**REGIONAL SPECIALISED METEOROLOGICAL CENTRE-TROPICAL CYCLONES, NEW DELHI**

**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. 20 FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 1200 UTC OF 10.05.2022 BASED ON 0900 UTC OF 10.05.2022**

## SUB: SEVERE CYCLONIC STORM 'ASANI' OVER WESTCENTRAL BAY OF BENGAL

THE **SEVERE CYCLONIC STORM 'ASANI' (PRONOUNCED AS ASANI)** OVER WESTCENTRAL AND ADJOINING SOUTHWEST BAY OF BENGAL MOVED NORTHWESTWARDS WITH A SPEED OF 23 KMPH DURING PAST 06 HOURS AND LAY CENTERED AT 0900 UTC OF TODAY, THE 10$^{TH}$ MAY, OVER WESTCENTRAL BAY OF BENGAL NEAR LATITUDE 15.0°N AND LONGITUDE 82.4°E, 210 KM SOUTHWEST OF KAKINADA (43189), 310 KM SOUTH-SOUTHWEST OF VISAKHAPATNAM (43149), 590 KM SOUTHWEST OF GOPALPUR (43049) AND 640 KM SOUTHWEST OF PURI (43053).

IT IS VERY LIKELY TO MOVE NEARLY NORTHWESTWARDS AND REACH WESTCENTRAL BAY OF BENGAL CLOSE TO KAKINADA-VISHAKHAPATNAM COASTS BY 11$^{TH}$ MAY MORNING. THEREAFTER, IT IS VERY LIKELY TO RECURVE SLOWLY NORTH-NORTHEASTWARDS AND MOVE ALONG ANDHRA PRADESH COAST BETWEEN KAKINADA AND VISAKHAPATNAM AND THEN EMERGE INTO NORTHWEST BAY OF BENGAL OFF NORTH ANDHRA PRADESH AND ODISHA COASTS. IT IS LIKELY TO WEAKEN GRADUALLY INTO A CYCLONIC STORM BY 11$^{TH}$ MAY MORNING AND INTO A DEPRESSION BY 12$^{TH}$ MAY MORNING.

THE CYCLONIC STORM IS UNDER THE CONTINUOUS SURVEILLANCE OF DOPPLER WEATHER RADAR (DWR) AT MACHILIPATNAM (ANDHRA PRADESH).

FORECAST TRACK AND INTENSITY ARE GIVEN IN THE FOLLOWING TABLE:

| DATE/TIME (UTC) | POSITION (LAT. $^0$N/ LONG. $^0$E) | MAXIMUM SUSTAINED SURFACE WIND SPEED (KMPH) | CATEGORY OF CYCLONIC DISTURBANCE |
|---|---|---|---|
| 10.05.22/0900 | 15.0/82.4 | 95-105 gusting to 115 | SEVERE CYCLONIC STORM |
| 10.05.22/1200 | 15.3/82.1 | 90-100 gusting to 110 | SEVERE CYCLONIC STORM |
| 10.05.22/1800 | 15.8/81.9 | 85-95 GUSTING TO 105 | CYCLONIC STORM |
| 11.05.22/0000 | 16.2/81.9 | 80-90 GUSTING TO 100 | CYCLONIC STORM |
| 11.05.22/0600 | 16.7/82.3 | 75-85 GUSTING TO 95 | CYCLONIC STORM |
| 11.05.22/1800 | 17.3/82.9 | 65-75 GUSTING TO 85 | CYCLONIC STORM |
| 12.05.22/0600 | 17.6/83.6 | 55-65 GUSTING TO 75 | DEEP DEPRESSION |
| 12.05.22/1800 | 17.9/84.5 | 45-55 GUSTING TO 65 | DEPRESSION |

THE INTENSITY OF THE SYSTEM IS T3.5. INSAT-3D IMAGERY INDICATES BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION OVER AREA BETWEEN LATITUDE 11.0N & 15.5N AND LONGITUDE 80.0E & 84.5E, SOUTH COASTAL ANDHRA PRADESH & ADJOINING NORTHEAST TAMILNADU. MINIMUM CLOUD TOP TEMPERATURE IS MINUS 93 DEG C.

THE ESTIMATED MAXIMUM SUSTAINED WIND SPEED IS 55 KNOTS GUSTING TO 65 KNOTS. THE SEA CONDITION IS VERY HIGH OVER WESTCENTRAL BAY OF BENGAL. THE ESTIMATED CENTRAL PRESSURE IS 989 HPA.

**STORM SURGE GUIDANCE:** STORM SURGE OF HEIGHT ABOUT 0.5 M ABOVE ASTRONOMICAL TIDE IS LIKELY TO INUNDATE LOW LYING AREAS OF KRISHNA, EAST & WEST GODAVARI AND VISHAKHAPATNAM DISTRICTS OF ANDHRA PRADESH.

**REMARKS**:

THE MADDEN JULIAN OSCILLATION INDEX (MJO) CURRENTLY LIES IN PHASE 5 WITH AMPLITUDE MORE THAN 1. IT WOULD MOVE TO PHASE 6 ON 12$^{TH}$ MAY. HENCE, MJO WILL SUPPORT ENHANCEMENT OF CONVECTIVE ACTIVITY OVER THE BAY OF BENGAL (BOB) DURING NEXT 1-2 DAYS.

SEA SURFACE TEMPERATURE (SST) IS AROUND 30-31$^{0}$C OVER ENTIRE BOB. IT DECREASES GRADUALLY TOWARDS THE ANDHRA PRADESH & ODISHA COASTS BECOMING 28$^{0}$C. THE OCEAN HEAT CONTENT (OHC) IS >100 KJ/CM$^{2}$ OVER WESTCENTRAL & SOUTH BAY OF BENGAL (BOB) BECOMING 50-70 KJ/CM$^{2}$ OVER NORTHWEST BOB & ALONG & OFF ANDHRA PRADESH & ODISHA COASTS AND ADJOINING WESTCENTRAL BOB.

LOW LEVEL VORTICITY HAS DECREASED DURING PAST 6 HOURS AND IS ABOUT 200 X10$^{-6}$ S$^{-1}$ TO THE SOUTH OF SYSTEM CENTRE. VERTICALLY IT IS EXTENDING UPTO 200 HPA LEVEL. VORTICITY FIELD IS ORIENTED EAST-WEST ORIENTED INDICATING GRADUAL WESTWARDS VORTICITY ADVECTION. LOW LEVEL CONVERGENCE HAS DECREASED DURING PAST 6 HOURS AND IS AROUND 10 X10$^{-5}$ S$^{-1}$ TO THE WEST OF SYSTEM CENTRE. UPPER LEVEL DIVERGENCE HAS BECOME NEGATIVE AROUND 05-10 X10$^{-5}$ S$^{-1}$ TO THE NORTHWEST OF THE SYSTEM CENTRE. WIND SHEAR IS LOW (10-15 KNOTS) AROUND THE SYSTEM AREA AND ALSO ALONG THE FORECAST TRACK. AS THE SYSTEM MOVES FURTHER NORTHWARDS, IT WILL ENCOUNTER LOWER SST & OHC AND HENCE WILL SHOW GRADUAL WEAKENING. THERE WILL BE DRY AIR INCURSION REACHING INTO THE CORE AREA FROM INDIAN LANDMASS AS THE SYSTEM MOVES FURTHER NORTHWARDS. IT WILL HELP IN WEAKENING OF THE SYSTEM. IT IS LIKELY TO RECURVE NORTHEASTWARDS FROM 11$^{TH}$ MORNING WHILE MOVING ALONG THE PERIPHERY OF SUB-TROPICAL RIDGE ASSOCIATED WITH ANTICYCLONIC CIRCULATION OVER THE EASTCENTRAL BOB.

MOST OF THE NUMERICAL MODELS ARE IN GOOD AGREEMENT THAT IT IS VERY LIKELY TO RECURVE NORTH-NORTHEASTWARDS, MOVE TOWARDS WESTCENTRAL BAY OF BENGAL OFF NORTH ANDHRA PRADESH AND ODISHA COASTS. IT IS LIKELY TO WEAKEN GRADUALLY INTO A CYCLONIC STORM ON 11$^{TH}$ MAY AND INTO A DEPRESSION ON 12$^{TH}$ MAY.

HENCE, IT IS VERY LIKELY TO MOVE NEARLY NORTHWESTWARDS AND REACH WESTCENTRAL BAY OF BENGAL CLOSE TO KAKINADA-VISHAKHAPATNAM COASTS BY 11$^{TH}$ MAY MORNING. THEREAFTER, IT IS VERY LIKELY TO RECURVE SLOWLY NORTH-NORTHEASTWARDS AND MOVE ALONG ANDHRA PRADESH COAST BETWEEN KAKINADA AND VISAKHAPATNAM AND THEN EMERGE INTO NORTHWEST BAY OF BENGAL OFF NORTH ANDHRA PRADESH AND ODISHA COASTS. IT IS LIKELY TO WEAKEN GRADUALLY INTO A CYCLONIC STORM BY 11$^{TH}$ MAY MORNING AND INTO A DEPRESSION BY 12$^{TH}$ MAY MORNING.

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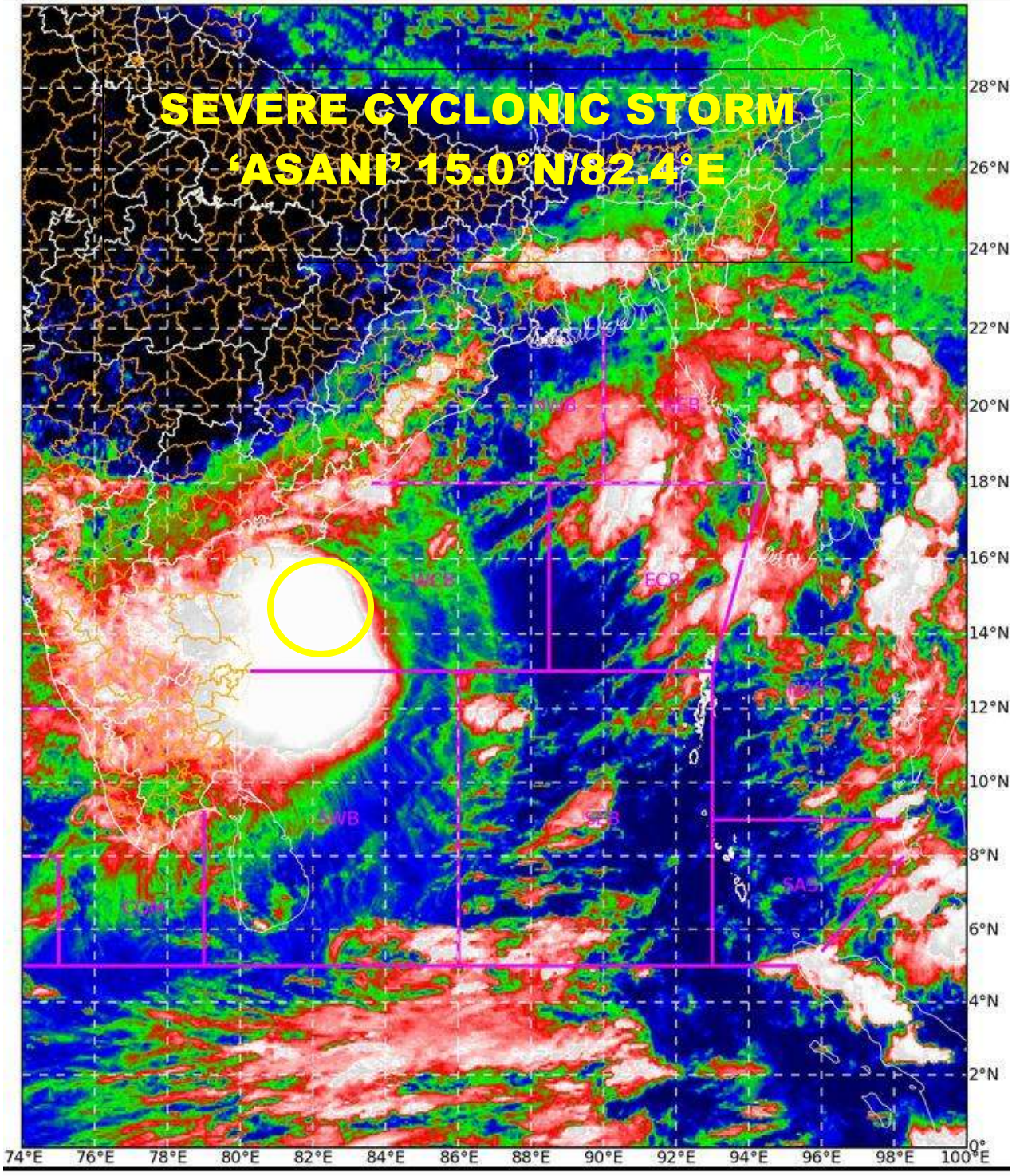
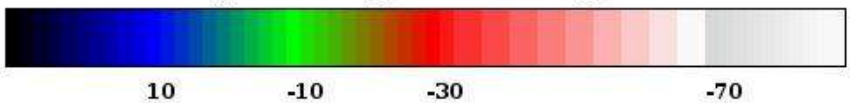
**(MONICA SHARMA)**
**SCIENTIST-D, RSMC, NEW DELHI**

SAT : INSAT-3D IMG 10-05-2022/(1030 to 1056) GMT

IMG_TIR1_TEMP 10.8 um 10-05-2022/(1600 to 1626) IST

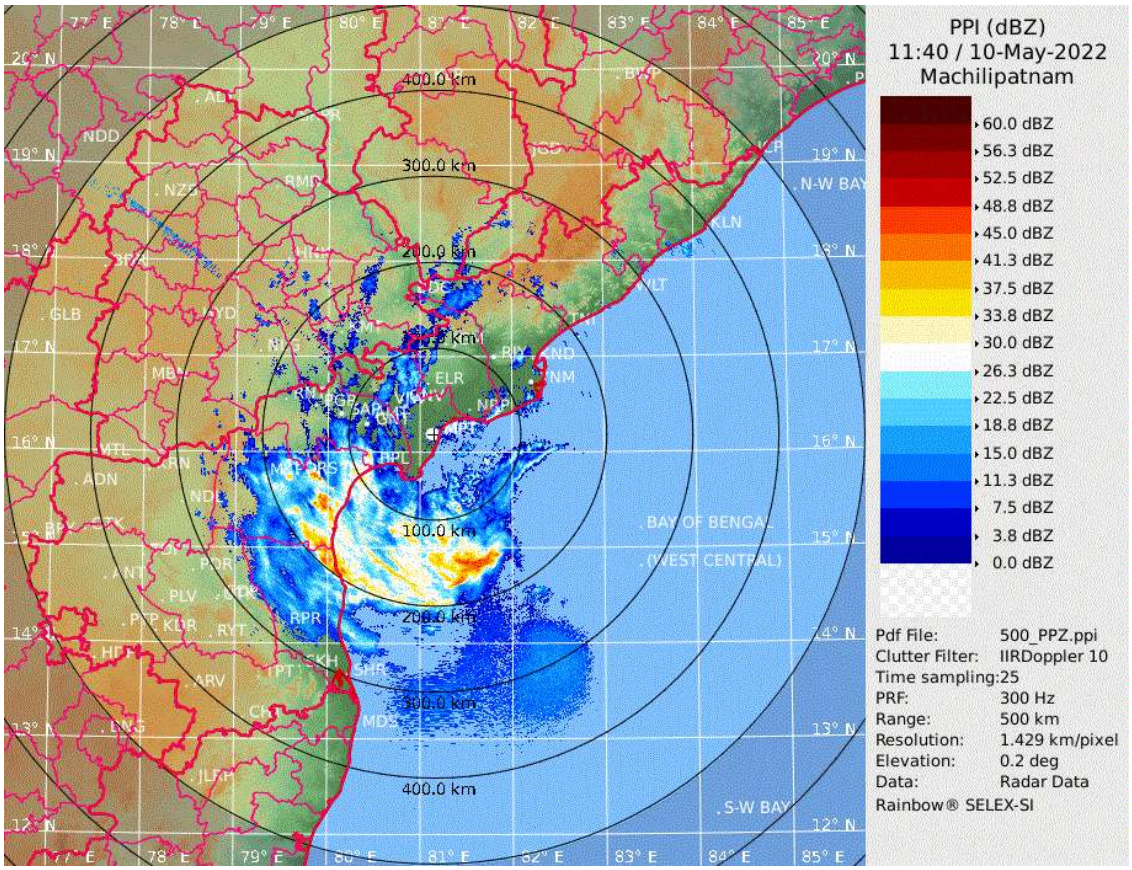
L1C Mercator




Celsius

IMD,DELHI




# DOPPLER WEATHER RADAR IMAGERY FROM MACHILIPATNAM AT 1140 UTC OF 10$^{TH}$ MAY

# FORECAST TRACK AND INTENSITY OF SEVERE CYCLONIC STORM 'ASANI' ALONGWITH CONE OF UNCERTAINTY OVER WESTCENTRAL BAY OF BENGAL BASED ON 0600 UTC OF 10TH MAY 2022


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

| STATIONS | DISTANCE(KM) AND DIRECTION FROM STATIONS | |
|---|---|---|
| | 11.05.22/0600 | 12.05.22/0600 |
| KAKINADA | 30,SSE | 160,ENE |
| GOPALPUR | 390,SW | 230,SW |
| VISHAKHAPATNAM | 150,SW | 30,ESE |
| PURI | 500,SW | 340,SW |

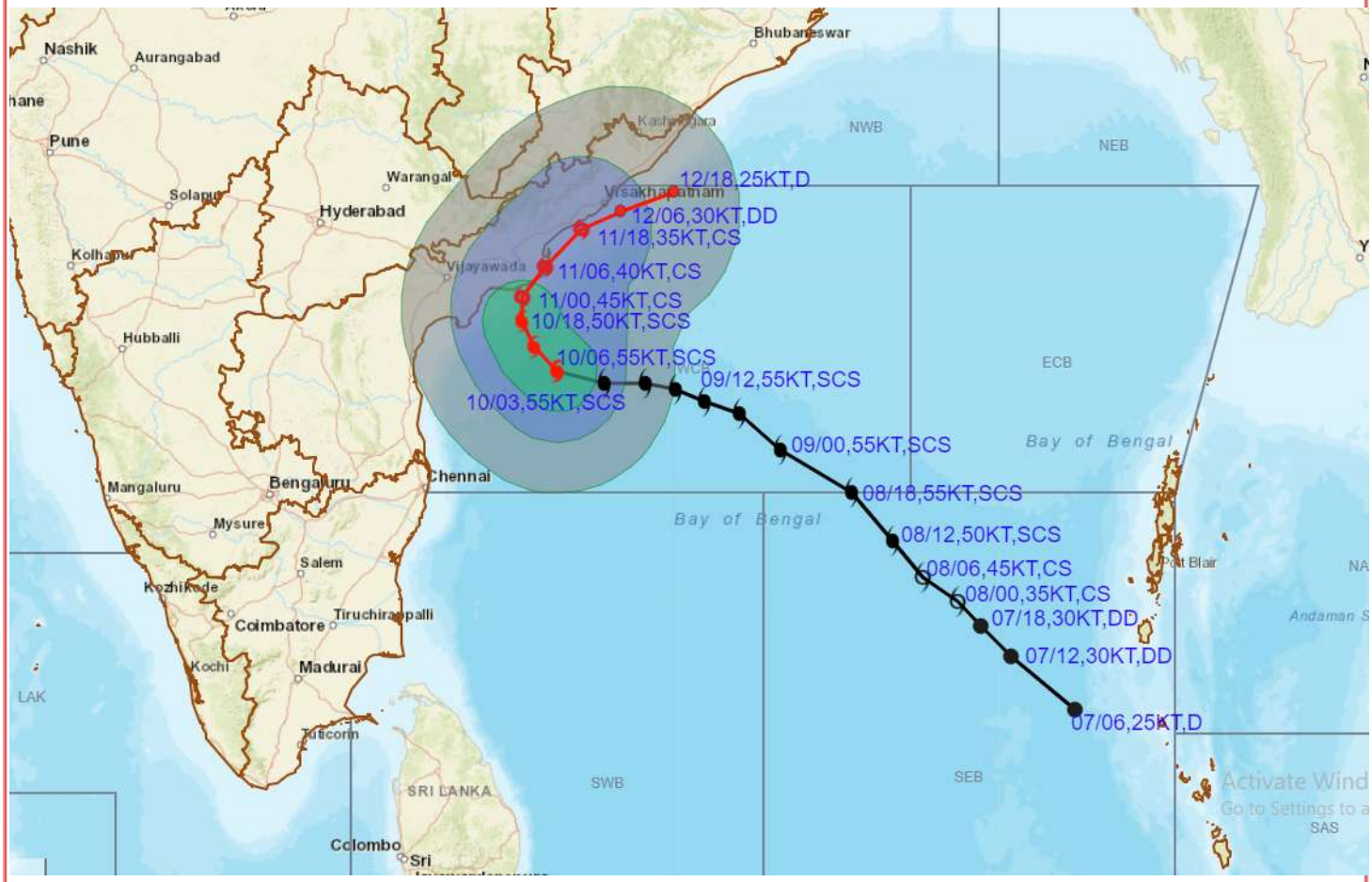
Forecast distance (km) and direction of the centre from nearest 5 coastal stations

| Forecast Date and Time | Lead Period | Lat | Lon | Station 1 | Station 2 | Station 3 | Station 4 | Station 5 |
|---|---|---|---|---|---|---|---|---|
| 10.05.22/0600 | 0 | 15.0 | 82.5 | NARSAPUR (181,SSE) | MACHILIPATNAM/ FRANCHPET (197,SE) | KAKINADA (219,S) | NIDADAVOLE (226,SSE) | BAPATLA (240,ESE) |
| 10.05.22/1200 | 6 | 15.4 | 82.1 | NARSAPUR (123,SSE) | MACHILIPATNAM/ FRANCHPET (135,SE) | NIDADAVOLE (169,SSE) | KAKINADA (173,S) | BAPATLA (184,ESE) |
| 10.05.22/1800 | 12 | 15.8 | 81.9 | NARSAPUR (74,SSE) | MACHILIPATNAM/ FRANCHPET (92,ESE) | NIDADAVOLE (120,SSE) | KAKINADA (133,SSW) | VIJAYAWADA /GANNAVARAM (143,SE) |
| 11.05.22/0000 | 18 | 16.2 | 81.9 | NARSAPUR (34,SE) | NIDADAVOLE (78,SSE) | MACHILIPATNAM/ FRANCHPET (80,E) | KAKINADA (91,SSW) | VIJAYAWADA /GANNAVARAM (123,ESE) |
| 11.05.22/0600 | 24 | 16.7 | 82.3 | KAKINADA (29,SSE) | NARSAPUR (71,ENE) | TUNI (77,SSW) | NIDADAVOLE (78,E) | MACHILIPATNAM/ FRANCHPET (135,ENE) |
| 11.05.22/1800 | 36 | 17.3 | 82.9 | TUNI (38,E) | VISHAKHAPATNAM (63,SW) | KAKINADA (81,ENE) | NIDADAVOLE (149,ENE) | NARSAPUR (160,NE) |
| 12.05.22/0600 | 48 | 17.6 | 83.6 | VISHAKHAPATNAM (34,ESE) | KALINGAPATAM (99,SW) | TUNI (115,ENE) | KAKINADA (162,ENE) | KORAPUT (165,SE) |
| 12.05.22/1800 | 60 | 17.9 | 84.5 | KALINGAPATAM (62,SE) | VISHAKHAPATNAM (129,E) | GOPALPUR (157,SSW) | KORAPUT (214,ESE) | TUNI (216,ENE) |

N : NORTH NNE : NORTH-NORTHEAST NE : NORTHEAST ENE : EAST-NORTHEAST E : EAST ESE : EAST-SOUTHEAST SE : SOUTHEAST SSE : SOUTH-SOUTHEAST S : SOUTH SSW : SOUTH-SOUTHWEST SW : SOUTHWEST WSW : WEST-SOUTHWEST W : WEST WNW : WEST-NORTHWEST NW : NORTHWEST NNW : NORTH-NORTHWEST

Thi etins

# FORECAST TRACK AND INTENSITY ALONGWITH QUADRANT WIND DISTRIBUTION SEVERE CYCLONIC STORM 'ASANI' OVER WESTCENTRAL BAY OF BENGAL BASED ON 0600 UTC OF 10TH MAY 2022




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)
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ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)
SuCS: SUPER CYCLONIC STORM (≥20 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)

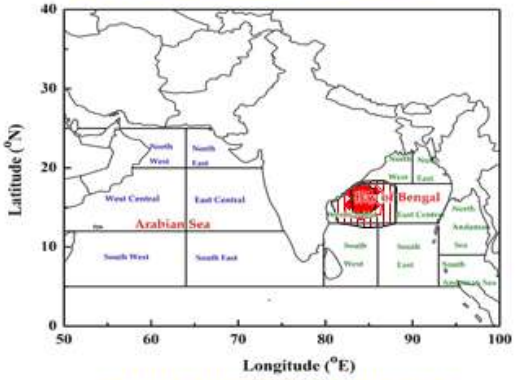
IMPACT OVER THE SEA

| 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 |

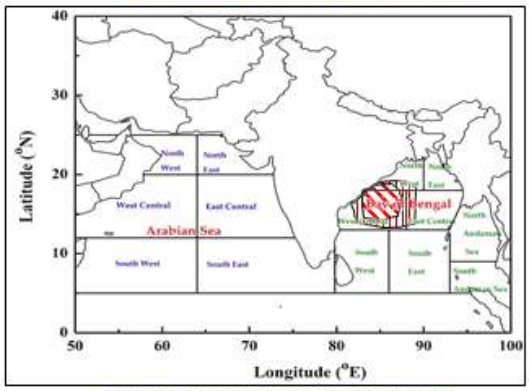
# Fishermen warning Graphics

## INDIA METEOROLOGICAL DEPARTMENT
## FISHERMAN WARNING FOR BAY OF BENGAL AND ARABIAN SEA

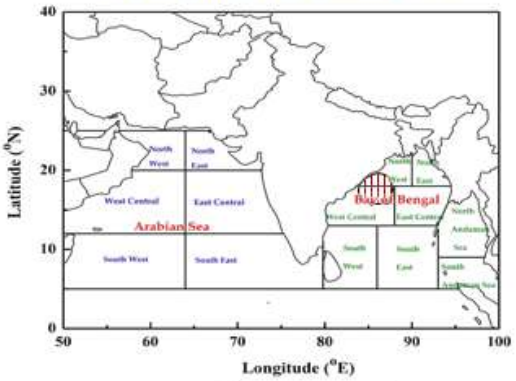
DAY-1: 10.05.2022/0600 UTC TO 11.05.2022/0600 UTC



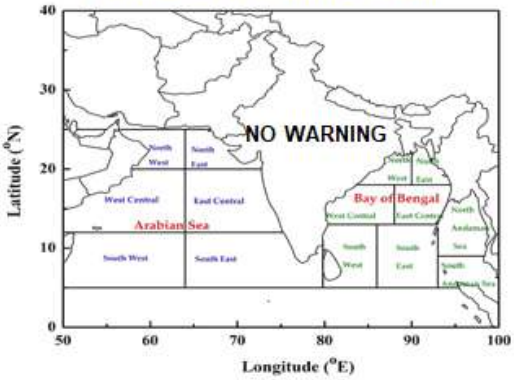

DAY-2: 11.05.2022/0600 UTC TO 12.05.2022/0600 UTC



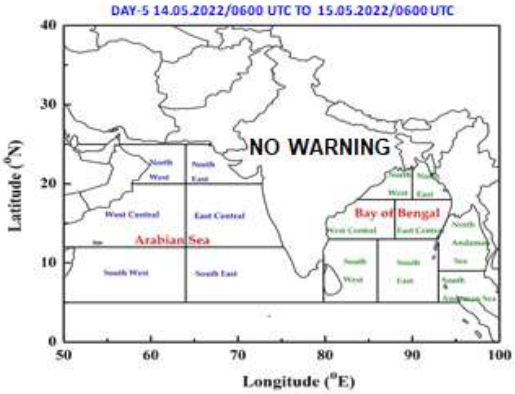

DAY-3 -: 12.05.2022/0600 UTC TO 13.05.2022/0600 UTC




DAY-4 13.05.2022/0600 UTC TO 14.05.2022/0600 UTC




DAY-5 14.05.2022/0600 UTC TO 15.05.2022/0600 UTC




**AREA UNDER FISHERMEN WARNING**

- 40-50 KMPH GUSTING TO 60 KMPH (SQUALLY WEATHER)
- 45-55 KMPH GUSTING TO 65 KMPH
- 50-60 KMPH GUSTING TO 70 KMPH
- 65-75 KMPH GUSTING TO 85 KMPH
- 70-80 KMPH GUSTING TO 90 KMPH
- 80-90 KMPH GUSTING TO 100 KMPH
- 90-100 KMPH GUSTING TO 110 KMPH

## STORM SURGE HEIGHT INFORMATION:

* The below listed surge heights are over and above astronomical tide.

| MANDAL/TALUK | DISTRICT | STATE / UNION TERRITORY | NEAREST PLACE OF HABITATION | STORM SURGE (m) * | EXPECTED INUNDATION EXTENT (km) |
|---|---|---|---|---|---|
| Kakinada | East Godavari | Andhra Pradesh | Polekurru | 0.3-0.6 | Upto 0.11 |
| Yanam | Yanam | Puducherry | Yanam | 0.3-0.5 | Upto 0.16 |
| Amalapuram | East Godavari | Andhra Pradesh | Nimmakayala Kothapalle | 0.3-0.4 | Upto 0.15 |
| Pithapuram | East Godavari | Andhra Pradesh | Ponnada | 0.3-0.4 | Upto 0.15 |
| Tuni | East Godavari | Andhra Pradesh | Kona Forest | 0.3-0.4 | Nil |

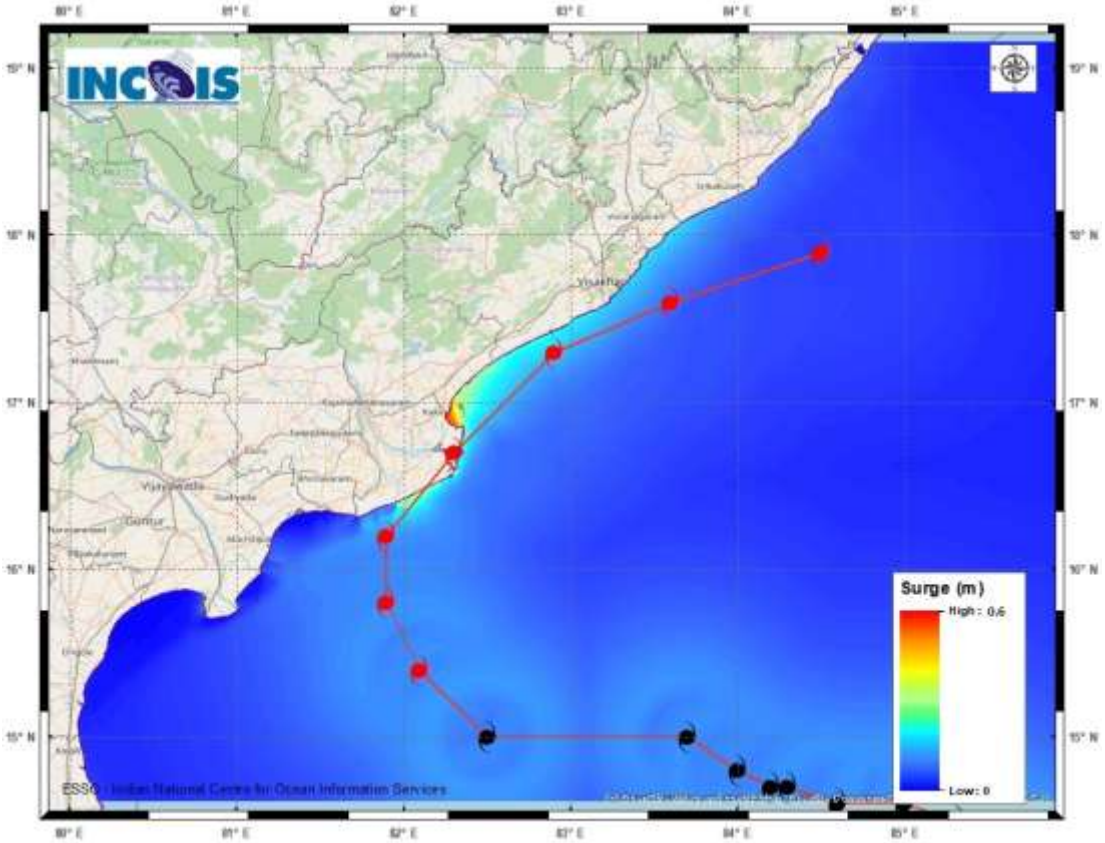



Figure: Storm Surge Guidance based on 0600 UTC of 10th May