



India Meteorological Department  
Earth System Science Organisation  
(Ministry of Earth Sciences)

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Sub: **Cyclonic Storm 'NISARGA' over Eastcentral Arabian Sea: Cyclone Warning for north Maharashtra - south Gujarat coasts: Red message**

The **Cyclonic Storm 'NISARGA'** over Eastcentral Arabian Sea moved north-northeastwards with a speed of about 11 kmph during past 06 hours, and lay centred at 0230 hours IST of 03<sup>rd</sup> June, 2020 over Eastcentral Arabian Sea near latitude 17.1°N and longitude 71.8°E, about 280 km west-northwest of Panjim (Goa), 250 km south-southwest of Mumbai (Maharashtra), 200 km south-southwest of Alibagh (Maharashtra) and 460 km south-southwest of Surat (Gujarat).

It is very likely to intensify into a Severe Cyclonic Storm during next 06 hours. It is very likely to move north-northeastwards and cross north Maharashtra and adjoining south Gujarat coast between Harihareshwar and Daman, **close to Alibagh (Raigad District, Maharashtra) during the afternoon of today the 03<sup>rd</sup> 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 (Maharashtra) and Goa.

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. °N/ long. °E)	Maximum surface (Kmph)	sustained wind speed	Category of cyclonic disturbance
03.06.20/0230	17.1/71.8	80-90	gusting to 100	Cyclonic Storm
03.06.20/0530	17.6/72.0	90-100	gusting to 110	Severe Cyclonic Storm
03.06.20/1130	18.4/72.7	100-110	gusting to 120	Severe Cyclonic Storm
03.06.20/1730	19.1/73.3	80-90	gusting to 100	Cyclonic Storm
03.06.20/2330	19.7/73.8	50-60	gusting to 70	Deep Depression
04.06.20/0530	20.4/74.4	40-50	gusting to 60	Depression

Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%

Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.

## Warnings:

### (i) Rainfall:

- Light to moderate rainfall at most places with heavy to very heavy falls at a few places and **extremely heavy falls (  $\geq 20$  cm in 24 hours)** at isolated places very likely over north Konkan (Mumbai, Palghar, Thane, Raigad districts) and north Madhya Maharashtra on 3<sup>rd</sup> June.
- Light to moderate rainfall at most places with heavy to very heavy falls at isolated places over south Konkan ( Ratnagiri & Sindhudurg districts) & Goa and south Gujarat region (Valsad, Navsari, Dang, Daman, Dadra & Nagar Haveli and Surat districts) on 3<sup>rd</sup> June.
- Light to moderate rainfall at most places with heavy falls at isolated places over west Madhya Pradesh on 03<sup>rd</sup> June.

### (ii) Wind warning

- Gale wind, speed reaching 80-90 kmph gusting to 100 kmph, is prevailing over Eastcentral Arabian Sea. It will gradually increase becoming Gale wind, speed reaching 80-90 kmph gusting to 100 kmph, over eastcentral Arabian Sea off south Maharashtra & Goa coasts by today morning and further becoming 100-110 kmph gusting to 120 kmph over eastcentral Arabian Sea along & off Maharashtra (Raigad, Mumbai, Palghar, Thane) coast from today the 03<sup>rd</sup> June noon. Gale wind, speed reaching 80-90 kmph gusting to 100 kmph, likely along & off Valsad, Navsari districts of Gujarat, Daman, Dadra & Nagar Haveli and along & off northeast Arabian Sea, Ratnagiri, Sindhudurg districts of Maharashtra and 70-80 kmph gusting to 90 kmph along & off Surat & Bharuch districts of south Gujarat from today the 03<sup>rd</sup> June noon.
- Squally wind, speed reaching 50-60 kmph gusting to 70 kmph is likely to prevail over northeast Arabian Sea along & off remaining districts of south Gujarat coast on 03<sup>rd</sup> June.
- Squally wind, speed reaching 50-60 kmph gusting to 70 kmph is likely prevail over eastcentral Arabian Sea along and off Karnataka-Goa coasts during next 12 hours.

### (iii) Sea condition

The Sea condition will be High to Very High over eastcentral Arabian Sea and along & off Maharashtra & Goa coasts till today, the 3<sup>rd</sup> June evening. The Sea condition is very likely to be very rough to High over northeast Arabian Sea along & off south Gujarat coast on 03<sup>rd</sup> June.

### (iv) Storm Surge Warning:

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.

### (v) Fishermen Warning

Fishermen are advised not to venture into Eastcentral and Northeast Arabian Sea and along & off Karnataka-Goa-Maharashtra-south Gujarat coasts till 03<sup>rd</sup> June.

### (vi) Damage Expected:

**Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%**  
Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.

- Major damage to thatched houses/ huts. Roof tops may blow off. Unattached metal sheets may fly.
- Damage to power and communication lines.
- Major damage to Kutcha and some damage to Pucca roads. Flooding of escape routes.
- Breaking of tree branches, uprooting of large avenue trees. Damage to banana and papaya trees. Large dead limbs blown from trees.
- Major damage to coastal crops.
- Damage to embankments/ salt pans.

**(vii) Fishermen Warning & Action Suggested:**

- Total suspension of fishing operations.
- Mobilise evacuation from low lying areas.
- Judicious regulation of rail and road traffic.
- People in affected areas to remain indoors.
- Movement in motor boats and small ships unsafe.

**Post Landfall Outlook:**

After the landfall the Severe Cyclonic Storm is very likely to maintain its Cyclonic Storm intensity for about 06 hours, while moving north-northeast wards across north Madhya Maharashtra. Under its influence Gale wind reaching 60-70 kmph gusting to 80 kmph very likely to prevail over Pune, Ahmadnagar and 55-65 kmph gusting to 75 kmph adjoining Beed, Nashik & Aurangabad districts of Maharashtra. Light to moderate rainfall at most places with heavy to very heavy falls at isolated places are also very likely over these districts on 3<sup>rd</sup> June, 2020.

**Damage Expected and Action suggested for interior districts of Maharashtra (Pune, Ahmadnagar, Nashik, Aurangabad and adjoining Beed).**

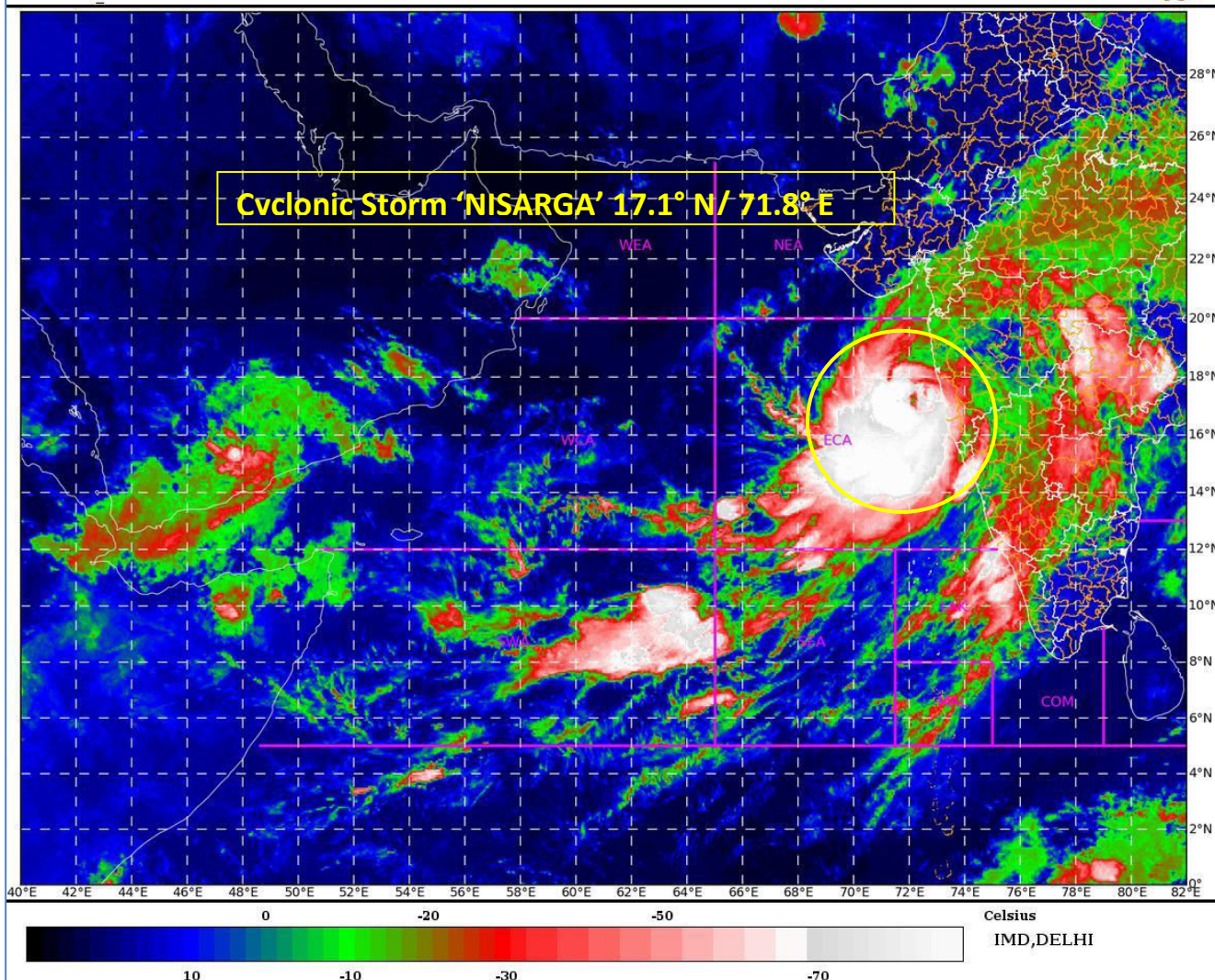
(i) Minor damage to power and communication lines. (ii) Damage to Kutcha and some damage to Pucca roads. (iii) Breaking of tree branches, uprooting of small trees. (iv) Damage to banana and papaya trees. (v) People in affected areas to remain indoors.

*The next bulletin will be issued at 0830 hrs IST of today, the 03<sup>rd</sup> June, 2020.*

**(Ananda Kumar Das)**  
**Scientist-E, RSMC, New Delhi**

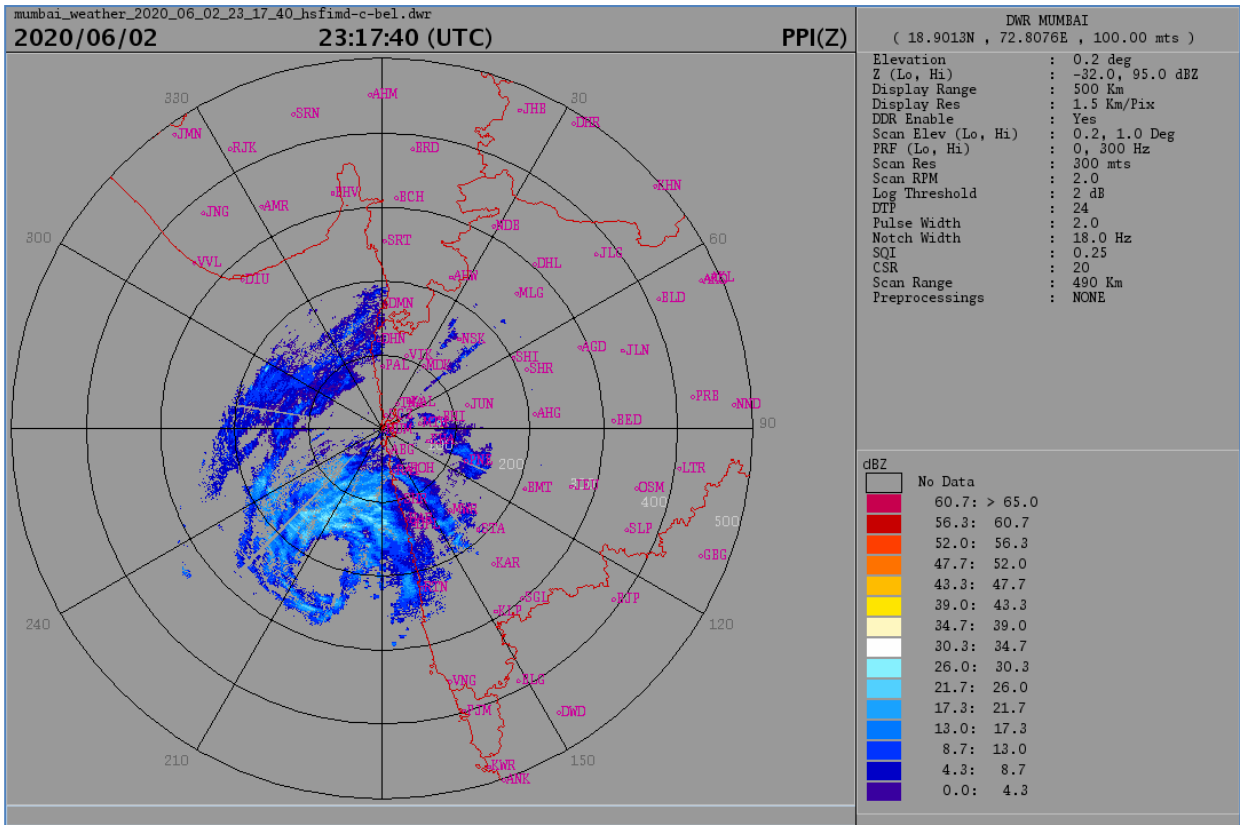
**Copy to: ACWC Chennai/ ACWC Mumbai/ MC Goa/ MC Bengaluru/ CWC Ahmedabad/ Thiruvananthapuram.**

**Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%**  
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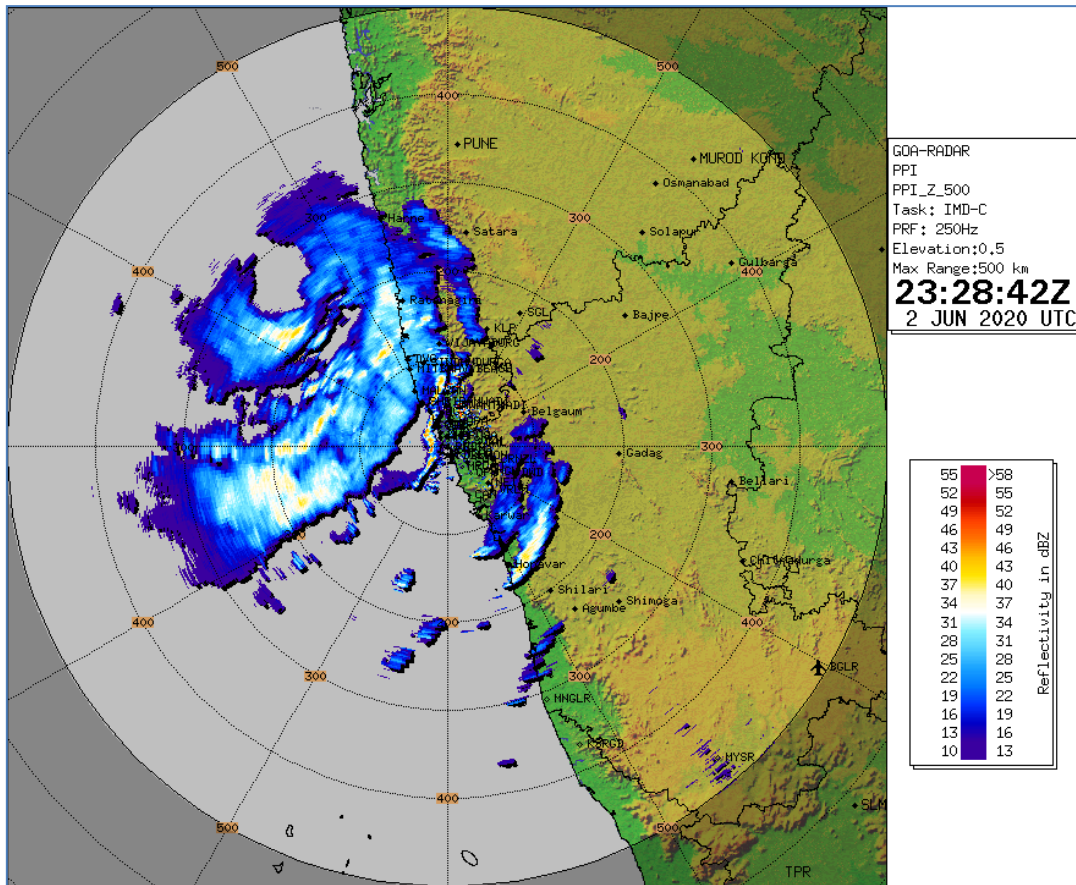


*Legend: ECA- east-Central Arabian Sea*

**Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%**  
**Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.**

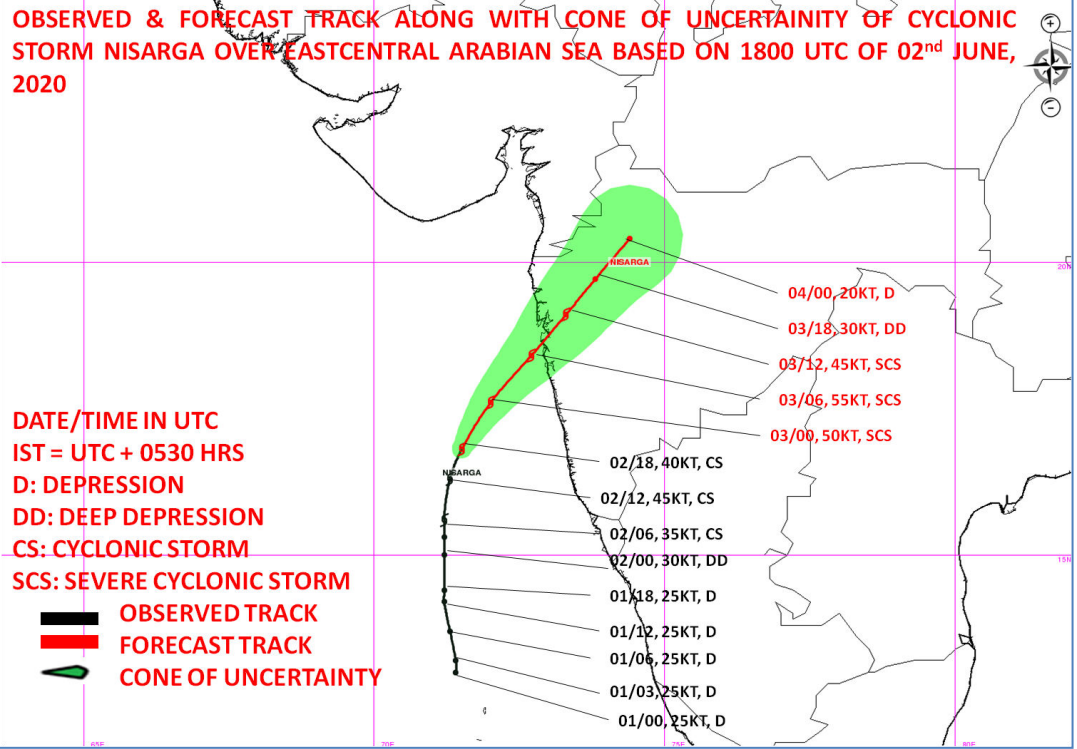
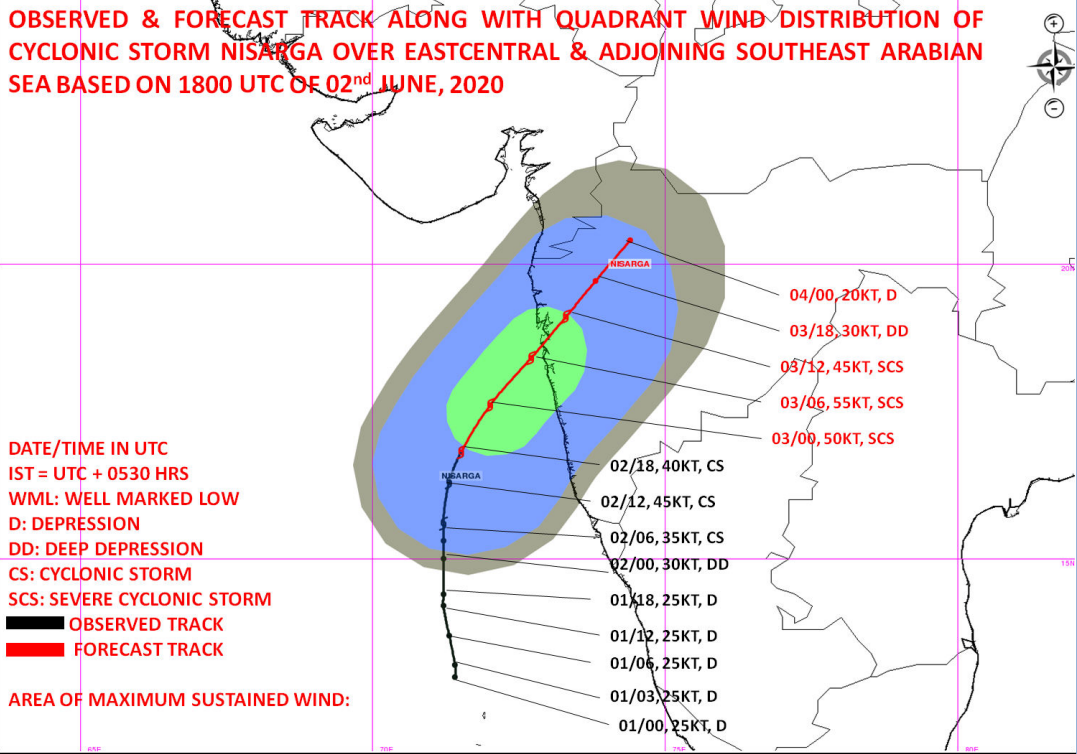


**DOPLER WEATHER RADAR MUMBAI AT 04:47 HOURS IST OF 03.06.2020**



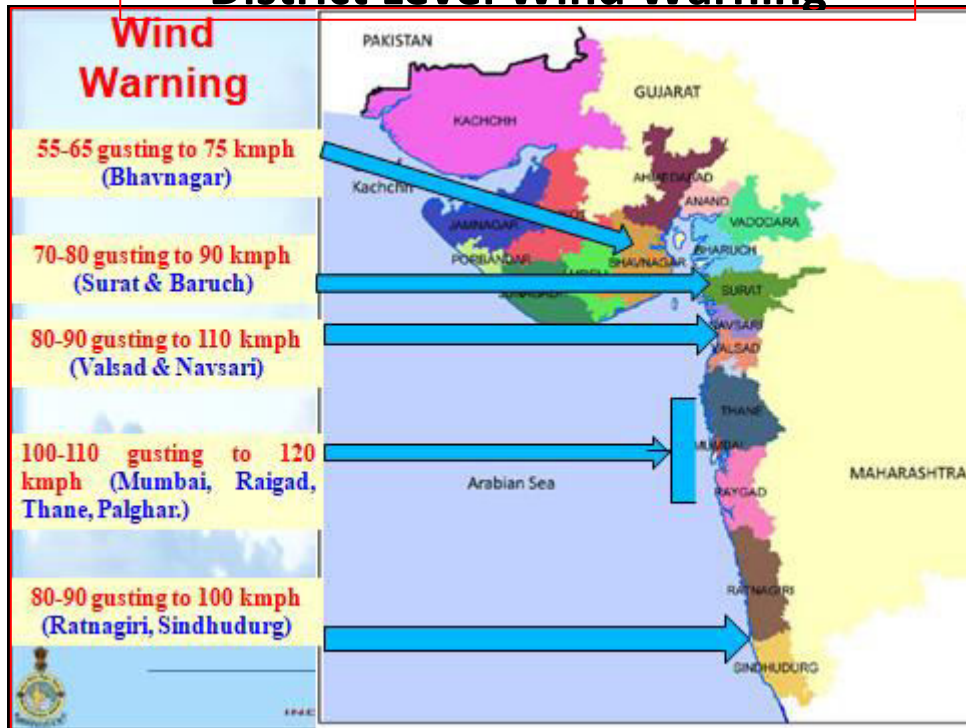
**DOPLER WEATHER RADAR GOA AT 04:58 HOURS IST OF 03.06.2020**

**Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%**  
**Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.**

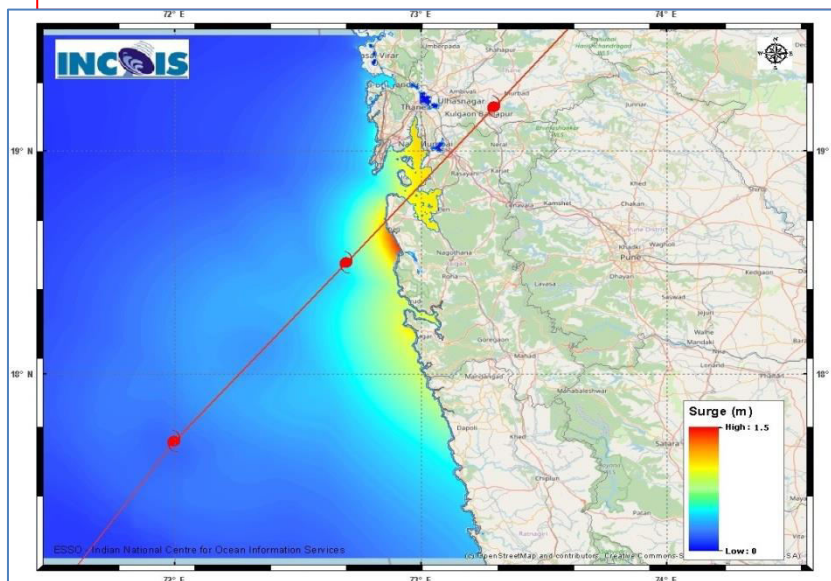


**Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%**  
**Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.**

## 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	RAIGARH	MAHARASHTRA	ALIBAG	0.5-1.5	Upto 1.4
PEN	RAIGARH	MAHARASHTRA	PEN	0.8-1.1	Upto 2.8
THANE	GREATER BOMBAY	MAHARASHTRA	THANE	0.5-1.1	Upto 0.34
DAPOLI	RATNAGIRI	MAHARASHTRA	DAPOLI	0.5-0.8	Upto 0.1
GUHAGAR	RATNAGIRI	MAHARASHTRA	GUHAGAR	0.5-0.6	Upto 0.22
VASAI	THANE	MAHARASHTRA	VASAI	0.5-0.6	Upto 1.11

**Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%**  
**Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.**