



**REGIONAL SPECIALISED METEOROLOGICAL CENTRE-TROPICAL CYCLONES, NEW DELHI TROPICAL  
CYCLONE ADVISORY BULLETIN NO. 9**

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

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**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. 09 FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND  
ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 0300 UTC OF 02.10.2021 BASED ON 0000  
UTC OF 02.10.2021.**

**SUB: SEVERE CYCLONIC STORM 'SHAHEEN' OVER NORTHWEST ARABIAN SEA**

**THE SEVERE CYCLONIC STORM 'SHAHEEN' OVER NORTHWEST ARABIAN SEA  
MOVED WEST-NORTHWESTWARDS WITH A SPEED OF ABOUT 15 KMPH, DURING  
PAST 6 HOURS, LAY CENTRED AT 0000 UTC OF 2<sup>ND</sup> OCTOBER, 2021 OVER  
NORTHWEST ARABIAN SEA, NEAR LATITUDE 23.8°N AND LONGITUDE 62.4°E,  
ABOUT 700 KM WEST-NORTHWEST OF DEVBHOOMI DWARKA (42731), 240 KM EAST-  
SOUTHEAST OF CHABAHAH PORT (IRAN) AND 400 KM EAST-NORTHEAST OF  
MUSCAT (OMAN).**

**IT IS VERY LIKELY TO MOVE WEST-NORTHWESTWARDS SKIRTING MAKRAN COAST  
DURING NEXT 24 HOURS. THEREAFTER, IT IS LIKELY TO RE-CURVE WEST-  
SOUTHWESTWARDS, MOVE TOWARDS OMAN COAST ACROSS GULF OF OMAN AND  
WEAKEN GRADUALLY. IT IS LIKELY TO CROSS OMAN COAST BETWEEN LONG.56°E  
& 58°E, AROUND 57°E DURING 2100 UTC OF 3RD OCTOBER – 0000 UTC OF 4TH  
OCTOBER AS A CYCLONIC STORM.**

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

Date/Time(UTC)	Position (Lat. °N/ long. °E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
02.10.21/0000	23.8/62.4	110-120 gusting to 130	Severe Cyclonic Storm
02.10.21/0600	24.1/61.7	110-120 gusting to 130	Severe Cyclonic Storm
02.10.21/1200	24.3/61.0	110-120 gusting to 130	Severe Cyclonic Storm
02.10.21/1800	24.4/60.3	105-115 gusting to 125	Severe Cyclonic Storm
03.10.21/0000	24.4/59.6	100-110 gusting to 120	Severe Cyclonic Storm
03.10.21/1200	24.2/58.3	90-100 gusting to 110	Severe Cyclonic Storm
04.10.21/0000	23.9/57.0	80-90 gusting to 100	Cyclonic Storm
04.10.21/1200	23.5/55.8	30-40 gusting to 50	Depression

AS PER INSAT 3D IMAGERY AT 0000 UTC, MINIMUM CLOUD TOP TEMPERATURE IS -93°C. INTENSITY OF THE SYSTEM IS CATEGORISED AS T 3.5. BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER AREA BETWEEN LATITUDE 21.5N & 25.0N AND LONGITUDE 60.0E & 64.0E.

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 986 HPA.

#### REMARKS:

SEA SURFACE TEMPERATURE (SST) OF ABOUT 28-29°C OVER NORTHEAST AND EASTCENTRAL ARABIAN SEA WITH DECREASING TREND TOWARDS WEST. SIMILARLY, TROPICAL CYCLONE HEAT POTENTIAL (TCHP) IS ABOUT 80-90 KJ/CM<sup>2</sup> OVER NORTHEAST ARABIAN SEA WITH DECREASING TREND TOWARDS THE NORTHWEST ARABIAN SEA. POSITIVE VORTICITY IS ABOUT 250 X10<sup>-6</sup>S<sup>-1</sup> LAY OVER NORTHWEST ARABIAN SEA WITH VERTICAL EXTENSION UPTO 200 HPA. POSITIVE LOWER LEVEL CONVERGENCE ZONE EXTENDS OVER THE ENTIRE NORTHWEST ARABIAN SEA AND IS ABOUT 20 X10<sup>-5</sup>S<sup>-1</sup> TOWARDS SOUTHEAST OF THE SYSTEM CENTRE. POSITIVE UPPER LEVEL DIVERGENCE IS DECREASED AND IS ABOUT 10X10<sup>-5</sup>S<sup>-1</sup> TO THE SOUTH OF THE SYSTEM CENTRE. EQUATORWARD OUTFLOW IS SEEN IN THE UPPER LEVEL. LOW TO MODERATE VERTICAL WIND SHEAR (VWS) ABOUT 10 KTS IS PREVAILING AROUND THE SYSTEM CENTER AND ALONG THE FORECAST TRACK UPTO GULF OF OMAN.

SATELLITE DERIVED TOTAL PRECIPITABLE WATER VAPOUR IMAGERY INDICATES THAT THE SYSTEM IS UNDER FAVOURABLE ENVIRONMENT OF WARM MOIST AIR. ALSO OTHER DYNAMIC & THERMODYNAMIC PARAMETERS INCLUDING WARM SEA, HIGH OCEAN THERMAL ENERGY, MODERATE VERTICAL WIND SHEAR AND EQUATORWARD OUTFLOW ARE FAVOURABLE FOR THE SYSTEM TO MAINTAIN ITS INTENSITY DURING NEXT 12 HOURS. THE EAST-SOUTHEASTERLY WINDS IN THE MIDDLE & UPPER TROPOSPHERIC LEVELS WILL STEER THE SYSTEM WEST-NORTHWESTWARDS DURING NEXT 24 HOURS. THEREAFTER, THE SYSTEM WILL BE STEERED WEST-SOUTHWESTWARDS UNDER THE INFLUENCE OF EAST-NORTHEASTERLY WINDS IN THE PERIPHERY OF ANTICYCLONE OVER IRAN.

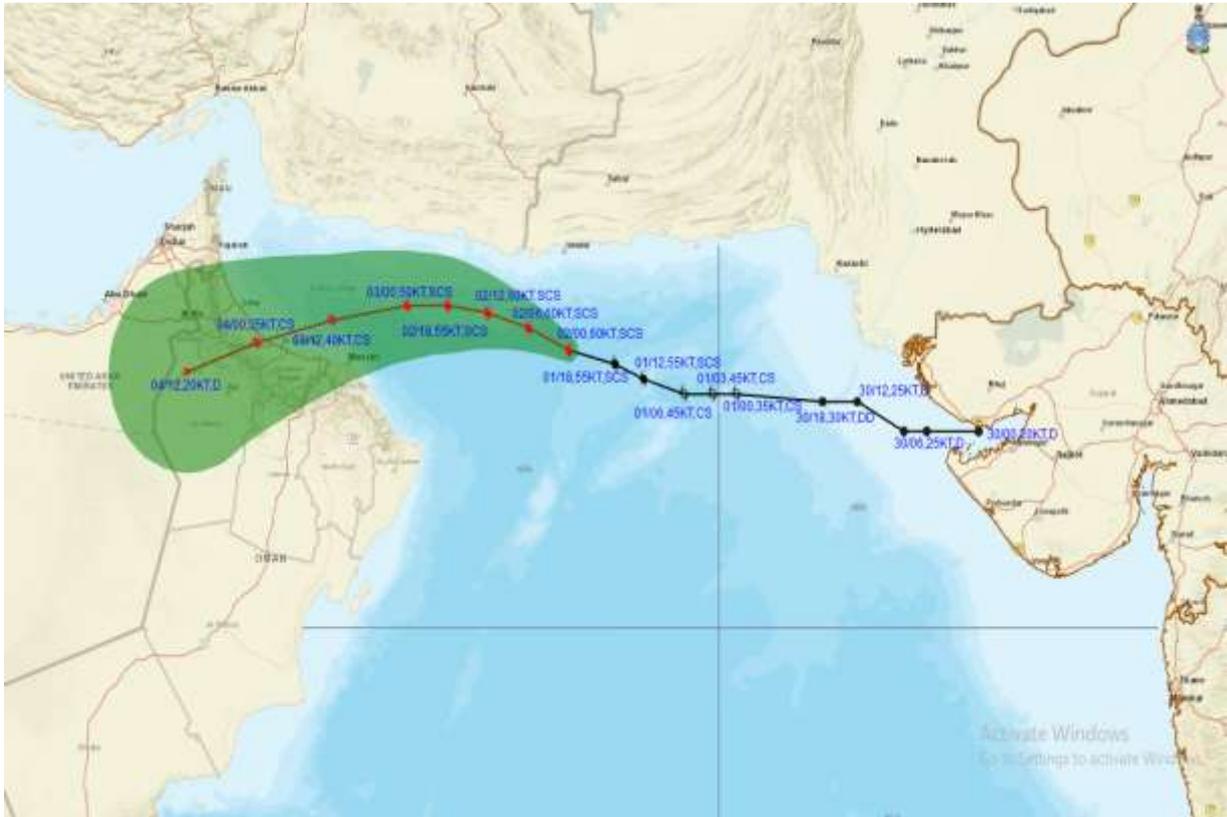
MOST OF THE MODELS ARE INDICATING THAT THE SYSTEM WOULD MARGINALLY INTENSIFY FURTHER DURING NEXT 12 HOURS WHILE MOVING WEST-NORTHWESTWARDS. MODELS ARE ALSO INDICATING THAT THE SYSTEM WOULD RECURVE WEST-SOUTHWESTWARDS AND CROSS NORTH OMAN COAST AROUND 4<sup>TH</sup> EARLY MORNING (0000 UTC).

HENCE IT IS CONCLUDED THAT, SEVERE CYCLONIC STORM "SHAHEEN" WOULD MAINTAIN ITS INTENSITY DURING NEXT 12 HOURS AND MOVE WEST-NORTHWESTWARDS SKIRTING MAKRAN COAST DURING NEXT 24 HOURS. THEREAFTER, IT IS LIKELY TO RE-CURVE WEST-SOUTHWESTWARDS, WEAKEN GRADUALLY AND MOVE ACROSS GULF OF OMAN AND CROSS NORTH OMAN COAST AROUND LONG. 57 DEG. E DURING 2100 UTC OF 3<sup>RD</sup> OCTOBER - 0000 UTC OF 4<sup>TH</sup> OCTOBER AS A CYCLONIC STORM.

(D R PATTANAİK )  
SCIENTIST-F, RSMC, NEW DELHI



**OBSERVED AND FORECAST TRACK ALONGWITH CONE OF UNCERTAINTY OF SEVERE CYCLONIC STORM “SHAHEEN” OVER NORTHWEST ARABIAN SEA BASED ON 0000 UTC OF 2<sup>ND</sup> OCTOBER, 2021**

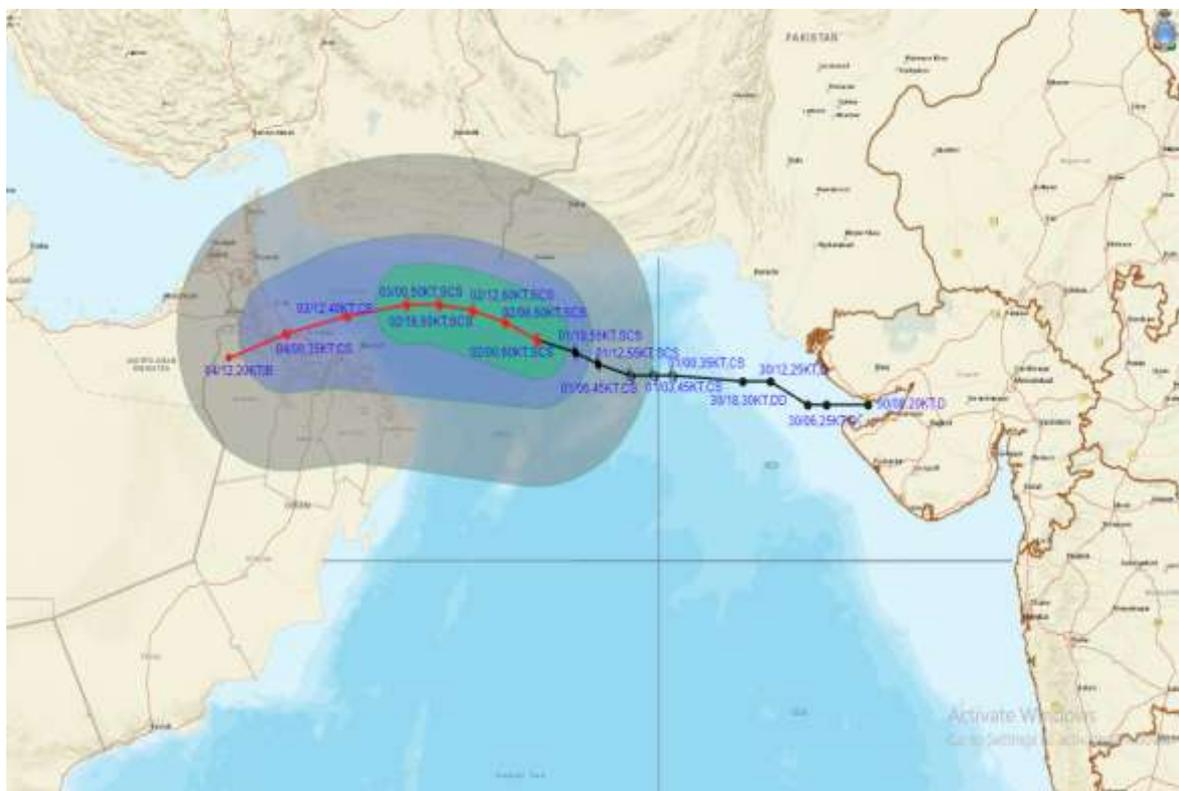


DATE/TIME IN UTC  
 IST=UTC + 0530  
 L: LOW PRESSURE AREA  
 WML: WELL MARKED LOW PRESSURE AREA  
 D: DEPRESSION (17-27 KT)  
 DD: DEEP DEPRESSION (28-33 KT)  
 CS: CYCLONIC STORM (34-47 KT)  
 SCS: SEVERE CYCLONIC STORM (48-63KT)  
 VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)  
 ESCS: EXTREMELY SEVERE 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



## OBSERVED AND FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION OF SEVERE CYCLONIC STORM "SHAHEEN" OVER NORTHWEST ARABIAN SEA BASED ON 0000 UTC OF 2<sup>ND</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

