



**REGIONAL SPECIALISED METEOROLOGICAL CENTRE-TROPICAL CYCLONES, NEW DELHI**  
**TROPICAL CYCLONE ADVISORY BULLETIN NO.24**

**FROM: RSMC –TROPICAL CYCLONES, NEW DELHI**

**TO: STORM WARNING CENTRE, NAYPYI TAW (MYANMAR)**  
**STORM WARNING CENTRE, BANGKOK (THAILAND)**  
**STORM WARNING CENTRE, COLOMBO (SRILANKA)**  
**STORM WARNING CENTRE, DHAKA (BANGLADESH)**  
**STORM WARNING CENTRE, KARACHI (PAKISTAN)**  
**METEOROLOGICAL OFFICE, MALE (MALDIVES)**  
**OMAN METEOROLOGICAL DEPARTMENT, MUSCAT (THROUGH RTH JEDDAH)**  
**YEMEN METEOROLOGICAL SERVICES, REPUBLIC OF YEMEN (THROUGH RTH JEDDAH)**  
**NATIONAL CENTRE FOR METEOROLOGY, UAE (THROUGH RTH JEDDAH)**  
**PRESIDENCY OF METEOROLOGY AND ENVIRONMENT, SAUDI ARABIA (THROUGH RTH JEDDAH)**  
**IRAN METEOROLOGICAL ORGANISATION, (THROUGH RTH JEDDAH)**  
**QATAR METEOROLOGICAL DEPARTMENT (THROUGH RTH JEDDAH)**

**TROPICAL CYCLONE ADVISORY NO. 24 FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 72 HOURS ISSUED AT 0300 UTC OF 14.06.2019 BASED ON 0000 UTC OF 14.06.2019.**

**THE VERY SEVERE CYCLONIC STORM 'VAYU' (PRONOUNCED AS VAA'YU) OVER NORTHEAST & ADJOINING EASTCENTRAL ARABIAN SEA MOVED WESTNORTHWESTWARDS WITH A SPEED OF ABOUT 06 KMPH IN LAST SIX HOURS AND LAY CENTRED AT 0000 UTC OF TODAY, THE 14<sup>TH</sup> JUNE, 2019 NEAR LATITUDE 21.0°N AND LONGITUDE 68.5°E OVER NORTHEAST & ADJOINING EASTCENTRAL ARABIAN SEA, ABOUT 130 KM SOUTHWEST OF PORBANDAR (GUJARAT), 185 KM WEST OF VERAVAL (GUJARAT) AND 250 KM WEST OF DIU.**

**THE SYSTEM IS MOVING WEST-NORTHWESTWARDS SKIRTING THE SAURASHTRA COAST AFFECTING PORBANDAR & DEVBHOOMI DWARKA WITH WIND SPEED 60-70 KMPH GUSTING TO 80 KMPH AND GIR SOMNATH & JUNAGARH WITH WIND SPEED 40-50 KMPH GUSTING TO 60 KMPH. IT IS VERY LIKELY TO CONTINUE TO AFFECT THESE DISTRICTS DURING NEXT 12 HOURS AND WIND SPEED OVER THESE DISTRICTS IS VERY LIKELY TO DECREASE GRADUALLY THEREAFTER.**

**FORECAST TRACK AND INTENSITY ARE GIVEN IN THE FOLLOWING TABLE:**

<b>Date/Time(UTC)</b>	<b>Position (Lat. °N/ long. °E)</b>	<b>Maximum sustained surface wind speed (Kmph)</b>	<b>Category of cyclonic disturbance</b>
13.06.19/0000	21.0/68.5	135-145 gusting to 160	Very Severe Cyclonic Storm
14.06.19/0600	21.0/68.3	120-130 gusting to 145	Very Severe Cyclonic Storm
14.06.19/1200	21.1/67.9	120-130 gusting to 145	Very Severe Cyclonic Storm
14.06.19/1800	21.2/67.4	110-120 gusting to 135	Severe Cyclonic Storm
15.06.19/0000	21.3/67.1	100-110 gusting to 125	Severe Cyclonic Storm
15.06.19/1200	21.3/66.7	90-100 gusting to 115	Severe Cyclonic Storm
16.06.19/0000	21.4/66.2	80-90 gusting to 100	Cyclonic Storm
16.06.19/1200	21.4/66.1	70-80 gusting to 90	Cyclonic Storm

**PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION)**

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

**REMARKS:**

AS PER SATELLITE IMAGERY OF 0000 UTC ON 14<sup>TH</sup> JUNE, 2019 THE INTENSITY OF THE SYSTEM OVER NORTHEAST & ADJOINING EASTCENTRAL ARABIAN SEA IS T4.5. ASSOCIATED BROKEN LOW TO MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER EASTCENTRAL ARABIAN SEA BETWEEN BET LAT 17.5°N & 23.0°N LONG 64.0°E TO 70.5°E  
AT 0000 UTC OF 14<sup>TH</sup> JUNE, A SHIP LOCATED AT 19.0°N/68.7°E REPORTED MEAN SEA LEVEL PRESSURE OF 993.2 HPA AND MEAN SURFACE WIND DIRECTION/SPEED OF 240°/40 KNOTS.

THE ESTIMATED MAXIMUM SUSTAINED WIND SPEED IS 80 KNOTS GUSTING TO 90 KNOTS. THE SEA CONDITION IS PHENOMENAL AROUND THE SYSTEM CENTER. THE ESTIMATED CENTRAL PRESSURE IS 978 HPA.

THE MADDEN JULIAN OSCILLATION (MJO) INDEX IS CURRENTLY MOVING TO PHASE 4 WITH AMPLITUDE GREATER THAN 1 AND REMAIN IN SAME PHASE FOR SUBSEQUENT 3 DAYS. HENCE, MJO PHASE WILL BE FAVOURABLE FOR ENHANCEMENT OF CONVECTION AND MAINTENANCE OF THE INTENSITY OF THE SYSTEM OVER ARABIAN SEA.

CONSIDERING THE ENVIRONMENTAL CONDITIONS, THE SEA SURFACE TEMPERATURE (SST) IS 30-31°C ALONG GUJARAT COAST AND ADJOINING NORTHEAST ARABIAN SEA. IT REDUCES TO 28-30°C OVER WESTERN PARTS OF NORTHEAST ARABIAN SEA. THE TROPICAL CYCLONE HEAT POTENTIAL IS AROUND (70-90) KJ/CM<sup>2</sup> OVER THE SYSTEM AREA. IT IS LESS THAN 60 KJ/CM<sup>2</sup> IN THE NORTHWEST ARABIAN SEA. TOTAL PRECIPITABLE WATER VAPOUR IMAGERIES INDICATE WARM AIR ADVECTION IS CONTINUING TO THE SYSTEM CENTRE. HOWEVER, DRY AIR LIES TO THE NORTHWEST SECTOR OF THE SYSTEM.

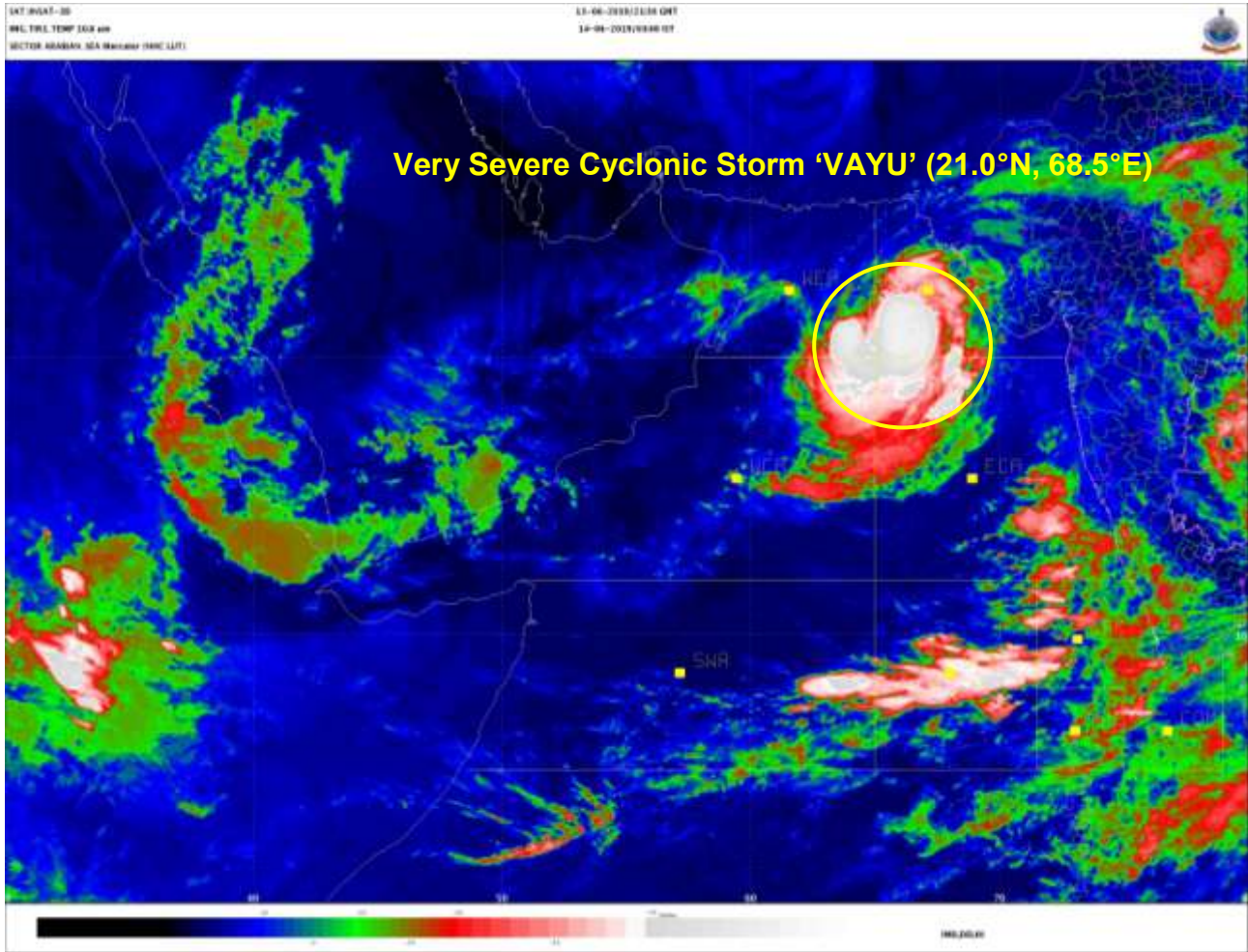
THE LOW LEVEL RELATIVE VORTICITY IS AROUND  $250 \times 10^{-5} \text{ SEC}^{-1}$  TO THE SOUTH OF THE SYSTEM CENTRE. POSITIVE VORTICITY PERSISTS UPTO 200 HPA LEVEL. THE LOWER LEVEL CONVERGENCE IS ABOUT  $40 \times 10^{-5} \text{ S}^{-1}$  AROUND THE SYSTEM CENTRE. THE UPPER LEVEL DIVERGENCE IS ALSO ABOUT  $20 \times 10^{-5} \text{ S}^{-1}$  TO THE SOUTH OF THE SYSTEM CENTRE. THE VERTICAL WIND SHEAR IS LOW (5-10 KNOTS) OVER THE SYSTEM AREA. THE UPPER TROPOSPHERIC RIDGE RUNS ALONG 22° N. AS THE SYSTEM IS BEING STEERED BY THE ANTICYCLONE OVER SAUDI ARABIAN PENINSULA THE SYSTEM IS MOVING IN A WEST-NORTHWESTWARD DIRECTION AND IS LIKELY TO FURTHER CONTINUE MOVING IN THE SAME DIRECTION FOR SOME MORE TIME AND ENTER INTO UNFAVOURABLE CONDITIONS LEADING TO GRADUAL WEAKNING OF THE SYSTEM.

(SUNITHA DEVI)  
SCIENTIST-E, RSMC, NEW DELHI

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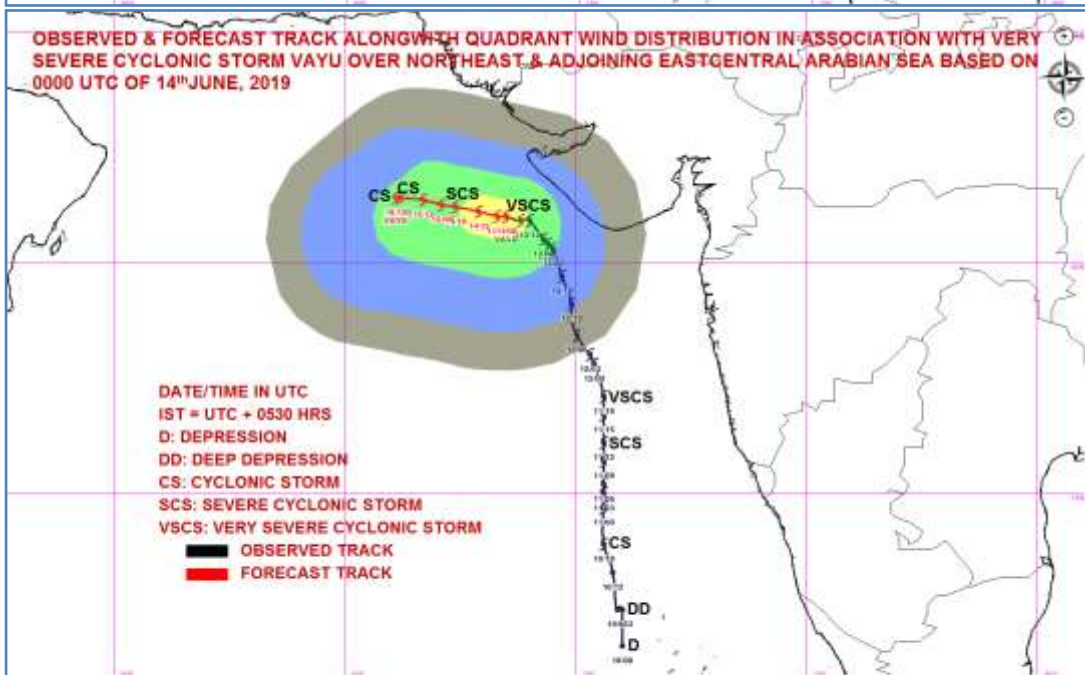
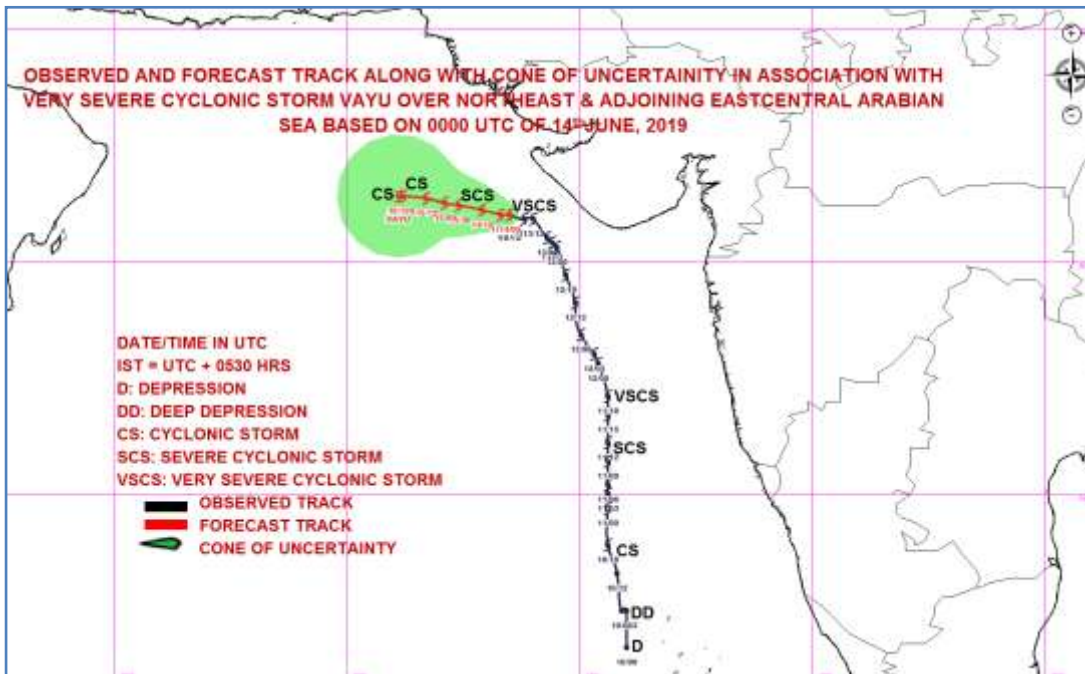
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MSW(knot/kmph)	Impact	Action
28-33 (51-62)	Very rough seas	Total suspension of fishing operations
34-49 (63-91)	High to very high seas	Total suspension of fishing operations
50-63 (92-117)	Very High seas	Total suspension of fishing operations
≥ 64 (≥118)	Phenomenal	Total suspension of fishing operations

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