



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

DEMS-RSMC SPECIAL TROPICAL CYCLONES NEW DELHI DATED 21.10.2023

FROM: RSMC –TROPICAL CYCLONES, NEW DELHI

**TO: STORM WARNING CENTRE, NAYPYI TAW (MYANMAR)
STORM WARNING CENTRE, BANGKOK (THAILAND)
STORM WARNING CENTRE, COLOMBO (SRILANKA)
STORM WARNING CENTRE, DHAKA (BANGLADESH)
STORM WARNING CENTRE, KARACHI (PAKISTAN)
METEOROLOGICAL OFFICE, MALE (MALDIVES)
OMAN METEOROLOGICAL DEPARTMENT, MUSCAT (THROUGH RTH JEDDAH)
YEMEN METEOROLOGICAL SERVICES, REPUBLIC OF YEMEN (THROUGH RTH JEDDAH)
NATIONAL CENTRE FOR METEOROLOGY, UAE (THROUGH RTH JEDDAH)
PRESIDENCY OF METEOROLOGY AND ENVIRONMENT, SAUDI ARABIA (THROUGH RTH JEDDAH)
IRAN METEOROLOGICAL ORGANISATION, (THROUGH RTH JEDDAH)
QATAR METEOROLOGICAL DEPARTMENT (THROUGH RTH JEDDAH)**

TROPICAL CYCLONE ADVISORY NO. 01 FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND THE ARABIAN SEA) VALID FOR NEXT 168 HOURS ISSUED AT 0400 UTC OF 21.10.2023 BASED ON 0000 UTC OF 21.10.2023.

**SUB: (A) DEEP DEPRESSION INTENSIFIED INTO A CYCLONIC STORM “TEJ” (PRONOUNCED AS TEJ) OVER SOUTHWEST ARABIAN SEA AND
(B) LOW PRESSURE AREA OVER SOUTHEAST AND ADJOINING EASTCENTRAL BAY OF BENGAL**

(A) DEEP DEPRESSION INTENSIFIED INTO A CYCLONIC STORM “TEJ” (PRONOUNCED AS TEJ) OVER SOUTHWEST ARABIAN SEA

THE DEEP DEPRESSION OVER SOUTHWEST ARABIAN SEA MOVED WEST-NORTHWESTWARDS WITH A SPEED OF 24 KMPH DURING PAST 6 HOURS, INTENSIFIED INTO A **CYCLONIC STORM “TEJ” (PRONOUNCED AS TEJ)** AND LAY CENTERED AT 0000 UTC OF 21ST OCTOBER OVER THE SAME REGION, NEAR LATITUDE 9.9°N AND LONGITUDE 59.4°E ABOUT 670 KM EAST-SOUTHEAST OF SOCOTRA (YEMEN, 41494), 980 KM SOUTH-SOUTHEAST OF SALALAH (OMAN, 41316) AND 1050 KM EAST-SOUTHEAST OF AL GHADAH (YEMEN, 41398).

IT IS VERY LIKELY TO INTENSIFY INTO A SEVERE CYCLONIC STORM DURING NEXT 12 HOURS AND FURTHER INTO A VERY SEVERE CYCLONIC STORM DURING SUBSEQUENT 24 HOURS. IT IS VERY LIKELY TO MOVE WEST-NORTHWESTWARDS TILL 0000 UTC OF 22ND, NORTHWESTWARDS THEREAFTER TILL 0000 UTC OF 24TH & THEN NORTH-NORTHWESTWARDS. IT IS LIKELY TO CROSS YEMEN-OMAN COASTS BETWEEN AL GHADAH (YEMEN, 41398) & SALALAH (OMAN, 41316) AROUND 0000 UTC OF 25TH OCTOBER.

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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FORECAST TRACK AND INTENSITY OF THE SYSTEM IS GIVEN BELOW:

DATE/TIME(UTC)	POSITION (LAT. °N/ LONG. °E)	MAXIMUM SUSTAINED SURFACE WIND SPEED (KMPH)	CATEGORY OF CYCLONIC DISTURBANCE
21.10.23/0000	9.9/59.4	70-80 GUSTING TO 90	CYCLONIC STORM
21.10.23/0600	10.4/58.7	80-90 GUSTING TO 100	CYCLONIC STORM
21.10.23/1200	10.9/57.9	90-100 GUSTING TO 110	SEVERE CYCLONIC STORM
21.10.23/1800	11.3/57.2	105-115 GUSTING TO 125	SEVERE CYCLONIC STORM
22.10.23/0000	11.8/56.5	110-120 GUSTING TO 135	VERY SEVERE CYCLONIC STORM
22.10.23/1200	12.7/55.4	135-145 GUSTING TO 160	VERY SEVERE CYCLONIC STORM
23.10.23/0000	13.6/54.5	150-160 GUSTING TO 175	VERY SEVERE CYCLONIC STORM
23.10.23/1200	14.3/53.9	145-155 GUSTING TO 170	VERY SEVERE CYCLONIC STORM
24.10.23/0000	15.0/53.4	135-145 GUSTING TO 160	VERY SEVERE CYCLONIC STORM
24.10.23/1200	15.9/53.1	125-135 GUSTING TO 150	VERY SEVERE CYCLONIC STORM
25.10.23/0000	16.6/52.9	100-110 GUSTING TO 120	SEVERE CYCLONIC STORM
25.10.23/1200	17.3/52.7	60-70 GUSTING TO 80	CYCLONIC STORM
26.10.23/0000	18.0/52.7	40-50 GUSTING TO 60	DEPRESSION

AS PER INSAT 3D IMAGERY, INTENSITY OF THE SYSTEM IS CHARACTERISED AS T NO. 2.5. CURVED BAND PATTERN WITH ASSOCIATED SCATTERED TO BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER SOUTHWEST ARABIAN SEA BETWEEN LAT 6.5N TO 15.0N LONG 53.5E TO 65.0.E (.) MINIMUM CTT MINUS 92 DEG CEL (.) MINIMUM CLOUD TOP TEMPRATURE IS MINUS 92⁰C.

ASSOCIATED MAXIMUM SUSTAINED WIND SPEED IS 40 KNOTS GUSTING TO 50 KNOTS. THE ESTIMATED CENTRAL PRESSURE IS 999 HPA. SEA CONDITION IS HIGH OVER SOUTHWEST ARABIAN SEA AND ADJOINING WESTCENTRAL ARABIAN SEA. MULTISATELLITE WINDS INDICATE STRONGER WINDS IN NORTHWEST SECTOR. TOTAL PRECIPITABLE WATER IMAGERY INDICATES WARM MOIST AIR INCURSION INTO THE SYSTEM CORE.

(B LOW PRESSURE AREA OVER SOUTHEAST AND ADJOINING EASTCENTRAL BAY OF BENGAL

THE LOW PRESSURE AREA OVER SOUTHWEST AND ADJOINING SOUTHEAST BAY OF BENGAL LAY CENTERED OVER SOUTHEAST & ADJOINING EASTCENTRAL BAY OF BENGAL AT 0000 UTC OF 21ST OCTOBER, 2023. IT IS VERY LIKELY TO MOVE NORTHWESTWARDS AND INTENSIFY INTO A DEPRESSION OVER WESTCENTRAL BAY OF BENGAL AROUND 22ND OCTOBER. THEREAFTER, IT IS LIKELY TO MOVE NORTH-NORTHEASTWARDS TOWARDS BANGLADESH AND ADJOINING WEST BENGAL COASTS DURING SUBSEQUENT 3 DAYS.

BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER SOUTHEAST AND ADJOINING EASTCENTRAL BAY OF BENGAL BAY OF BENGAL BETWEEN LATTITUDE 9.5 & 17.0 N AND LONGITUDE 82.0 E & 90.0 E. MINIMUM CLOUD TOP TEMPRATURE IS MINUS 80⁰C.

PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION) DURING NEXT 168 HRS:

24 HOURS	24-48 HOURS	48-72 HOURS	72-96 HOURS	96-120 HOURS	120-144 HOURS	144-168 HOURS
NIL	MOD	HIGH	-	-	-	-

“..” INDICATE THAT CYCLOGENESIS HAS ALREADY OCCURRED. THE ABOVE TABLE INDICATES PROBABILITY OF CYCLOGENESIS ONLY (FORMATION OF DEPRESSION).

REMARKS:

ARABIAN SEA:

MADDEN JULIAN OSCILLATION INDEX IS IN PHASE 1 WITH AMPLITUDE LESS THAN 1. IT WOULD MOVE TO PHASE 8 FROM TODAY ONWARDS. SEA SURFACE TEMPERATURE IS 29-30°C OVER SOUTH & WEST ARABIAN SEA. THE TROPICAL CYCLONE HEAT POTENTIAL IS 60-80KJ/CM² OVER SOUTHEAST & ADJOINING SOUTHWEST ARABIAN SEA. IT WOULD DECREASE BECOMING 20-30 KJ/CM² OVER SOUTHWEST & WESTCENTRAL ARABIAN SEA.

THE LOW LEVEL POSITIVE IS AROUND 150 X10⁻⁶S⁻¹ AROUND THE SYSTEM CENTER WITH VERTICAL EXTENSION UPTO 200 HPA LEVEL. THE POSITIVE LOW LEVEL CONVERGENCE IS ABOUT 20X10⁻⁵S⁻¹ TO THE EAST-SOUTHEAST OF SYSTEM AREA. POSITIVE UPPER LEVEL DIVERGENCE IS ABOUT 20 X10⁻⁵ S⁻¹ TO THE WEST OF THE SYSTEM AREA. WIND SHEAR IS MODERATE (10--20) OVER SYSTEM AREA AND ALONG THE EXPECTED TRACK AND IT IS MODERATE TO HIGH OVER WESTERN PARTS OF WESTCENTRAL ARABIAN SEA. UPPER TROPOSPHERIC RIDGE RUNS NEAR 15⁰N. EAST-SOUTHEASTERLY IN THE UPPER TROPOSPHERIC LEVELS ARE STEERING THE SYSTEM WEST-NORTHWESTWARDS.

THE MULTI MODEL GUIDANCE IS INDICATING THE SYSTEM TO MOVE WEST-NORTHWESTWARDS TILL AROUND 0000 UTC OF 22ND, NORTHWESTWARDS THEREAFTER TILL 0000 UTC OF 24TH & THEN NORTH-NORTHWESTWARDS. MOST OF THE MODELS ARE INDICATING THE SYSTEM TO CROSS OMAN COAST (EXCEPT ECMWF WHICH IS INDICATING CROSSING OVER YEMEN). MODELS ARE ALSO SUGGESTING SLIGHT WEAKENING PRIOR TO LANDFALL. THIS IS SUPPORTED BY DECREASING OCEAN THERMAL ENERGY AND INCREASING WIND SHEAR OVER WESTCENTRAL ARABIAN SEA ALONG & OFF OMAN-YEMEN COASTS.

THE **CYCLONIC STORM “TEJ” (PRONOUNCED AS TEJ)** IS VERY LIKELY TO INTENSIFY INTO A SEVERE CYCLONIC STORM DURING NEXT 12 HOURS AND FURTHER INTO A VERY SEVERE CYCLONIC STORM DURING SUBSEQUENT 24 HOURS. IT IS VERY LIKELY TO MOVE WEST-NORTHWESTWARDS TILL 0000 UTC OF 22ND, NORTHWESTWARDS THEREAFTER TILL 0000 UTC OF 24TH & THEN NORTH-NORTHWESTWARDS. IT IS LIKELY TO CROSS YEMEN-OMAN COASTS BETWEEN AL GHAI DAH (YEMEN, 41398) & SALALAH (OMAN, 41316) AROUND 0000 UTC OF 25TH OCTOBER.

BAY OF BENGAL:

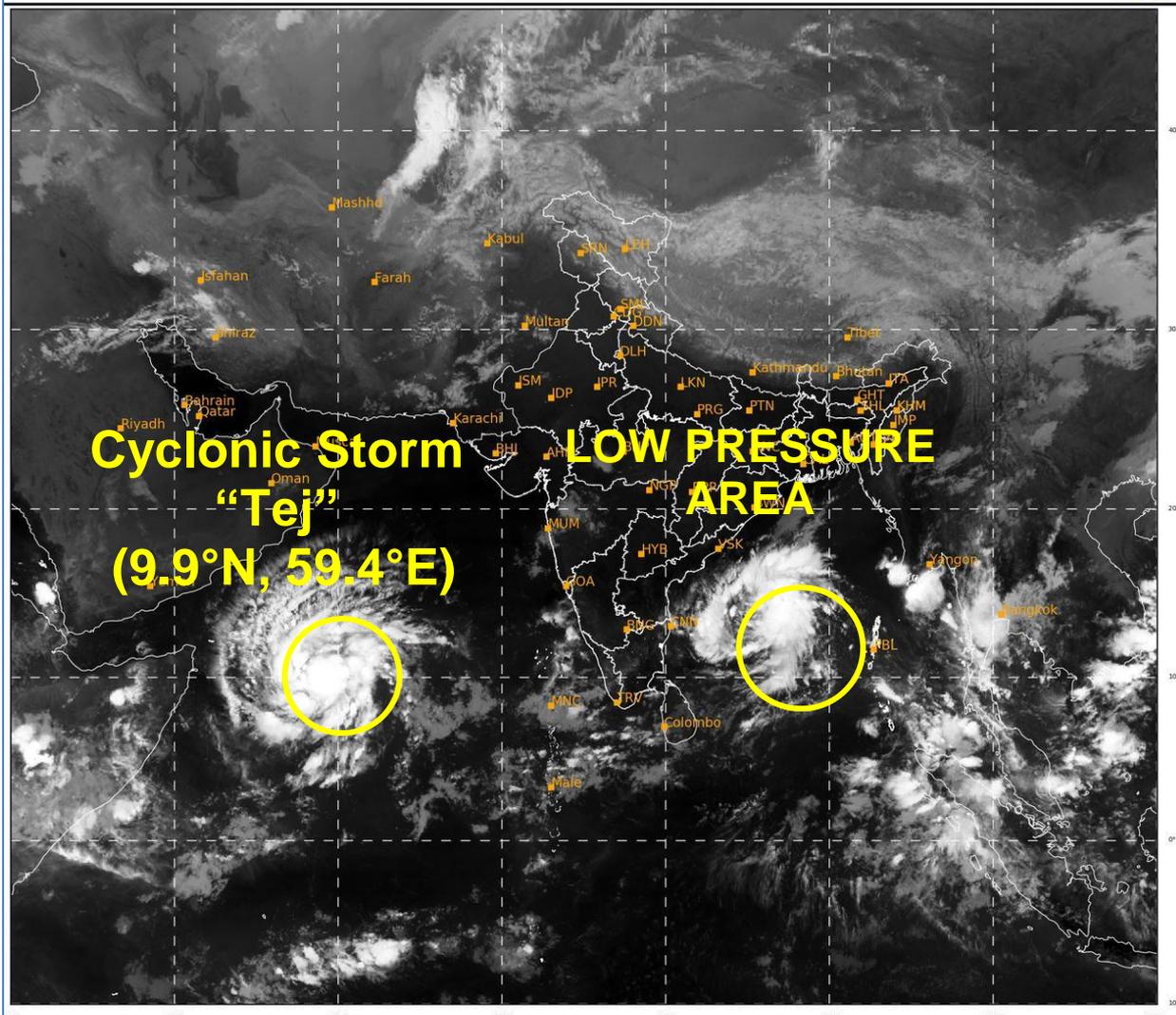
MJO IS NOT SUPPORTIVE FOR CYCLOGENESIS OVER BOB. HOWEVER, WARM SST AND LOW TO MODERATE VERTICAL WIND SHEAR OVER SOUTH & CENTRAL BOB ARE LIKELY TO SUPPORT THE DEVELOPMENT OF LOW PRESSURE AREA OVER BOB INTO A DEPRESSION.

THE GLOBAL MODELS ARE IN AGREEMENT THAT THE LOW PRESSURE AREA OVER SOUTHEAST BAY OF BENGAL IS LIKELY TO INTENSIFY FURTHER INTO A DEPRESSION OVER WESTCENTRAL BAY OF BENGAL AROUND 22ND. HENCE

MODERATE TO HIGH PROBABILITY OF FORMATION OF DEPRESSION IS ASSIGNED TO FORMATION OF DEPRESSION OVER BOB DURING 22ND – 23RD OCTOBER. SOME OF THE MODELS ARE SHOWING MOVEMENT TOWARDS BANGLADESH-MYANMAR COASTS. WHILE ECMWF AND GEFS ARE INDICATING MOVEMENT TOWARDS BANGLADESH & ADJOINING WEST BENGAL COASTS. MOST OF THE MODELS ARE INDICATING INTENSIFICATION UPTO DEPRESSION/DEEP DEPRESSION STAGE, HOWEVER ECMWF IS INDICATING HIGHER INTENSITY.

CONSIDERING ALL THESE, THE LOW PRESSURE AREA OVER SOUTHEAST & ADJOINING EASTCENTRAL BAY OF BENGAL IS LIKELY TO MOVE NORTHWESTWARDS AND INTENSIFY INTO A DEPRESSION OVER WESTCENTRAL BAY OF BENGAL AROUND 22ND OCTOBER. THEREAFTER, IT IS LIKELY TO MOVE NORTH-NORTHEASTWARDS TOWARDS BANGLADESH AND ADJOINING WEST BENGAL COASTS DURING SUBSEQUENT 3 DAYS.

(SHOBHIT KATIYAR)
SCIENTIST-D
RSMC, NEW DELHI



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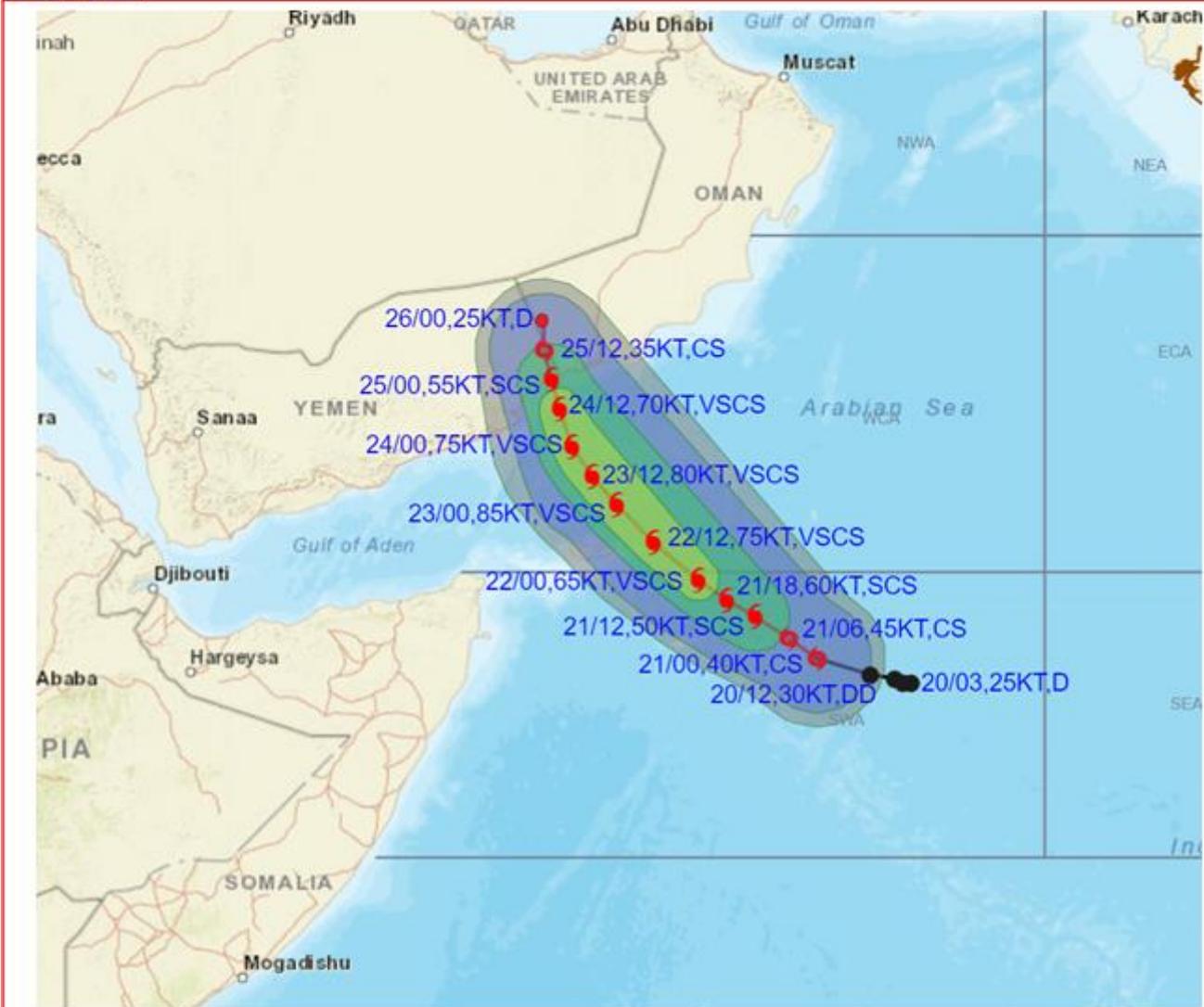
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IMD, DELHI

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OBSERVED AND FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION OF CYCLONIC STORM "TEJ" OVER SOUTHWEST ARABIAN SEA BASED ON 0000 UTC (0530 IST) OF 21ST 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 (≥ 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)

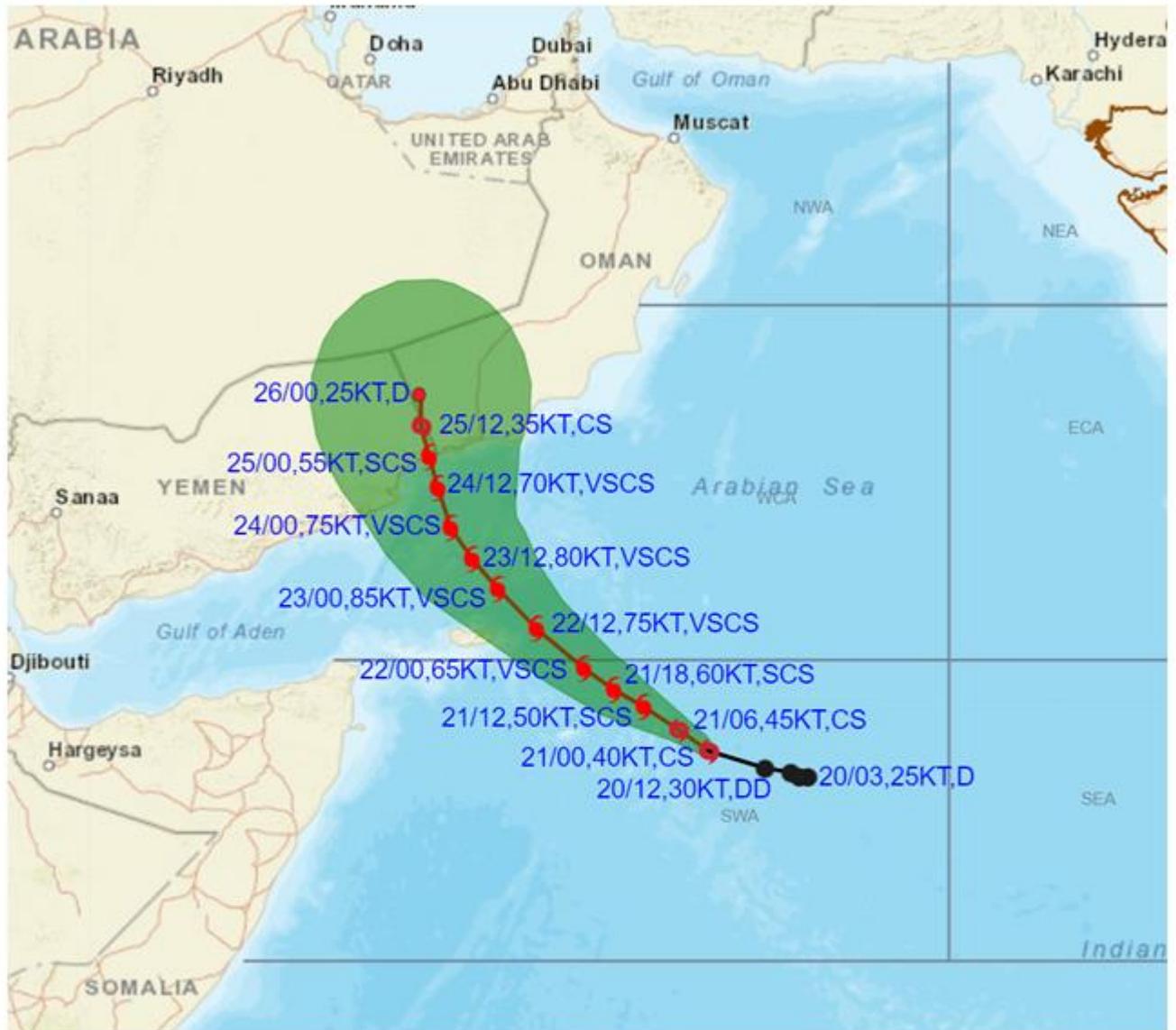
IMPACT OVER THE SEA

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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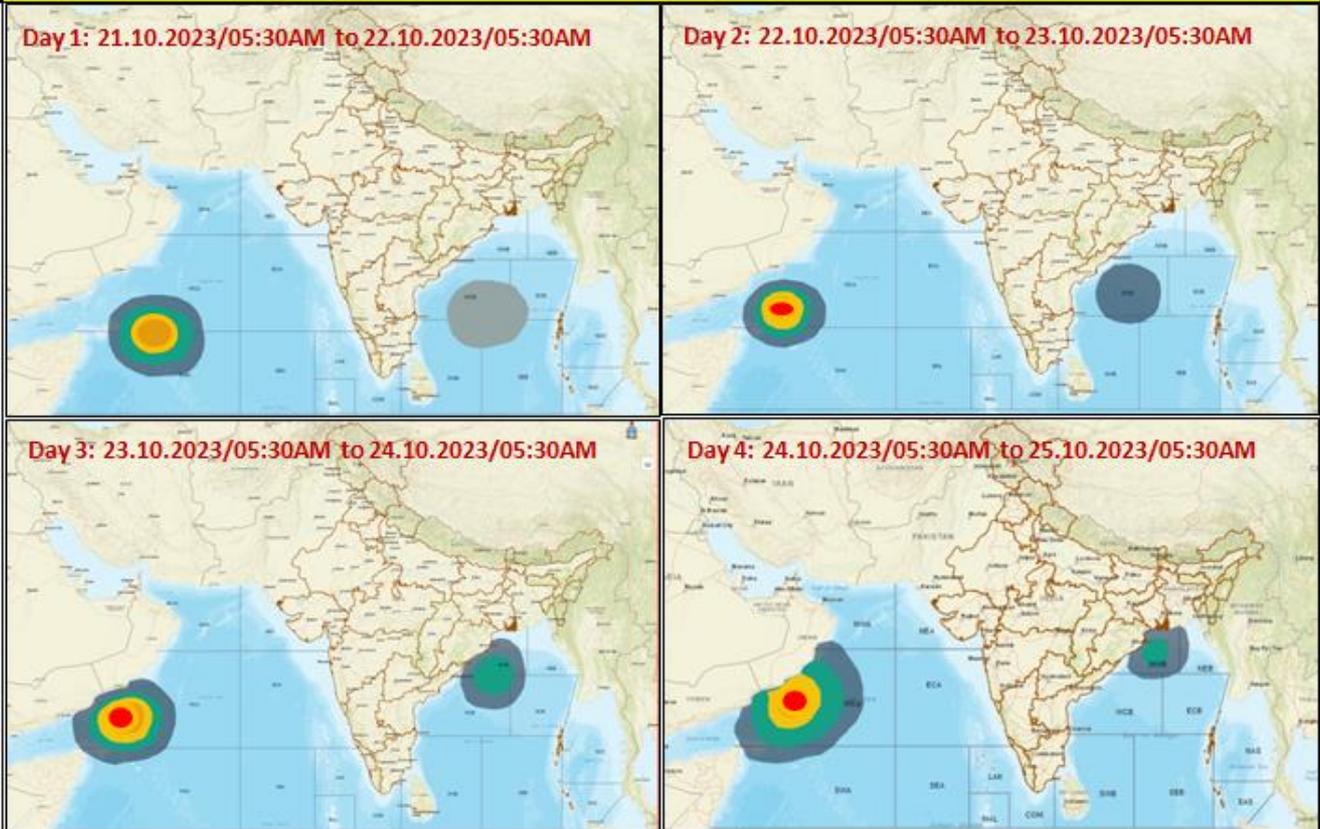
OBSERVED AND FORECAST TRACK ALONGWITH CONE OF UNCERTAINTY OF CYCLONIC STORM "TEJ" OVER SOUTHWEST ARABIAN SEA BASED ON 0000 UTC (0530 IST) OF 21ST OCTOBER 2023.



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

Fishermen warning graphics



	Squally Weather with wind speed 40-45 kmph gusting to 55 kmph
	Squally wind speed with wind speed 45-55 kmph gusting to 65 kmph
	Squally wind speed with wind 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
	VSCS with gale wind speed 110-160 kmph gusting to 175 kmph

Fishermen are advised not to venture into the marked areas.

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