



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

DEMS-RSMC SPECIAL TROPICAL CYCLONES NEW DELHI DATED 15.12.2022

SPECIAL TROPICAL WEATHER OUTLOOK FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND THE ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 0330 UTC OF 15.12.2022 BASED ON 0000 UTC OF 15.12.2022.

ARABIAN SEA:

(A) DEEP 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, **INTENSIFIED INTO A DEEP DEPRESSION** AND LAY CENTERED AT 0000UTC OF TODAY, THE 15TH DECEMBER 2022 NEAR LATITUDE 13.9°N AND LONGITUDE 68.2°E ABOUT 580 KM WEST-NORTHWEST OF AMINIDIVI (43311), ABOUT 630 KM WEST-SOUTHWEST OF PANJIM (43192) AND 1550 KM EAST-SOUTHEAST OF SALALAH (41316).

IT IS VERY LIKELY TO MOVE WEST-NORTHWESTWARDS OVER EASTCENTRAL ARABIAN SEA AWAY FROM INDIAN COAST AND WEAKEN GRADUALLY BY 1200UTC OF 17TH DECEMBER.

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
15.12.22/0000	00	13.9/68.2	50-60 GUSTING TO 70	DEEP DEPRESSION
15.12.22/1200	12	14.1/66.6	50-60 GUSTING TO 70	DEEP DEPRESSION
16.12.22/0000	24	14.2/65.2	45-55 GUSTING TO 65	DEPRESSION
16.12.22/1200	36	14.3/63.7	40-50 GUSTING TO 60	DEPRESSION
17.12.22/0000	48	14.4/62.1	35-45 GUSTING TO 55	DEPRESSION
17.12.22/1200	60	14.4/60.4	25-35 GUSTING TO 45	WELL MARKED LOW

AS PER INSAT 3D IMAGERY, INTENSITY OF THE SYSTEM IS T2.0. 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 30 KNOTS. THE ESTIMATED CENTRAL PRESSURE IS 1000 HPA. SEA CONDITION IS LIKELY TO BE ROUGH TO VERY ROUGH OVER EASTCENTRAL & ADJOINING SOUTHEAST ARABIAN SEA.

BAY OF BENGAL:

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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(B) LOW PRESSURE AREA OVER SOUTHEAST BAY OF BENGAL AND ADJOINING AREAS OF EAST EQUATORIAL INDIAN OCEAN

THE **LOW PRESSURE AREA** OVER SOUTHEAST BAY OF BENGAL & ADJOINING AREAS OF EAST EQUATORIAL INDIAN OCEAN AND SOUTH ANDAMAN SEA NOW LIES OVER SOUTHEAST BAY OF BENGAL AND ADJOINING EAST EQUATORIAL INDIAN OCEAN. IT IS LIKELY TO MOVE GRADUALLY WESTWARDS AND BECOME **WELL MARKED LOW PRESSURE AREA** OVER THE SAME REGION BY 1200 UTC OF TODAY 15TH DEC. THEREAFTER, IT WOULD CONTINUE TO MOVE WESTWARDS AND MAINTAIN ITS INTENSITY OVER SOUTH BAY OF BENGAL TILL 0000UTC OF 17TH 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 2.0N & 10N AND 5 LONG 85.0E & 93.0E. 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.

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	NIL	NIL	NIL	NIL

REMARKS:

ARABIAN SEA:

SEA SURFACE TEMPERATURE IS ABOUT 28-29°C OVER EASTCENTRAL AND ADJOINING SOUTHEAST ARABIAN SEA BECOMING 26°C TO THE WEST OF 67°E. LOW LEVEL RELATIVE VORTICITY IS AROUND $100 \times 10^{-5} \text{ S}^{-1}$ AT THE SOUTHWEST OF THE SYSTEM CENTRE. LOW LEVEL CONVERGENCE IS ABOUT $5 \times 10^{-5} \text{ S}^{-1}$ TO THE NORTHEAST SECTOR OF SYSTEM CENTRE. UPPER LEVEL DIVERGENCE IS ABOUT $10-20 \times 10^{-5} \text{ S}^{-1}$ TO THE NORTHEAST OF THE SYSTEM CENTRE. MODERATE VERTICAL WIND SHEAR OF ABOUT 15-20 KNOTS IS PREVAILING AROUND THE SYSTEM AND HIGH ALONG THE FORECAST TRACK. MULTI-SATELLITE WINDS ARE INDICATING STRONGER WINDS IN THE NORTHEAST SECTOR.

TOTAL PRECIPITABLE WATER VAPOUR IMAGERY INDICATES COLD AND DRY AIR ADVECTION FROM NORTHWEST SECTOR TO THE SYSTEM AND THE SYSTEM IS MOVING TOWARDS STRONGER VERTICAL WIND SHEAR OF 25-40 KTS.. THESE ENVIRONMENTAL FEATURES INDICATE, THE SYSTEM IS LIKELY TO REMAIN AT INTENSITY OF DEEP DEPRESSION TILL 1200UTC OF TODAY 15TH DEC AND THEN LIKELY TO WEAKEN INTO DEPRESSION THEREAFTER. THE SYSTEM IS CURRENTLY MOVING WEST-NORTHWESTWARDS UNDER THE INFLUENCE OF EAST-SOUTHEASTERLY WINDS PREVAILING IN THE PERIPHERY OF THE RIDGE NEAR 15°N IN THE MIDDLE AND UPPER TROPOSPHERIC LEVELS.

VARIOUS MODELS INDICATE THAT THE SYSTEM IS LIKELY TO MOVE WEST-NORTHWESTWARDS TILL 17TH/18TH DECEMBER.

IN VIEW OF ABOVE, THE DEEP DEPRESSION OVER EASTCENTRAL AND ADJOINING SOUTHEAST ARABIAN SEA IS LIKELY TO MOVE WEST-NORTHWESTWARDS OVER EASTCENTRAL ARABIAN SEA AWAY FROM INDIAN COAST AND WEAKEN GRADUALLY BY 1200UTC OF 17TH DECEMBER.

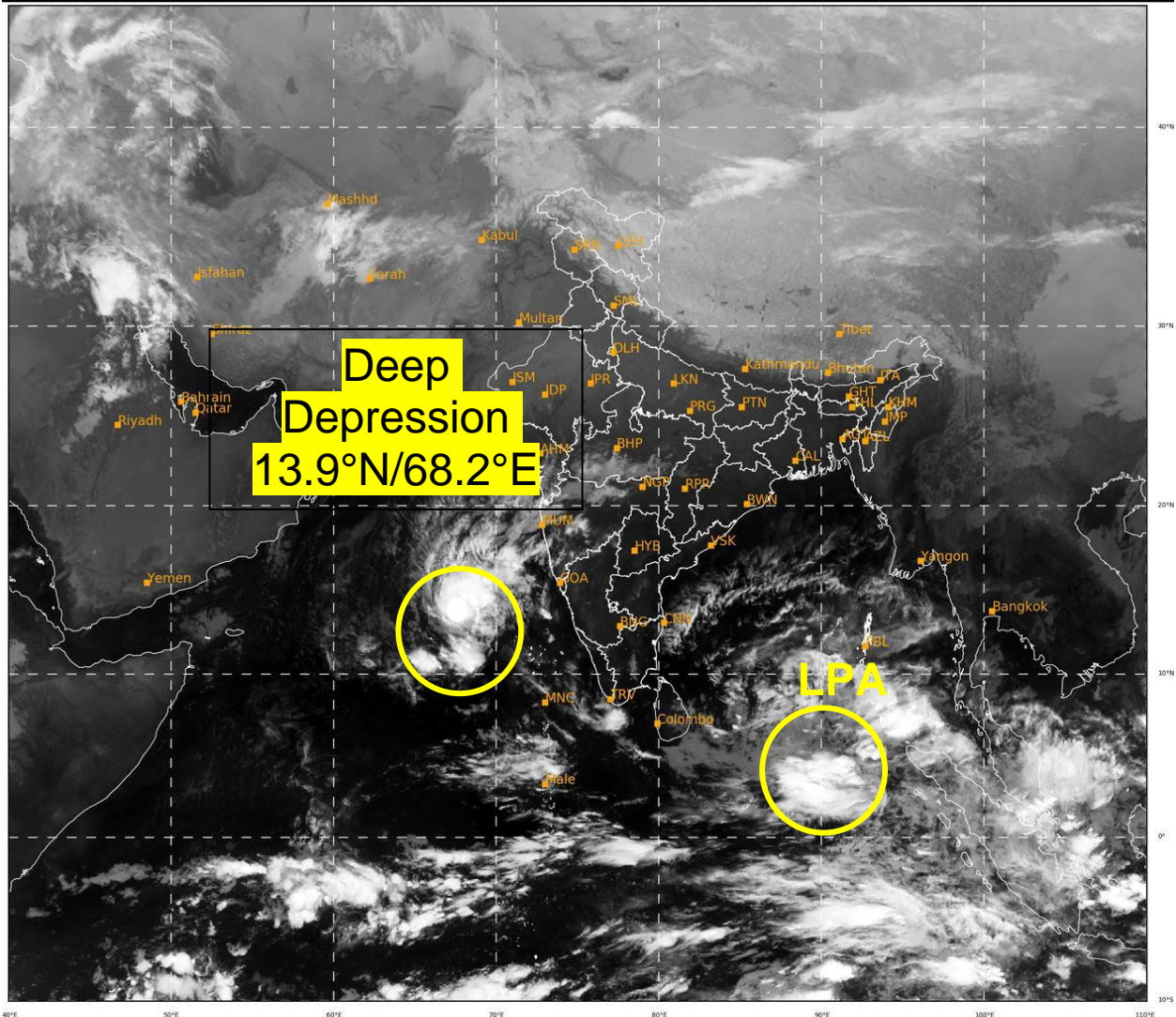
BAY OF BENGAL:

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 $10-15 \times 10^{-5} \text{ S}^{-1}$ OVER SOUTHEAST BOB AND ADJOINING AREAS. UPPER LEVEL DIVERGENCE IS ABOUT $15-20 \times 10^{-5} \text{ S}^{-1}$ OVER SOUTHEAST 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 12.5N.

MOST OF THE MODELS ARE INDICATING EXISTING LOW PRESSURE AREA OVER SOUTHEAST BOB AND ADJOINING EIO TO MOVE WESTWARDS WITH SLIGHT INTENSIFICATION TILL 17TH 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 15TH DECEMBER. THEREAFTER, IT WOULD CONTINUE TO MOVE WESTWARDS AND MAINTAIN ITS INTENSITY OVER SOUTH BAY OF BENGAL TILL MORNING (0000 UTC) OF 17TH DECEMBER 2022

**RK JENAMANI
SCIENTIST-F
RSMC NEW DELHI**



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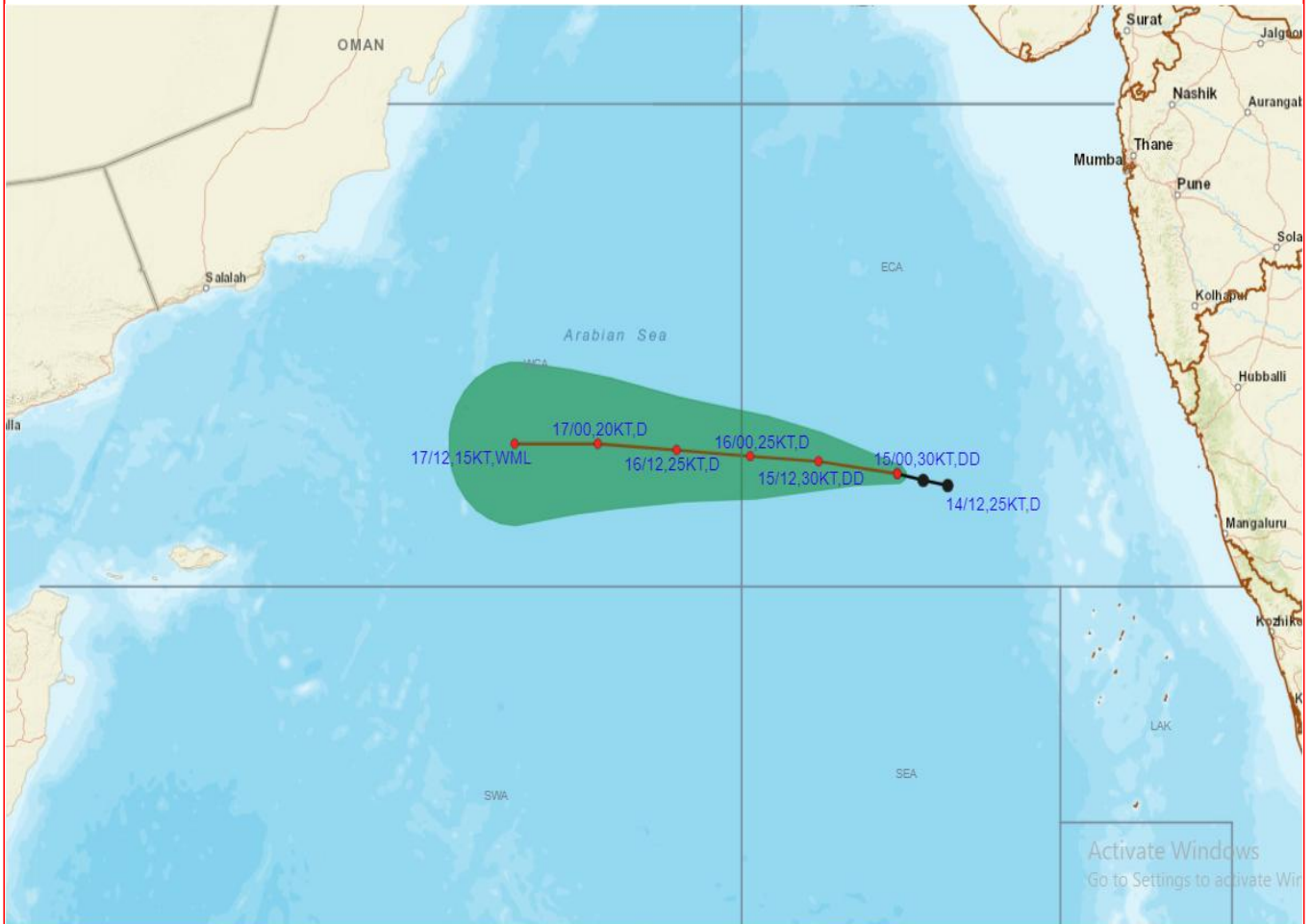
IMD, DELHI

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%
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OBSERVED AND FORECAST TRACK OF DEPRESSION OVER EASTCENTRAL AND ADJOINING SOUTHEAST ARABIAN SEA BASED ON 0000 UTC OF 15TH DECEMBER, 2022



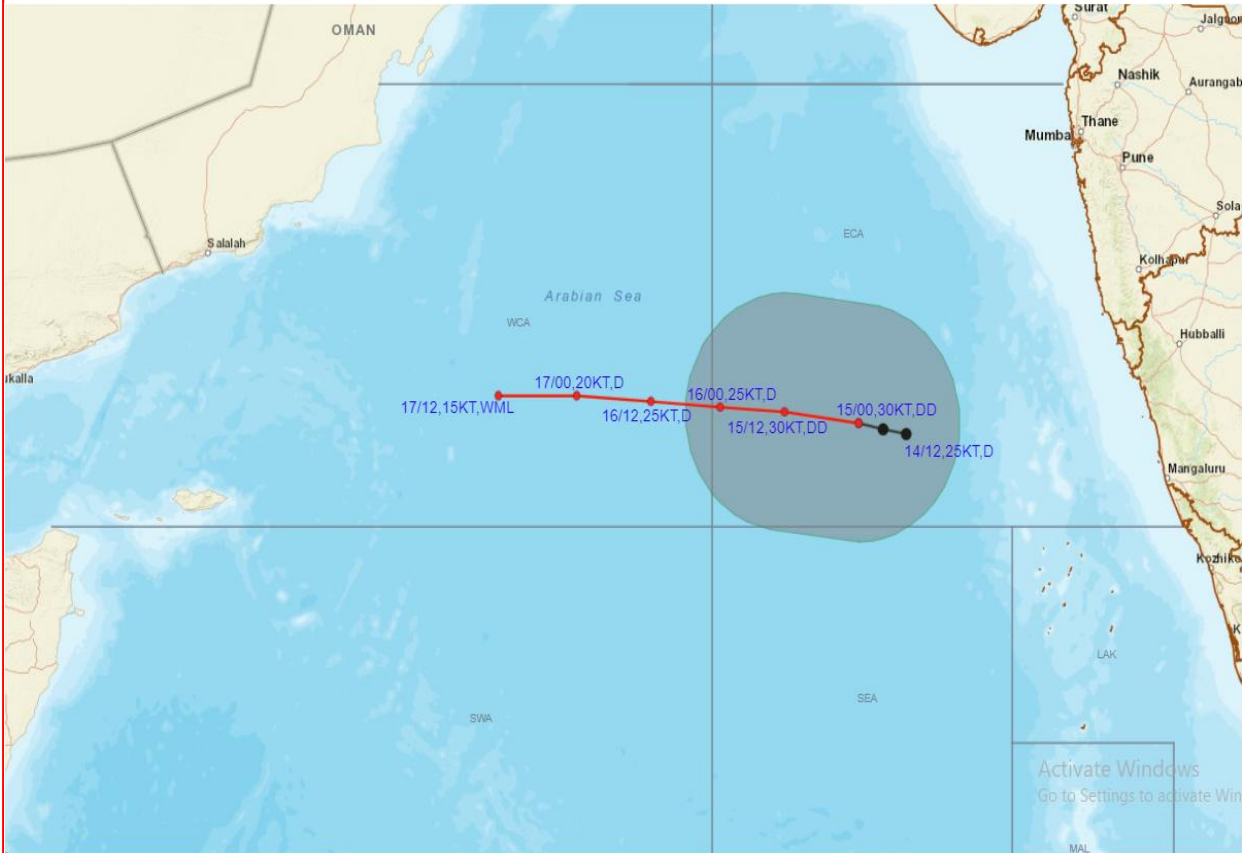
DATE/TIME IN UTC
IST=UTC + 0530
L: LOW PRESSURE AREA
WML: WELL MARKED LOW PRESSURE AREA
D: DEPRESSION (17-27 KT)
DD: DEEP DEPRESSION (28-33 KT)
CS: CYCLONIC STORM (34-47 KT)
SCS: SEVERE CYCLONIC STORM (48-63KT)
VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)
ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 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**

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
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OBSERVED AND FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION OF DEPRESSION OVER EASTCENTRAL AND ADJOINING SOUTHEAST ARABIAN SEA BASED ON 0000 UTC OF 15TH DECEMBER, 2022



Storm
Hail
Rate

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)
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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

Fishermen warning graphics

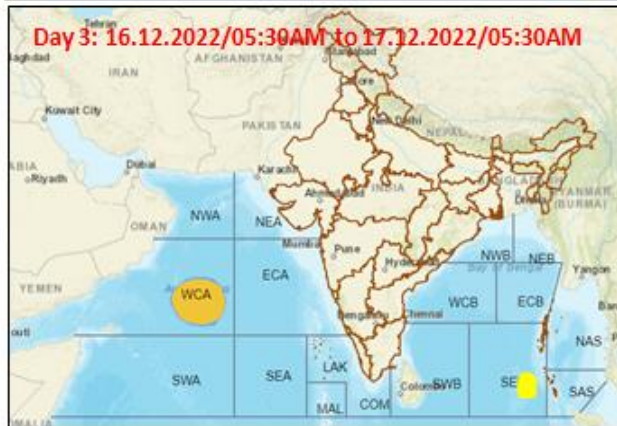


	Squally WX with wind speed 35-45 kmph gusting to 55 kmph
	Squally WX with wind speed 45-55 kmph gusting to 65 kmph
	Squally wind speed 45-55 kmph gusting to 65 kmph

Fishermen are advised not to venture into the marked areas.

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Probability of exceedance of maximum sustained winds ≥ 45 kmph



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

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