



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 0900 UTC OF 30.09.2021 BASED ON 0600 UTC OF 30.09.2021.**

**SUB: DEPRESSION OVER NORTHEAST ARABIAN SEA OFF GUJARAT COAST**

THE DEPRESSION OVER NORTHEAST ARABIAN SEA OFF GUJARAT COAST MOVED NEARLY WESTWARDS WITH A SPEED OF ABOUT 22 KMPH DURING PAST 6 HOURS AND LAY CENTRED AT 0600 UTC OF TODAY, THE 30<sup>TH</sup> SEPTEMBER, 2021, OVER THE SAME REGION, NEAR LATITUDE 22.7°N AND LONGITUDE 68.2°E, ABOUT 100 KM WEST-NORTHWEST OF DEVBHOOMI DWARKA (42731), 260 KM SOUTH-SOUTHEAST OF KARACHI (41780) AND 820 KM EAST-SOUTHEAST OF CHABAHAR PORT (IRAN).

IT IS VERY LIKELY TO MOVE WEST-NORTHWESTWARDS AND INTENSIFY INTO A DEEP DEPRESSION OVER NORTHEAST ARABIAN SEA DURING NEXT 12 HOURS. THEN IT IS VERY LIKELY TO MOVE FURTHER WEST-NORTHWESTWARDS AND INTENSIFY INTO A CYCLONIC STORM DURING THE SUBSEQUENT 24 HOURS. THEREAFTER IT IS LIKELY TO CONTINUE TO **MOVE WEST-NORTHWESTWARDS TOWARDS PAKISTAN – MAKRAN COASTS**, MOVING AWAY FROM THE INDIAN COAST. THE SYSTEM WILL NOT HIT THE INDIAN COAST.

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
30.09.21/0600	22.7/68.2	45-55 gusting to 65	Depression
30.09.21/1800	23.0/66.5	50-60 gusting to 70	Deep Depression
01.10.21/0600	23.3/65.3	60-70 gusting to 80	Cyclonic Storm
01.10.21/1800	23.6/64.1	80-90 gusting to 100	Cyclonic Storm
02.10.21/0600	24.0/62.9	90-100 gusting to 110	Severe Cyclonic Storm
02.10.21/1800	24.5/61.7	90-100 gusting to 110	Severe Cyclonic Storm

AS PER INSAT 3D IMAGERY AT 0600 UTC, INTENSE CONVECTION IS SEEN TO THE SOUTH OF SYSTEM CENTRE. ASSOCIATED MINIMUM CLOUD TOP TEMPERATURE IS -84°C. INTENSITY OF THE SYSTEM IS CATEGORISED AS T 1.5. ASSOCIATED SCATTERED TO BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER WEST GUJARAT, GULF OF KUTCH, GULF OF CAMBAY, NORTH AND ADJOINING EASTCENTRAL ARABIAN SEA.

THE ESTIMATED MAXIMUM SUSTAINED WIND SPEED IS 25 KNOTS GUSTING TO 30 KNOTS. THE SEA CONDITION IS ROUGH TO VERY ROUGH AROUND THE SYSTEM AREA. THE ESTIMATED CENTRAL PRESSURE IS 998 HPA.

A SHIP NEAR 22.9°N/65.9°E REPORTED MEAN SEA LEVEL PRESSURE (MSLP) 1003 HPA AND

MAXIMUM SUSTAINED WIND SPEED (MSW) OF 20°/19KT. ANOTHER SHIP NEAR 21.7°N/67.2°E REPORTED MEAN SEA LEVEL PRESSURE (MSLP) 1003.2 HPA AND MSW OF 260°/13KT.

**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/CM<sup>2</sup> OVER NORTHEAST ARABIAN SEA WITH DECREASING TREND TOWARDS THE NORTHWEST ARABIAN SEA. POSITIVE VORTICITY ABOUT 120 X10<sup>-6</sup>S<sup>-1</sup> 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<sup>-5</sup>S<sup>-1</sup> IS SEEN OVER NORTHEAST ARABIAN SEA FROM GUJARAT TO MAKARAN COASTS. POSITIVE UPPER LEVEL DIVERGENCE OF 20 X10<sup>-5</sup>S<sup>-1</sup> 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 5<sup>TH</sup> OCTOBER.

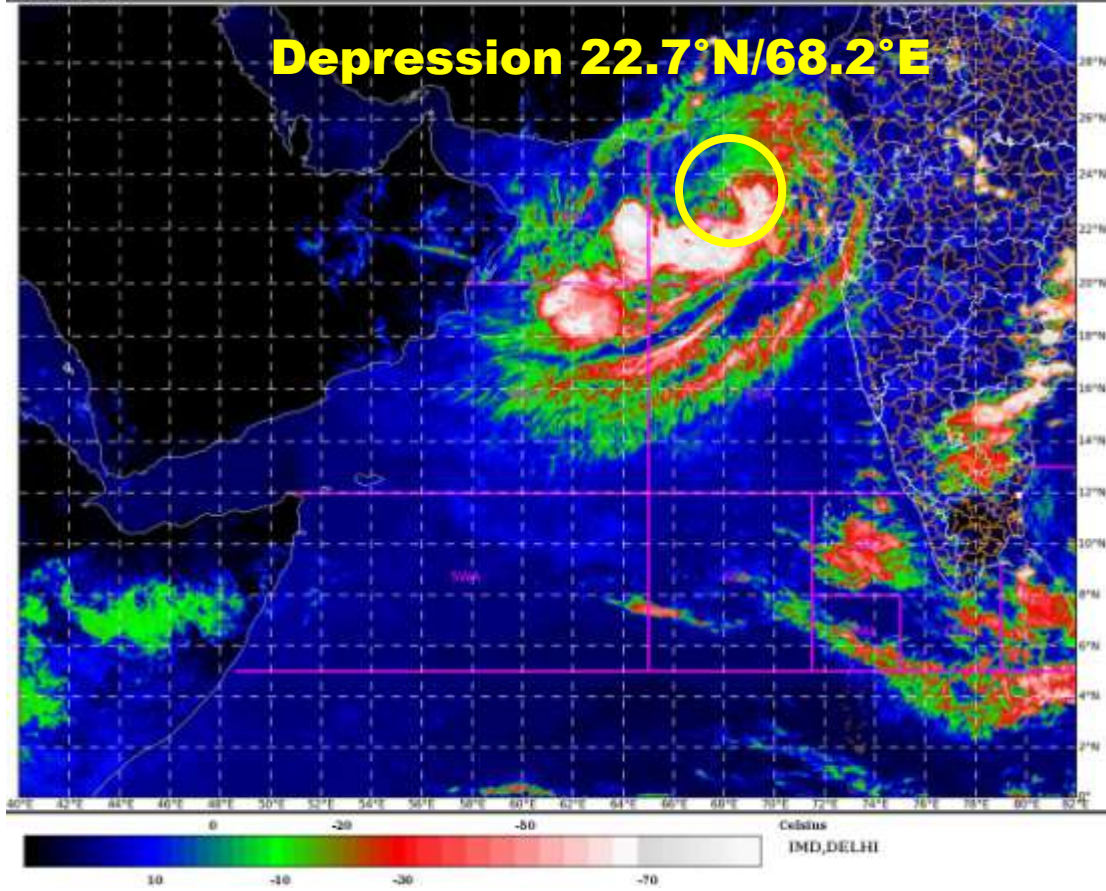
**IT MAY BE CONCLUDED THAT THE SYSTEM IS LIKELY TO INTENSIFY GRADUALLY INTO A CYCLONIC STORM BY 0000 UTC OF 1<sup>ST</sup> OCTOBER AND MOVE WEST-NORTHWESTWARDS TOWARDS PAKISTAN – MAKRAN COASTS DURING THE SUBSEQUENT 24 HOURS.**

THE NEXT BULLETIN WILL BE ISSUED AT 1500 UTC OF 30<sup>TH</sup> SEPTEMBER, 2021.

**(SUNITHA DEVI)**  
**SCIENTIST-F, RSMC, NEW DELHI**

SAT : INSAT-3D IMG  
IMG\_TIR1\_TEMP 10.8 um  
ARABIAN\_SEA

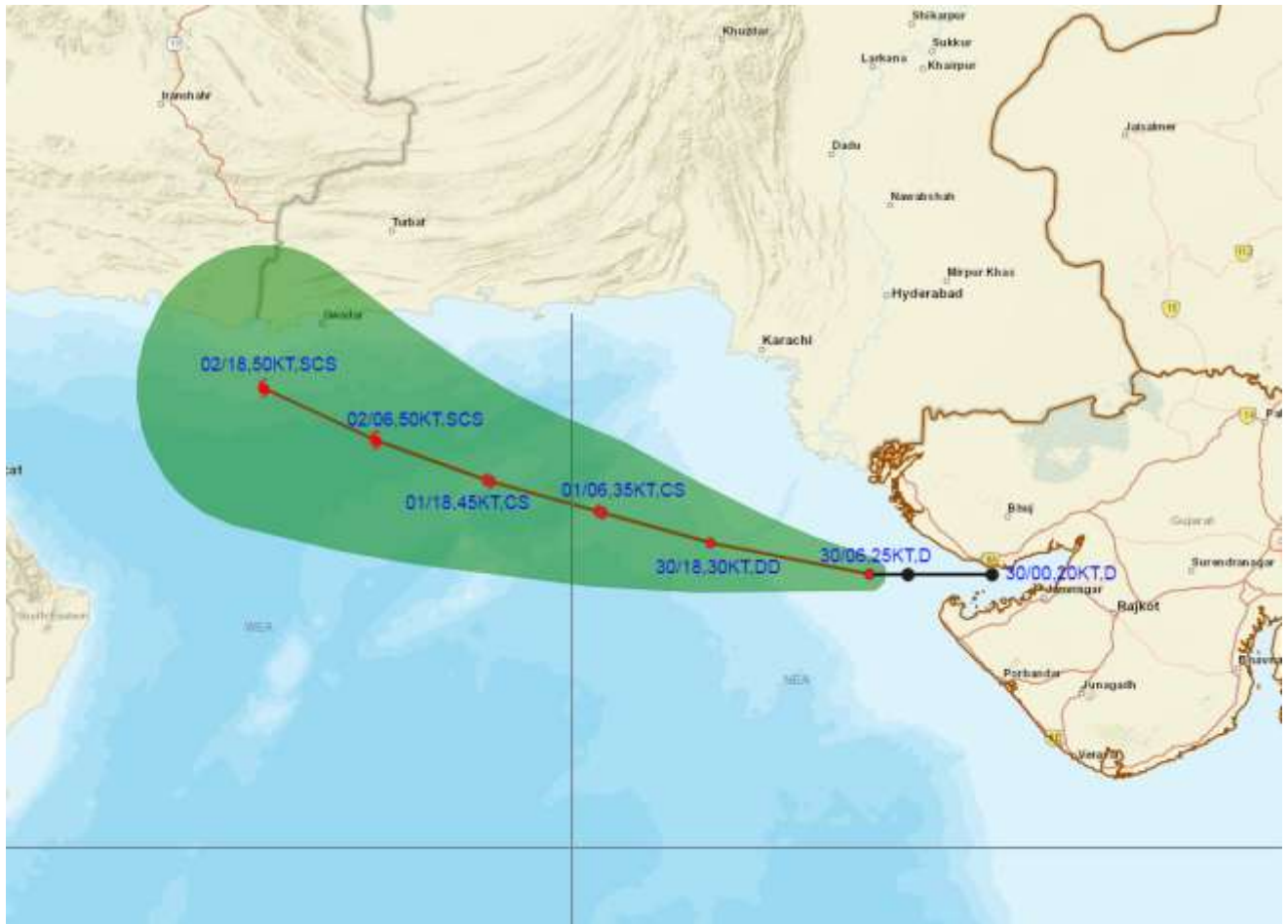
30-09-2021/(0730 to 0756) GMT  
30-09-2021/(1300 to 1326) IST



PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION):NIL: 0%, LOW: 1-25%, FAIR: 26-50%, MODERATE: 51-75% AND HIGH: 76-100%  
This is a guidance Bulletin for the WMO/ESCAP Panel Member countries,. Please visit respective National websites for Country specific Bulletins



## OBSERVED AND FORECAST TRACK ALONGWITH CONE OF UNCERTAINTY OF DEPRESSION OVER NORTHEAST ARABIAN SEA OFF GUJARAT COAST BASED ON 0600 UTC OF 30TH SEPTEMBER, 2021

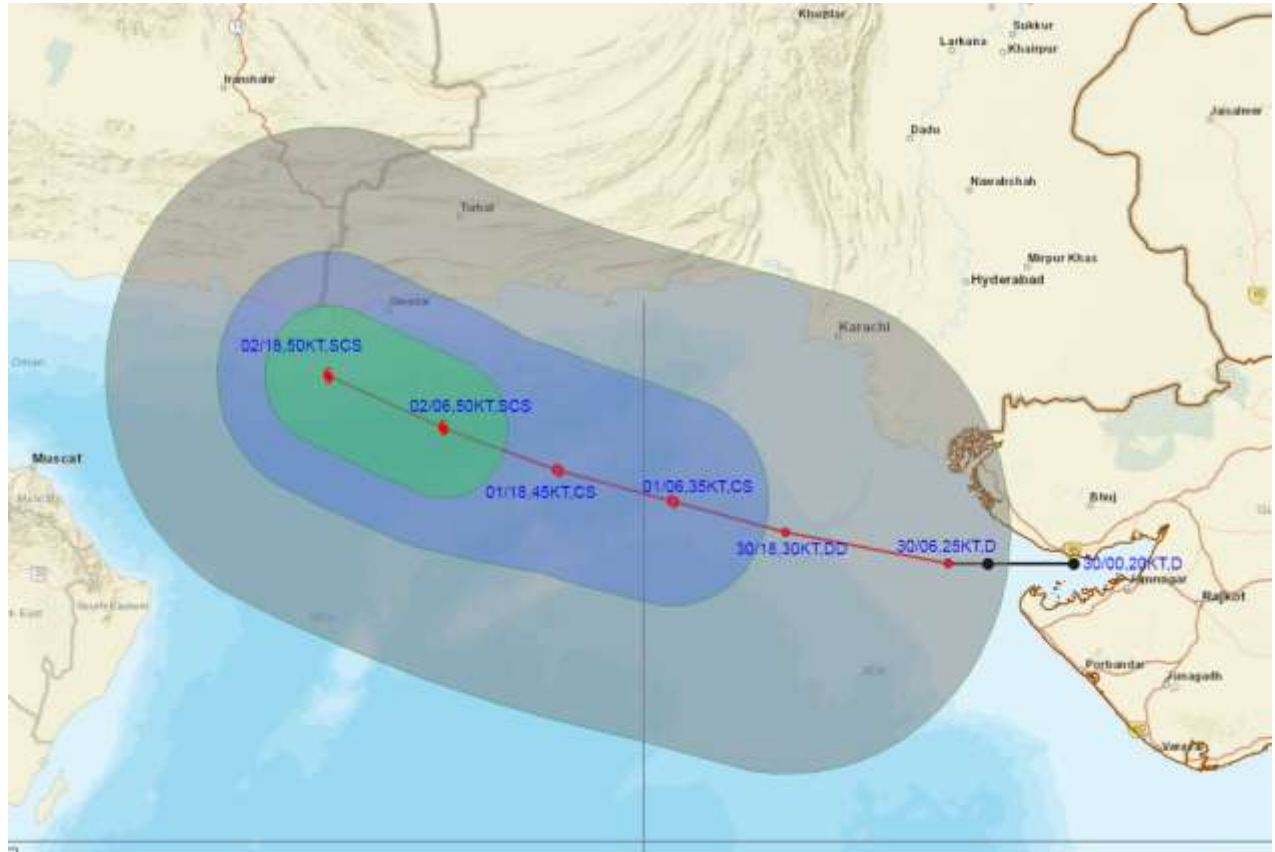


**DATE/TIME IN UTC**  
**IST=UTC + 0530**  
**L: LOW PRESSURE AREA**  
**WML: WELL MARKED LOW PRESSURE AREA**  
**D: DEPRESSION (17-27 KT)**  
**DD: DEEP DEPRESSION (28-33 KT)**  
**CS: CYCLONIC STORM (34-47 KT)**  
**SCS: SEVERE CYCLONIC STORM (48-63KT)**  
**VSCS: VERY SEVERE CYCLONIC STORM (64-89 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 OFF GUJARAT COAST BASED ON 0600 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

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