



**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 0600 UTC OF 31.05.2020 BASED ON 0300 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.**

1. THE DEPRESSION OVER SOUTH COASTAL OMAN AND ADJOINING YEMEN REMAINED PARCTICALLY STATIONARY DURING PAST 15 HOURS AND LAY CENTRED AT 0300 UTC OF 31ST MAY, 2020 NEAR LATITUDE 17.0°N AND LONGITUDE 53.9°E, ABOUT 20 KM WEST OF SALALAH (42316) AND 200 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 THE SAME PERIOD.

AS PER SATELLITE IMAGERY BASED ON 0300 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 93° 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.

SALALAH REPORTED MEAN SEA LEVEL PRESSURE OF 1002.4 HPA WITH CALM WIND AT 0300 UTC OF 31ST MAY.

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 DURING THE SUBSEQUENT 24 HOURS. IT IS LIKELY TO MOVE NEARLY NORTHWARDS AND REACH NEAR NORTH MAHARASHTRA AND GUJARAT COASTS BY 03RD JUNE, 2020.

AS PER SATELLITE IMAGERY BASED ON 0300 UTC OF 31ST MAY, ASSOCIATED

PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION)

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

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 74°E. MINIMUM CLOUD TOP TEMPERATURE IS MINUS 86° 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 IS ABOUT $200 \times 10^{-6} \text{ SEC}^{-1}$ OVER THE SYSTEM CENTRE. IT IS EXTENDING UPTO 500 HPA LEVEL. THE LOW LEVEL CONVERGENCE IS CURRENTLY OF THE ORDER OF $20 \times 10^{-5} \text{ SEC}^{-1}$ TO THE SOUTH-SOUTHWEST OF THE SYSTEM CENTRE OVER WESTCENTRAL ARBIAN SEA. HOWEVER, OVER THE SYSTEM CENTRE, IT CONTINUES TO BE NEGATIVE ($-10 \times 10^{-5} \text{ SEC}^{-1}$). THE POSITIVE UPPER LEVEL DIVERGENCE IS OF THE ORDER $40 \times 10^{-5} \text{ SEC}^{-1}$ OVER THE SYSTEM CENTRE. VERTICAL WIND SHEAR (VWS) IS HIGH (25-30 KNOTS) OVER 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 POSITIVE VORTICITY HAS NOW DECREASED DURING PAST 24 HOURS ($50-60 \times 10^{-6} \text{ SEC}^{-1}$) OVER COMORIN-LAKSHADWEEP AREAS. 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 SOUTHESAT 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. THE UPPER TROPOSPHERIC RIDGE LIES NEAR 12.0°N OVER THE SOUTHEAST 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 AND NEAR NORTHWARD MOVEMENT.

CONCLUSION: CONSIDERING ALL THE ABOVE, THE SYSTEM OVER SOUTH COASTAL OMAN AND ADJONING YEMEN IS LIKELY TO WEAKEN GRADUALLY DURING NEXT 12 HOURS. IT IS VERY LIKELY TO MOVE SLOWLY WEST-SOUTHWESTWARDS ALONG THE COAST LINE OF SOUTH OMAN AND YEMEN. THE

PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION)

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LOW PRESSURE AREA OVER SOUTHEAST & ADJOINING EASTCENTRAL ARABIAN SEA IS VERY LIKELY TO MOVE NEARLY NORTHWARDS. 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)

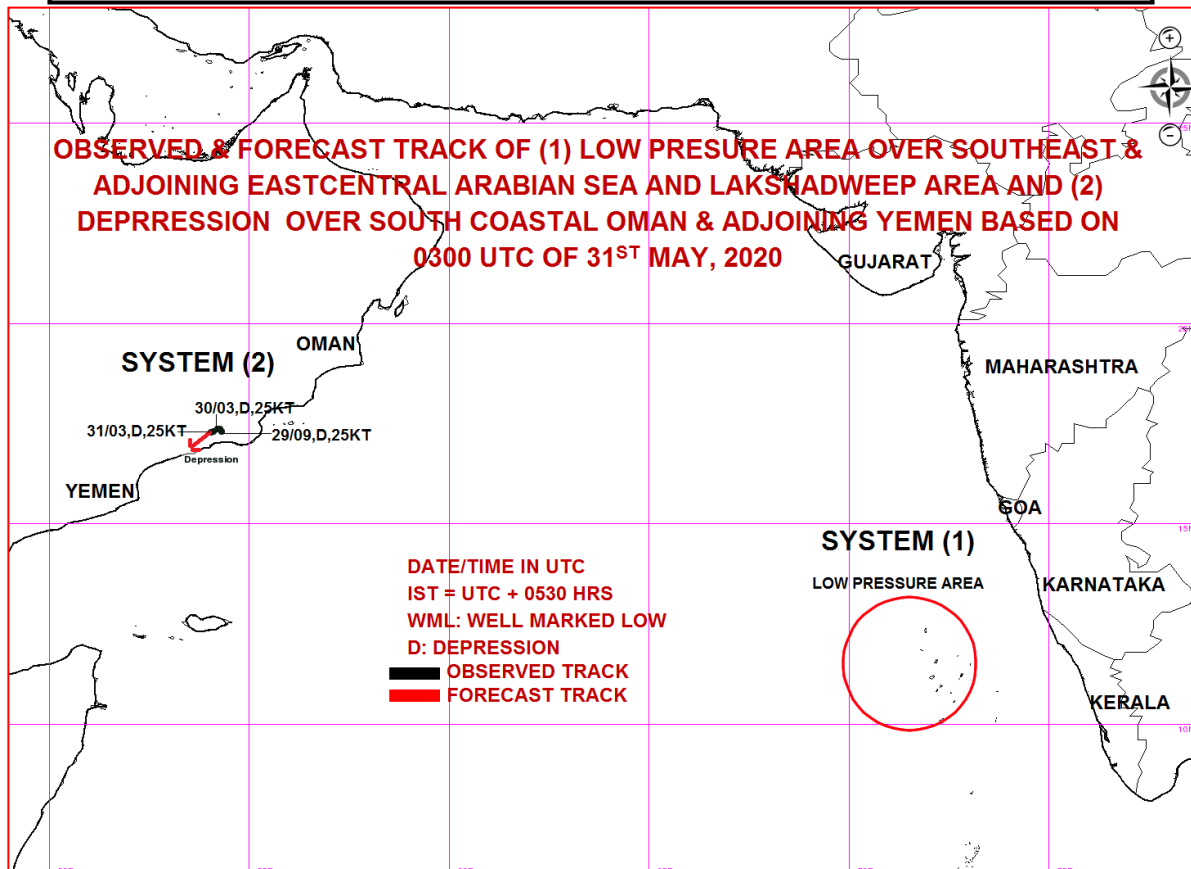
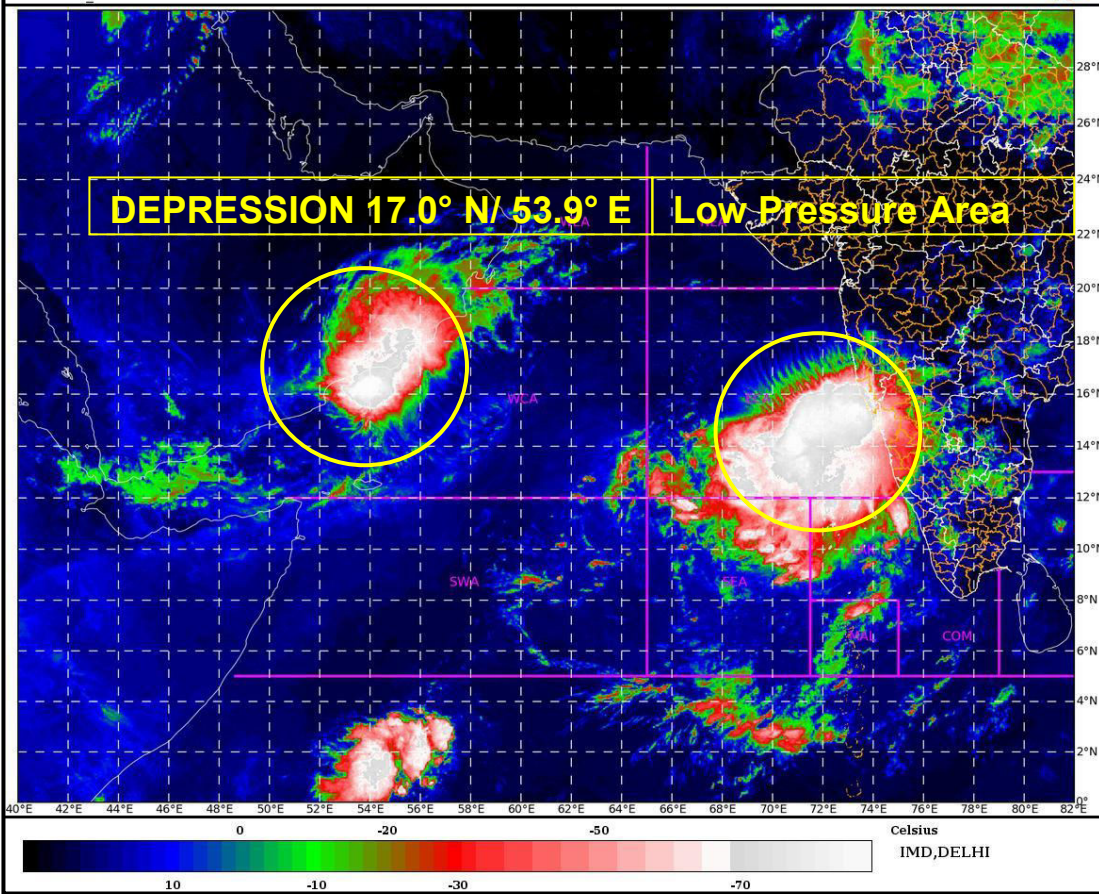
SCIENTIST- E, RSMC, NEW DELHI

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SAT : INSAT-3DR IMG
 IMG_TIR1_TEMP 10.8 um
 ARABIAN SEA

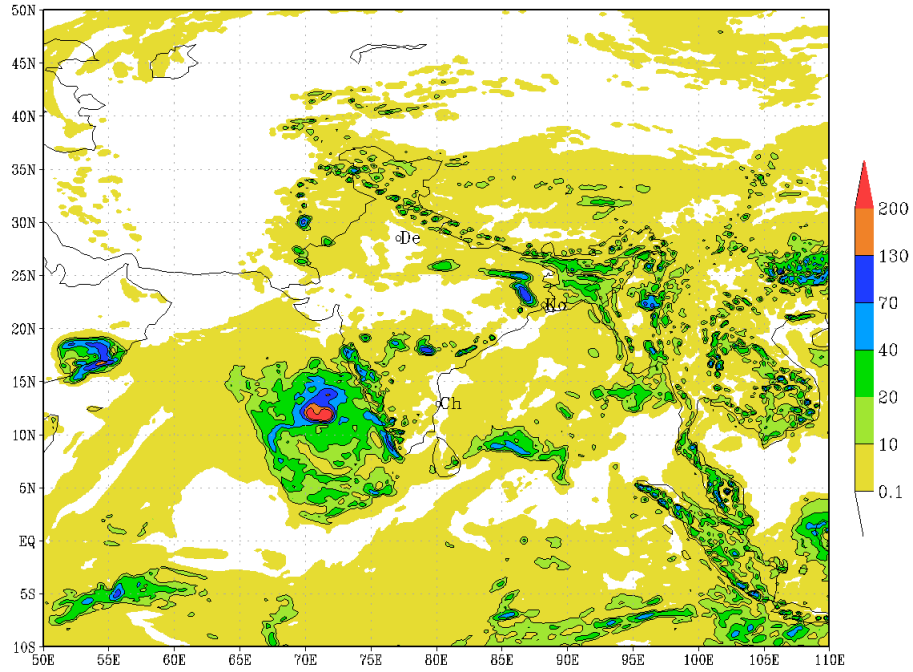
31-05-2020/(0315 to 0341) GMT
 31-05-2020/(0845 to 0911) IST



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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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