REGIONAL SPECIALISED METEOROLOGICAL CENTRE-TROPICAL CYCLONES, NEW DELHI

TROPICAL CYCLONE ADVISORY BULLETIN NO. 7

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. 7 FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 0230 UTC OF 03.06.2020 BASED ON 0000 UTC OF 03.06.2020.

SUB: SEVERE CYCLONIC STORM "NISARGA" OVER EASTCENTRAL ARABIAN SEA

THE **CYCLONIC STORM 'NISARGA'** OVER EASTCENTRAL ARABIAN SEA MOVED NORTH-NORTHEASTWARDS WITH A SPEED OF 14 KMPH DURING PAST 06 HOURS, INTENSIFIED INTO A **SEVERE CYCLONIC STORM** AND LAY CENTRED AT 0000 UTC OF 03RD JUNE, 2020 OVER EASTCENTRAL ARABIAN SEA NEAR LATITUDE 17.3°N AND LONGITUDE 72.1°E, ABOUT 165 KM SOUTH-SOUTHWEST OF ALIBAGH (43058), 215 KM SOUTH-SOUTHWEST OF MUMBAI (43003), AND 440 KM SOUTH-SOUTHWEST OF SURAT (42840).

IT IS VERY LIKELY TO MOVE NORTH-NORTHEASTWARDS AND CROSS NORTH MAHARASHTRA COAST **CLOSE TO SOUTH OF ALIBAGH (43058) DURING 0800 TO 1000 UTC OF 03RD JUNE AS A SEVERE CYCLONIC STORM WITH A MAXIMUM SUSTAINED WIND SPEED OF 100-110 KMPH GUSTING TO 120 KMPH.**

THE SYSTEM IS NOW BEING CONTINUOUSLY TRACKED BY THE DOPPLER WEATHER RADARS (DWRS) AT MUMBAI (43003) AND GOA (43192).

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
03.06.20/0000	17.3/72.1	85-95 GUSTING TO 105	SEVERE CYCLONIC STORM
03.06.20/0600	18.1/72.7	100-110 GUSTING TO 120	SEVERE CYCLONIC STORM
03.06.20/1200	18.7/73.3	80-90 GUSTING TO 100	CYCLONIC STORM
03.06.20/1800	19.4/73.9	50-60 GUSTING TO 70	DEEP DEPRESSION
04.06.20/0000	20.2/74.6	40-50 GUSTING TO 60	DEPRESSION

AS PER INSAT-3D SATELLITE IMAGERY BASED ON 0000 UTC OF 03RD JUNE, THE CURRENT INTENSITY OF THE SYSTEM IS T 3.0 ASSOICATED WITH CURVED BAND PATTERN WITH WRAP 0.5

PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION)
NIL: 0%, LOW: 1-25%, FAIR: 26-50%, MODERATE: 51-75% AND HIGH: 76-100%

ON 10° LOG SPIRAL. **THE SYSTEM HAS BEEN FURTHER WELL ORGANISED IN LAST 3-HOURS**. ASSOCIATED BROKEN LOW/MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION OBSERVED OVER EASTCENTRAL ARABIAN SEA BETWEEN LATITUDE 11.5^{0}N TO 19.0^{0}N AND LONGITUDE 66.5^{0}E TO 75.0^{0}E. MINIMUM CLOUD TOP TEMPERATURE (CTT) IS MINUS 93°C.

EYE IS VISIBLE IN THE DWR IMAGERIES OF MUMBAI AND GOA WITH A DIAMETER ROUGHLY AROUND 80 KM. THE OUTER SPIRAL BAND HAS STARTED ENTERING THE COAST AND LAND INTERACTION HAS COMMENCED.

THE ESTIMATED MAXIMUM SUSTAINED WIND SPEED IS 50 KNOTS GUSTING TO 60 KNOTS. THE SEA CONDITION IS HIGH TO VERY HIGH AROUND THE SYSTEM CENTER. THE ESTIMATED CENTRAL PRESSURE IS 994 HPA.

AT 0000 UTC OF 02nd JUNE, A SHIP LOCATED AT 18.8°N/71.2°E REPORTED MEAN SEA SEA LEVEL PRESSURE OF 1000.1 HPA AND SURFACE WIND SPEED OF 20°/21.4 KNOTS, A BOUOY LOCATED AT 14.8°N/69.0°E REPORTED MEAN SEA SEA LEVEL PRESSURE OF 1002.7 HPA AND SURFACE WIND SPEED OF 320°/19.4 KNOTS AND RATNAGIRI (43110) REPORTED MEAN SEA SEA LEVEL PRESSURE OF 997.4 HPA AND SURFACE WIND SPEED OF 180°/23.9 KNOTS.

STORM SURGE GUIDANCE

STORM SURGE OF ABOUT 1-2 METERS HEIGHT ABOVE ASTRONOMICAL TIDE IS VERY LIKELY TO INUNDATE LOW LYING AREAS OF MUMBAI, THANE AND RAIGAD DISTRICTS AND 0.5-1 METER HEIGHT ABOVE THE ASTRONOMICAL TIDE LIKELY TO INUNDATE LOW LYING AREAS OF RATNAGIRI DISTRICT DURING THE TIME OF LANDFALL.

REMARKS:

THE MADDEN JULIAN OSCILLATION (MJO) INDEX LIES CURRENTLY IN PHASE 1 WITH AMPLITUDE MORE THAN 1. IT WILL CONTINUE TO BE IN SAME PHASE DURING NEXT 7 DAYS WITH AMPLITUDE REMAINING MORE THAN 1.

THE SEA SURFACE TEMPERATURE (SST) IS 30-31˚C AROUND THE SYSTEM CENTER OVER EASTCETNRAL ARABIAN SEA AND IT DECREASES ALONG THE TRACK TOWARDS COAST TO 29-30˚C. THE TROPICAL CYCLONE HEAT POTENTIAL IS 100-120 KJ/CM^2 OVER EASTCENTRAL ARABIAN SEA AND BECOMING 80-100 KJ/CM^2 NEAR KARNATAKA, MAHARASHTRA AND GUJARAT COAST.

THE LOWER LEVEL VORTICITY IS ABOUT 200 TO 250 X10^{-5} SEC^{-1} AROUND THE SYSTEM CENTER. THE LOWER LEVEL CONVERGENCE HAS INCREASED AND IS ABOUT 40X10^{-5} SEC^{-1} AND IS TO THE SOUTH OF THE SYSTEM CENTRE. THE UPPER LEVEL DIVERGENCE HAS ALSO INCREASED AND IS ABOUT 30X10^{-5} SEC^{-1} ALSO TO THE SOUTH OF THE SYSTEM CENTER. THE VERTICAL WIND SHEAR IS LOW (10-15 KTS) AROUND THE SYSTEM CENTRE AND ALSO ALONG THE FORECAST TRACK. UNDER THESE FAVOURABLE ENVIRONMENTAL AND DYNAMICAL CONDITIONS THE SYSTEM HAS INTENSIFIED INTO A SEVERE CYCLONIC STORM. PRESENTLY THE SYSTEM IS BEING STEERED BY AN ANTICYCLONIC CIRCULATION TO THE EAST OF THE SYSTEM CENTER OVER PENINSULAR INDIA. AS THE SYSTEM LIES IN THE WESTERN PERIPHERI OF THE ANTICYCLONE, IT WILL GRADUALLY MOVE NORTHNORTHEASTWARDS NORTH-MAHARASHTRA COAST.

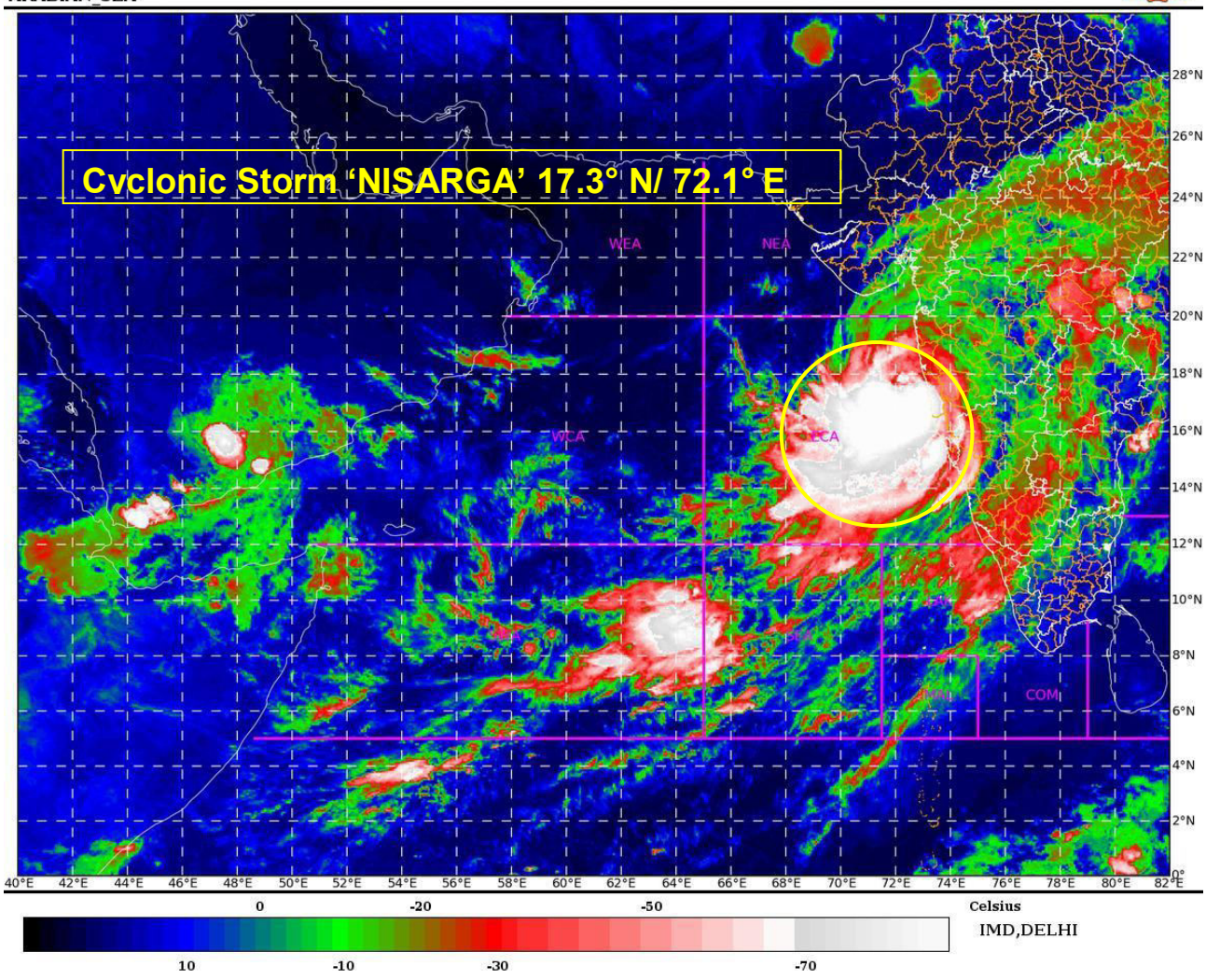
THERE IS A CONSENSUS AMONG NUMERICAL WEATHER PREDICTION MODELS INCLUDING ECMWF, IMD GFS, NCEP GFS, GEFS, NEPS, NCUM ETC FOR THE ABOVE INFERENCE. IT IS LIKELY TO MOVE TO NORTH-NORTHEASTWARDS TOWARDS NORTH MAHARASHTRA AND ADJOINING SOUTH GUJARAT COAST AND MAKE LANDFALL **CLOSE TO SOUTH OF ALIBAG (43058) BY 0900UT**C OF 3RD JUNE.

(ANANDA KUMAR DAS)
SCIENTIST- E, RSMC
NEW DELHI

PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION)
NIL: 0%, LOW: 1-25%, FAIR: 26-50%, MODERATE: 51-75% AND HIGH: 76-100%

SAT : INSAT-3D IMG
IMG_TIR1_TEMP 10.8 um
ARABIAN_SEA

03-06-2020/(0100 to 0126) GMT
03-06-2020/(0630 to 0656) IST



Legend: ECA- east-Central Arabian Sea

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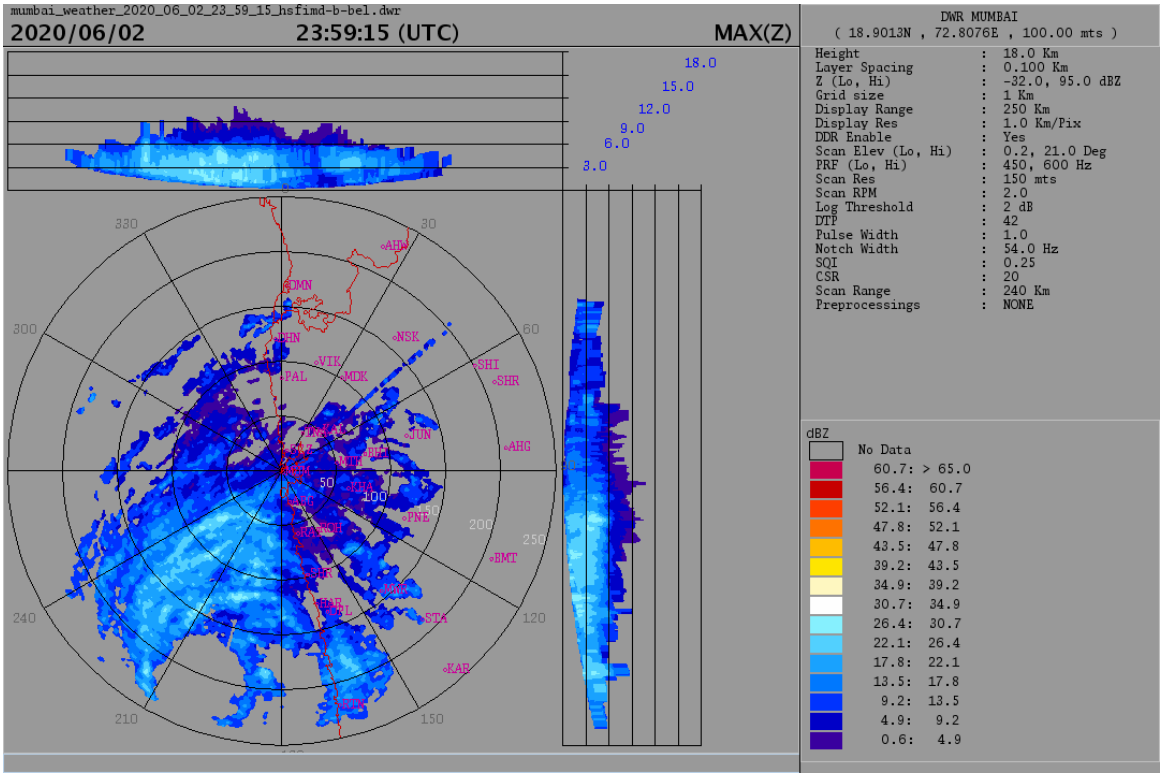
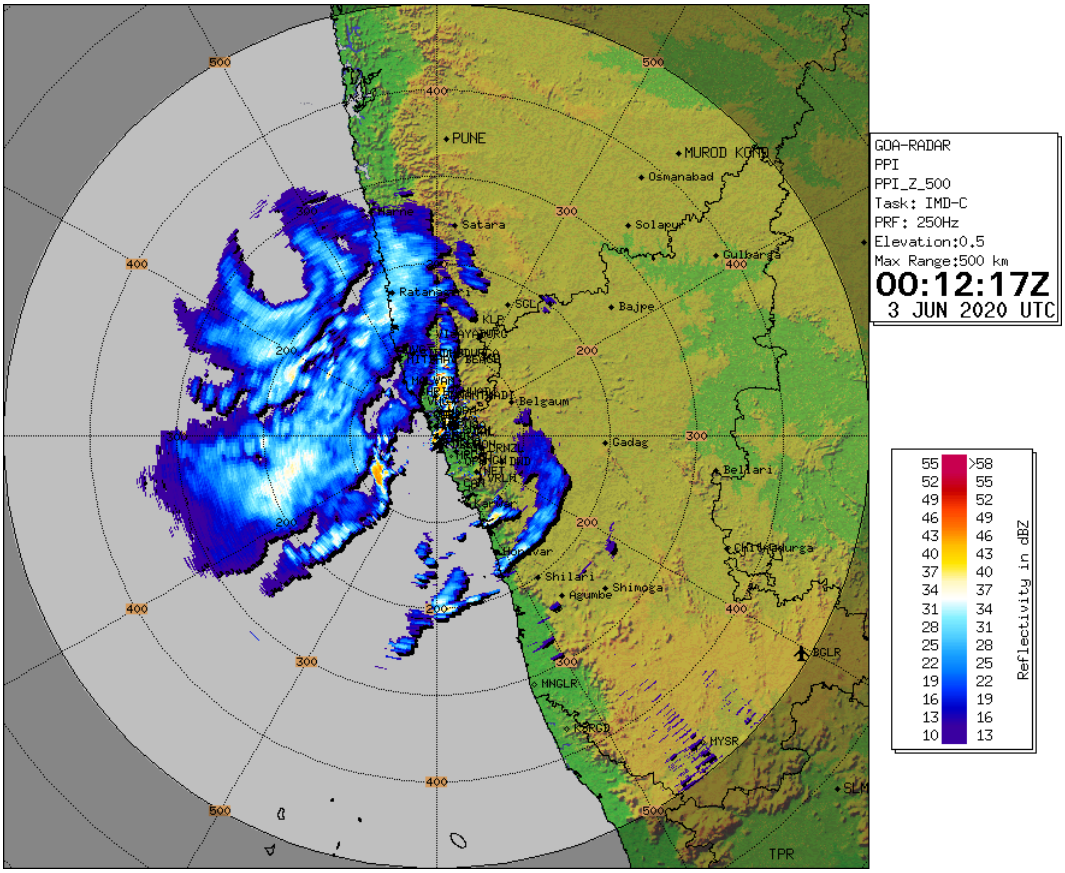


DOPPLER WEATHER RADAR MUMBAI AT 04:47 HOURS IST OF 03.06.2020



DOPPLER WEATHER RADAR GOA AT 04:58 HOURS IST OF 03.06.2020

PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION)
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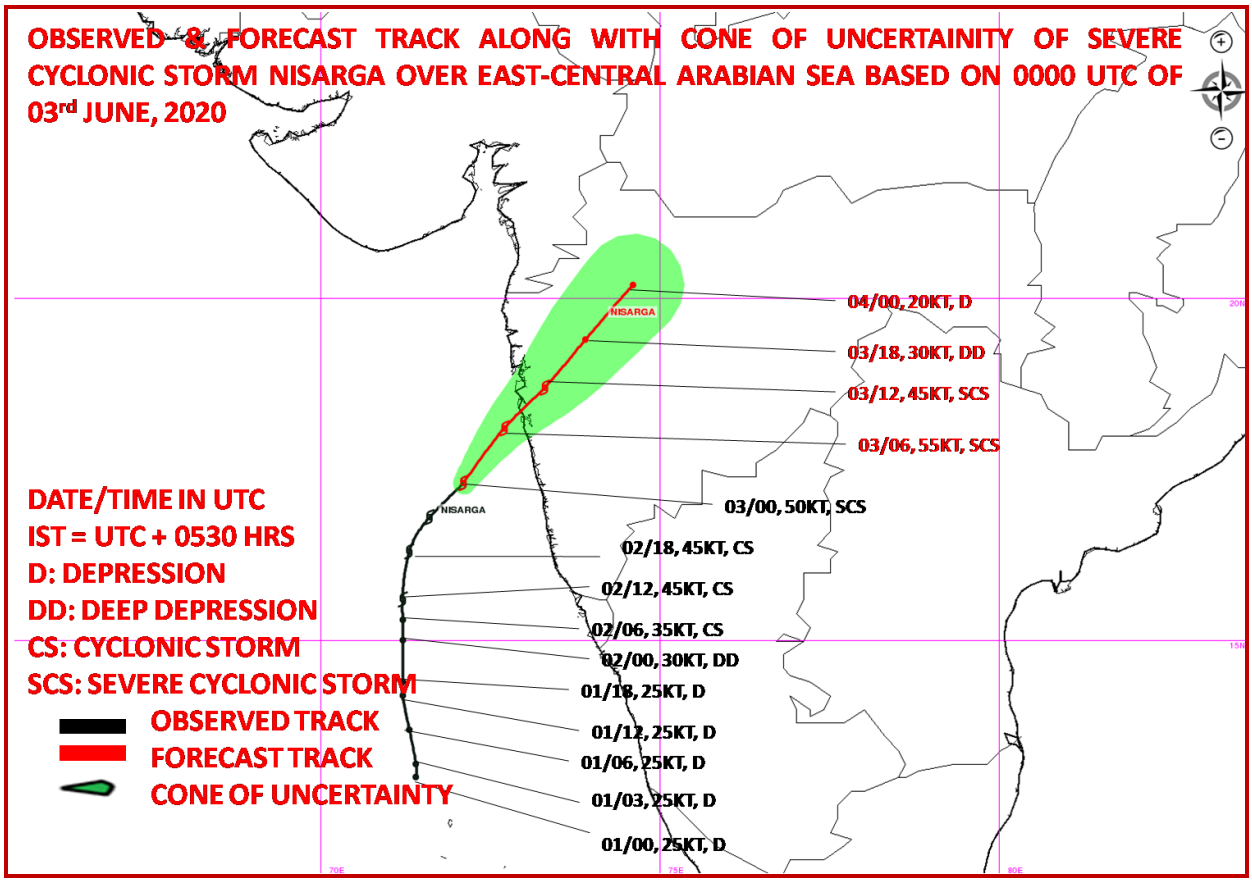

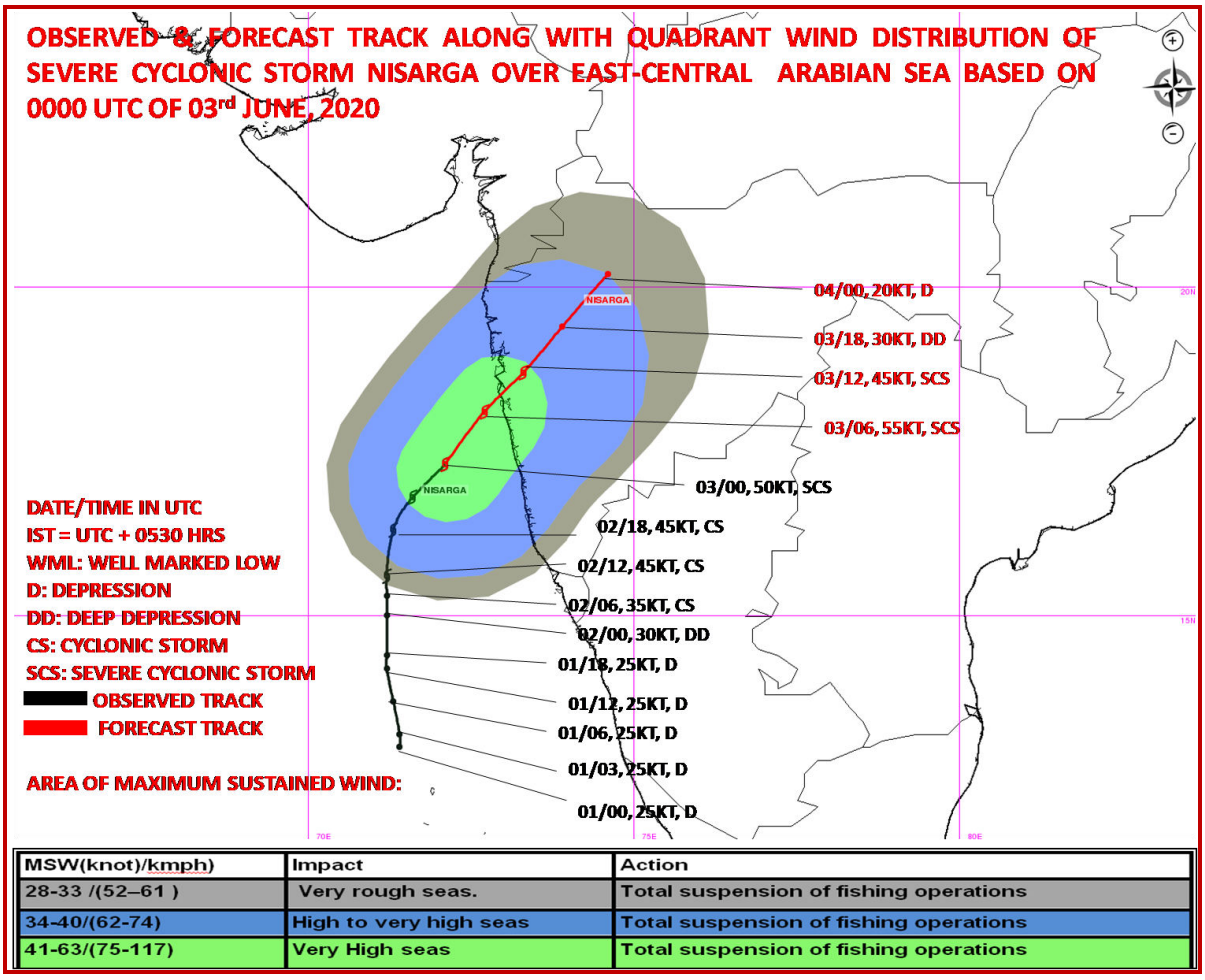

MSW(knot)/kmph)	Impact	Action
28-33 /(52–61)	Very rough seas.	Total suspension of fishing operations
34-40/(62-74)	High to very high seas	Total suspension of fishing operations
41-63/(75-117)	Very High seas	Total suspension of fishing operations

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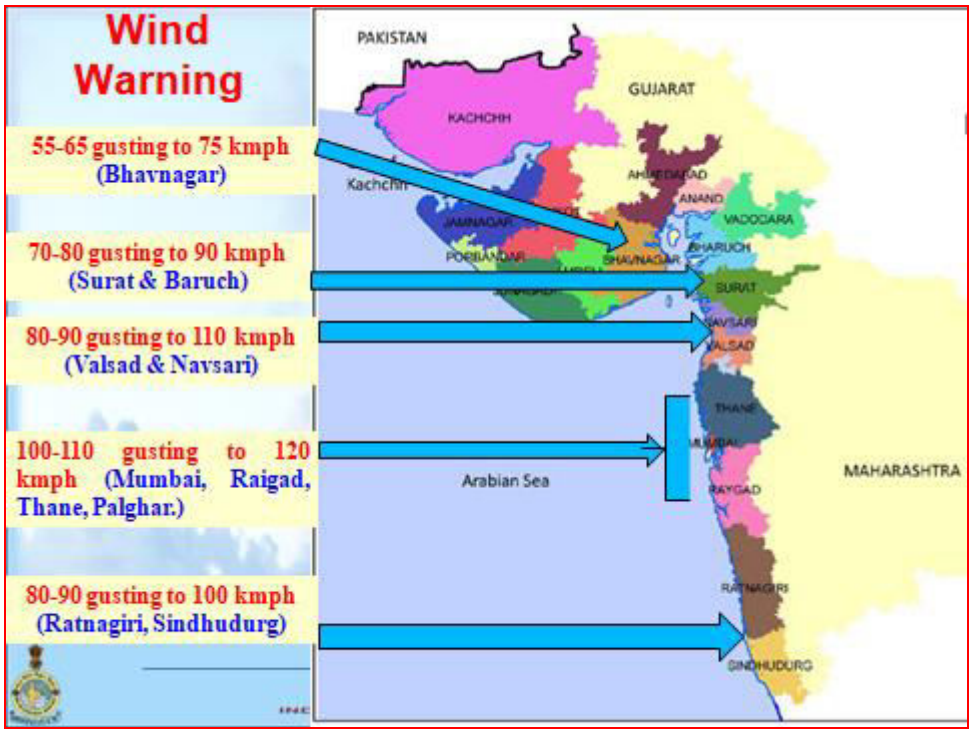
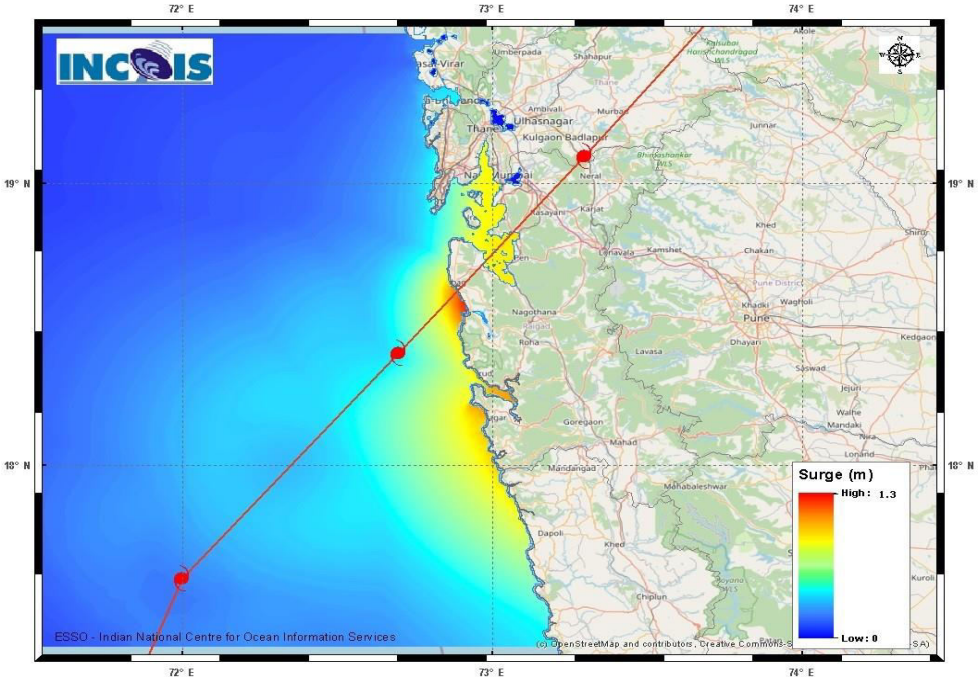
District Level Wind Warning



Storm surge Warning



The below listed surge heights over and above astronomical tide.

MANDAL/TALUK	DISTRICT	STATE / UNION TERRITORY	NEAREST PLACE OF HABITATION	* STORM SURGE (m)	* EXPECTED INUNDATION EXTENT (km)
ALIBAG	RAIGAD	MAHARASHTRA	ALIBAG	0.5-1.3	Around 1.4
DAPOLI	RATNAGIRI	MAHARASHTRA	DAPOLI	0.6-0.9	Around 0.3
PEN	RAIGAD	MAHARASHTRA	PEN	0.7-0.9	Around 2.2
THANE	GREATER BOMBAY	MAHARASHTRA	THANE	0.7-0.9	Around 0.3

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