



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

DEMS-RSMC TROPICAL CYCLONES NEW DELHI DATED 30.09.2021

SPECIAL TROPICAL WEATHER OUTLOOK FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 2100 UTC OF 30.09.2021 BASED ON 1800 UTC OF 30.09.2021.

SUB: DEPRESSION OVER NORTHEAST ARABIAN SEA OFF GUJARAT COAST INTENSIFIED INTO A DEEP DEPRESSION

THE DEPRESSION OVER NORTHEAST ARABIAN SEA OFF GUJARAT COAST MOVED WEST-NORTHWESTWARDS WITH A SPEED OF ABOUT 11 KMPH, INTENSIFIED INTO A **DEEP DEPRESSION** DURING PAST 6 HOURS AND LAY CENTRED AT 1800 UTC OF THE 30TH SEPTEMBER, 2021, NEAR LATITUDE 23.3°N AND LONGITUDE 66.8°E, ABOUT 255 KM WEST-NORTHWEST OF DEVBHOOMI DWARKA (42731), 180 KM SOUTH-SOUTHWEST OF KARACHI (41780) AND 660 KM EAST-SOUTHEAST OF CHABAHR PORT (IRAN).

IT IS VERY LIKELY TO FURTHER MOVE WEST-NORTHWESTWARDS AND INTENSIFY INTO A CYCLONIC STORM DURING THE NEXT 12 HOURS. THEREAFTER IT IS LIKELY TO CONTINUE TO MOVE WEST-NORTHWESTWARDS TOWARDS PAKISTAN – MAKRAN COASTS.

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
30.09.21/1800	23.3/66.8	50-60 GUSTING TO 70	DEEP DEPRESSION
01.10.21/0600	23.6/65.6	65-75 GUSTING TO 85	CYCLONIC STORM
01.10.21/1800	24.1/64.2	85-95 GUSTING TO 105	CYCLONIC STORM
02.10.21/0600	24.7/62.9	90-100 GUSTING TO 110	SEVERE CYCLONIC STORM
02.10.21/1800	25.0/62.2	95-105 GUSTING TO 115	SEVERE CYCLONIC STORM

AS PER INSAT 3D IMAGERY AT 2000 UTC, INTENSE CONVECTION IS SEEN OVER NORTHEAST ARABIAN SEA AND NEIGHBOURHOOD AROUND THE SYSTEM AREA. ASSOCIATED MINIMUM CLOUD TOP TEMPERATURE IS -93°C. INTENSITY OF THE SYSTEM IS CATEGORISED AS T2.0. ASSOCIATED SCATTERED TO BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER WEST GUJARAT, GULF OF KUTCH, NORTH AND ADJOINING EASTCENTRAL ARABIAN SEA.

THE ESTIMATED MAXIMUM SUSTAINED WIND SPEED IS 30 KNOTS GUSTING TO 40 KNOTS. THE SEA CONDITION IS ROUGH TO VERY ROUGH AROUND THE SYSTEM AREA. THE ESTIMATED CENTRAL PRESSURE IS 996 HPA.

REMARKS:

SEA SURFACE TEMPERATURE (SST) OF ABOUT 28-29°C OVER NORTHEAST AND EASTCENTRAL ARABIAN SEA WITH DECREASING TREND TOWARDS WEST. SIMILARLY, TROPICAL CYCLONE HEAT POTENTIAL (TCHP) IS ABOUT 80-90 KJ/CM² OVER NORTHEAST ARABIAN SEA WITH DECREASING TREND TOWARDS THE NORTHWEST ARABIAN SEA. POSITIVE VORTICITY ABOUT 120 X10⁻⁶S⁻¹ LAY OVER NORTHEAST ARABIAN SEA AND ADJOINING GULF OF KUTCH WITH VERTICAL EXTENSION UPTO 200 HPA. AN ELONGATED ZONE OF POSITIVE LOWER LEVEL CONVERGENCE OF 10 X10⁻⁵S⁻¹ IS SEEN OVER NORTHEAST ARABIAN SEA FROM GUJARAT TO MAKARAN COASTS. POSITIVE UPPER LEVEL DIVERGENCE OF 20 X10⁻⁵S⁻¹ IS SEEN TO THE SOUTHWEST OF THE SYSTEM CENTER. LOW VERTICAL WIND SHEAR (VWS) ABOUT (5-10 KTS) IS PREVAILING AROUND THE SYSTEM CENTER.

SATELLITE DERIVED TOTAL PRECIPITABLE WATER VAPOUR IMAGERY INDICATES THAT THE SYSTEM IS UNDER FAVOURABLE ENVIRONMENT OF WARM MOIST AIR. ALSO OTHER DYNAMIC & THERMODYNAMIC PARAMETERS INCLUDING WARM SEA, HIGH OCEAN THERMAL ENERGY AND LOW VERTICAL WIND SHEAR ARE FAVOURABLE FOR GRADUAL INTENSIFICATION OF THE SYSTEM. THE EASTERLY WINDS IN THE MID & UPPER TROPOSPHERIC LEVELS ARE STEERING THE SYSTEM WESTWARDS.

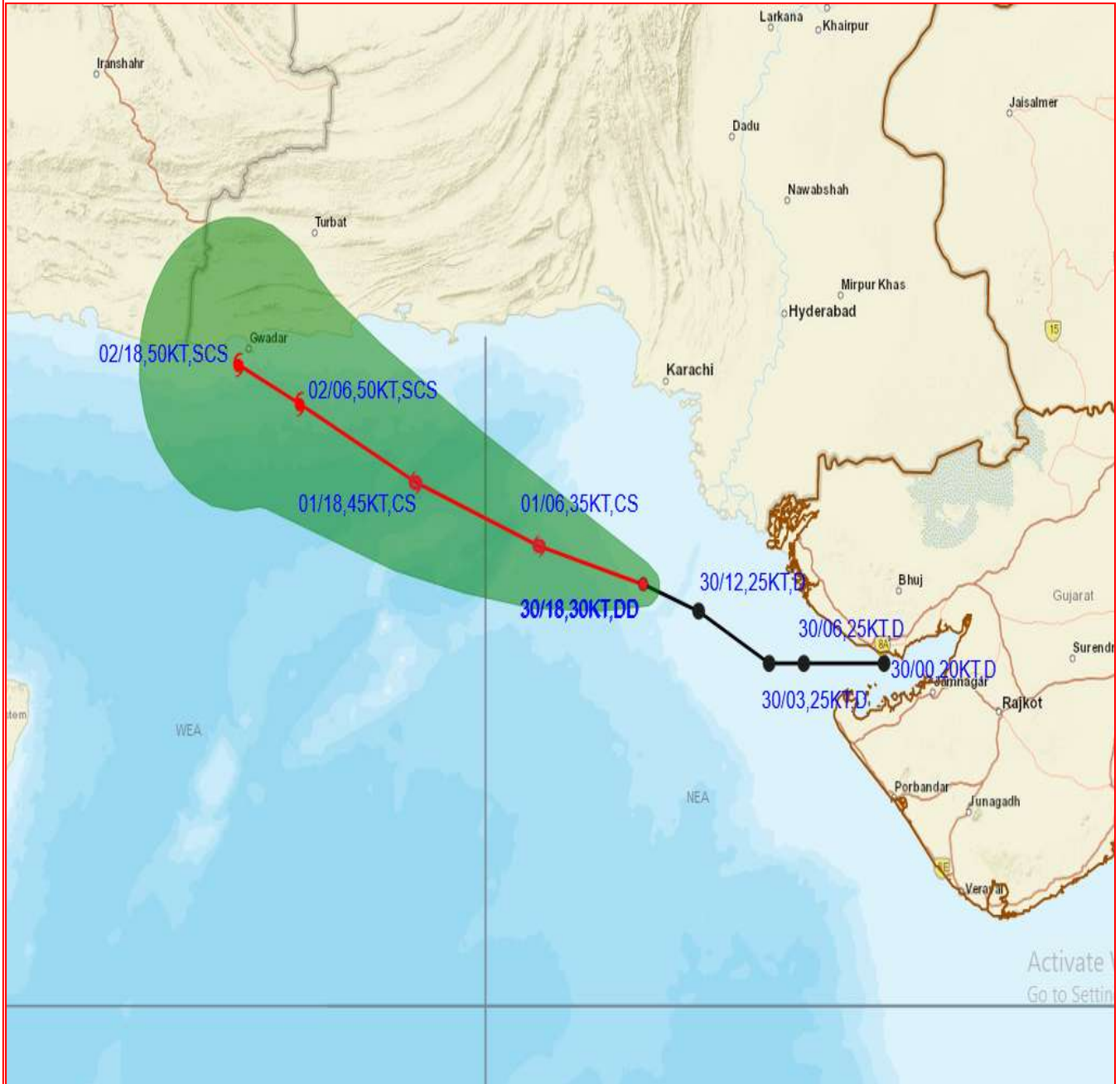
MOST THE MODELS ARE INDICATING THAT THE SYSTEM WOULD INTENSIFY FURTHER WHILE MOVING WEST-NORTHWESTWARDS ACROSS NORTH ARABIAN SEA. HOWEVER, THERE IS LARGE VARIATION W.R.T. THE PEAK INTENSITY AS WELL AS THE LANDFALL OF SYSTEM. SOME OF THE MODELS ARE INDICATING THAT THE SYSTEM WOULD CROSS MAKRAN COAST AS A CYCLONIC STORM WITH SUBSEQUENT RAPID WEAKENING, WHILE A FEW MODELS ARE INDICATING THE SYSTEM WILL SKIRT ALONG PAKISTAN – MAKRAN COASTS, MOVE INTO GULF OF OMAN AND WEAKEN THERE AROUND 5TH OCTOBER.

IT MAY BE CONCLUDED THAT THE SYSTEM IS LIKELY TO INTENSIFY GRADUALLY INTO A CYCLONIC STORM DURING NEXT 12 HOURS AND MOVE WEST-NORTHWESTWARDS TOWARDS PAKISTAN – MAKRAN COASTS DURING THE SUBSEQUENT 24 HOURS.

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OBSERVED AND FORECAST TRACK ALONGWITH CONE OF UNCERTAINTY OF DEPRESSION OVER NORTHEAST ARABIAN SEA BASED ON 1800 UTC OF 30TH SEPTEMBER, 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 (≥ 120 KT)

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



OBSERVED AND FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION OF DEPRESSION OVER NORTHEAST ARABIAN SEA BASED ON 1800 UTC OF 30TH SEPTEMBER, 2021



DATE/TIME IN UTC

IST=UTC + 0530

L: LOW PRESSURE AREA

WML: WELL MARKED LOW PRESSURE AREA

D: DEPRESSION (17-27 KT)

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CS: CYCLONIC STORM (34-47 KT)

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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

