



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

DEMS-RSMC SPECIAL TROPICAL CYCLONES NEW DELHI DATED 16.12.2022

SPECIAL TROPICAL WEATHER OUTLOOK FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND THE ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 2100 UTC OF 16.12.2022 BASED ON 1800 UTC OF 16.12.2022.

ARABIAN SEA:

(A) DEPRESSION OVER WESTCENTRAL & ADJOINING EASTCENTRAL ARABIAN SEA

THE DEPRESSION OVER WESTCENTRAL & ADJOINING EASTCENTRAL ARABIAN SEA MOVED WEST-NORTHWESTWARDS WITH A SPEED OF 14 KMPH DURING PAST 06 HOURS AND LAY CENTERED AT 1800UTC OF TODAY, THE 16TH DECEMBER 2022 OVER WESTCENTRAL & ADJOINING EASTCENTRAL ARABIAN SEA NEAR LATITUDE 14.1°N AND LONGITUDE 63.0°E ABOUT 1100 KM WEST-NORTHWEST OF AMINIDIVI (43311), 1170 KM WEST-SOUTHWEST OF PANJIM (43192) AND 1010 KM EAST-SOUTHEAST OF SALALAH (41316).

IT IS VERY LIKELY TO MOVE NEARLY WESTWARDS AND WEAKEN GRADUALLY INTO A WELL MARKED LOW PRESSURE AREA BY 17TH DECEMBER EVENING(1200UTC OF 17TH).

FORECAST TRACK AND INTENSITY:

DATE/TIME (UTC)	FORECAST LEAD PERIOD	POSITION (LAT. °N/LONG. °E)	MAXIMUM SUSTAINED SURFACE WIND SPEED (KMPH)	CATEGORY OF CYCLONIC DISTURBANCE
16.12.22/1800	00	14.1/63.0	45-55 GUSTING TO 65	DEPRESSION
17.12.22/0600	12	14.1/61.7	40-50 GUSTING TO 60	DEPRESSION
17.12.22/1800	24	14.0/60.4	25-35 GUSTING TO 45	WELL MARKED LOW PRESSURE AREA

AS PER INSAT 3D IMAGERY, INTENSITY OF THE SYSTEM IS T1.5/2.0. THE ASSOCIATED SCATTERED TO BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER WEST CENTRAL AND ADJOINING EASTCENTRAL ARABIAN SEA BETWEEN LATITUDE 13.0°N & 19.0°N AND LONG 63.5°E & 67.5°E. MINIMUM CLOUD TOP TEMPERATURE IS MINUS 75°CELCIUS.

ASSOCIATED MAXIMUM SUSTAINED WIND SPEED IS 25 KNOTS GUSTING TO 35KTS. THE ESTIMATED CENTRAL PRESSURE IS 1002 HPA. SEA CONDITION IS LIKELY TO BE ROUGH OVER WESTCENTRAL AND ADJOINING AREAS OF EASTCENTRAL & SOUTHWEST ARABIAN SEA.

BAY OF BENGAL:

(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 PERSISTS OVER THE SAME REGION AT 1800 UTC OF 16TH DECEMBER. IT IS LIKELY TO MOVE GRADUALLY WESTWARDS AND MAINTAIN ITS INTENSITY OVER SOUTH BAY OF BENGAL TILL 0000 UTC 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 4.0°N & 9.0°N AND LONG 86.5°E & 94.0°E. MINIMUM CLOUD TOP TEMPERATURE IS MINUS 93°C.

ASSOCIATED MAXIMUM SUSTAINED WIND SPEED IS 10-15 KNOTS GUSTING TO 25 KNOTS AROUND SYSTEM CENTRE. THE ESTIMATED CENTRAL PRESSURE IS 1007 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 26-28°C OVER WESTCENTRAL AND ADJOINING EASTCENTRAL & SOUTH ARABIAN SEA BECOMING 26°C TO THE WEST OF 65°E. LOW LEVEL RELATIVE VORTICITY IS AROUND $100 \times 10^{-6} \text{ S}^{-1}$ TO THE SOUTH OF THE SYSTEM CENTRE. LOW LEVEL CONVERGENCE IS ABOUT $05 \times 10^{-5} \text{ S}^{-1}$ TO THE SOUTH OF SYSTEM CENTRE. HOWEVER, NEGATIVE CONVERGENCE ZONE IS SEEN OVER WESTCENTRAL ARABIAN SEA ALONG FORECAST TRACK. SIMILARLY, UPPER LEVEL DIVERGENCE HAS DECREASED AND IS ABOUT $5 \times 10^{-5} \text{ S}^{-1}$ TO THE EAST OF THE SYSTEM CENTRE AND A ZONE OF NEGATIVE DIVERGENCE IS SEEN IN THE FORWARD SECTOR, ALONG THE FORECAST TRACK. MODERATE TO HIGH VERTICAL WIND SHEAR OF ABOUT 15-20 KNOTS IS PREVAILING AROUND THE SYSTEM CENTRE AND IS BECOMING HIGH ALONG THE FORECAST TRACK OVER WESTCENTRAL ARABIAN SEA. TOTAL PRECIPITABLE WATER IMAGERY IS INDICATING WEAKENING IN WARM MOIST AIR AROUND THE SYSTEM AREA. DRY COLD AIR INTRUSION IS REACHING THE OUTER CORE UPTO NORTHEAST SECTOR. MULTI-SATELLITE WINDS ARE INDICATING STRONGER WINDS IN THE NORTHEAST SECTOR AND THUS, THE SHEARING OF CONVECTIVE CLOUD MASS TO THE NORTHEAST.

THESE ENVIRONMENTAL FEATURES (COLDER SEA, DRY COLD AIR INTRUSION, HIGH TO MODERATE VERTICAL WIND SHEAR, DECREASE IN MOISTURE IN MIDDLE LEVELS) INDICATE THAT THE SYSTEM IS GRADUALLY ENTERING INTO UNFAVOURABLE ENVIRONMENT LEADING TO FURTHER WEAKENING OF THE SYSTEM INTO A WELL MARKED LOW PRESSURE AREA BY 1200 UTC OF 17TH DECEMBER.

VARIOUS MODELS INDICATE THAT IS VERY LIKELY TO MOVE NEARLY WESTWARDS AND WEAKEN GRADUALLY INTO A WELL MARKED LOW PRESSURE AREA BY 17TH DECEMBER EVENING(1200UTC OF 17TH).

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

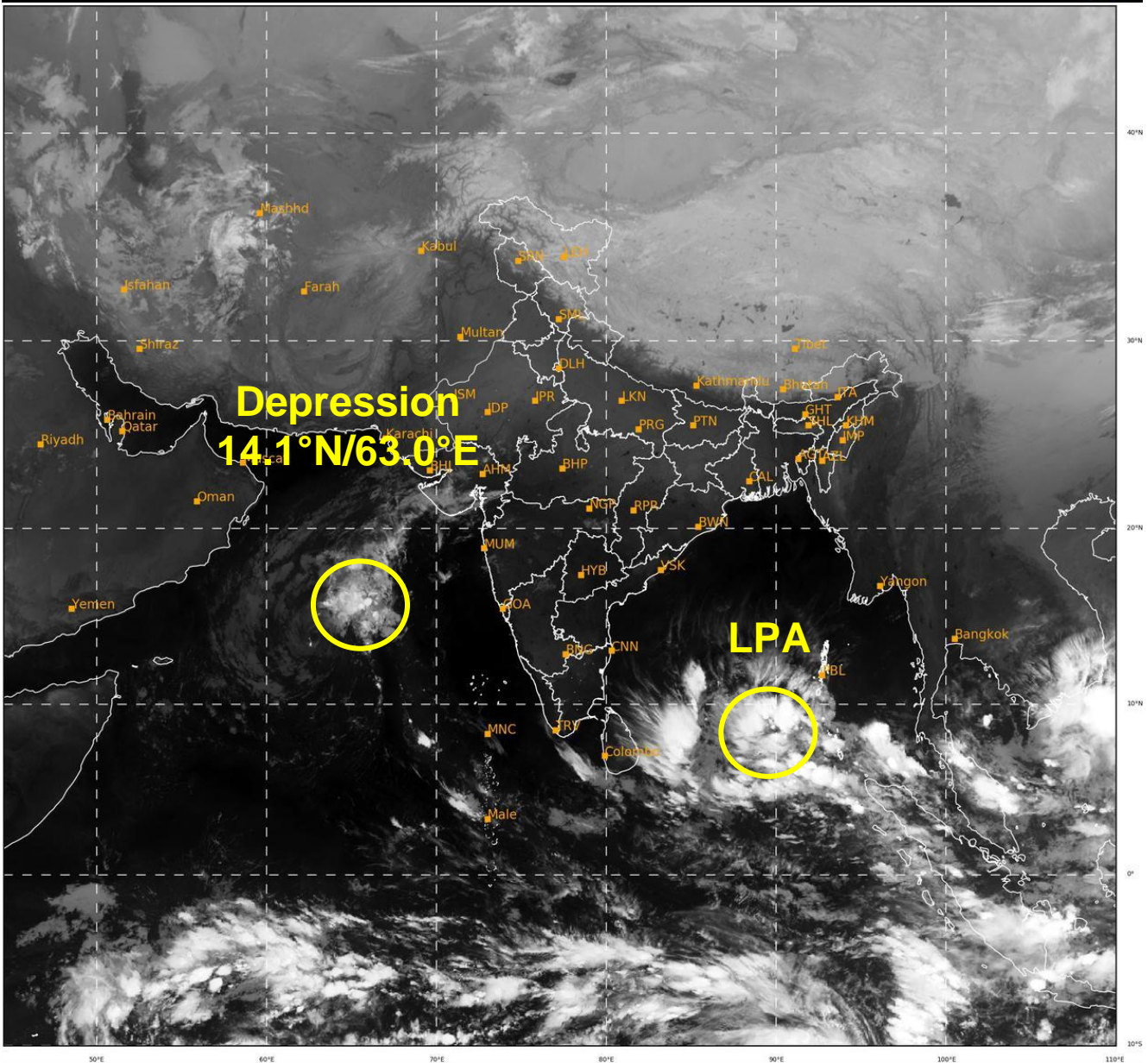
BAY OF BENGAL:

SEA SURFACE TEMPERATURE IS ABOUT 28-29°C OVER SOUTH BOB AND ADJOINING EQUATORIAL INDIAN OCEAN. LOW LEVEL RELATIVE VORTICITY IS AROUND $50 \times 10^{-6} \text{ S}^{-1}$ 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 $10 \times 10^{-5} \text{ S}^{-1}$ 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. THE EASTERLY WINDS IN THE LOWER TROPOSPHERIC LEVELS ARE STEERING THE SYSTEM NEARLY WESTWARDS.

MOST OF THE MODELS ARE INDICATING EXISTING LOW PRESSURE AREA OVER SOUTHEAST BOB AND ADJOINING EAST INDIAN OCEAN TO MOVE WESTWARDS TILL 17TH MORNING AND WEAKEN THEREAFTER.

IN VIEW OF ABOVE, THE LOW PRESSURE AREA OVER SOUTHEAST BAY OF BENGAL & ADJOINING AREAS OF EAST EQUATORIAL INDIAN OCEAN IS LIKELY TO MOVE GRADUALLY WESTWARDS AND MAINTAIN ITS INTENSITY OVER SOUTH BAY OF BENGAL TILL 0000UTC OF 17TH DECEMBER 2022.

**(SHIBIN BALAKRISHNAN)
SCIENTIST-C
RSMC NEW DELHI**



487

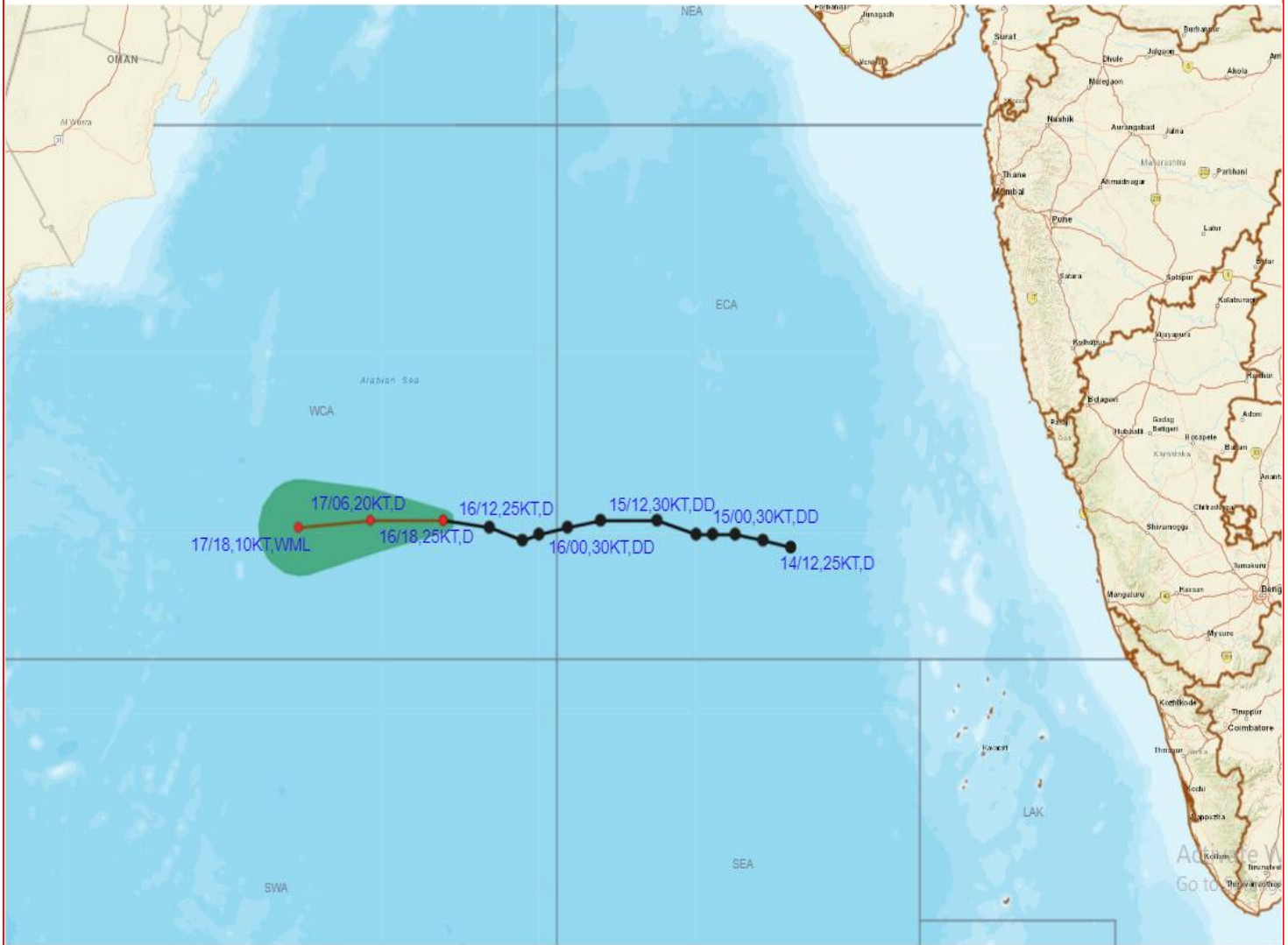
947

IMD, DELHI

LPA: Low Pressure Area



OBSERVED AND FORECAST TRACK OF DEPRESSION OVER WESTCENTRAL AND ADJOINING EASTCENTRAL ARABIAN SEA BASED ON 1800 UTC OF 16TH 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 (≥ 20 KT)

LESS THAN 34 KT

34-47 KT

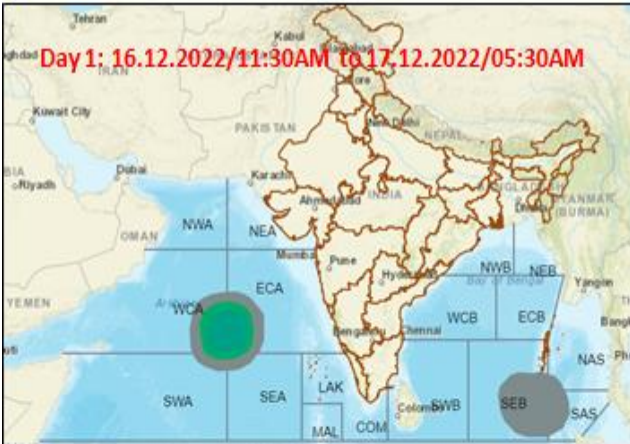
≥ 48 KT

OBSERVED TRACK

FORECAST TRACK

CONE OF UNCERTAINTY

Fishermen warning graphics



Squally WX with wind speed 40-45 kmph gusting to 55 kmph
Squally wind speed 45-55 kmph gusting to 65 kmph
Squally wind speed 55-65 kmph gusting to 75 kmph

Fishermen are advised not to venture into the marked areas.

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