



REGIONAL SPECIALISED METEOROLOGICAL CENTRE-TROPICAL CYCLONES, NEW DELHI
TROPICAL CYCLONE ADVISORY BULLETIN NO. 04

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. 04 FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 0700 UTC OF 15.05.2021 BASED ON 0300 UTC OF 15.05.2021.

SUB: CYCLONIC STORM “TAUKTAE” (PRONOUNCED AS TAU’TE) OVER EASTCENTRAL AND ADJOINING SOUTHEAST ARABIAN SEA.

THE CYCLONIC STORM “TAUKTAE” (PRONOUNCED AS TAU’TE) OVER EASTCENTRAL AND ADJOINING SOUTHEAST ARABIAN SEA MOVED NORTH-NORTHWESTWARDS WITH A SPEED OF ABOUT 11 KMPH DURING PAST 06 HOURS AND LAY CENTRED AT 0300 HOURS UTC OF 15TH MAY, 2021 OVER EASTCENTRAL AND ADJOINING SOUTHEAST ARABIAN SEA NEAR LATITUDE 12.8°N AND LONGITUDE 72.5°E, ABOUT 190 KM NORTH-NORTHWEST OF AMINI DIVI (43311), 330 KM SOUTH-SOUTHWEST OF PANJIM-GOA (43192), 930 KM SOUTH-SOUTHEAST OF VERAVAL (42909) AND 1020 KM SOUTH-SOUTHEAST OF KARACHI (41780).

IT IS VERY LIKELY TO INTENSIFY FURTHER INTO A SEVERE CYCLONIC STORM DURING NEXT 06 HOURS AND INTO A VERY SEVERE CYCLONIC STORM DURING THE SUBSEQUENT 12 HOURS. IT IS VERY LIKELY TO MOVE NORTH-NORTHWESTWARDS AND CROSS GUJARAT COAST BETWEEN PORBANDER (42830) AND NALIYA (42631) DURING 0900-1200 UTC OF 18TH MAY.

FORECAST TRACK AND INTENSITY ARE GIVEN IN THE FOLLOWING TABLE:

DATE/TIME(UTC)	POSITION (LAT. °N/ LONG. °E)	MAXIMUM SURFACE WIND SPEED (KMPH)	SUSTAINED WIND SPEED (KMPH)	CATEGORY OF CYCLONIC DISTURBANCE
15.05.21/0300	12.8/72.5	75-85 GUSTING TO 95		CYCLONIC STORM
15.05.21/0600	13.2/72.5	85-95 GUSTING TO 105		SEVERE CYCLONIC STORM
15.05.21/1200	13.8/72.4	95-105 GUSTING TO 115		SEVERE CYCLONIC STORM
15.05.21/1800	14.5/72.3	110-120 GUSTING TO 135		SEVERE CYCLONIC STORM
16.05.21/0000	15.3/72.0	120-130 GUSTING TO 145		VERY SEVERE CYCLONIC STORM
16.05.21/1200	16.5/71.5	130-140 GUSTING TO 155		VERY SEVERE CYCLONIC STORM
17.05.21/0000	18.0/70.7	145-155 GUSTING TO 165		VERY SEVERE CYCLONIC STORM
17.05.21/1200	19.5/70.0	150-160 GUSTING TO 175		VERY SEVERE CYCLONIC STORM
18.05.21/0000	20.7/69.4	150-160 GUSTING TO 175		VERY SEVERE CYCLONIC STORM

PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION)

NIL: 0%, LOW: 1-25%, FAIR: 26-50%, MODERATE: 51-75% AND HIGH: 76-100%

18.05.21/1200	22.0/69.1	145-155 GUSTING TO 165	VERY SEVERE CYCLONIC STORM
19.05.21/0000	24.5/70.0	70-80 GUSTING TO 90	CYCLONIC STORM

REMARKS:

CONVECTION OVER LAKSHADWEEP AND ADJOINING SOUTHEAST & EASTCENTRAL ARABIAN SEA HAS FURTHER ORGANISED. ASSOCIATED MINIMUM CLOUD TOP TEMPERATURE IS -93°C . INTENSITY OF THE SYSTEM IS CATEGORISED AS T 3.0 WITH CDO PATTERN. BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER ARABIAN SEA (AS) BETWEEN LATITUDE 10.0°N & 17.5°N AND LONG 67.0°E & 75.0°E AND LAKSHADWEEP AREA.

THE ASSOCIATED MAXIMUM SUSTAINED WIND SPEED IS 45 KNOTS GUSTING TO 55 KNOTS. THE ESTIMATED CENTRAL PRESSURE IS 990 HPA. SEA CONDITION IS HIGH.

THE MADDEN JULIAN INDEX (MJO) CURRENTLY LIES IN PHASE 2 WITH AMPLITUDE MORE THAN 1. IT WILL CONTINUE TO BE IN SAME PHASE & SAME AMPLITUDE TILL 17TH. THEREAFTER, IT WILL MOVE TO PHASE 3 WITH AMPLITUDE NEAR 1. THUS, MJO IS CONDUCIVE FOR ENHANCED CONVECTION OVER THE ARABIAN SEA (AS) DURING NEXT 3 DAYS. THE TROPICAL CYCLONE HEAT POTENTIAL (TCHP) IS MORE THAN $140 \text{ KJ}/\text{CM}^2$ OVER SOUTHEAST AS AND IS DECREASING OVER CENTRAL PARTS OF CENTRAL AS & NORTH AS. SEA SURFACE TEMPERATURE (SST) IS AROUND 30°C OVER ENTIRE AS & $30-31^{\circ}\text{C}$ OVER SOUTHEAST AS. THE CROSS EQUATORIAL FLOW IN THE NEAR EQUATORIAL BELT IS ENHANCED DUE TO WESTERLY WIND BURST.

THE LOW LEVEL CYCLONIC VORTICITY HAS IS ABOUT $200 \times 10^{-6} \text{ S}^{-1}$ AROUND SYSTEM CENTRE. LOW LEVEL CONVERGENCE IS ($50 \times 10^{-5} \text{ S}^{-1}$) TO THE SOUTHWEST OF SYSTEM CENTRE. POSITIVE UPPER LEVEL DIVERGENCE HAS INCREASED AND IS ABOUT ($40 \times 10^{-5} \text{ S}^{-1}$) TO THE SOUTH-SOUTHWEST OF THE SYSTEM CENTRE. UPPER TROPOSPHERIC RIDGE RUNS ALONG 12.5°N . THE SYSTEM IS IN A REGION OF MODERATE TO HIGH VERTICAL WIND SHEAR (VWS) (25-30 KTS).

MOST OF THE NUMERICAL MODELS ARE INDICATING RAPID INTENSIFICATION OF THE SYSTEM. THE CYCLONIC STORM OVER EASTCENTRAL AND ADJOINING SOUTHEAST ARABIAN SEA WOULD INTENSIFY INTO A SEVERE CYCLONIC STORM DURING NEXT 12 HOURS. IT WOULD MOVE NORTH-NORTHWESTWARDS AND CROSS GUJARAT COAST BETWEEN PORBANDAR (42830) AND NALIYA (42631) DURING 0900-1500 UTC OF 18TH MAY.

THUS UNDER FAVOURABLE ENVIRONMENT LIKE MJO, HIGH SST, HIGH TCHP, GOOD POLEWARD OUTFLOW, MODERATE VWS AND WESTERLY WIND BURST, THE CYCLONIC STORM OVER EASTCENTRAL AND ADJOINING SOUTHEAST ARABIAN SEA WOULD INTENSIFY INTO A SEVERE CYCLONIC STORM DURING NEXT 12 HOURS. IT IS VERY LIKELY TO INTENSIFY FURTHER INTO VERY SEVERE CYCLONIC STORM DURING SUBSEQUENT 12 HOURS. IT IS VERY LIKELY TO MOVE NORTH-NORTHWESTWARDS AND CROSS GUJARAT COAST BETWEEN PORBANDAR (42830) AND NALIYA (42631) DURING 0900-1500 UTC OF 18TH MAY.

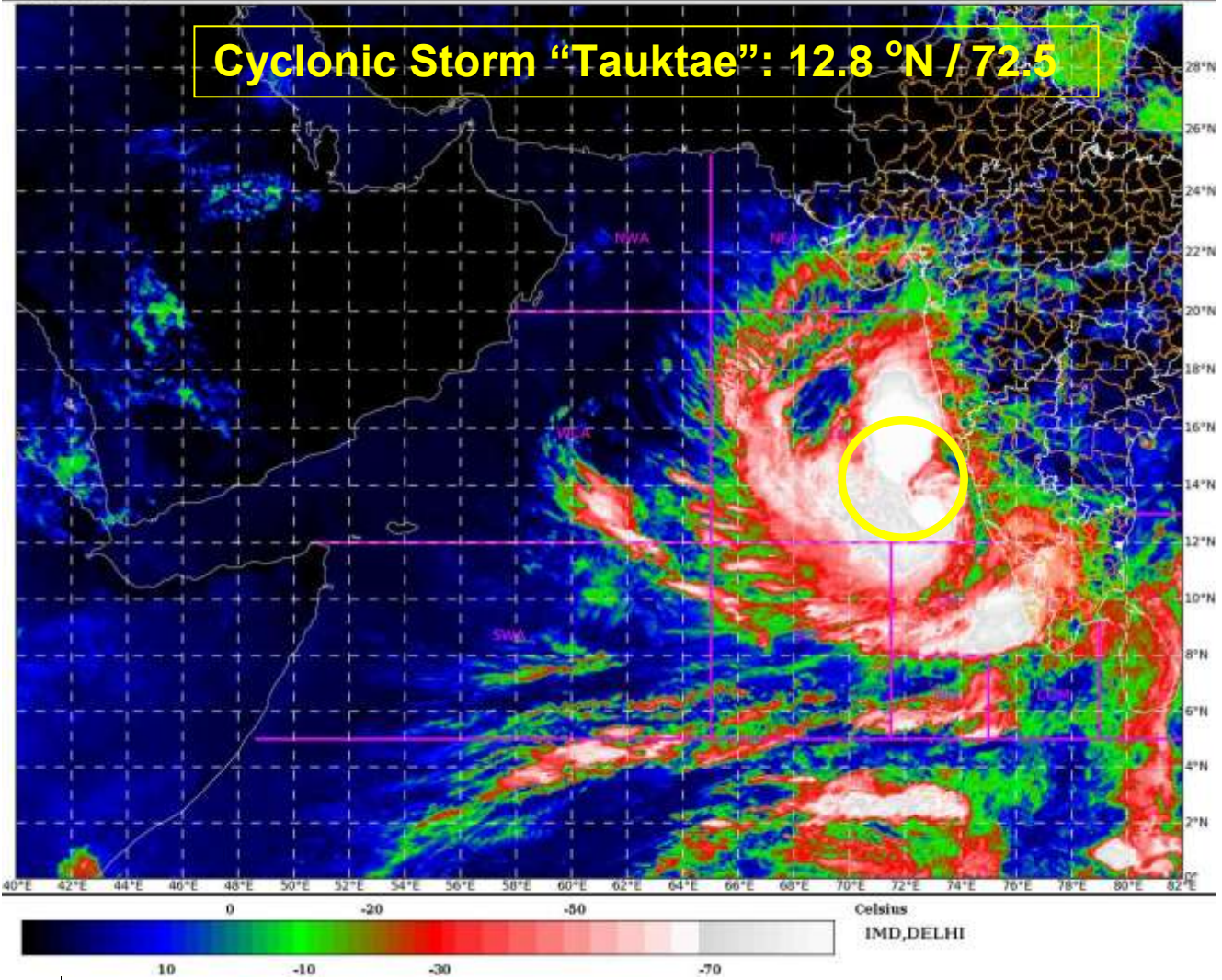
(R. K Jenamani)
SCIENTIST-F
RSMC NEW DELHI

PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION)

NIL: 0%, LOW: 1-25%, FAIR: 26-50%, MODERATE: 51-75% AND HIGH: 76-100%



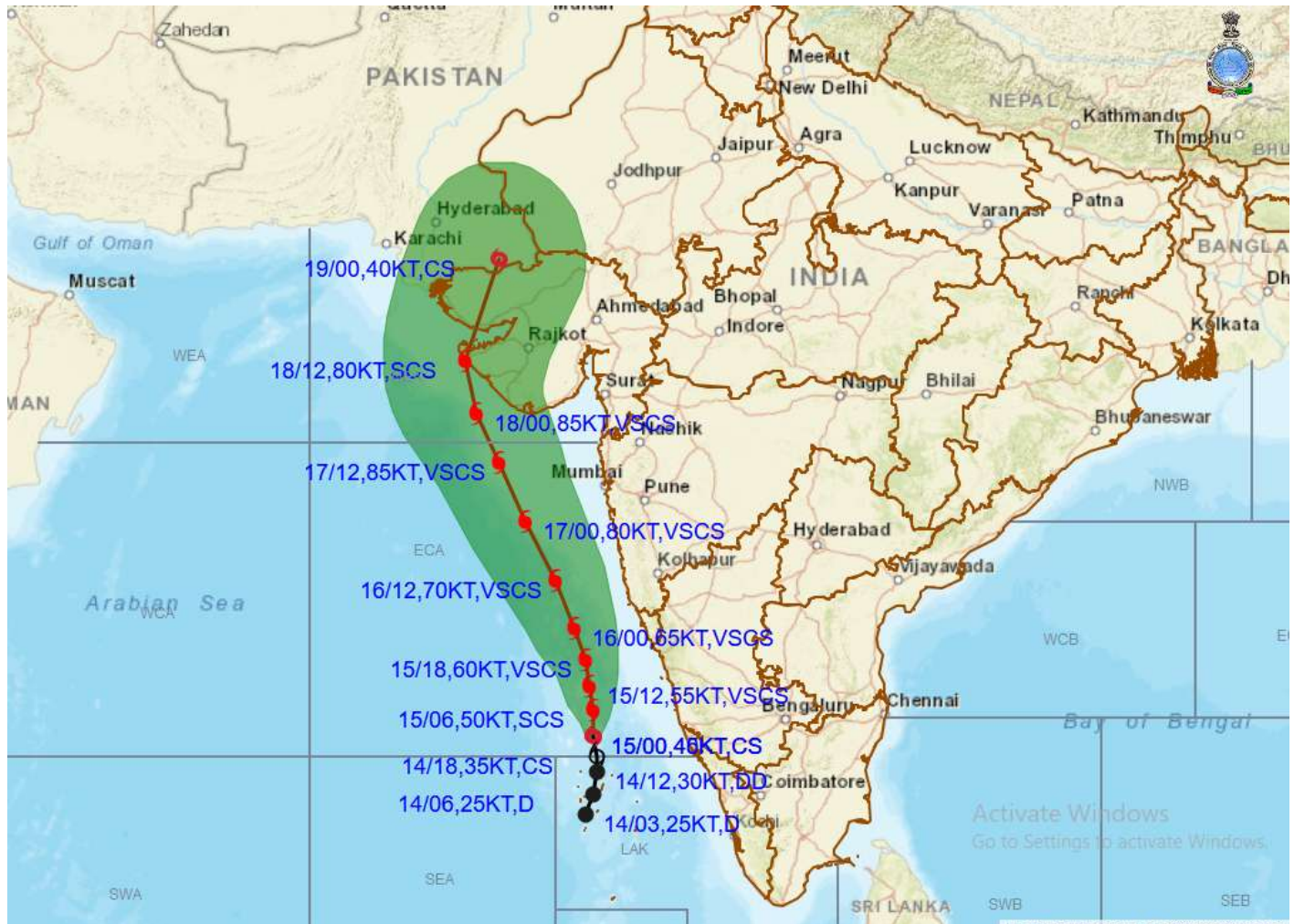
Cyclonic Storm "Tauktae": 12.8 °N / 72.5



PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION)
NIL: 0%, LOW: 1-25%, FAIR: 26-50%, MODERATE: 51-75% AND HIGH: 76-100%



OBSERVED AND FORECAST TRACK ALONGWITH CONE OF UNCERTAINTY OF CYCLONIC STORM "TAUKTAE" OVER EASTCENTRAL AND ADJOINING SOUTHEAST ARABIAN SEA BASED ON 0300 UTC OF 15TH MAY, 2021



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 (≥20 KT)

LESS THAN 34 KT

34-47 KT

≥ 48 KT

OBSERVED TRACK

FORECAST TRACK

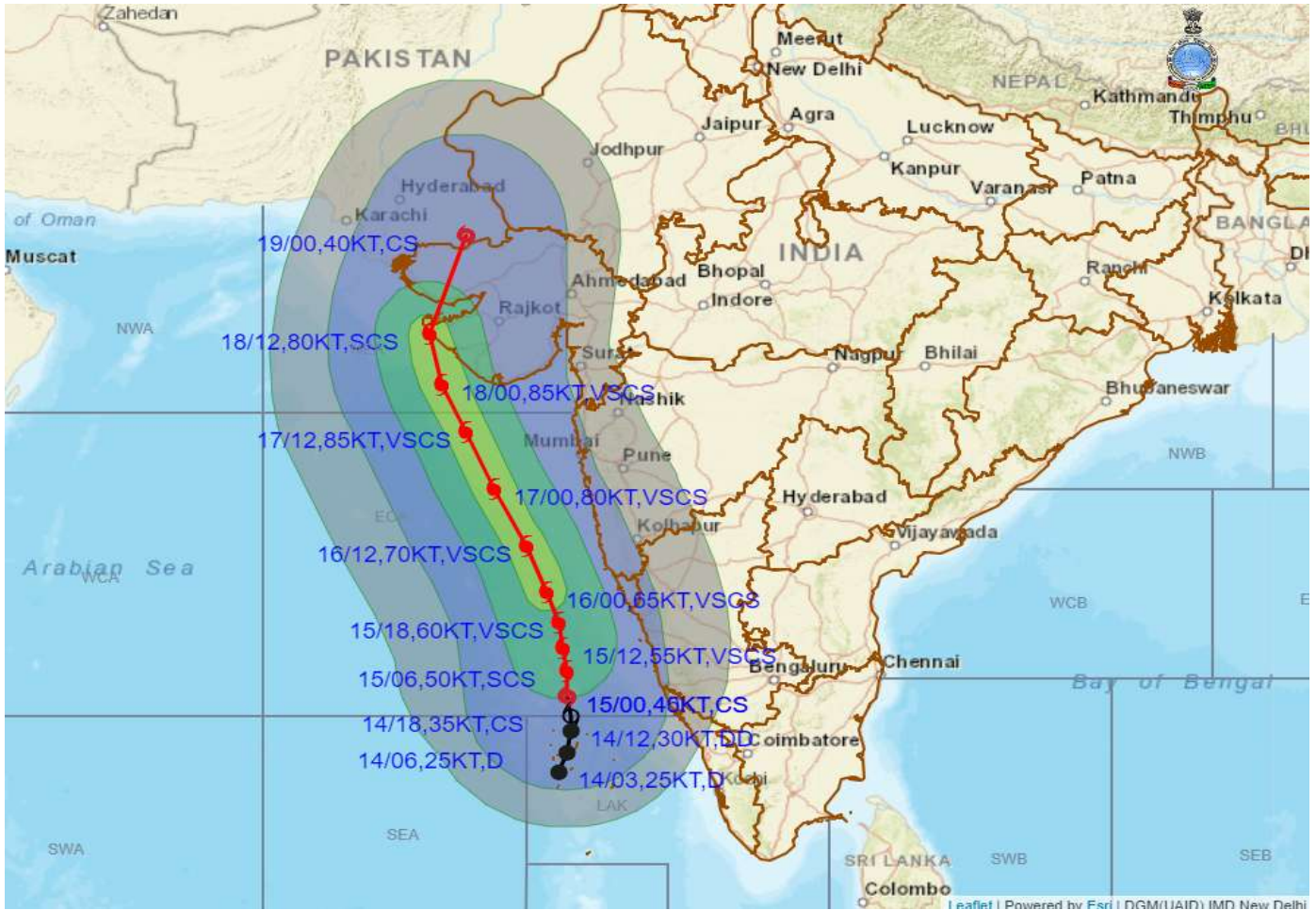
CONE OF UNCERTAINTY

PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION)

NIL: 0%, LOW: 1-25%, FAIR: 26-50%, MODERATE: 51-75% AND HIGH: 76-100%



OBSERVED AND FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION OF CYCLONIC STORM "TAUKTAE" OVER EASTCENTRAL AND ADJOINING SOUTHEAST ARABIAN SEA BASED ON 0300 UTC OF 15TH MAY, 2021



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)
ECS: 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

PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION)
 NIL: 0%, LOW: 1-25%, FAIR: 26-50%, MODERATE: 51-75% AND HIGH: 76-100%