



**REGIONAL SPECIALISED METEOROLOGICAL CENTRE-TROPICAL CYCLONES, NEW DELHI TROPICAL
TROPICAL CYCLONE ADVISORY BULLETIN NO. 18**

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. 18 FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 0600 UTC OF 03.10.2021 BASED ON 0300 UTC OF 03.10.2021.

SUB: SEVERE CYCLONIC STORM ‘SHAHEEN’ OVER GULF OF OMAN AND ADJOINING NORTHWEST ARABIAN SEA

THE **SEVERE CYCLONIC STORM ‘SHAHEEN’** OVER NORTHWEST ARABIAN SEA AND ADJOINING GULF OF OMAN MOVED WEST-SOUTHWESTWARDS WITH A SPEED OF ABOUT 12 KMPH, DURING PAST 6 HOURS, LAY CENTRED AT 0300 UTC OF THE 3RD OCTOBER, 2021 OVER GULF OF OMAN AND ADJOINING NORTHWEST ARABIAN SEA NEAR LATITUDE 24.2°N AND LONGITUDE 59.0°E, ABOUT 1050 KM WEST-NORTHWEST OF DEVBHOOMI DWARKA (42731), 200 KM SOUTHWEST OF CHABAHAH PORT (40898) AND 90 KM NORTHEAST OF MUSCAT (41278).

THE SYSTEM IS VERY LIKELY TO CONTINUE TO MOVE WEST-SOUTHWESTWARDS TOWARDS OMAN COAST AND WEAKEN GRADUALLY. IT IS VERY LIKELY TO CROSS OMAN COAST BETWEEN LONG.56°E & 58°E, AROUND 57°E, BETWEEN 1800 AND 2100 UTC OF 3RD 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:

DATE/TIME (UTC)	POSITION (LAT. °N/ LONG. °E)	MAXIMUM SUSTAINED SURFACE WIND SPEED (KMPH)	CATEGORY OF CYCLONIC DISTURBANCE
03.10.21/0300	24.2/59.0	110-120 GUSTING TO 130	SEVERE CYCLONIC STORM
03.10.21/0600	24.1/58.7	110-120 GUSTING TO 130	SEVERE CYCLONIC STORM
03.10.21/1200	24.0/58.0	100-110 GUSTING TO 120	SEVERE CYCLONIC STORM
03.10.21/1800	23.9/57.4	90-100 GUSTING TO 110	SEVERE CYCLONIC STORM
04.10.21/0000	23.8/56.6	60-70 GUSTING TO 80	CYCLONIC STORM
04.10.21/1200	23.5/55.2	25-35 GUSTING TO 45	WELL MARKED LOW

AS PER INSAT-3D IMAGERY AT 0300 UTC, MINIMUM CLOUD TOP TEMPERATURE IS -82°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 ARABIAN SEA AREA BETWEEN LATITUDE 23N & 26N AND LONGITUDE 57.0E & 61.0E AND MAKRAN COAST.

AS PER SURFACE OBSERVATIONS AT 0300 UTC, SUR(AWS-41268) OF COASTAL OMAN REPORTED MSLP OF 1004.3 HPA & WIND $200^{\circ}/23\text{KTS}$ AND RAS AL HADD(AWS-41270) OF COASTAL OMAN REPORTED MSLP OF 1006.6 HPA & WIND $210^{\circ}/13\text{KTS}$.

THE ESTIMATED MAXIMUM SUSTAINED WIND SPEED IS 60 KNOTS GUSTING TO 70 KNOTS. THE SEA CONDITION IS HIGH TO VERY HIGH OVER THE SYSTEM AREA. THE ESTIMATED CENTRAL PRESSURE IS 986 HPA.

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

REMARKS:

SEA SURFACE TEMPERATURE (SST) IS ABOUT $28-29^{\circ}\text{C}$ OVER NORTHWEST ARABIAN SEA. HOWEVER, A WARM TONGUE OF SST ($29-30^{\circ}\text{C}$) PREVAILS OVER GULF OF OMAN. TROPICAL CYCLONE HEAT POTENTIAL (TCHP) IS ABOUT $60-70\text{ KJ}/\text{CM}^2$ OVER NORTHWEST ARABIAN SEA AND ADJOINING GULF OF OMAN. POSITIVE VORTICITY IS ABOUT $80-100 \times 10^{-6}\text{S}^{-1}$ TO THE SOUTH OF THE SYSTEM CENTER. POSITIVE LOWER LEVEL CONVERGENCE IS AROUND $20 \times 10^{-5}\text{S}^{-1}$ AND UPPER LEVEL DIVERGENCE IS ABOUT $20 \times 10^{-5}\text{S}^{-1}$ SOUTH OF THE SYSTEM CENTER. STRONG EQUATORWARD OUTFLOW IS ALSO SEEN IN THE UPPER LEVEL. 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. DECREASING SHEAR TENDENCY PREVAILS OVER THE GULF OF OMAN AND OVER THE OMAN COAST.

AS PER SATELLITE WATER VAPOUR IMAGERIES, THE SYSTEM IS UNDER FAVOURABLE ENVIRONMENT OF WARM MOIST AIR OVER SEA REGION. HOWEVER, DRY AIR PREVAILS TO THE SOUTHERN SECTOR WHICH IS NOT YET ENTERING INTO THE CORE OF THE SYSTEM. OTHER DYNAMIC & THERMODYNAMIC PARAMETERS INCLUDING WARM SEA, LOW VERTICAL WIND SHEAR, STRONG EQUATORWARD OUTFLOW ARE FAVOURABLE FOR THE SYSTEM TO MAINTAIN ITS INTENSITY DURING NEXT 06 HOURS. THE SYSTEM WILL BE STEERED WEST-SOUTHWESTWARDS GRADUALLY UNDER THE INFLUENCE OF EAST-NORTHEASTERLY WINDS IN THE PERIPHERY OF ANOTHER ANTICYCLONE OVER PERSIAN GULF. AS THE SYSTEM WILL MOVE WEST-SOUTHWESTWARDS, THE SYSTEM WILL BEGIN TO WEAKEN GRADUALLY DUE TO LAND INTERACTION.

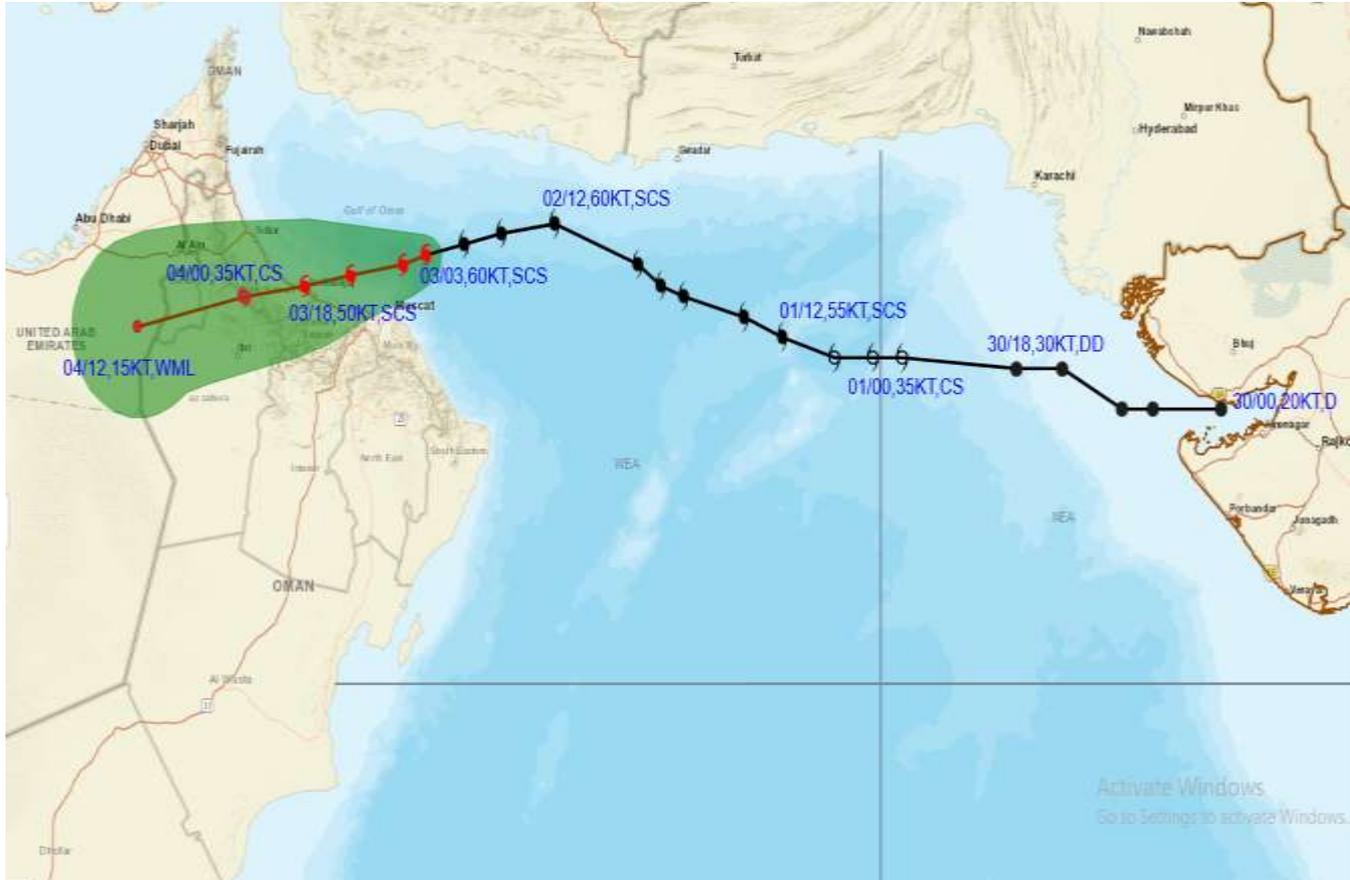
MOST OF THE MODELS ARE INDICATING THAT THE SYSTEM WOULD MOVE WEST-SOUTHWESTWARDS, WEAKEN GRADUALLY AND CROSS NORTH OMAN COAST AROUND 2100 UTC OF 3RD OCTOBER.

HENCE IT IS CONCLUDED THAT, SEVERE CYCLONIC STORM "SHAHEEN" WOULD MAINTAIN ITS INTENSITY AND MOVE WEST-SOUTHWESTWARDS DURING NEXT 06 HOURS. THEREAFTER, IT IS LIKELY TO WEAKEN GRADUALLY AND CROSS NORTH OMAN COAST AROUND LONG. 57°E BETWEEN 1800 & 2100 UTC OF 3RD OCTOBER AS A SEVERE CYCLONIC STORM WITH MAXIMUM SUSTAINED WIND SPEED OF 50 KNOTS GUSTING TO 60 KNOTS.

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



OBSERVED AND FORECAST TRACK ALONGWITH CONE OF UNCERTAINTY OF SEVERE CYCLONIC STORM "SHAHEEN" OVER GULF OF OMAN AND ADJOINING NORTHWEST ARABIAN SEA BASED ON 0300 UTC OF 3RD OCTOBER, 2021

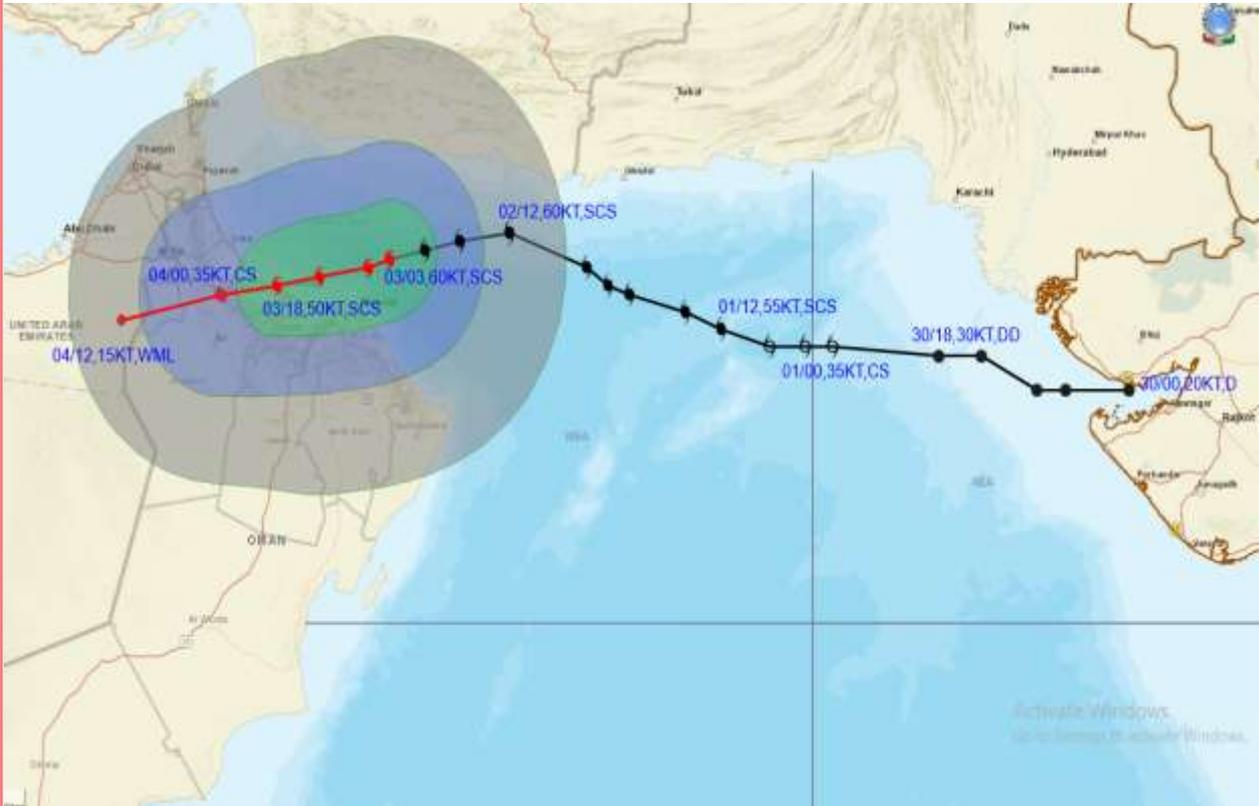


DATE/TIME IN UTC
IST=UTC + 0530
L: LOW PRESSURE AREA
WML: WELL MARKED LOW PRESSURE AREA
D: DEPRESSION (17-27 KT)
DD: DEEP DEPRESSION (28-33 KT)
CS: CYCLONIC STORM (34-47 KT)
SCS: SEVERE CYCLONIC STORM (48-63KT)
VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)
ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)
SuCS: SUPER CYCLONIC STORM (\geq 120 KT)

- LESS THAN 34 KT
- 34-47 KT
- \geq 48 KT
- OBSERVED TRACK
- FORECAST TRACK
- CONE OF UNCERTAINTY



OBSERVED AND FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION OF SEVERE CYCLONIC STORM "SHAHEEN" OVER GULF OF OMAN AND ADJOINING NORTHWEST ARABIAN SEA BASED ON 0300 UTC OF 3RD 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)

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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

