



**REGIONAL SPECIALISED METEOROLOGICAL CENTRE-TROPICAL CYCLONES, NEW DELHI TROPICAL  
TROPICAL CYCLONE ADVISORY BULLETIN NO. 21**

**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)  
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. 21 FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 1400 UTC OF 03.10.2021 BASED ON 1200 UTC OF 03.10.2021.**

**SUB: SEVERE CYCLONIC STORM 'SHAHEEN' OVER GULF OF OMAN AND NEIGHBOURHOOD**

THE SEVERE CYCLONIC STORM 'SHAHEEN' OVER GULF OF OMAN AND ADJOINING NORTHWEST ARABIAN SEA MOVED WEST-SOUTHWESTWARDS WITH A SPEED OF ABOUT 10 KMPH, DURING PAST 6 HOURS, LAY CENTRED AT 1200 UTC OF 3<sup>RD</sup> OCTOBER, 2021 OVER GULF OF OMAN AND NEIGHBOURHOOD NEAR LATITUDE 24.0°N AND LONGITUDE 58.0°E, ABOUT 1150 KM WEST-NORTHWEST OF DEVBHOOMI DWARKA (42731), 300 KM WEST-SOUTHWEST OF CHABAHAR PORT (40898) AND 60 KM NORTHWEST OF MUSCAT (41278).

FORWARD SECTOR OF THE WALL CLOUD IS APPRAOCHING TOWARDS THE COAST. THE SYSTEM IS VERY LIKELY TO CROSS OMAN COAST BETWEEN BETWEEN LONG.56°E & 58°E, AROUND 57°E(ABOUT 130 KM WEST-NORTHWEST OF MUSCAT), BETWEEN 1800 AND 2100 UTC OF 3<sup>RD</sup> OCTOBER 2021, AS A SEVERE CYCLONIC STORM WITH A MAXIMUM SUSTAINED WIND SPEED OF 90 – 100 KMPH GUSTING TO 110 KMPH.

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>
03.10.21/1200	24.0/58.0	105-115 GUSTING TO 125	SEVERE CYCLONIC STORM
03.10.21/1800	23.9/57.3	95-105 GUSTING TO 115	SEVERE CYCLONIC STORM
04.10.21/0000	23.8/56.5	60-70 GUSTING TO 80	CYCLONIC STORM
04.10.21/0600	23.7/55.9	45-55 GUSTING TO 65	DEPRESSION

AS PER INSAT-3D IMAGERY AT 1200 UTC, CLOUD MASS IS SEEN ENGULFING THE EYE. STRONG CONVECTIVE CLOUD BANDS WRAPPING THE SYSTEM CENTRE ARE CLEARLY SEEN IN THE VISIBLE AND IR IMAGERY. THE PRIMARY CLOUD BANDS ASSOCIATED WITH CENTRAL FEATURE OF THE SYSTEM HAS ENTERED NORTH COAST OF OMAN. OUTER CLOUD BAND WITH EMBEDDED INTENSE CONVECTIVE CELLS HAS WEAKENED OVER LAST 3 HOURS. EYE TEMPERATURE HAS DECREASED SUGGESTING POSSIBLE WEAKENING OF THE SYSTEM. INTENSITY IS T 4.0. ASSOCIATED BROKEN LOW/MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION OVER ARABIAN SEA BET LAT 23.0N TO 26.0N AND LONG 57.0E TO 61.0E, MAKARAN COAST, GULF OF OMAN AND NORTH OMAN MINIMUM CLOUD TOP TEMPERATURE IS MINUS 80 DEG C.

AS PER SURFACE OBSERVATIONS AT 1200 UTC, MUSCAT(41256) OF COASTAL OMAN REPORTED MSLP OF 1000.7 HPA & WIND 200<sup>0</sup>/23 KTS, SOHARMAJIS(AWS-41246) OF COASTAL OMAN REPORTED MSLP OF 1007.0 HPA & WIND 030<sup>0</sup>/08 KTS, JASK(40893) OF COASTAL OMAN REPORTED MSLP OF 1005.5 HPA & WIND 100<sup>0</sup>/14 KTS.

THE ESTIMATED MAXIMUM SUSTAINED WIND SPEED IS 55 KNOTS GUSTING TO 65 KNOTS. THE SEA CONDITION IS HIGH TO VERY HIGH OVER THE SYSTEM AREA. THE ESTIMATED CENTRAL PRESSURE IS 987 HPA.

**STORM SURGE GUIDANCE:** STORM SURGE OF HEIGHT ABOUT 1M ABOVE THE ASTRONOMICAL TIDE IS LIKELY TO INUNDATE THE LOW LYING AREAS OF NORTH COASTAL OMAN AT THE TIME OF LANDFALL (MODEL OUTPUT GRAPHICS ATTACHED).

**REMARKS:**

POSITIVE VORTICITY IS ABOUT 80-100 X10<sup>-6</sup>S<sup>-1</sup> TO THE SOUTH OF THE SYSTEM CENTER. POSITIVE LOWER LEVEL CONVERGENCE IS AROUND 20 X10<sup>-5</sup>S<sup>-1</sup> AND UPPER LEVEL DIVERGENCE IS ABOUT 20 X10<sup>-5</sup>S<sup>-1</sup> AROUND THE SYSTEM CENTER. LOW LEVEL VERTICAL WIND SHEAR (VWS) OF 10-15 KTS IS PREVAILING AROUND THE SYSTEM CENTRE AND ALONG THE FORECAST TRACK OVER ENTIRE GULF OF OMAN. INCREASING SHEAR TENDENCY PREVAILS OVER THE GULF OF OMAN AND OVER THE OMAN COAST.

AS PER SATELLITE WATER VAPOUR IMAGERIES, THE SYSTEM CONTINUES TO REMAIN UNDER FAVOURABLE ENVIRONMENT OF WARM MOIST AIR OVER THE GULF REGION. HOWEVER, SINCE THE LAND INTERACTION HAS COMMENCED, THE SYSTEM IS SHOWING A WEAKENING TREND. THE SYSTEM WILL BE STEERED WEST-SOUTHWESTWARDS GRADUALLY UNDER THE INFLUENCE OF EAST-NORTHEASTERLY WINDS IN THE PERIPHERY OF AN ANTICYCLONE OVER PERSIAN GULF.

**HENCE IT IS CONCLUDED THAT, THE SEVERE CYCLONIC STORM "SHAHEEN" WOULD GRADUALLY WEAKEN, MOVE WEST-SOUTHWESTWARDS AND CROSS NORTH OMAN COAST AROUND LONG. 57°E (ABOUT 130 KM WEST-NORTHWEST OF MUSCAT), BETWEEN 1800 & 2100 UTC OF 3<sup>RD</sup> OCTOBER AS A SEVERE CYCLONIC STORM WITH MAXIMUM SUSTAINED WIND SPEED OF 50 KNOTS GUSTING TO 60 KNOTS.**

(RK JENAMANI)  
SCIENTIST-F, RSMC, NEW DELHI



## OBSERVED AND FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION OF SEVERE CYCLONIC STORM "SHAHEEN" OVER GULF OF OMAN AND NEIGHBOURHOOD BASED ON 1200 UTC OF 3<sup>RD</sup> OCTOBER, 2021



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
- AREA OF MAXIMUM SUSTAINED WIND SPEED:
- 28-33 KT (52-61 KMPH)
- 34-49 KT (62-91 KMPH)
- 50-63 KT (92-117 KMPH)
- ≥ 64 KT (≥118 KMPH)

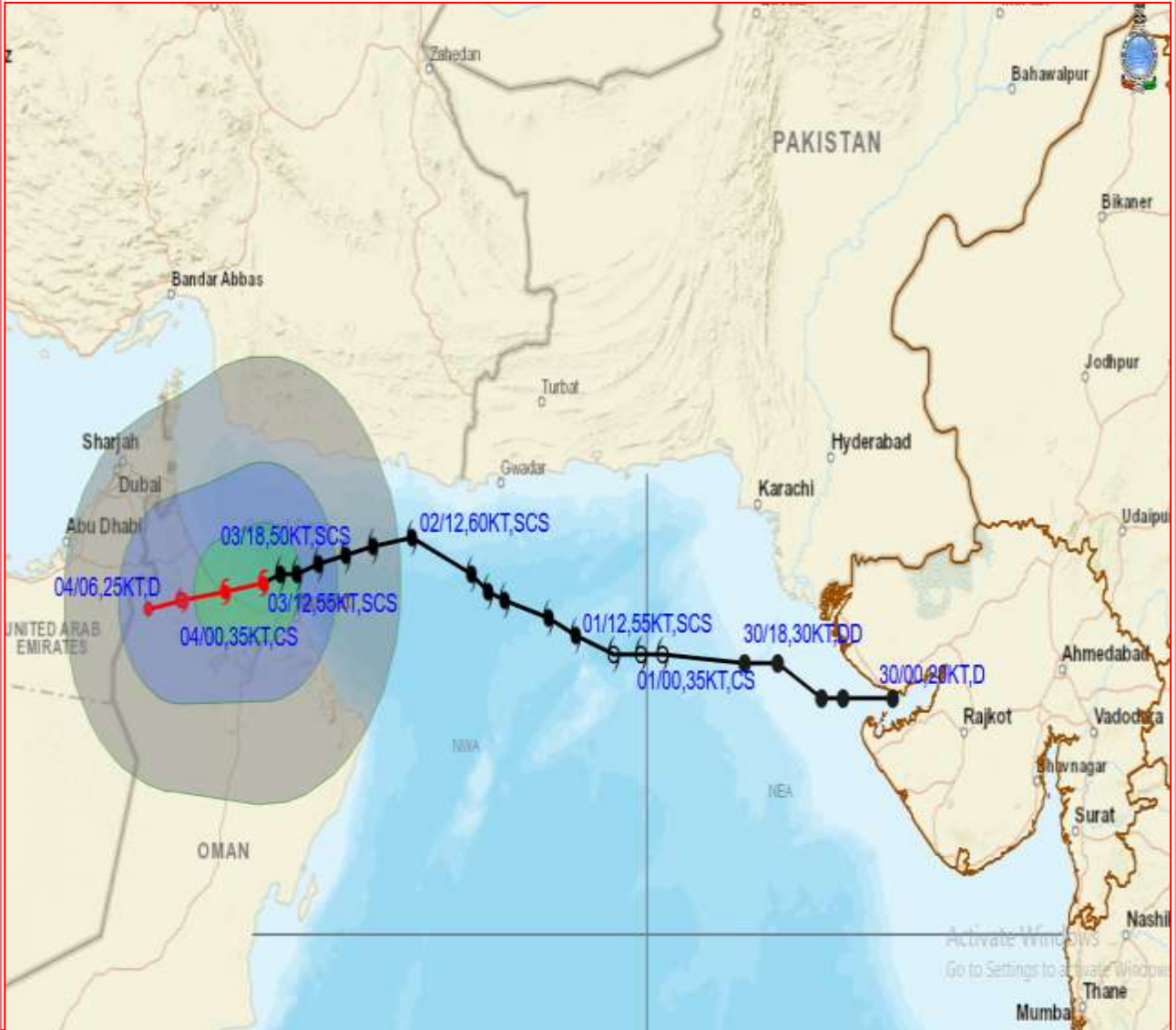
### IMPACT OVER THE SEA

MSW (knot/kmph)	Impact	Action
28-33 (52-61)	Very rough seas	Total suspension of fishing operations
34-49 (62-91)	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

PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION):NIL: 0%, LOW: 1-25%, FAIR: 26-50%, MODERATE: 51-75% AND HIGH: 76-100%  
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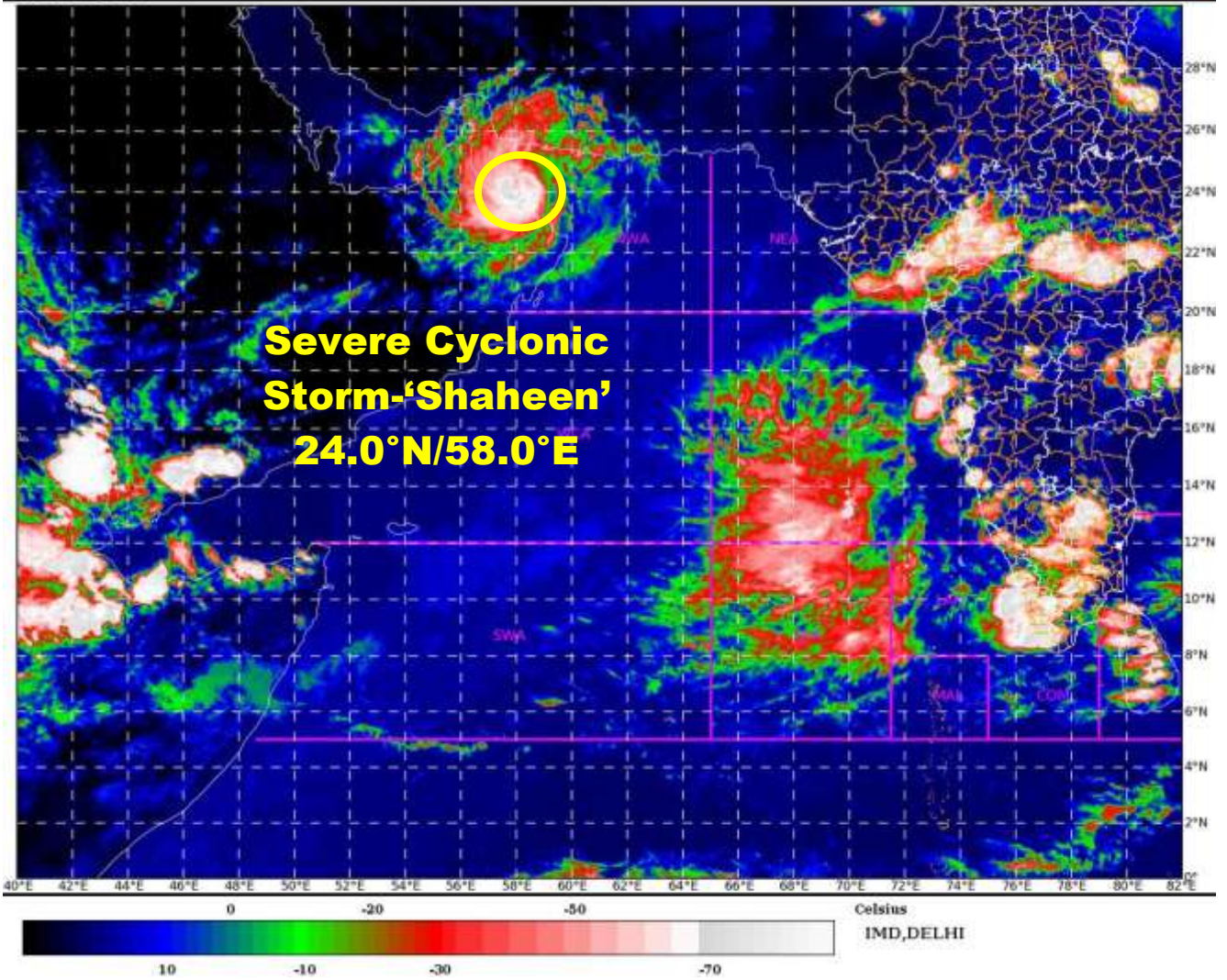
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SAT : INSAT-3D IMG  
IMG\_TIR1\_TEMP 10.8 um  
ARABIAN SEA

03-10-2021/(1200 to 1226) GMT  
03-10-2021/(1730 to 1756) IST



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