



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

**DEMS-RSMC SPECIAL TROPICAL CYCLONES NEW DELHI DATED 14.12.2022**

**SPECIAL TROPICAL WEATHER OUTLOOK FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND THE ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 2000 UTC OF 14.12.2022 BASED ON 1800 UTC OF 14.12.2022.**

**ARABIAN SEA:**

**(A) DEPRESSION OVER EASTCENTRAL AND ADJOINING SOUTHEAST ARABIAN SEA**

DEPRESSION OVER EASTCENTRAL AND ADJOINING SOUTHEAST ARABIAN SEA MOVED WEST-NORTHWESTWARDS WITH A SPEED OF 09 KMPH DURING PAST 06 HOURS AND LAY CENTERED AT 1800 UTC OF TODAY, THE 14<sup>TH</sup> DECEMBER 2022 NEAR LATITUDE 13.8°N AND LONGITUDE 68.7°E ABOUT 530 KM NORTHWEST OF AMINIDIVI (43311), ABOUT 580 KM WEST-SOUTHWEST OF PANJIM GOA (43192) AND 1610 KM EAST-SOUTHEAST OF SALALAH (41316).

IT IS VERY LIKELY TO MOVE WEST-NORTHWESTWARDS OVER EASTCENTRAL ARABIAN SEA AWAY FROM INDIAN COAST AND INTENSIFY FURTHER INTO A DEEP DEPRESSION BY MORNING OF TOMORROW, THE 15<sup>TH</sup> DECEMBER 2022.

FORECAST TRACK AND INTENSITY ARE GIVEN BELOW:

Date/Time(UTC)	Forecast Lead Period	Position (Lat. °N/ long. °E)	Maximum sustained surface wind speed (kmph)	Category of cyclonic disturbance
14.12.22/1800	00	13.8/68.7	45-55 gusting to 65	Depression
15.12.22/0600	12	14.1/67.3	50-60 gusting to 70	Deep Depression
15.12.22/1800	24	14.2/65.9	55-65 gusting to 75	Deep Depression
16.12.22/0600	36	14.3/64.5	55-65 gusting to 75	Deep Depression
16.12.22/1800	48	14.4/63.0	45-55 gusting to 65	Depression
17.12.22/0600	60	14.4/61.3	40-50 gusting to 60	Depression
17.12.22/1800	72	14.4/59.6	30-40 gusting to 50	Well Marked Low

AS PER INSAT 3D IMAGERY, INTENSITY OF THE SYSTEM IS T1.5. ASSOCIATED SCATTERED TO BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER EASTCENTRAL ARABIAN SEA ADJOINING SOUTHEAST ARABIAN SEA. MINIMUM CLOUD TOP TEMPERATURE IS MINUS 93 DEG C (.)

ASSOCIATED MAXIMUM SUSTAINED WIND SPEED IS 25 KNOTS. THE ESTIMATED CENTRAL PRESSURE IS 1002 HPA. SEA CONDITION IS LIKELY TO BE ROUGH TO VERY ROUGH OVER EASTCENTRAL & ADJOINING SOUTHEAST ARABIAN SEA AND LAKSHADWEEP AREA.

## BAY OF BENGAL:

### (B) LOW PRESSURE AREA OVER SOUTHEAST BAY OF BENGAL & ADJOINING AREAS OF EAST EQUATORIAL INDIAN OCEAN AND SOUTH ANDAMAN SEA

THE **LOW PRESSURE AREA** OVER SOUTHEAST BAY OF BENGAL & ADJOINING AREAS OF EAST EQUATORIAL INDIAN OCEAN AND SOUTH ANDAMAN SEA PERSISTS. IT IS LIKELY TO MOVE GRADUALLY WESTWARDS AND BECOME **WELL MARKED LOW PRESSURE AREA** OVER SOUTHEAST BAY OF BENGAL AND ADJOINING EQUATORIAL INDIAN OCEAN BY 15<sup>TH</sup> DECEMBER. THEREAFTER, IT WOULD CONTINUE TO MOVE WESTWARDS AND MAINTAIN ITS INTENSITY OVER SOUTH BAY OF BENGAL TILL MORNING OF 17<sup>TH</sup> DECEMBER 2022.

SCATTERED TO BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER SOUTHEAST BAY OF BENGAL AND ADJOINING EQUATORIAL INDIAN OCEAN BETWEEN LATITUDE 3.0N & 14.5N AND 5 LONG 84.0E & 98.0E. MINIMUM CLOUD TOP TEMPERATURE IS MINUS 93 DEG C.

ASSOCIATED MAXIMUM SUSTAINED WIND SPEED IS 15 KNOTS. THE ESTIMATED CENTRAL PRESSURE IS 1008 HPA. SEA CONDITION IS LIKELY TO BE ROUGH OVER SOUTHEAST BAY OF BENGAL AND ADJOINING AREAS OF EQUATORIAL INDIAN OCEAN AND SOUTH ANDAMAN SEA.

### PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION) DURING NEXT 120 HRS:

24 HOURS	24-48 HOURS	48-72 HOURS	72-96 HOURS	96-120 HOURS
NIL	LOW	LOW	NIL	NIL

### REMARKS:

#### ARABIAN SEA:

SEA SURFACE TEMPERATURE IS ABOUT 28-29°C OVER EASTCENTRAL AND ADJOINING SOUTHEAST ARABIAN SEA BECOMING 27°C TO THE WEST OF 67°E. LOW LEVEL RELATIVE VORTICITY IS AROUND  $100 \times 10^{-5} \text{ S}^{-1}$  OVER THE SYSTEM CENTRE. LOW LEVEL CONVERGENCE HAS INCREASED AND IS ABOUT  $20 \times 10^{-5} \text{ S}^{-1}$  TO THE NORTHEAST SECTOR OF SYSTEM CENTRE. UPPER LEVEL DIVERGENCE IS ABOUT  $10-20 \times 10^{-5} \text{ S}^{-1}$  OVER THE SYSTEM CENTRE. LOW TO MODERATE VERTICAL WIND SHEAR OF ABOUT 5-15 KNOTS IS PREVAILING IN THE SOUTHEAST SECTOR OF THE SYSTEM AND HIGH ALONG THE FORECAST TRACK. MULTI-SATELLITE WINDS ARE INDICATING STRONGER WINDS IN THE NORTHEAST SECTOR.

AT 1800 UTC OF 14<sup>TH</sup> DECEMBER, A SHIP LOCATED AT 11.0°N/69.4°E REPORTED MEAN SEA LEVEL PRESSURE OF 1011.4 HPA AND WIND DIRECTION/SPEED AS 250°/12 KNOTS. A BUOY LOCATED AT 15.0°N/69.0°E REPORTED MEAN SEA LEVEL PRESSURE OF 1006.3 HPA AND WIND DIRECTION/SPEED AS 100°/19 KNOTS. ANOTHER SHIP LOCATED AT 18.6°N/60.2°E REPORTED MEAN SEA LEVEL PRESSURE OF 1015.0 HPA AND WIND DIRECTION/SPEED AS 50°/18 KNOTS.

TOTAL PRECIPITABLE WATER VAPOUR IMAGERY INDICATES WARM MOIST AIR ADVECTION FROM SOUTHERN SECTOR AND DRY COLD WIND INCURSION IS SEEN UPTO SOUTHERN SECTOR IN THE OUTER REGION. THE SYSTEM IS CURRENTLY MOVING NORTHWESTWARDS UNDER THE INFLUENCE OF SOUTHEASTERLY WINDS PREVAILING IN THE PERIPHERY OF THE RIDGE NEAR 14°N IN THE MIDDLE AND UPPER TROPOSPHERIC LEVELS. ALL THESE FEATURES INDICATE THAT CURRENTLY THE SYSTEM IS IN A FAVOURABLE ENVIRONMENT AND IS LIKELY TO MOVE NORTHWESTWARDS AND INTENSIFY FURTHER.

VARIOUS MODELS INDICATE THAT THE SYSTEM IS LIKELY TO MOVE WEST-NORTHWESTWARDS TILL 17<sup>TH</sup>/18<sup>TH</sup> DECEMBER. MODELS ARE ALSO INDICATING THAT THE SYSTEM WOULD INTENSIFY INTO A DEEP DEPRESSION BY 15<sup>TH</sup> DECEMBER, MAINTAIN IT'S INTENSITY TILL 16<sup>TH</sup> DECEMBER AND WEAKEN SLOWLY THEREAFTER WHILE MOVING OVER COLDER SEA AND REGION OF HIGH VERTICAL WIND SHEAR.

IN VIEW OF ABOVE, THE DEPRESSION OVER EASTCENTRAL AND ADJOINING SOUTHEAST ARABIAN SEA IS VERY LIKELY TO MOVE WEST-NORTHWESTWARDS OVER EASTCENTRAL ARABIAN SEA AWAY FROM INDIA COAST AND INTENSIFY FURTHER INTO A DEEP DEPRESSION BY MORNING (0000 UTC) OF TOMORROW, THE 15<sup>TH</sup> DECEMBER 2022.

**BAY OF BENGAL:**

SEA SURFACE TEMPERATURE IS ABOUT 28-29°C OVER SOUTH BOB AND ADJOINING EQUATORIAL INDIAN OCEAN. LOW LEVEL RELATIVE VORTICITY IS AROUND  $60 \times 10^{-5} \text{ S}^{-1}$  OVER SOUTH ANDAMAN SEA AND ADJOINING EQUATORIAL INDIAN OCEAN. LOW LEVEL CONVERGENCE IS ABOUT  $15 \times 10^{-5} \text{ S}^{-1}$  OVER SOUTHEAST BOB AND ADJOINING AREAS. UPPER LEVEL DIVERGENCE IS ABOUT  $20 \times 10^{-5} \text{ S}^{-1}$  OVER SOUTH BOB AND ADJOINING EQUATORIAL INDIAN OCEAN. MODERATE VERTICAL WIND SHEAR OF ABOUT 15-20 KNOTS IS PREVAILING AROUND SYSTEM AREA OVER SOUTHEAST BOB & ADJOINING AREAS. UPPER TROPOSPHERIC RIDGE IS SEEN NEAR 10.5N.

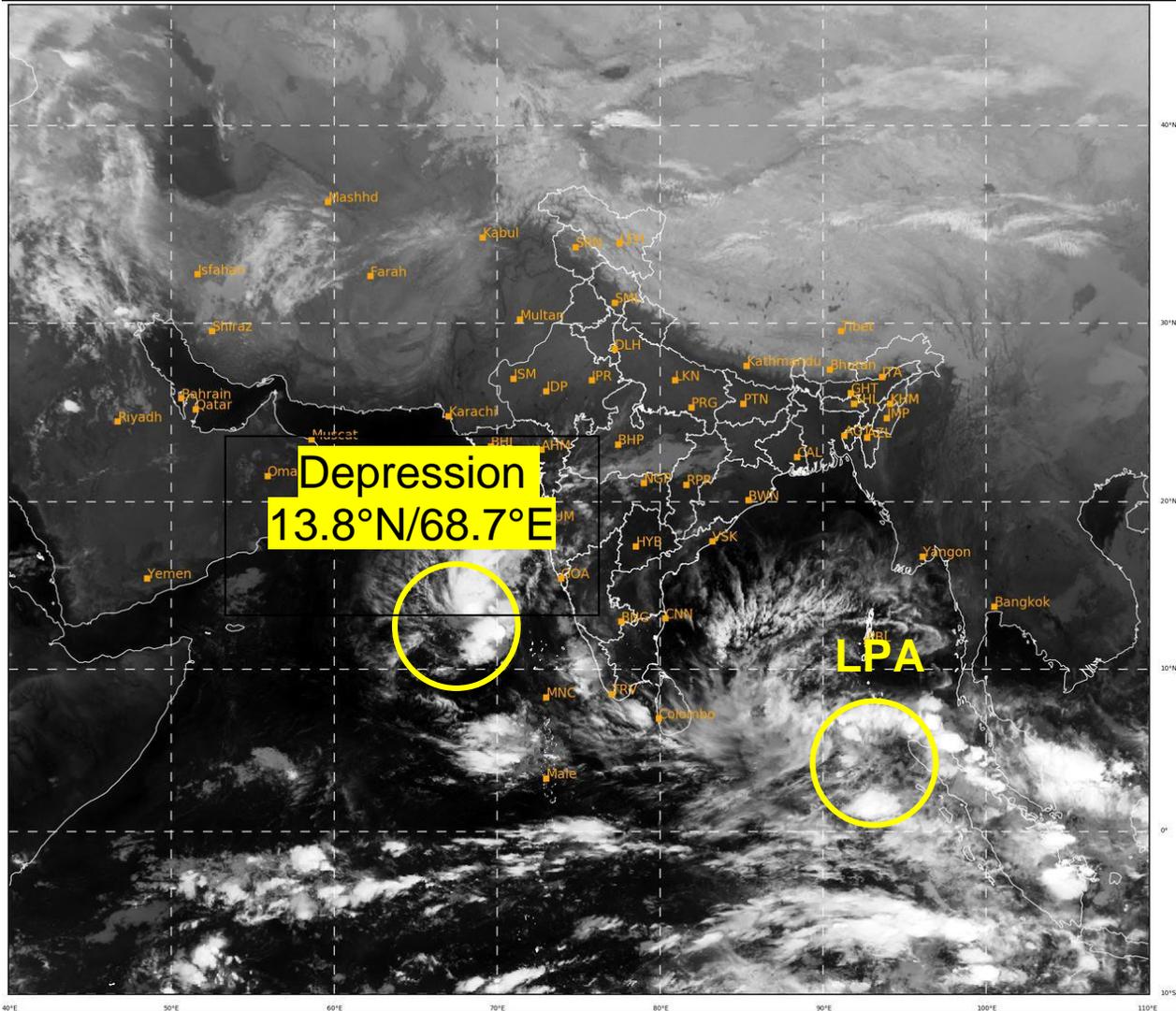
MOST OF THE MODELS ARE INDICATING EXISTING LOW PRESSURE AREA OVER SOUTHEAST BOB AND ADJOINING EIO TO MOVE WESTWARDS TOWARDS SRI LANKA COAST WITH SLIGHT INTENSIFICATION TILL 17<sup>TH</sup> MORNING AND WEAKEN THEREAFTER.

IN VIEW OF ABOVE, THE LOW PRESSURE AREA OVER EAST EQUATORIAL INDIAN OCEAN AND SOUTH ANDAMAN SEA IS LIKELY TO MOVE GRADUALLY WESTWARDS AND BECOME WELL MARKED LOW PRESSURE AREA OVER SOUTHEAST BAY OF BENGAL AND ADJOINING EQUATORIAL INDIAN OCEAN BY 15<sup>TH</sup> DECEMBER. THEREAFTER, IT WOULD CONTINUE TO MOVE WESTWARDS AND MAINTAIN ITS INTENSITY OVER SOUTH BAY OF BENGAL TILL MORNING (0000 UTC) OF 17<sup>TH</sup> DECEMBER 2022

**KRISHNA MISHRA  
SCIENTIST-C  
RSMC NEW DELHI**

SAT : INSAT-3D IMG  
IMG\_TIR1 10.8 um  
LIC Mercator

14-12-2022/(1830 to 1856) GMT  
15-12-2022/(0000 to 0026) IST



545

952

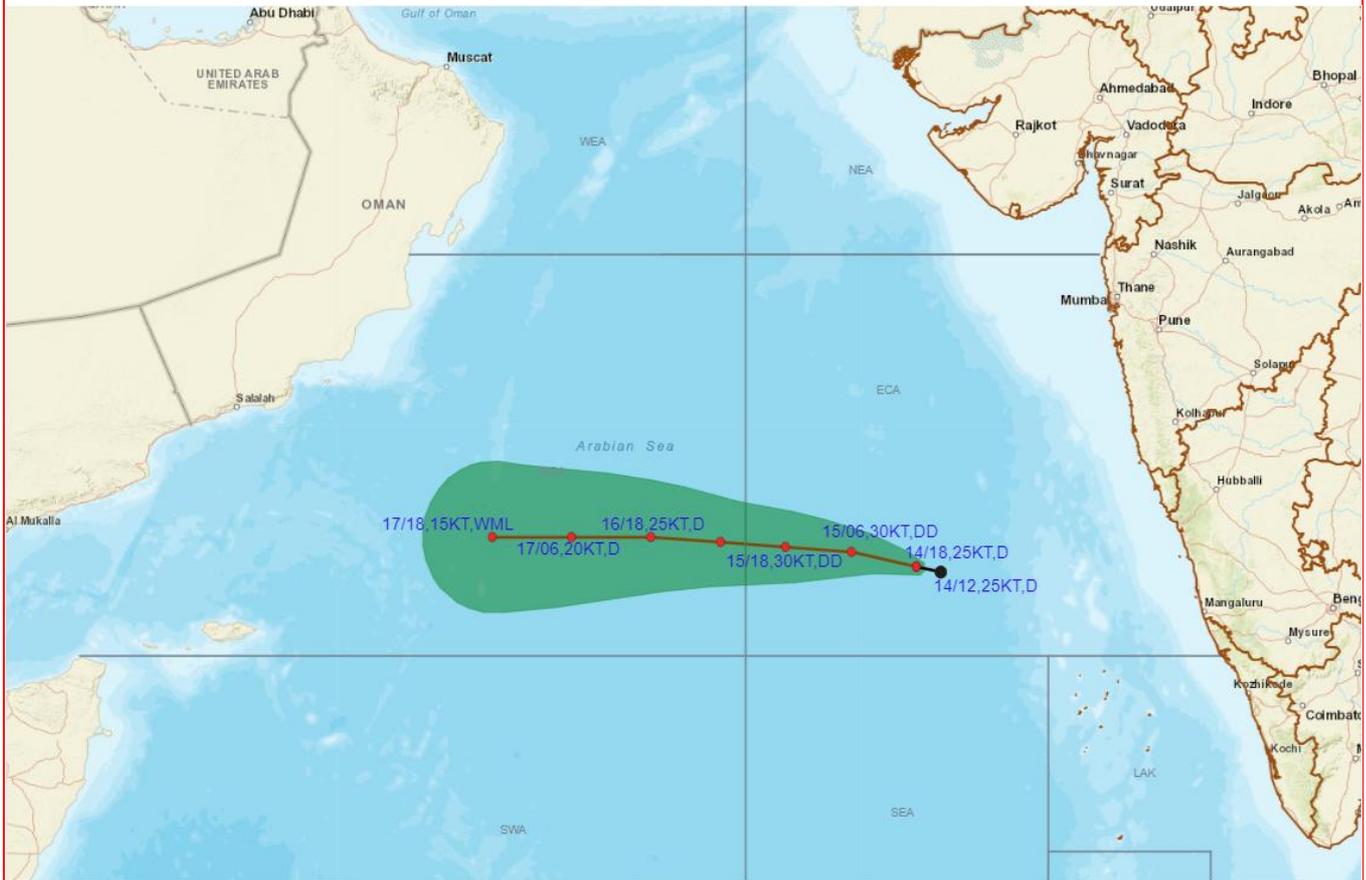
IMD,DELHI

## LPA – Low Pressure Area

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%  
This is a guidance Bulletin for WMO/ESCAP Panel Member countries. Visit respective National websites for Country specific Bulletins



## OBSERVED AND FORECAST TRACK OF DEPRESSION OVER EASTCENTRAL AND ADJOINING SOUTHEAST ARABIAN SEA BASED ON 1800 UTC OF 14<sup>TH</sup> DECEMBER, 2022

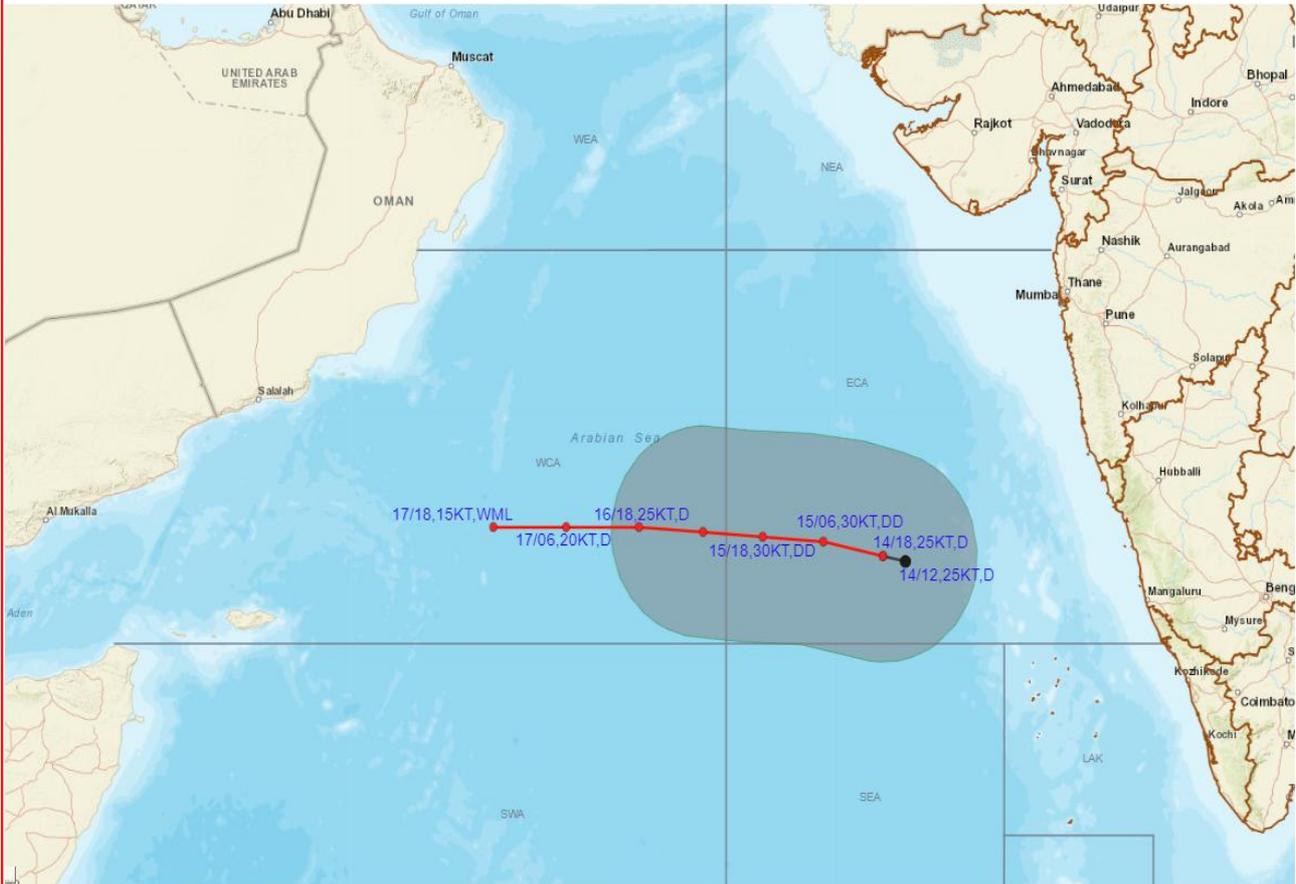


**DATE/TIME IN UTC**  
**IST=UTC + 0530**  
**L: LOW PRESSURE AREA**  
**WML: WELL MARKED LOW PRESSURE AREA**  
**D: DEPRESSION (17-27 KT)**  
**DD: DEEP DEPRESSION (28-33 KT)**  
**CS: CYCLONIC STORM (34-47 KT)**  
**SCS: SEVERE CYCLONIC STORM (48-63KT)**  
**VSCS: VERY SEVERE CYCLONIC STORM (64-89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



## OBSERVED AND FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION OF DEPRESSION OVER EASTCENTRAL AND ADJOINING SOUTHEAST ARABIAN SEA BASED ON 1800 UTC OF 14<sup>TH</sup> DECEMBER, 2022



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 IST=UTC + 0530  
**L:** LOW PRESSURE AREA  
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● LESS THAN 34 KT  
 ☁ 34-47 KT  
 ☁  $\geq$  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)  
 ■  $\geq$  64 KT ( $\geq$ 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
$\geq$ 64 ( $\geq$ 118)	Phenomenal	Total suspension of fishing operations

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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## Fishermen warning graphics



	Squally WX with wind speed 35-45 kmph gusting to 55 kmph
	Squally WX with wind speed 45-55 kmph gusting to 65 kmph
	Squally wind speed 45-55 kmph gusting to 65 kmph

**Fishermen are advised not to venture into the marked areas.**

## Probability of exceedance of maximum sustained winds $\geq 45$ kmph



Probability of exceedance	
	Low (1-33%)
	Moderate (34-67%)
	High (68-100%)