



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

DEMS-RSMC SPECIAL TROPICAL CYCLONES NEW DELHI DATED 21.03.2022

SPECIAL TROPICAL WEATHER OUTLOOK FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 0300 UTC OF 21.03.2022 BASED ON 0000 UTC OF 21.03.2022.

SUB: DEPRESSION OVER NORTH ANDAMAN SEA AND ADJOINING SOUTHEAST BAY OF BENGAL INTENSIFIED INTO A DEEP DEPRESSION OVER THE SAME REGION

THE DEPRESSION OVER NORTH ANDAMAN SEA AND ADJOINING SOUTHEAST BAY OF BENGAL, MOVED NORTH-NORTHEASTWARDS AT A SPEED OF 12 KMPH DURING LAST 06 HOURS, INTENSIFIED INTO A DEEP DEPRESSION AND LAY CENTERED AT 0000 UTC OF TODAY, 21ST MARCH, OVER THE SAME REGION, NEAR LATITUDE 11.9°N AND LONGITUDE 93.7°E, ABOUT 110 KM EAST-NORTHEAST OF PORT BLAIR(43333) (ANDAMAN ISLANDS), 320 KM NORTH-NORTHEAST OF CAR NICOBAR (43367) (NICOBAR ISLANDS) AND 610 KM SOUTH-SOUTHWEST OF YANGON (48097) (MYANMAR). IT IS LIKELY TO INTENSIFY FURTHER INTO A CYCLONIC STORM BY 1200UTC OF 21ST MARCH. IT IS LIKELY TO MOVE NEARLY NORTHWARDS ALONG & OFF ANDAMAN ISLANDS TOWARDS MYANMAR COAST BY 0000UTC OF 23RD MARCH.

FORECAST TRACK AND INTENSITY ARE GIVEN IN THE FOLLOWING TABLE:

DATE/TIME(UTC)	POSITION (LAT. °N/ LONG. °E)	AXIMUM SUSTAINED SURFACE WIND SPEED (KMPH)	CATEGORY OF CYCLONIC DISTURBANCE
21.03.22/0000	11.9/93.7	50-60 GUSTING TO 70	DEEP DEPRESSION
21.03.22/1200	13.7/93.9	65-75 GUSTING TO 85	CYCLONIC STORM
22.03.22/0000	15.1/93.8	65-75 GUSTING TO 85	CYCLONIC STORM
22.03.22/1200	16.9/93.9	55-65 GUSTING TO 75	DEEP DEPRESSION
23.03.22/0000	18.4/94.1	45-55 GUSTING TO 65	DEPRESSION

AS PER INSAT 3D IMAGERY, INTENSITY OF THE SYSTEM IS CHARACTERISED AS T 2.0. 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 10.0N & 15.0N AND LONGITUDE 91.0E & 97.0E 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 30 KNOTS GUSTING TO 40 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 29-30⁰C 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.

LOW LEVEL VORTICITY HAS INCREASED SIGNIFICANTLY FROM 50 X10⁻⁶ S⁻¹ TO 150 X10⁻⁶ S⁻¹ DURING LAST 6 HOURS AND LIES AROUND THE SYSTEM CENTRE WITH VERTICAL EXTENSION UPTO 500 HPA LEVEL. LOW LEVEL CONVERGENCE IS 20X10⁻⁵ S⁻¹ NORTHEAST OF THE SYSTEM CENTRE. UPPER LEVEL DIVERGENCE IS AROUND 20 X10⁻⁵ S⁻¹ ALSO AT NORTHEAST OF THE SYSTEM CENTRE. 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 FURTHER INTENSIFY INTO A MARGINAL CYCLONIC STORM DURING NEXT 12 HOURS. 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 INTO A MARGINAL CYCLONIC STORM DURING SUBSEQUENT 12 HOURS.

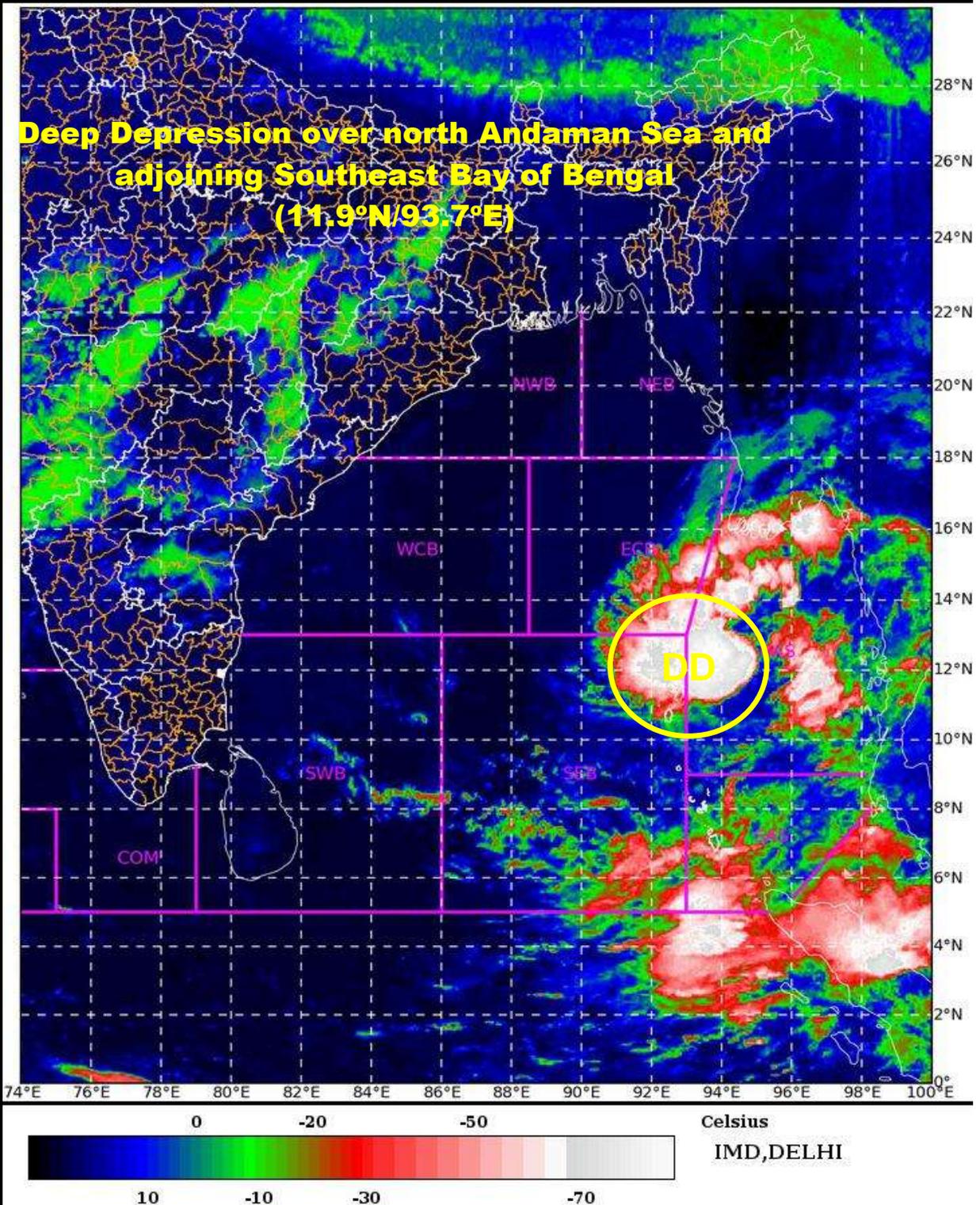
(RK JENAMANI)
SCIENTIST-F
RSMC NEW DELHI

SAT : INSAT-3D IMG 21-03-2022/(0200 to 0227) GMT

IMG_TIR1_TEMP 10.8 um 21-03-2022/(0730 to 0757) IST



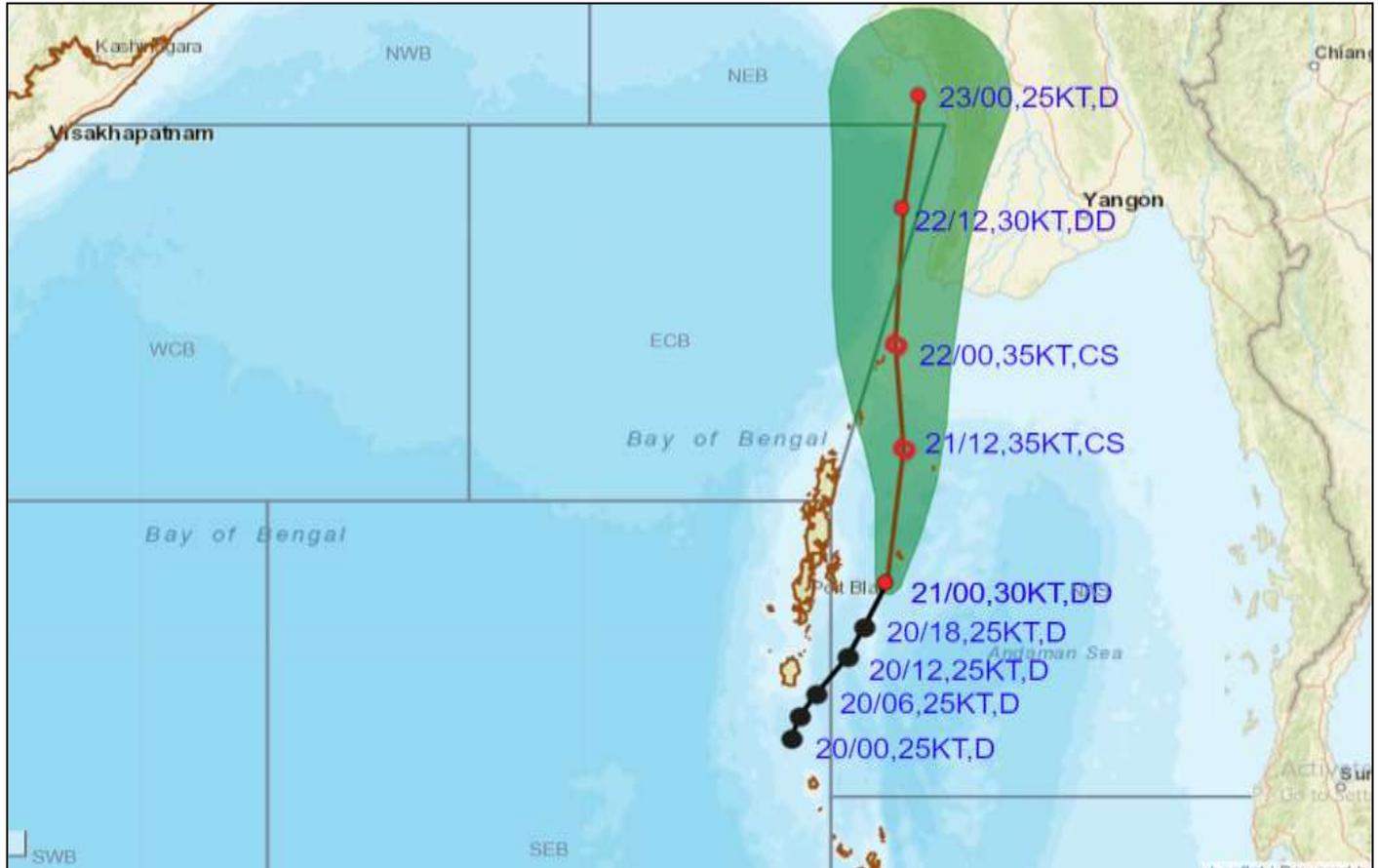
L1C Mercator



DD: Deep Depression



OBSERVED AND FORECAST TRACK ALONGWITH CONE OF UNCERTAINTY OF DEEP DEPRESSION OVER NORTH ANDAMAN SEA AND ADJOINING SOUTHEAST BAY OF BENGAL BASED ON 0000 UTC OF 21ST 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)

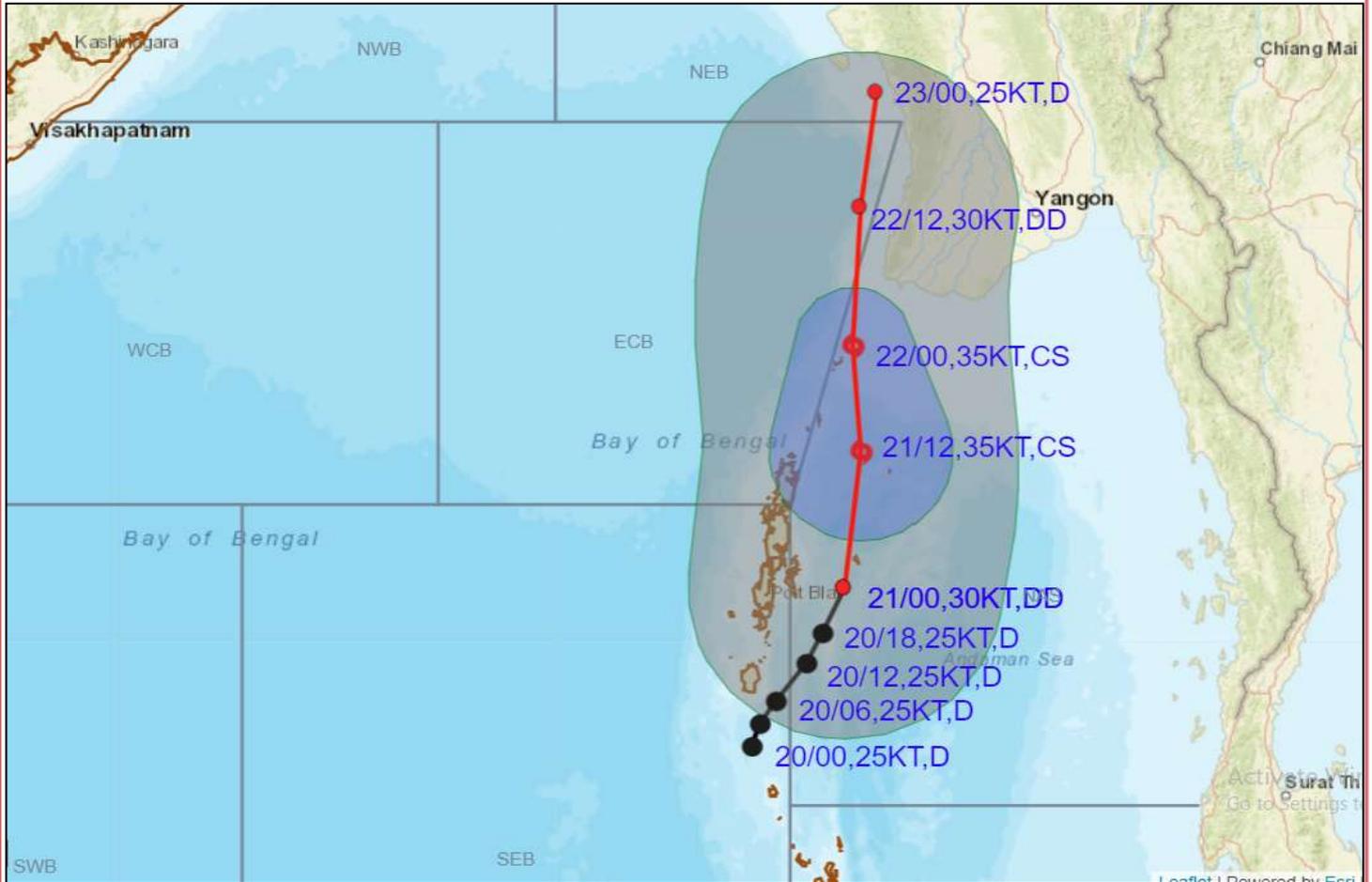
- LESS THAN 34 KT
- 34-47 KT
- \geq 48 KT
- OBSERVED TRACK
- FORECAST TRACK
- CONE OF UNCERTAINTY

STATIONS	DISTANCE(KM) AND DIRECTION FROM STATIONS		
	21.03.22/0000	22.03.22/0000	23.03.22/0000
Yangon	600,SSW	310,SW	280,NW
Carnicobar	320,NNE	670,N	1040,N
Hut bay	190,NE	520,NNE	890,N
Portblair	110,ENE	400,NNE	760,N
Maya bundar	140,SE	260,NNE	620,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 0000 UTC OF 21st 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)

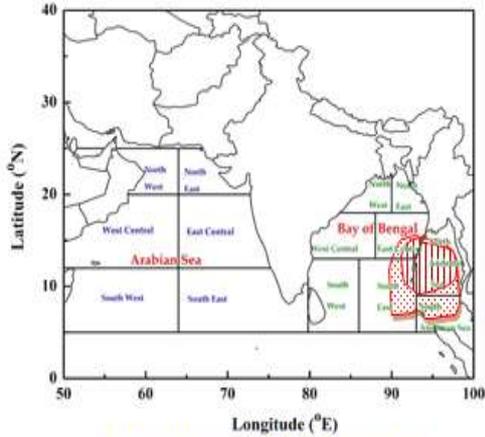
- LESS THAN 34 KT
- 34-47 KT
- ≥ 48 KT
- OBSERVED TRACK
- FORECAST TRACK
- ▲ CONE OF UNCERTAINTY
- AREA OF MAXIMUM SUSTAINED WIND SPEED:
- 28-33 KT (52-61 KMPH)
- 34-49 KT (62-91 KMPH)
- 50-63 KT (92-117 KMPH)
- ≥ 64 KT (≥118 KMPH)

IMPACT OVER THE SEA

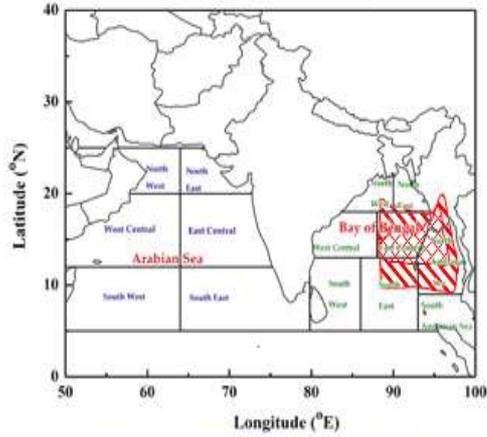
MSW (knot/kmph)	Impact	Action
28-33 (52-61)	Very rough seas	Total suspension of fishing operations
34-49 (62-91)	High to very high seas	Total suspension of fishing operations
50-63 (92-117)	Very high seas	Total suspension of fishing operations
≥ 64 (≥118)	Phenomenal	Total suspension of fishing operations

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

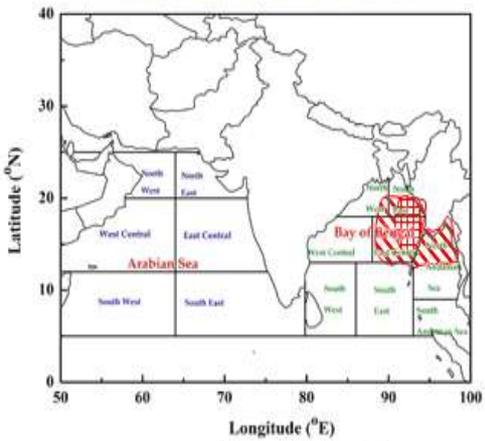
DAY-1: 20.03.2022/0600 UTC TO 21.03.2022/0600 UTC



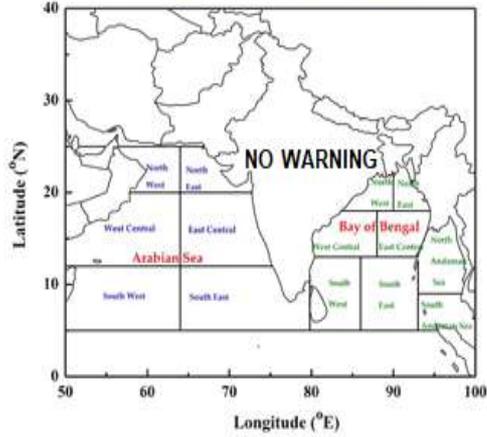
DAY-2: 21.03.2022/0600 UTC TO 22.03.2022/0600 UTC



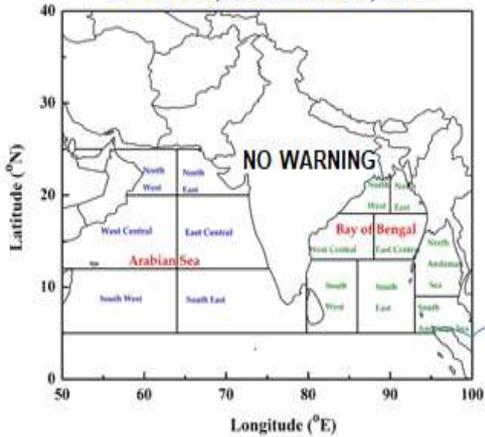
DAY-3: 22.03.2022/0600 UTC TO 23.03.2022/0600 UTC



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