



REGIONAL SPECIALISED METEOROLOGICAL CENTRE-TROPICAL CYCLONES, NEW DELHI  
SPECIAL TROPICAL WEATHER OUTLOOK

DEMS-RSMC TROPICAL CYCLONES NEW DELHI DATED 01.10.2021

SPECIAL TROPICAL WEATHER OUTLOOK FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 0900 UTC OF 01.10.2021 BASED ON 0600 UTC OF 01.10.2021.

SUB: CYCLONIC STORM 'SHAHEEN' OVER CENTRAL PARTS OF NORTH ARABIAN SEA

THE CYCLONIC STORM 'SHAHEEN' OVER CENTRAL PARTS OF NORTH ARABIAN SEA MOVED NEARLY WESTWARDS WITH A SPEED OF ABOUT 15 KMPH, DURING PAST 6 HOURS AND LAY CENTRED AT 0600 UTC OF TODAY, THE 01<sup>ST</sup> OCTOBER, 2021 OVER CENTRAL PARTS OF NORTH ARABIAN SEA, NEAR LATITUDE 23.2°N AND LONGITUDE 64.4°E, ABOUT 490 KM WEST-NORTHWEST OF DEVBHOOMI DWARKA (42731), 450 KM EAST-SOUTHEAST OF CHABAHAR PORT (IRAN) AND 610 KM EAST-SOUTHEAST OF MUSCAT (OMAN).

IT IS VERY LIKELY TO FURTHER INTENSIFY INTO A SEVERE CYCLONIC STORM DURING THE NEXT 06 HOURS AND MOVE WEST-NORTHWESTWARDS SKIRTING MAKRAN COAST DURING NEXT 36 HOURS. THEREAFTER IT IS LIKELY TO RE-CURVE WEST-SOUTHWESTWARDS, MOVE TOWARDS OMAN COAST ACROSS GULF OF OMAN AND WEAKEN GRADUALLY.

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
01.10.21/0600	23.2/64.4	80-90 gusting to 100	Cyclonic Storm
01.10.21/1200	23.4/63.7	90-100 gusting to 110	Severe Cyclonic Storm
01.10.21/1800	23.6/63.1	100-110 gusting to 120	Severe Cyclonic Storm
02.10.21/0000	23.9/62.4	110-120 gusting to 130	Severe Cyclonic Storm
02.10.21/0600	24.1/61.7	110-120 gusting to 130	Severe Cyclonic Storm
02.10.21/1800	24.4/60.3	100-110 gusting to 120	Severe Cyclonic Storm
03.10.21/0600	24.4/58.9	90-100 gusting to 110	Cyclonic Storm
03.10.21/1800	24.0/57.5	80-90 gusting to 100	Cyclonic Storm
04.10.21/0600	23.6/56.6	50-60 gusting to 70	Deep Depression

AS PER INSAT 3D IMAGERY AT 0600 UTC, CLOUD MASS HAS FURTHER ORGANISED AND CURVED BAND PATTERN IS SEEN. MINIMUM CLOUD TOP TEMPERATURE IS -93°C. INTENSITY OF THE SYSTEM IS CATEGORISED AS T 3.0. BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY AREA BETWEEN LATITUDE 20.0N & 24.5N AND LONGITUDE 62.0E & 66.5E.

THE ESTIMATED MAXIMUM SUSTAINED WIND SPEED IS 45 KNOTS GUSTING TO 55 KNOTS. THE SEA CONDITION IS HIGH AROUND THE SYSTEM AREA. THE ESTIMATED CENTRAL PRESSURE IS 994 HPA.

**REMARKS:**

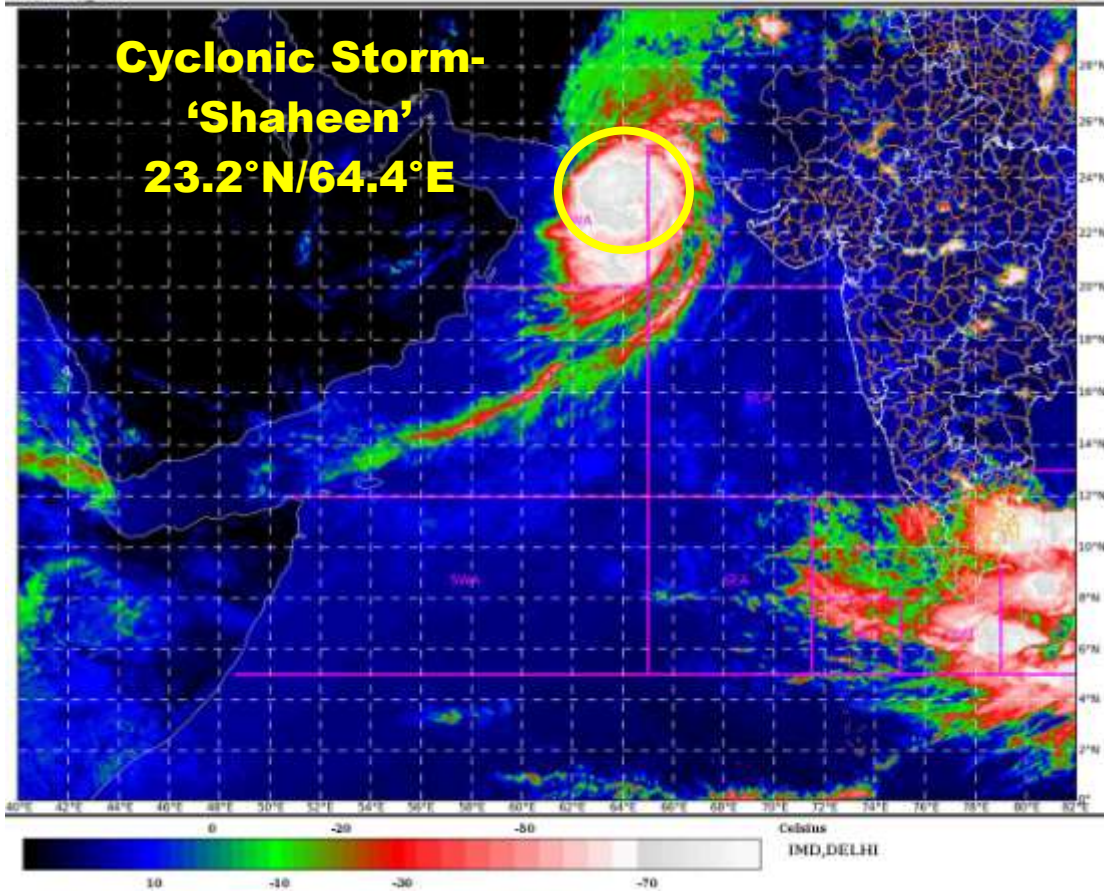
SEA SURFACE TEMPERATURE (SST) OF ABOUT 28-29°C OVER NORTHEAST AND EASTCENTRAL ARABIAN SEA WITH DECREASING TREND TOWARDS WEST. SIMILARLY, TROPICAL CYCLONE HEAT POTENTIAL (TCHP) IS ABOUT 80-90 KJ/CM<sup>2</sup> OVER NORTHEAST ARABIAN SEA WITH DECREASING TREND TOWARDS THE NORTHWEST ARABIAN SEA. POSITIVE VORTICITY HAS INCREASED AND IS ABOUT 250 X10<sup>-6</sup>S<sup>-1</sup> LAY OVER NORTHEAST ARABIAN SEA WITH VERTICAL EXTENSION UPTO 200 HPA. POSITIVE LOWER LEVEL CONVERGENCE ZONE HAS FURTHER ORGANISED AND IS ABOUT 20 X10<sup>-5</sup>S<sup>-1</sup> OVER NORTHEAST ARABIAN SEA AROUND THE SYSTEM CENTRE. POSITIVE UPPER LEVEL DIVERGENCE IS ABOUT 20 X10<sup>-5</sup>S<sup>-1</sup> OVER SYSTEM CENTRE. EQUATORWARD OUTFLOW IS SEEN IN THE UPPER LEVEL. LOW VERTICAL WIND SHEAR (VWS) ABOUT (5-10 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, LOW VERTICAL WIND SHEAR AND EQUATORWARD OUTFLOW ARE FAVOURABLE FOR FURTHER INTENSIFICATION OF THE SYSTEM INTO A SEVERE CYCLONIC STORM DURING NEXT 06 HOURS. THE EAST-SOUTHEASTERLY WINDS IN THE MIDDLE & UPPER TROPOSPHERIC LEVELS WILL STEER THE SYSTEM WEST-NORTHWESTWARDS DURING NEXT 36 HOURS. THEREAFTER, THE SYSTEM WILL BE STEERED WEST-SOUTHWESTWARDS UNDER THE INFLUENCE OF EAST-NORTHEASTERLY WINDS IN THE PERIPHERY OF ANTICYCLONE OVER IRAN.

MOST THE MODELS ARE INDICATING THAT THE SYSTEM WOULD INTENSIFY FURTHER WHILE MOVING WEST-NORTHWESTWARDS ACROSS NORTH ARABIAN SEA. THEREAFTER, IT WOULD RECURVE WEST-SOUTHWESTWARDS TOWARDS OMAN COAST. MODELS ARE ALSO INDICATING THE SYSTEM TO CROSS NORTH OMAN COAST AROUND 4<sup>TH</sup> EARLY MORNING (0000 UTC).

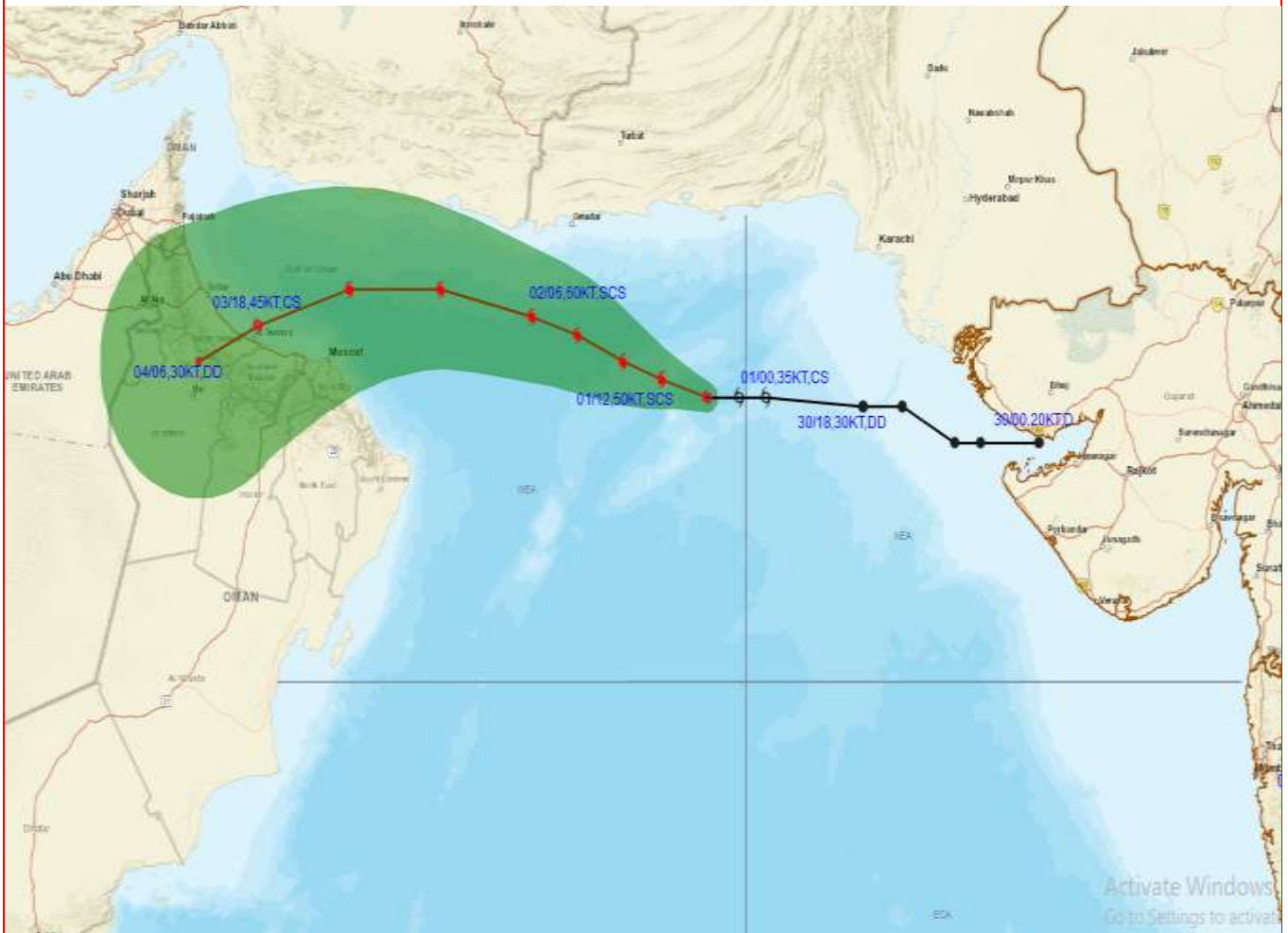
**HENCE IT IS CONCLUDED THAT, CYCLONIC STORM "SHAHEEN" WOULD FURTHER INTENSIFY INTO A SEVERE CYCLONIC STORM DURING THE NEXT 06 HOURS AND MOVE WEST-NORTHWESTWARDS SKIRTING MAKRAN COAST DURING NEXT 36 HOURS. THEREAFTER, IT IS LIKELY TO RE-CURVE WEST-SOUTHWESTWARDS, MOVE TOWARDS OMAN COAST ACROSS GULF OF OMAN AND WEAKEN GRADUALLY.**

(SUNITHA DEVI.S )  
SCIENTIST-F, RSMC, NEW DELHI





# OBSERVED AND FORECAST TRACK ALONGWITH CONE OF UNCERTAINTY OF CYCLONIC STORM "SHAHEEN" OVER NORTHEAST ARABIAN SEA BASED ON 0600 UTC OF 1ST OCTOBER, 2021



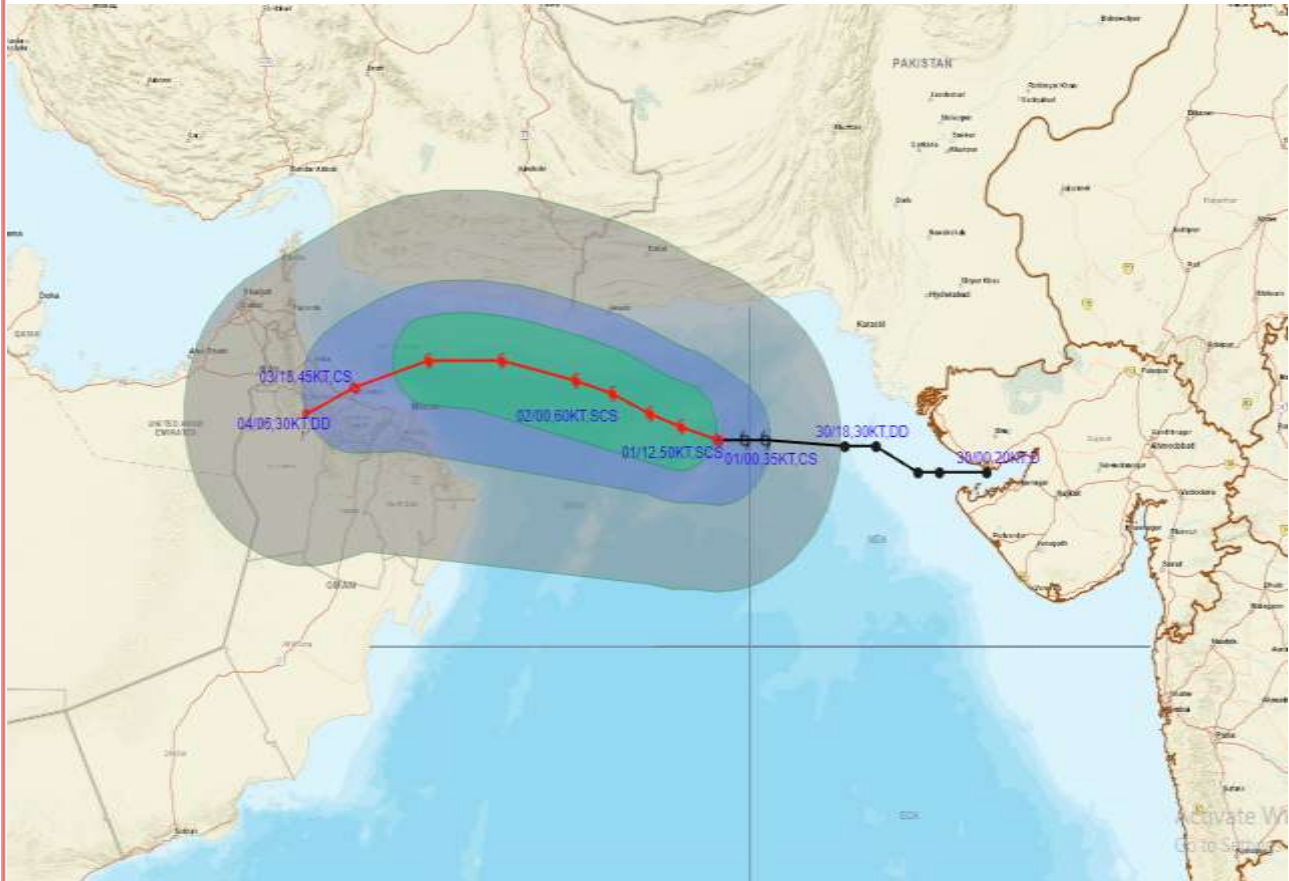
**DATE/TIME IN UTC**  
**IST=UTC + 0530**  
**L: LOW PRESSURE AREA**  
**WML: WELL MARKED LOW PRESSURE AREA**  
**D: DEPRESSION (17-27 KT)**  
**DD: DEEP DEPRESSION (28-33 KT)**  
**CS: CYCLONIC STORM (34-47 KT)**  
**SCS: SEVERE CYCLONIC STORM (48-63KT)**  
**VSCS: VERY SEVERE CYCLONIC STORM (64-89 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 CYCLONIC STORM "SHAHEEN" OVER NORTHEAST ARABIAN SEA BASED ON 0600 UTC OF 1ST 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