



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

DEMS-RSMC TROPICAL CYCLONES NEW DELHI DATED 31.05.2020

TROPICAL WEATHER OUTLOOK FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 0900 UTC OF 31.05.2020 BASED ON 0600 UTC OF 31.05.2020.

**SUB: (1) DEPRESSION OVER SOUTH COASTAL OMAN & ADJOINING YEMEN
(2) LOW PRESSURE AREA OVER SOUTHEAST AND ADJOINING EASTCENTRAL ARABIAN SEA & LAKSAHDEEP AREA: PRE CYCLONE WATCH FOR NORTH MAHARASHTRA-SOUTH GUJARAT COASTS**

1. THE DEPRESSION OVER SOUTH COASTAL OMAN AND ADJOINING YEMEN MOVED WESTWARDS WITH A SPEED OF 07 KMPH DURING PAST 06 HOURS AND LAY CENTRED AT 0600 UTC OF 31ST MAY, 2020 NEAR LATITUDE 17.0°N AND LONGITUDE 53.5°E, ABOUT 60 KM WEST OF SALALAH (42316) AND 160 KM EAST-NORTHEAST OF AL GHAYDAH (41398). IT IS VERY LIKELY TO MAINTAIN INTENSITY OF DEPRESSION DURING NEXT 12 HOURS AND WEAKEN GRADUALLY THEREAFTER. IT IS VERY LIKELY TO MOVE SLOWLY WEST-SOUTHWESTWARDS DURING NEXT 24 HOURS .

AS PER SATELLITE IMAGERY BASED ON 0600 UTC OF 31ST MAY, ASSOCIATED BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER SOUTH COASTAL OMAN & ADJOINING YEMAN & WESTCENTRAL ARABIAN SEA BETWEEN LATITUDE 15.0°N TO 19.0°N AND LONGITUDE 52.0°E TO 56.0°E. MINIMUM CLOUD TOP TEMPERATURE IS MINUS 87° C.

THE MAXIMUM SUSTAINED WIND SPEED IS TO THE EAST OF THE SYSTEM CENTRE AND OVER WESTCENTRAL ARABIAN SEA ALONG & OFF SOUTH OMAN-EAST YEMEN COASTS IS ABOUT 20 KTS GUSTING TO 30 KTS. THE ESTIMATED CENTRAL PRESSURE IS 1000 HPA. SEA CONDITION IS ROUGH TO VERY ROUGH OVER WESTCENTRAL ARABIAN SEA ALONG & OFF SOUTH OMAN-EAST YEMEN COASTS.

RAINFALL FORECAST IS AVAILABLE AT http://nwp.imd.gov.in/gfsproducts00_all.php

2. THE LOW PRESSURE AREA OVER SOUTHEAST & ADJOINING EASTCENTRAL ARABIAN SEA & LAKSHADWEEP AREA PERSISTS. IT IS VERY LIKELY TO CONCENTRATE INTO A DEPRESSION OVER EASTCENTRAL AND ADJOINING SOUTHEAST ARABIAN SEA DURING NEXT 24 HOURS AND LIKELY TO INTENSIFY FURTHER INTO A CYCLONIC STORM OVER EASTCENTRAL ARABIAN SEA DURING THE SUBSEQUENT 24 HOURS. IT IS LIKELY TO MOVE NEARLY NORTHWARDS TILL 02ND JUNE MORNING AND RECURVE NORTH-NORTHEASTWARDS THEREAFTER AND REACH NEAR NORTH MAHARASHTRA AND SOUTH GUJARAT COASTS BY 03RD JUNE, 2020.

PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION)

NIL: 0%, LOW: 1-25%, FAIR: 26-50%, MODERATE: 51-75% AND HIGH: 76-100%

AS PER SATELLITE IMAGERY BASED ON 0600 UTC OF 31ST MAY, ASSOCIATED BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER LAKSHADEEP, SOUTH EAST & EASTCENTRAL ARABIAN SEA BETWEEN LATITUDE 10.0°N TO 16.0°N AND LONGITUDE 68.0°E TO 75°E. MINIMUM CLOUD TOP TEMPERATURE IS MINUS 80° C.

REMARKS:

MJO CONDITION: THE MADDEN JULIAN OSCILLATION (MJO) INDEX LIES CURRENTLY IN PHASE 1 WITH AMPLITUDE MORE THAN 1. IT WILL CONTINUE TO BE IN SAME PHASE DURING NEXT 7 DAYS WITH AMPLITUDE REMAINING MORE THAN 1. THUS MJO WILL SUPPORT ENHANCEMENT OF CONVECTIVE ACTIVITY OVER THE WEST AS AND GRADUALLY WILL SUPPORT CONVECTIVE ACTIVITY OVER THE AS FROM 1ST JUNE ONWARDS.

SEA CONDITIONS: THE SEA SURFACE TEMPERATURE (SST) IS 30-32°C OVER THE ENTIRE AS. THE TROPICAL CYCLONE HEAT POTENTIAL IS MORE THAN 100 KJ/CM² OVER MAJOR PARTS OF SOUTH & WESTCENTRAL AS. IT IS ABOUT 60-80 KJ/CM² OVER CENTRAL AS AND IS BECOMING NEGATIVE OVER EXTREME NORTH AS & OFF OMAN COAST.

ENVIRONMENTAL CONDITIONS FOR SYSTEM 1 OVER SOUTH COASTAL OMAN AND ADJOINING YEMEN: LOW LEVEL POSITIVE VORTICITY HAS DECREASED AND IS ABOUT $180 \times 10^{-6} \text{ SEC}^{-1}$ OVER THE SYSTEM CENTRE. IT IS EXTENDING UPTO 500 HPA LEVEL. THE LOW LEVEL CONVERGENCE HAS CEASED AND IN ITS PLACE DIVERGENCE OF THE ORDER OF $10 \times 10^{-5} \text{ SEC}^{-1}$ PREVAILS OVER THE SYSTEM AREA. THE POSITIVE UPPER LEVEL DIVERGENCE HAS DECREASED AND IS OF THE ORDER $30 \times 10^{-5} \text{ SEC}^{-1}$ OVER THE SYSTEM CENTRE. VERTICAL WIND SHEAR (VWS) IS HIGH (25-30 KNOTS) AROUND THE SYSTEM CENTRE. THE UPPER TROPOSPHERIC RIDGE LIES NEAR 19.0° N OVER THE WESTCENTRAL ARABIAN SEA. THE SYSTEM IS MOVING WEST-SOUTHWESTWARD UNDER THE STEERING INFLUENCE OF THE EAST-NORTHEASTERLY WINDS AT THE OUTER PART OF THE ANTICYCLONE OVER THE ARABIAN PENINSULA. HIGH VERTICAL WIND SHEAR IS CAUSING THE SYSTEM TO WEAKEN FURTHER.

SYSTEM 2 OVER SOUTHEAST ARABIAN SEA:

POSITIVE LOWER LEVEL VORTICITY HAS INCREASED AND IS ABOUT $100 \times 10^{-6} \text{ SEC}^{-1}$ OVER LAKSHADWEEP AREA. IT IS EXTENDING UPTO 200 HPA LEVEL TILTING SOUTHWARDS. THE LOWER LEVEL CONVERGENCE IS AROUND $20 \times 10^{-5} \text{ SEC}^{-1}$ OVER SOUTHEAST AS. THE UPPER LEVEL DIVERGENCE OVER SOUTHEAST AS IS $40 \times 10^{-5} \text{ SEC}^{-1}$ OVER SOUTHEAST ARABIAN SEA. VERTICAL WIND SHEAR (VWS) IS MODERATE TO HIGH (25-30 KTS) OVER THE SYSTEM CENTRE AND IS LOW TO MODERATE TO THE EAST OF THE SYSTEM. THE UPPER TROPOSPHERIC RIDGE NOW LIES NEAR 14.0°N OVER EASTCENTRAL AS.

MODEL GUIDANCE FOR THE FRESH LOW PRESSURE AREA (SYSTEM-2): MOST OF THE NUMERICAL MODELS INCLUDING ECMWF, IMD GFS, NCEP GFS, GEFS, NEPS, NCUM ETC. ARE INDICATING FURTHER INTENSIFICATION OF THE SYSTEM, INITIAL NORTHWARD MOVEMENT AND NORTH-NORTHEASTWARD RE-CURVATURE THEREAFTER.

CONCLUSION: CONSIDERING ALL THE ABOVE, THE SYSTEM OVER SOUTH COASTAL OMAN AND ADJOINING YEMEN IS LIKELY TO WEAKEN GRADUALLY

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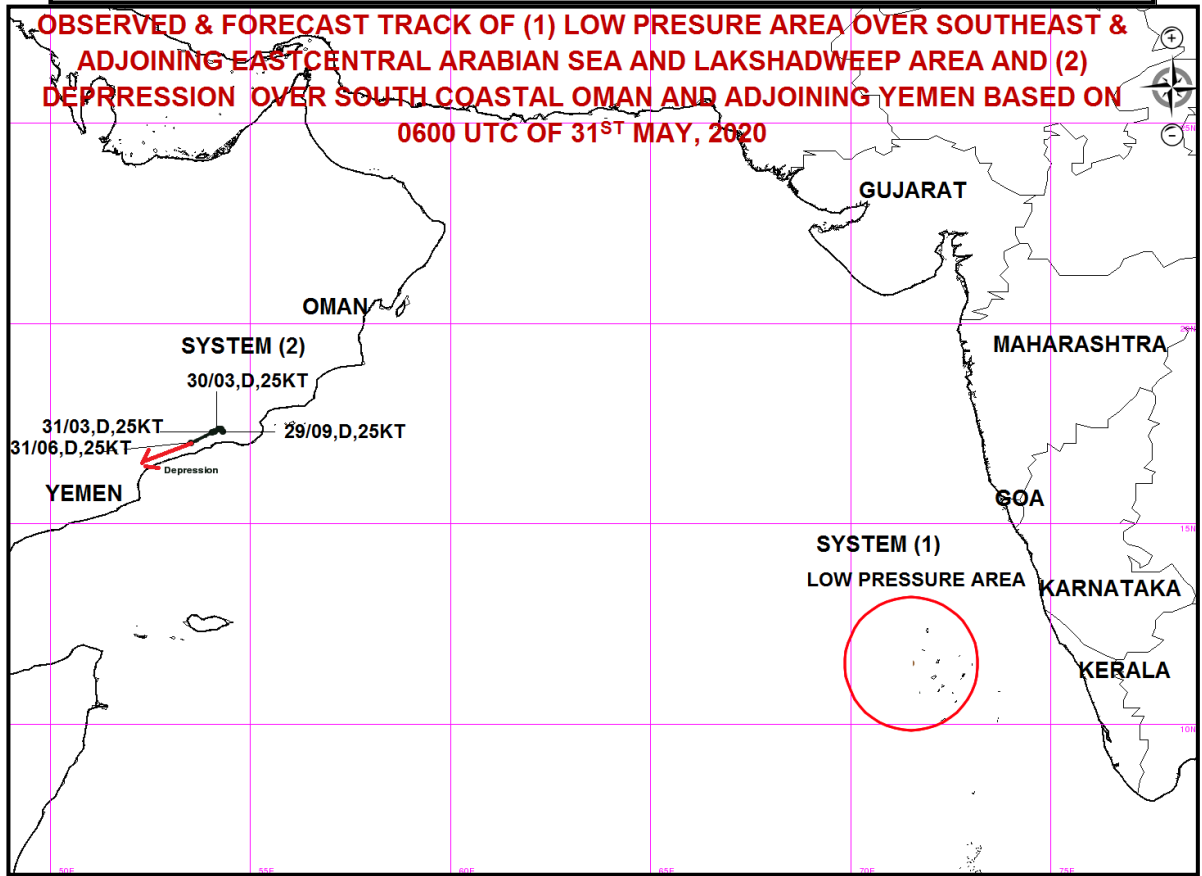
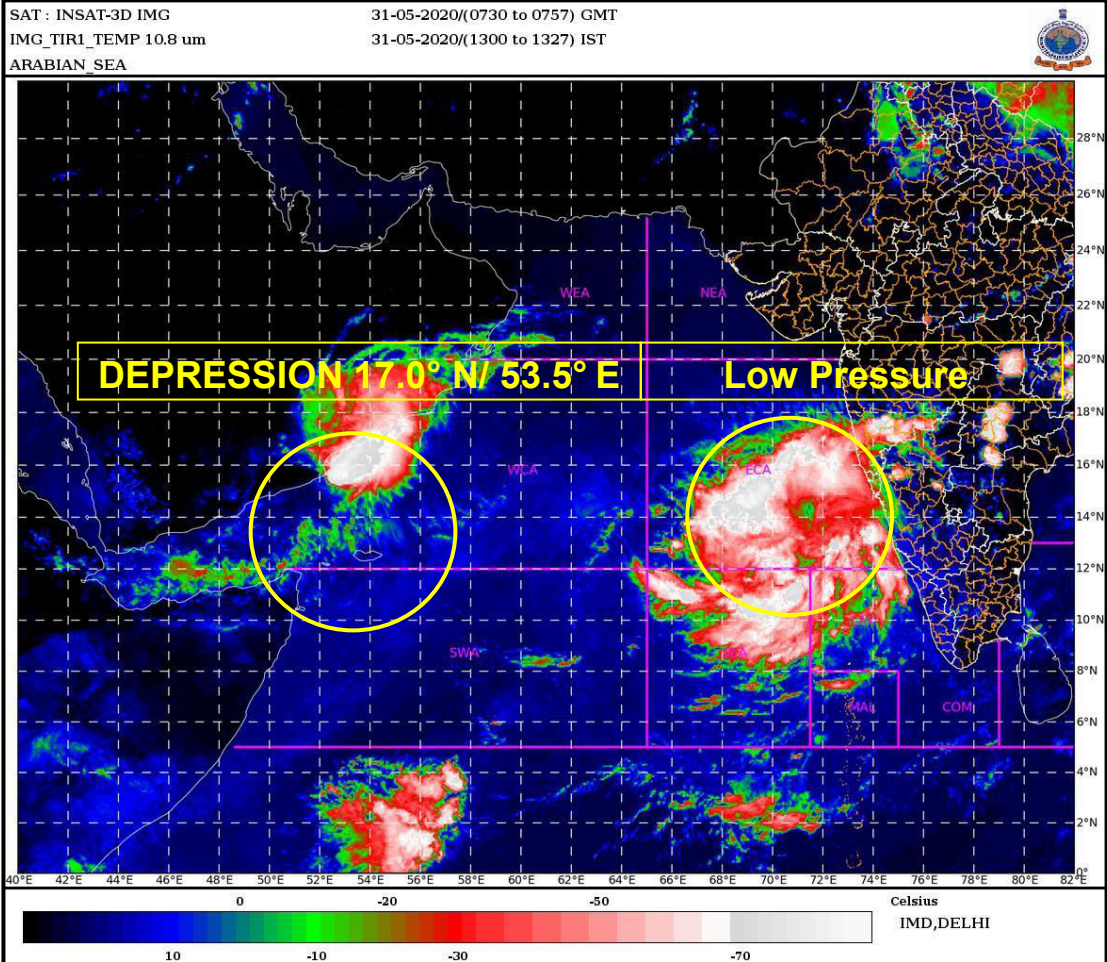
DURING NEXT 12 HOURS. IT IS VERY LIKELY TO MOVE SLOWLY WEST-SOUTHWESTWARDS ALONG THE COAST LINE OF SOUTH OMAN AND YEMEN. THE LOW PRESSURE AREA OVER SOUTHEAST & ADJOINING EASTCENTRAL ARABIAN SEA IS VERY LIKELY TO MOVE NEARLY NORTHWARDS INITIALLY TILL 02ND JUNE AND RE-CURVE NORTH-NORTHEASTWARDS TOWARDS NORTH MAHARASHTRA – SOUTH GUJARAT COAST ON 3RD JUNE. UNDER FAVOURABLE ENVIRONMENTAL CONDITIONS LIKE LOW VERTICAL WIND SHEAR AND HIGH OCEAN HEAT CONTENT, ALONG WITH THE WIND SURGE ASSOCIATED WITH THE SOUTHWEST MONSOON FLOW OVER THE REGION, IT IS VERY LIKELY TO CONCENTRATE INTO A DEPRESSION OVER EASTCENTRAL AND ADJOINING SOUTHEAST ARABIAN SEA DURING NEXT 24 HOURS AND INTO A CYCLONIC STORM DURING THE SUBSEQUENT 24 HOURS. IT IS LIKELY TO REACH NORTH MAHARASHTRA AND GUJARAT COASTS BY 3RD JUNE.

(SUNITHA DEVI)

SCIENTIST- E, RSMC, NEW DELHI

PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION)

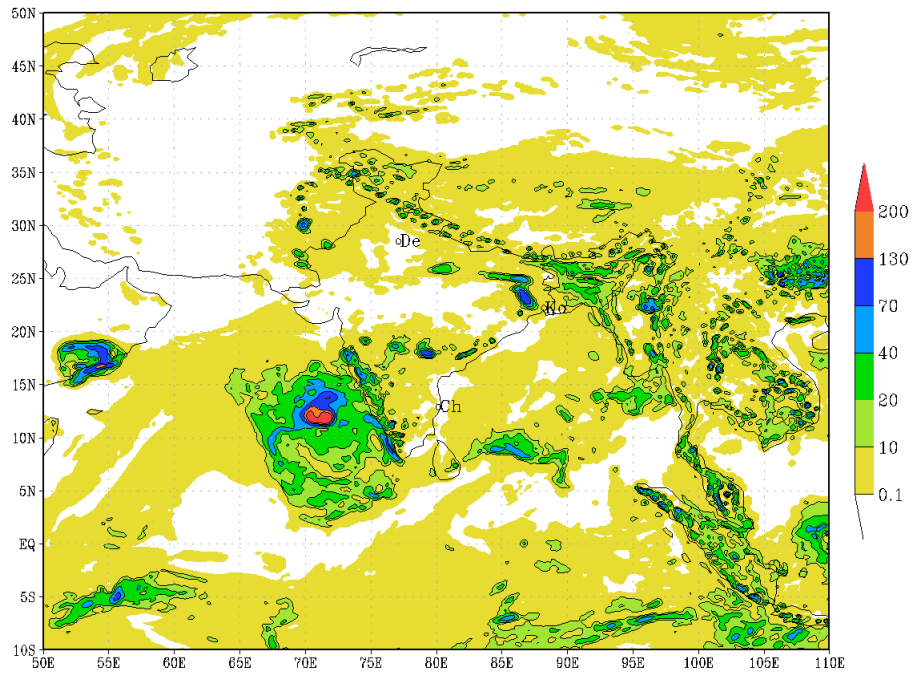
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IMD :GFS MODEL(12 Km) RAINFALL (mm) FORECAST (24 HR)
based on 00 UTC of 31-05-2020 valid for 03 UTC of 01-06-2020



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