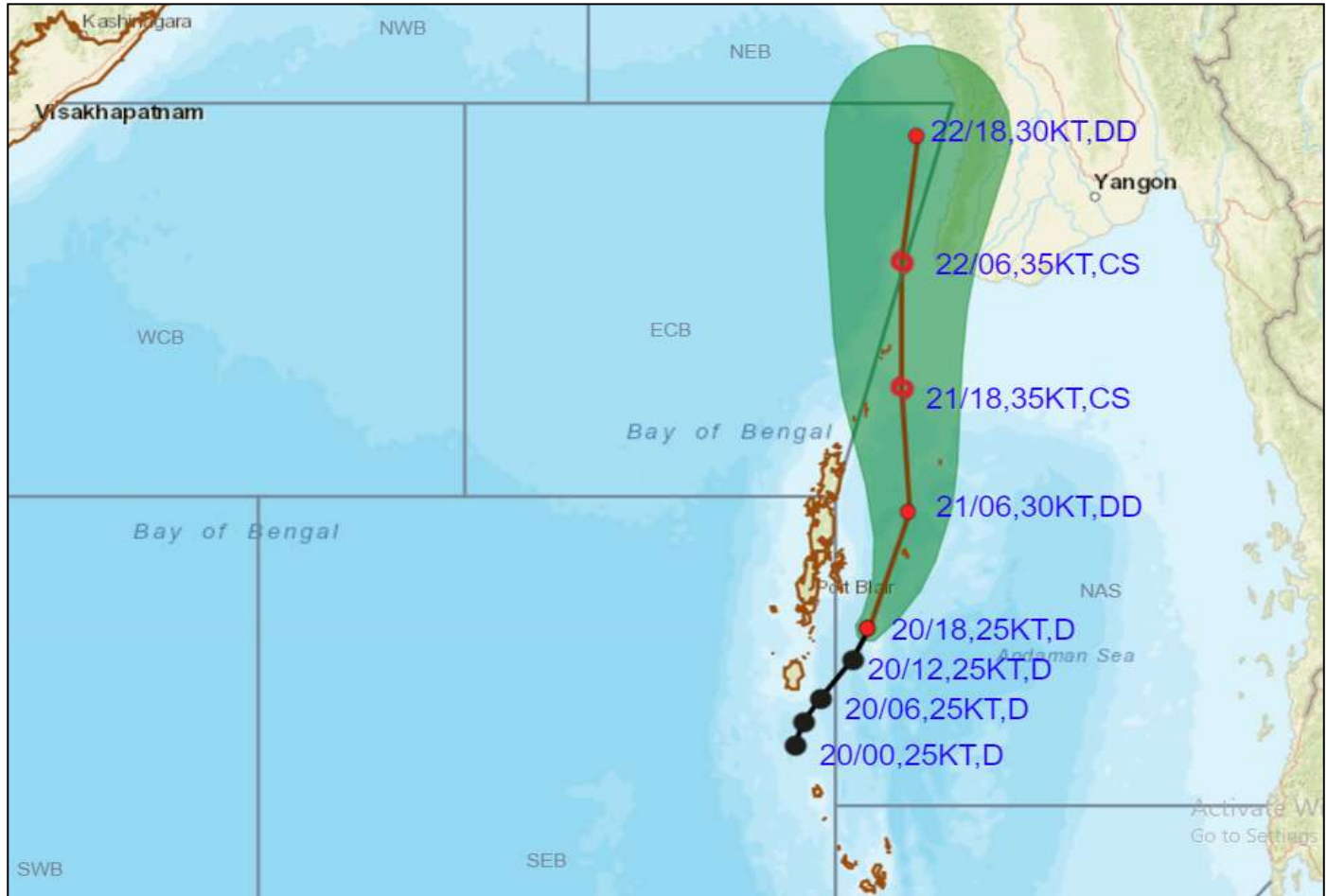
L1C Mercator



D: Depression



OBSERVED AND FORECAST TRACK ALONGWITH CONE OF UNCERTAINTY OF DEPRESSION OVER NORTH ANDAMAN SEA AND ADJOINING SOUTHEAST BAY OF BENGAL BASED ON 1800 UTC OF 20TH 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)

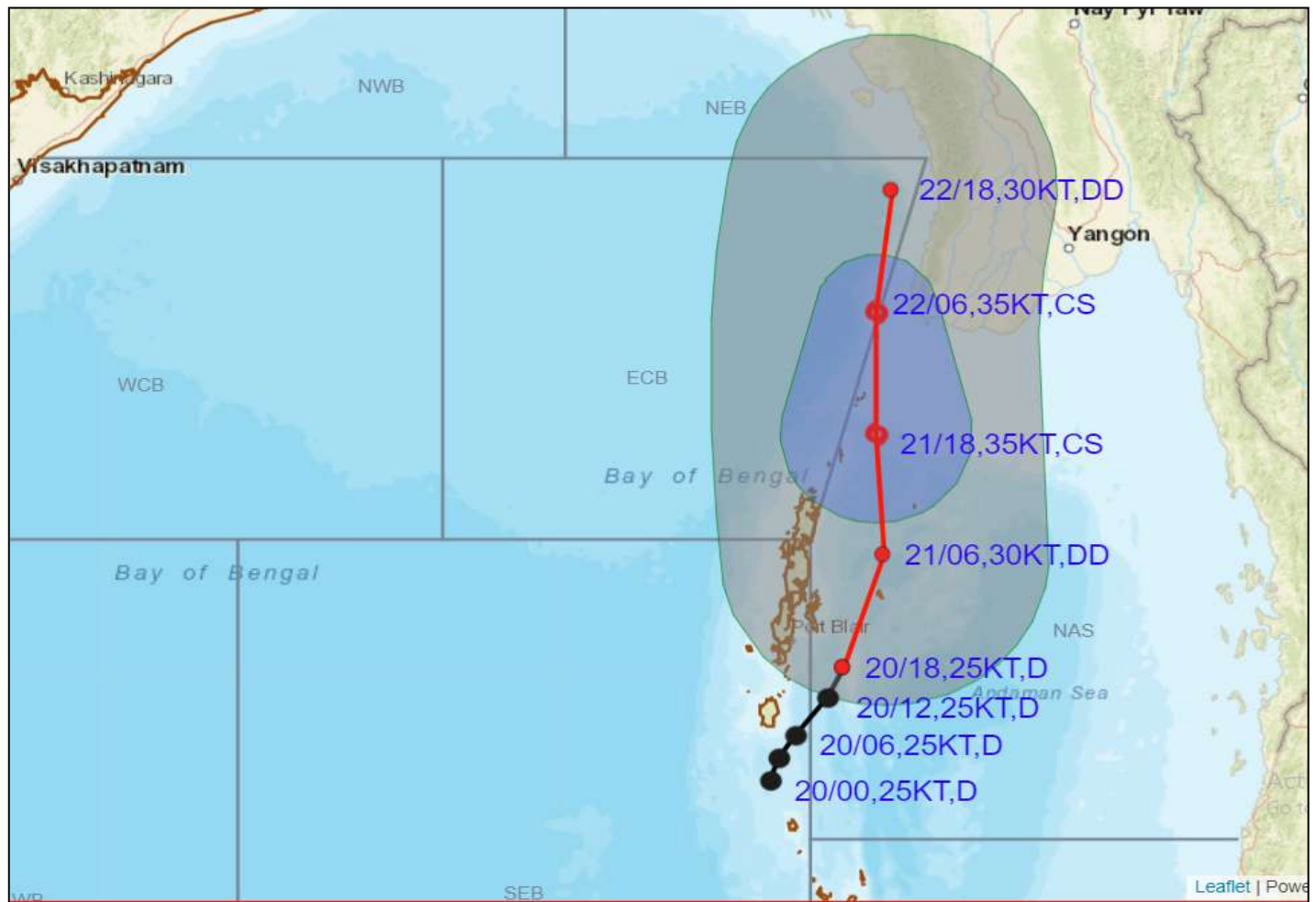
- LESS THAN 34 KT
- 34-47 KT
- \geq 48 KT
- OBSERVED TRACK
- FORECAST TRACK
- CONE OF UNCERTAINTY

STATIONS	DISTANCE(KM) AND DIRECTION FROM STATIONS		
	20.03.22/1800	21.03.22/1800	22.03.22/1800
Yangon	680,SSW	370,SW	250,WNW
Carnicobar	250,NNE	590,N	950,N
Hut bay	120,NE	450,NNE	800,N
Portblair	80,ESE	330,NNE	670,NNE
Maya bundar	190,SSE	190,NNE	530,NNE

N:NORTH, NNE:NORTH-NORTHEAST, NE:NORTHEAST, ENE:EAST-NORTHEAST, E:EAST, SE:SOUTHEAST, SSE:SOUTH-SOUTHEAST, S:SOUTH, SSW:SOUTH-SOUTHWEST, SW:SOUTHWEST, WSW:WEST-SOUTHWEST, W:WEST, WNW:WEST-NORTHWEST, NW:NORTHWEST, NNW:NORTH-NORTHWEST



OBSERVED AND FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION OF DEPRESSION OVER NORTH ANDAMAN SEA AND ADJOINING SOUTHEAST BAY OF BENGAL BASED ON 1800 UTC OF 20TH 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 (≥ 120 KT)

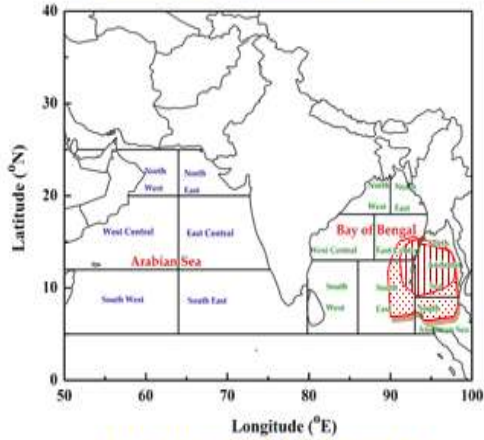
● LESS THAN 34 KT
 ○ 34-47 KT
 ● ≥ 48 KT
 — OBSERVED TRACK
 — FORECAST TRACK
 — CONE OF UNCERTAINTY
 AREA OF MAXIMUM SUSTAINED WIND SPEED:
 ■ 28-33 KT (52-61 KMPH)
 ■ 34-49 KT (62-91 KMPH)
 ■ 50-63 KT (92-117 KMPH)
 ■ ≥ 64 KT (≥118 KMPH)

IMPACT OVER THE SEA

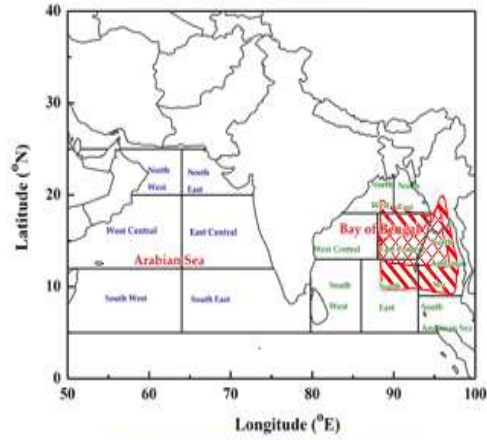
MSW (knot/kmph)	Impact	Action
28-33 (52-61)	Very rough seas	Total suspension of fishing operations
34-49 (62-91)	High to very high seas	Total suspension of fishing operations
50-63 (92-117)	Very high seas	Total suspension of fishing operations
≥ 64 (≥118)	Phenomenal	Total suspension of fishing operations

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

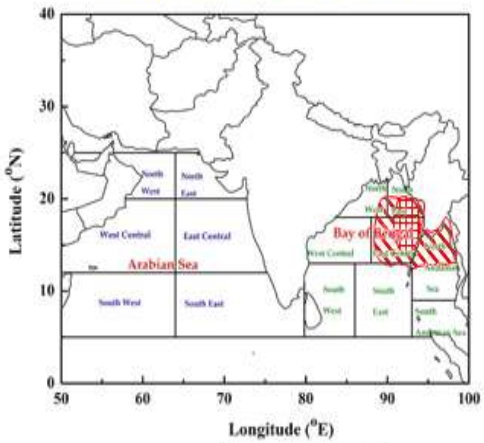
DAY-1: 20.03.2022/0600 UTC TO 21.03.2022/0600 UTC



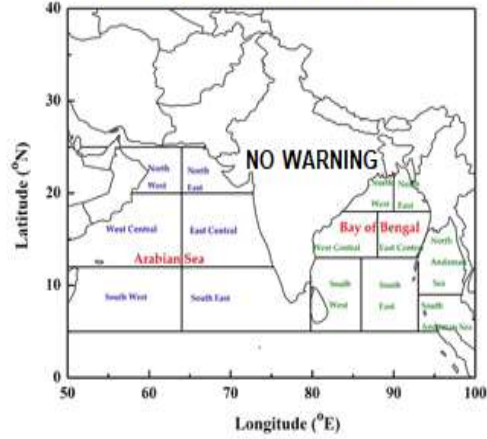
DAY-2: 21.03.2022/0600 UTC TO 22.03.2022/0600 UTC



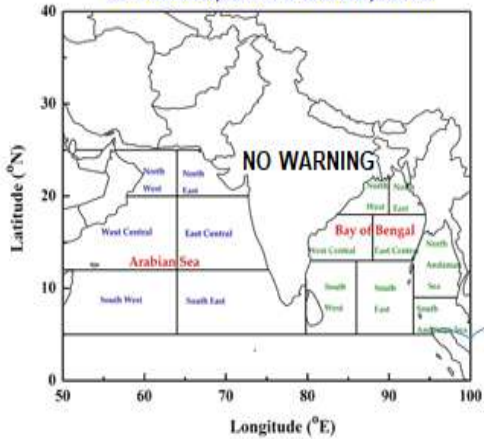
DAY-3: 22.03.2022/0600 UTC TO 23.03.2022/0600 UTC







DAY-4: 23.03.2022/0600 UTC TO 24.03.2022/0600 UTC



DAY-5: 24.03.2022/0600 UTC TO 25.03.2022/0600 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
-  65-75 KMPH GUSTING TO 85 KMPH