



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

DEMS-RSMC TROPICAL CYCLONES NEW DELHI DATED 27.08.2024

SPECIAL TROPICAL WEATHER OUTLOOK FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND THE ARABIAN SEA) VALID FOR NEXT 168 HOURS ISSUED AT 2100 UTC OF 27.08.2024 BASED ON 1800 UTC OF 27.08.2024.

LAND DEPRESSION OVER NORTHWEST INDIA:

SUB: (A) DEEP DEPRESSION OVER SAURASHTRA & KACHCHH AND ADJOINING NORTH GUJARAT

THE DEEP DEPRESSION OVER NORTH GUJARAT MOVED NEARLY WESTWARDS WITH A SPEED OF 7 KMPH DURING PAST 6 HOURS AND LAY CENTERED AT 1800 UTC OF TODAY, THE 27TH AUGUST OVER THE SAME REGION NEAR LATITUDE 23.7°N AND LONGITUDE 70.6 °E, ABOUT 10 KM NORTH-NORTHWEST OF RAPAR (INDIA), 70 KM NORTH-NORTHEAST OF NEW KANDLA (42639), 90 KM EAST-NORTHEAST OF BHUJ (42634) AND 185 KM EAST-NORTHEAST OF NALIYA (42631).

IT IS LIKELY TO MOVE SLOWLY WEST-SOUTHWESTWARDS ACROSS SAURASHTRA & KACHCHH REGION AND REACH SAURASHTRA & KACHCHH COAST & ADJOINING AREAS OF PAKISTAN AND NORTHEAST ARABIAN SEA BY MORNING OF 29TH AUGUST.

INSAT 3DR IMAGERY AT 1800 UTC SHOWS SCATTERED TO BROKEN LOW/MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION OVER KUTCH SAURASHTRA SOUTH PAKISTAN NORTHEAST ARABIAN SEA GULF OF KUTCH (MINIMUM CTT MINUS 93 DEG CEL) AND MODERATE TO INTENSE CONVECTION OVER SOUTH RAJASTHAN GUJARAT REGION GULF OF CAMBAY AND WEAK TO MODERATE CONVECTION OVER NORTH MADHYA MAHARASHTRA AND ADJOINING KONKAN.

ASSOCIATED MAXIMUM SUSTAINED WIND SPEED IS 30 KTS GUSTING TO 40 KTS. ESTIMATED CENTRAL PRESSURE IS 992 HPA. AT 1800 UTC, BHUJ REPORTED MEAN SEA LEVEL PRESSURE OF 996.3 HPA & PRESSURE CHANGE IN 24 HOURS AS -1.3 HPA WITH WIND SPEED OF 2 KT. OKHA REPORTED MEAN SEA LEVEL PRESSURE OF 998.2 HPA & PRESSURE CHANGE IN 24 HOURS AS -1.8 HPA WITH WIND SPEED 8 KT. PORBANDAR REPORTED MEAN SEA LEVEL PRESSURE OF 1000.5 HPA & PRESSURE CHANGE IN 24 HOURS AS +0.4 HPA WITH WIND SPEED 15 KT.

(II) ARABIAN SEA:

SEA CONDITION AND ADVISORY FOR FISHERMEN IN ASSOCIATION WITH THE MOVEMENT OF THE SYSTEM OVER SAURASHTRA & KUTCH AND ADJOINING PAKISTAN AND NORTHEAST ARABIAN SEA FROM INDIA DURING 27-30TH AUGUST:

- SQUALLY WIND SPEED REACHING 55-65 KMPH GUSTING TO 75 KMPH IS LIKELY TO PREVAIL ALONG & OFF GUJARAT COASTS & ADJOINING PAKISTAN COASTS AND

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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NORTHEAST AND ADJOINING EASTCENTRAL ARABIAN SEA DURING 27TH-30TH AUGUST.

- SQUALLY WEATHER WITH ROUGH TO VERY ROUGH SEA CONDITIONS IS VERY LIKELY TO PREVAIL ALONG & OFF GUJARAT & ADJOINING PAKISTAN AND NORTH MAHARASHTRA COASTS AND NORTHEAST & ADJOINING EASTCENTRAL ARABIAN SEA TILL 30TH AUGUST.
- FISHERMEN ARE ADVISED NOT VENTURE INTO NORTHEAST & ADJOINING EASTCENTRAL ARABIAN SEA AND ALONG & OFF GUJARAT & ADJOINING PAKISTAN AND NORTH MAHARASHTRA COASTS TILL 30TH AUGUST.

CLOUDS ASSOCIATED WITH ARABIAN SEA:

SCATTERED TO BROKEN LOW/MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION OVER NORTHEAST ARABIAN SEA AND GULF OF KUTCH. SCATTERED LOW/MEDIUM CLOUDS WITH EMBEDDED MODERATE TO INTENSE CONVECTION OVER GULF OF CAMBAY, CENTRAL ARABIAN SEA AND ISOLATED WEAK TO MODERATE CONVECTION OVER NORTHWEST & SOUTHEAST ARABIAN SEA LAKSHADWEEP ISLANDS & COMORIN AREA.

***PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION) DURING NEXT 168 HRS OVER ARABIAN SEA:**

24 HOURS	24-48 HOURS	48-72 HOURS	72-96 HOURS	96-120 HOURS	120-144 HOURS	144-168 HOURS
NIL	MOD	HIGH	HIGH	-	-	-

***NOTE: EVERY 24HR FORECAST IS VALID UPTO 0300 UTC (0830 IST) OF NEXT DAY (-) INDICATES GENESIS HAS ALREADY OCCURRED.**

(III) LOW PRESSURE AREA OVER NORTHERN PARTS OF CENTRAL MADHYA PRADESH & ADJOINING SOUTH UTTAR PRADESH

THE LOW PRESSURE AREA OVER SOUTHEAST UTTAR PRADESH AND ADJOINING NORTHEAST MADHYA PRADESH MOVED WEST-NORTHWESTWARDS AND LAY OVER NORTHERN PARTS OF CENTRAL MADHYA PRADESH & ADJOINING SOUTH UTTAR PRADESH AT 1800 UTC OF 27TH AUGUST 2024. IT IS LIKELY TO CONTINUE TO MOVE WEST-NORTHWESTWARDS ACROSS NORTHERN PARTS OF MADHYA PRADESH AND WEAKEN GRADUALLY DURING NEXT 24 HOURS.

ASSOCIATED SCATTERED TO BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER EAST UTTAR PRADESH. MINIMUM CLOUD TOP TEMPERATURE IS MINUS 80-93 DEG CELSIUS. MODERATE TO INTENSE CONVECTION OVER EAST MADHYA PRADESH, NORTH CHHATISGARH, WEST JHARKHAND AND WEST BIHAR.

(IV) BAY OF BENGAL:

A FRESH LOW PRESSURE AREA IS LIKELY TO FORM OVER EASTCENTRAL AND ADJOINING NORTH BAY OF BENGAL ON 29TH AUGUST. IT IS LIKELY TO MOVE WEST-NORTHWESTWARDS TOWARDS SOUTH ODISHA AND NORTH ANDHRA PRADESH COASTS DURING SUBSEQUENT TWO DAYS.

SCATTERED LOW/MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION OVER CENTRAL & SOUTH BAY OF BENGAL AND TENASSERIM

COAST. SCATTERED LOW AND MEDIUM CLOUDS WITH EMBEDDED MODERATE TO INTENSE CONVECTION OVER NORTH BAY OF BENGAL, NORTH ANDAMAN SEA, GULF OF MARTABAN & ARAKAN COAST.

***PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION) DURING NEXT 168 HRS:**

24 HOURS	24-48 HOURS	48-72 HOURS	72-96 HOURS	96-120 HOURS	120-144 HOURS	144-168 HOURS
NIL	NIL	NIL	NIL	NIL	NIL	NIL

***NOTE: EVERY 24HR FORECAST IS VALID UPTO 0300 UTC (0830 IST) OF NEXT DAY**

REMARKS:

THE MADDEN JULIAN OSCILLATION (MJO) INDEX CURRENTLY LIES IN PHASE 4 WITH AMPLITUDE GREATER THAN 1. IT IS LIKELY TO MOVE ACROSS PHASE 4 AND 5 WITH AMPLITUDE REMAINING MORE THAN 1 DURING NEXT 5 DAYS. THE NCICS FORECASTS INDICATE SIGNIFICANT PRESENCE OF CONVECTIVELY COUPLED EQUATORIAL ROSSBY WAVES (ERW) PROPAGATING WESTWARDS STARTING FROM BAY OF BENGAL, CENTRAL INDIA AND CENTRAL ARABIAN SEA DURING NEXT 5 DAYS. THE WESTERLY WINDS (5-7 MPS) ARE LIKELY OVER THE SAME REGION AND STRONG EASTERLIES (5-7 MPS) OVER THE NORTHWESTERN PARTS OF INDIA AND NORTHEAST ARABIAN SEA DURING NEXT FIVE DAYS. THE EASTWARD-MOVING KELVIN WAVES (KW) ARE ALSO LIKELY OVER SOUTHEAST ARABIAN SEA. THESE FEATURES ARE FAVOURABLE FOR ENHANCEMENT OF CONVECTIVE ACTIVITY OVER THE ARABIAN SEA AND ALSO OVER THE BAY OF BENGAL.

VORTICITY AT 850 HPA LEVEL IS AROUND $250 \times 10^{-5} \text{ S}^{-1}$ NEAR THE SYSTEM AREA EXTENDING UPTO 200 HPA. SHEAR TENDENCY IS INCREASING OVER SYSTEM AREA AND DECREASING TOWARDS SOUTH PAKISTAN. THE LOW LEVEL CONVERGENCE IS ABOUT $5-10 \times 10^{-5} \text{ S}^{-1}$ AROUND SOUTHWEST OF SYSTEM AREA. UPPER LEVEL DIVERGENCE HAS IS ABOUT $20 \times 10^{-5} \text{ S}^{-1}$ AROUND SOUTHWEST OF SYSTEM AREA EXTENDING UPTO NORTHEAST ARABIAN SEA. THE WIND SHEAR IS MODERATE (15-25 KNOTS) OVER THE SYSTEM AREA.

MOST OF THE NUMERICAL WEATHER PREDICTION MODELS (IMD GFS, NCEP GFS, GEFS, ECMWF, AND NCUM) INDICATE THAT THE EXISTING DEEP DEPRESSION OVER NORTH GUJARAT MOVE WEST-SOUTHWESTWARDS ACROSS NORTH GUJARAT. THERE IS A CONSENSUS AMONG VARIOUS MODELS THAT THE SYSTEM WOULD PERSIST OVER SAURASHTRA & KUTCH REGION DURING 28TH TO 30TH AUGUST. HOWEVER, THERE IS VARIATION AMONG MODELS WRT INTENSIFICATION OF SYSTEM WITH GFS & NCUM GROUP STILL SHOWING HIGHER INTENSIFICATION UPTO VERY SEVERE CYCLONIC STORM CATEGORY AND ECMWF & NCEP GFS ARE SHOWING PEAK INTENSIFICATION UPTO DEEP DEPRESSION STAGE ONLY. ECMWF AND NCEP GFS ARE ALSO INDICATING DRY AIR INCURSION INTO THE SYSTEM AREA FROM 28TH/ 1200 UTC ONWARDS. IMD MME IS INDICATING NEAR WESTWARDS MOVEMENT AND PEAK INTENSIFICATION UPTO MARGINAL CYCLONIC STORM/DEEP DEPRESSION.

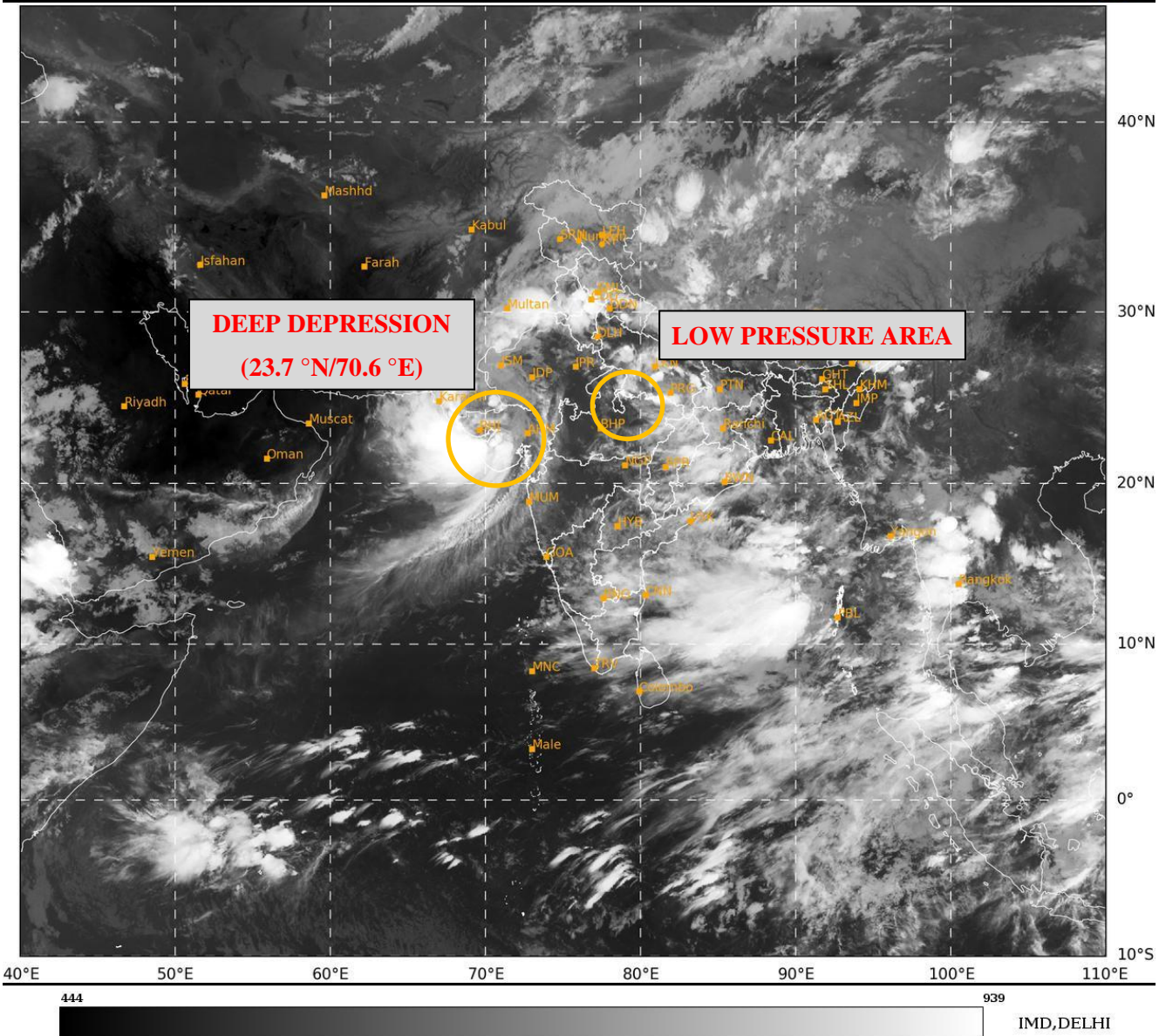
REGARDING LOW PRESSURE AREA OVER NORTHERN PARTS OF CENTRAL MADHYA PRADESH & ADJOINING SOUTH UTTAR PRADESH, MOST OF THE MODELS ARE INDICATING WEAKENING DURING NEXT 24 HOURS.

OVER THE BAY OF BENGAL, MOST OF THE MODELS ARE INDICATING DEVELOPMENT OF LOW PRESSURE AREA OVER CENTRAL BAY OF BENGAL AROUND 29TH AUGUST WITH WEST-NORTHWESTWARDS MOVEMENT TOWARDS SOUTH ODISHA & ADJOINING NORTH ANDHRA PRADESH COASTS. HOWEVER, GFS AND NCUM ARE ALSO INDICATING INTENSIFICATION OF SYSTEM INTO A DEPRESSION AROUND 30TH AUGUST/1200 UTC. ECMWF AND NCUM ARE INDICATING DEVELOPMENT UPTO WELL MARKED LOW PRESSURE AREA STAGE ONLY.

CONSIDERING ALL THE ABOVE, IT IS INFERRED THAT:

- (1) DEEP DEPRESSION OVER SAURASHTRA & KACHCHH AND ADJOINING NORTH GUJARAT IS LIKELY TO MOVE SLOWLY WEST-SOUTHWESTWARDS ACROSS SAURASHTRA & KACHCHH REGION AND REACH SAURASHTRA & KACHCHH COAST & ADJOINING AREAS OF PAKISTAN AND NORTHEAST ARABIAN SEA BY MORNING OF 29TH AUGUST.
- (2) LOW PRESSURE AREA OVER NORTHERN PARTS OF CENTRAL MADHYA PRADESH & ADJOINING SOUTH UTTAR PRADESH LIKELY TO MOVE WEST-NORTHWESTWARDS ACROSS NORTH MADHYA PRADESH AND WEAKEN GRADUALLY DURING NEXT 24 HOURS.
- (3) A FRESH LOW PRESSURE AREA IS LIKELY TO FORM OVER EASTCENTRAL AND ADJOINING NORTH BAY OF BENGAL ON 29TH AUGUST. IT IS LIKELY TO MOVE WEST-NORTHWESTWARDS TOWARDS SOUTH ODISHA AND NORTH ANDHRA PRADESH COASTS DURING SUBSEQUENT TWO DAYS.

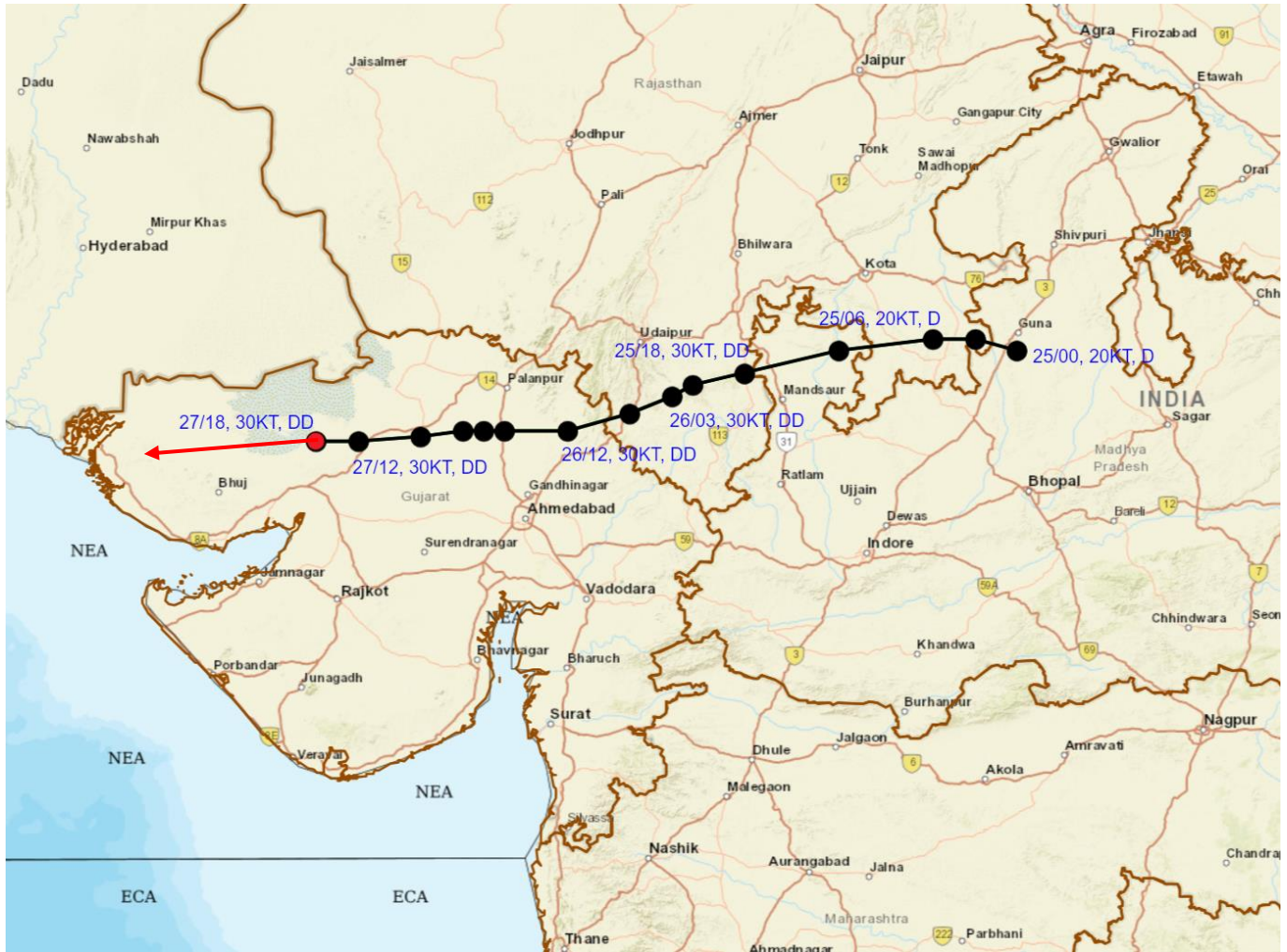
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RSMC NEW DELHI



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OBSERVED AND FORECAST TRACK OF DEEP DEPRESSION OVER SAURASHTRA & KACHCHH AND ADJOINING NORTH GUJARAT BASED ON 1800 UTC (2330 IST) OF 27TH AUGUST, 2024.



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

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