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Government of India
केन्द्रीय जल आयोग
Central Water Commission
बाढ़ पूर्वानुमान प्रबोधन निदेशालय
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दूसरा तल, दूसरा विंग (दक्षिण), पश्चिमी खण्ड-2,
रामाकृष्ण पुरम, नई दिल्ली-110066

विषय : दिनांक 03/06/20 की समाचार की कतरन (News Clippings) प्रस्तुत करने के सम्बन्ध में ।

मानसून/ बाढ़ सम्बन्धी समाचारों की कतरन (News Clippings) अवलोकन हेतु प्रस्तुत हैं :

संलग्न : उपरोक्तानुसार

(सहायक निदेशक)

उपनिदेशक

निदेशक (बा.प.प्र.)

कृपया केन्द्रीय जल आयोग की वेब साईट पर अपलोड करने की व्यवस्था करें।

निदेशक (तकनीकी प्रलेखन)

दिनांक 03/06/20... को निम्नलिखित समाचार पत्र में प्रकाशित मानसून/ बाढ़ सम्बन्धी समाचार

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Nisarga slams Maha, Gujarat coast today; Mumbai on alert

Likely to intensify into severe storm | 21,000 evacuated in Palghar

VIBHA SHARMA
TRIBUNE NEWS SERVICE

NEW DELHI, JUNE 2

Nisarga is expected to make a landfall between Harihareshwar and Daman (close to Alibag in Raigad district of Maharashtra) as a "severe cyclone" with wind speed of 100-110 kmph, gusting to 120 kmph, tomorrow afternoon, the India Meteorological Department (IMD) said today.

Nisarga happens to be the first in the series of new names proposed for tropical cyclones in the Indian Ocean region. It is the 65th named cyclone in north Indian Ocean since the process started in September 2004, according to IMD Director General Mrityunjay Mohapatra.

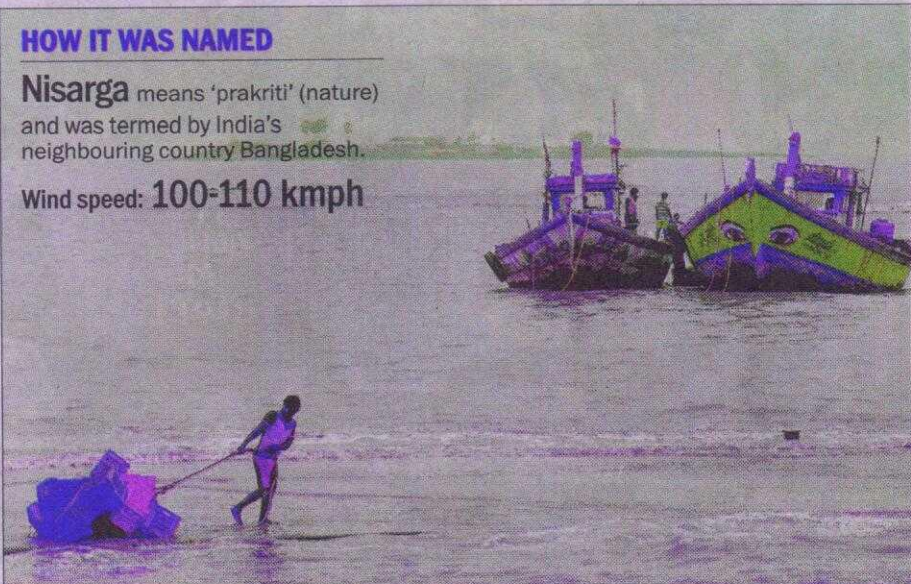
Nisarga is also pointing towards a "trend of pre-monsoon cyclonic activity in Indian Ocean". Movement of people along the Mumbai coastline has been prohibited from midnight to Thursday afternoon, the city police said on Tuesday.

An alert has been issued for Mumbai city and suburbs, Thane, Palghar, Raigad, Ratnagiri and Sindhudurg districts. Chemical units were directed to shut down safely and prohibitory orders have been issued to fishermen not to venture into the sea till June 4.

HOW IT WAS NAMED

Nisarga means 'prakriti' (nature) and was termed by India's neighbouring country Bangladesh.

Wind speed: 100-110 kmph



A fisherman pulls a handcart filled with crates towards inland ahead of a cyclone in Mumbai. AFP

33 NDRF TEAMS DEPLOYED

New Delhi: Thirty-three National Disaster Response Force (NDRF) teams have been deployed as Nisarga is likely to hit coastal districts of Maharashtra and Gujarat on Wednesday. Of the 33 teams, 17 have been deployed in Gujarat and 16 in Maharashtra, NDRF Director-General SN Pradhan said. An NDRF team comprises of 45 personnel. TNS

'CAN CAUSE MASSIVE FLOODING'

Mumbai: Cyclone Nisarga coinciding with high tide could cause massive flooding in Mumbai and surrounding low-lying areas according to climate scientist Roxy Mathew Koll of the Centre for Climate Change Research, Indian Institute of Tropical Meteorology. In a series of tweets, Koll said cyclone coinciding with high tide in Mumbai (could) "work together to flood a city that is already clogged. TNS

Prime Minister Narendra Modi spoke with the CMs of Maharashtra and Gujarat and

assured them of all help from the Centre. Over 21,000 residents of 22 villages in Maha-

ashtra's Palghar district have been evacuated.

(With inputs from PTI)

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Commuters walk with umbrellas during rain in Shimla on Tuesday. PHOTO: AMIT KANWAR

Snowfall in higher reaches

TRIBUNE NEWS SERVICE

SHIMLA, JUNE 2

A storm lashed Shimla and its surrounding areas today, followed by hails while scattered rain occurred in mid and lower hills. Wintry conditions revived in tribal areas and higher hills following fresh snowfall in higher reaches and rain and snow in adjoining valleys; minimum temperatures remained three to five degrees below normal.

The local Meteorological

office has forecast thunder-showers with lightning, hailstorm and gusty winds (with speed of 40 to 50 kmph) at isolated places in mid and lower hills on June 5 and 6 and thundershowers and rain in mid and lower hills and rain and snow in higher hills for six days from June 3 to June 8.

Nahan was the wettest in the region with 27.6 mm rain, followed by Bharmaur 19 mm, Kufri 11 mm, Suriyan 9 mm, Dalhousie 8 mm, Manali 7 mm, Bilaspur 5 mm, Kufri

and Theog 4 mm each and Shimla and Solan 2 mm each.

The minimum temperatures dipped in higher hills and Keylong and Kalpa recorded a low of 4.3°C and 5.4°C, followed by Manali 6.8°C, Kufri 7.1°C, Shimla 12.1°C and Solan 13.7°C.

Una was the hottest during the day with a high of 34.8°C, followed by Sundernagar 31.7°C, Bhuntar 31.5°C, Nahan 27.7°C, Palampur and Solan 25.8°C, Shimla 22.7°C, Kalpa 20.5°C, Keylong 16.9°C.

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Rare cyclone to hit coasts of Gujarat, Maharashtra today

MUMBAI ON ALERT Storm surge may inundate low-lying areas

Jayashree Nandi and
Badri Das Chatterjee
letters@hindustantimes.com

NEW DELHI/MUMBAI: A deep depression over east-central Arabian Sea, which intensified into cyclone Nisarga on Tuesday noon, is expected to make landfall as a severe cyclonic storm with a wind speed of 100 to 110 kmph gusting to 120 kmph near Alibaug (94 km from Mumbai) in Raigad district on June 3, the India Meteorological Department (IMD) said on Tuesday.

It started as a warning on Sunday for mid-week heavy rains in Mumbai and by Monday, rapidly developed into a red alert for several coastal districts as the deep depression progressed over the Arabian Sea. As of Tuesday noon, cyclone Nisarga was 280 km west-southwest of Goa, 490 km south-southwest of Mumbai and 710 km south-southwest of Surat. IMD said that the cyclone was likely to cross north Maharashtra and adjoining south Gujarat coast between Daman and Harihareshwar in Raigad on Wednesday afternoon.

The western coastline from Konkan's Sindhudurg and Ratnagiri to Saurashtra's Bhavnagar and other districts of Gujarat including Surat and Bharuch have received wind warnings ranging from 55-65 kmph (gusting



■ A car makes its way through a Mumbai road amid heavy rain ahead of Cyclone Nisarga's predicted landfall, on Tuesday.

PTI

HT SPOTLIGHT

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HOW MUMBAI IS PREPARING ITSELF

Already stretched due to Covid-19 outbreak, the BMC on Tuesday scrambled to activate its disaster response plan for Nisarga, likely to cause very heavy rainfall and bring with it the threat of inundation in areas like Dharavi and Dadar.

to 75kmph) and increasing to speeds of 115-120kmph in four Maharashtra districts of Palghar, Mumbai, Thane and Raigad.

"The landfall location will be very close to Alibaug but extensive damage can be expected in

SEVERAL MOVED AWAY FROM COAST

A day before Nisarga was expected to make landfall just south of Mumbai bringing with it high speed winds and very heavy rainfall, Maharashtra and Gujarat began evacuating thousands of residents of coastal districts.

Mumbai also. For Mumbai, Thane and Raigad there can be storm surge of 1-2 metres and a warning for extremely heavy rainfall has been issued," M Mohapatra, director general IMD, said.

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दिनांक ०३/०६/२०... को निम्नलिखित समाचार पत्र में प्रकाशित मानसून/ बाढ़ सम्बन्धी समाचार

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Cyclone Nisarga on course, Maha and Guj on alert

MANAGEMENT PLAN Thousands evacuated along the Konkan, Saurashtra, south Gujarat coast; rescue teams get Covid kits; shelters readied as landfall is expected near Alibaug between 12pm and 3pm

Jayashree Nandi and
Badri Das Chatterjee
letters@hindustantimes.com

NEW DELHI/MUMBAI: A deep depression over east-central Arabian Sea, which intensified into cyclone Nisarga on Tuesday noon is expected to make landfall as a severe cyclonic storm with a wind speed of 100 to 110 kmph gusting to 120 kmph near Alibaug in Raigad district on June 3, the India Meteorological Department (IMD) said on Tuesday. Located 94 km (by road) from Mumbai or 16 km or 9 nautical miles south of Mumbai over the sea, Alibaug is a popular seaside resort town for Mumbai's elite and home to a large fisherfolk community.

It started as a warning on Sunday for mid-week heavy rains in Mumbai and by Monday, rapidly developed into a red alert for several coastal districts as the deep depression progressed over the Arabian Sea. As of Tuesday evening, cyclone Nisarga was 280 km west northwest of Panjim, Goa, 350 km south-southwest of Mumbai, 300 km south-southwest of Alibaug, and 560 km south-southwest of Surat, Gujarat. The IMD said that the cyclone was likely to cross north Maharashtra and the south Gujarat coast on Wednesday afternoon.

"Landfall over Alibaug is expected around noon Wednesday, and the impact will continue till around 3 pm across all four districts," said Sunitha Devi, in-charge of cyclones at IMD.

The western coastline from Konkan's Sindhudurg and Ratnagiri to Saurashtra's Bhavnagar and other districts of Gujarat including Surat and Bharuch have received wind warnings ranging from 55-65 kmph (gusting to 75 kmph) and increasing to gusting speeds of 115-120 kmph in four Maharashtra districts of Palghar, Mumbai, Thane and Raigad. "Extensive damage can be expected in Mumbai also," M Mohapatra, director general, IMD, said.

The last severe cyclonic storm to hit close to Mumbai was in 1961... The important thing is to take all precautions possible, which state governments are trying.

M MOHAPATRA,
director general, IMD

Additional storm surge warnings — shoreward movement of water above astronomical tide height under the action of wind stress — have also been issued for Raigad, Thane, Greater Mumbai and Ratnagiri. Storm surges indicate the extent of inundation to expect. A storm surge of 0.5m to 1.3m over coastal Alibaug may result in flooding up to 1.4km of low-lying area.

Mumbai and Thane, already beleaguered by a daily caseload of Covid-19 infections — the capital city breached the 40,000 mark at the start of the week — are in the cyclonic path, leading to concern over whether the city health care infrastructure would cope.

Roxy Mathew Koll, senior scientist, Indian Institute of Tropical Meteorology Pune, said that if landfall happened over Raigad, maximum rainfall should be expected over areas to its north, where Mumbai is. "If this happens during high tide, then flooding will be a major concern for a city that is already clogged."

"The last severe cyclonic storm to hit close to Mumbai was in 1961. The important thing is to take all precautions possible, which state governments are trying," said Mohapatra.

But experts warned that devastation can be extensive as today's Mumbai is very different from the Bombay of 1960's and has lost most of its floodplains and rivulets and is now counted as among the densest cities in the world. "When heavy rains lash over a city like Mumbai which has lost its flood plains and defences, the flooding gets prolonged there too," said Koll.

IMD officials said pre-monsoon cyclones like Nisarga were not a rare event, citing the example of very severe cyclone Vayu in June 2019, which was supposed to have made landfall over the Gujarat coastline, but ended up as a low pressure system. "We are observing the increase in pre-monsoon cyclones in Arabian Sea. While we should not draw a trend until observing such weather systems for at least a few years, we are assessing whether these systems are intensifying faster than before [which could be] due to numerous factors including rising ocean temperatures," said Sunitha Devi.

"Some of the weakest cyclones at sea are being strengthened due to global warming and climate change impacts," Anjal Prakash, author of an Intergovernmental Panel on Climate Change report, said.

The name, Nisarga proposed by Bangladesh, means 'nature'. It comes in the wake of cyclone Amphan that devastated the lives of over a million people and left 86 dead when it made landfall on May 21 at the Sunderbans, in West Bengal.

"Our weather models are showing the landfall north of Mumbai with crucial period of extremely heavy rain and gale winds expected from Tuesday evening to Wednesday afternoon," said Mahesh Palawat, vice president (meteorology and climate change).

Mumbai municipal body activates disaster plan amid fears of flooding

HT Correspondents

letters@hindustantimes.com

MUMBAI: The maximum city breached the 40,000-mark of Covid-19 positive cases at the start of the week on Sunday. Its mid-week forecast doesn't look too rosy either — barely 9 nautical miles or 16 km (over sea) south of the city, a severe cyclonic storm is expected to make landfall on Wednesday afternoon.

Already stretched in resources due to the coronavirus pandemic, the Brihanmumbai Municipal Corporation (BMC) on Tuesday scrambled to activate its disaster response plan for cyclone Nisarga, which is likely to cause very heavy rainfall and bring with it the threat of inundation in the city's low-lying areas including Dharavi, Dadar and Mahim, all of which fall within G-Ward, which has the highest number of Covid positive cases in the city.

In fact, many of the city's low-lying areas, such as Kurla, Byculla, Wadala, and Andheri have recorded some of the highest numbers of infections, thus raising concern over the impending strain on healthcare facilities. The India Meteorological Department (IMD) said that Mumbai is likely to experience extremely

THE BMC ANNOUNCED THAT IT HAD IDENTIFIED HIGH RISK LOCALITIES AS WELL AS RESIDENTS WHO MAY NEED TO BE MOVED TO SHELTERS, WHICH ARE BEING READIED IN MUNICIPAL SCHOOLS IN THE CITY

heavy rainfall and high speed winds due to the cyclone, which in turn is expected to have the worst impact on slums and tenements, as well as disrupt power and water supply and cause havoc through tree falls and flooding.

Municipal Commissioner IS Chahal instructed all ward officers to identify evacuees, and safe shelters, and prepare evacuation plans, the BMC said in a press release. However the details of these shelters and evacuation plans were not made available by the municipal body. Assistant commissioners of at least three wards that HT spoke to confirmed that all preparations for evacuation were being made, but evacuees were not actually moved to safe shelters yet. This

will only be done if it is absolutely necessary — an indication that the spread of Covid-19 continues to remain top concern for city officials.

"I have identified evacuees, and have two-three schools ready as shelters. But social distancing is a must in Covid-19 times. So they are safe in their homes also. They will be moved immediately if it appears cyclonic conditions are worsening," an official, who did not wish to be named, told HT.

In a meeting with state minister Aaditya Thackeray, Chahal said that in light of the possibility of torrential rains, dewatering pumps have been installed at potential water storage sites. Contractors have been given notice to secure cranes at construction sites and lifeguards have been deployed at various intersections. Equipment like rescue boats and jet skis have been deployed.

The BMC also announced that it had identified high risk localities as well as residents, who may need to be moved to shelters, which are being readied in municipal schools across the city. At least 150 Covid-19 patients were shifted out of a temporary facility constructed at the Bandra Kurla Complex on Tuesday. "The

structural stability of all temporary Covid Care Centres and health facilities is being checked. But the one at BKC was constructed temporarily in an open ground, to house covid-19 patients," a senior civic officer said.

However, the BMC's emergency helpline 1916 — with 60 hotlines operating from the disaster control room at the municipal headquarters — which is used for all disaster response and Covid-19 related calls, became un-operational on Tuesday evening. A phone call to the helpline played the message "This number does not exist". Officers from the disaster management department remained unavailable for comment.

"The overall preparedness of the city is good because we were already preparing for monsoon, which is torrential in Mumbai. So trees have been trimmed, dewatering pumps are active for monsoon, preparedness to handle inundation in low lying areas is there. An evacuation plan for residents living along Mithi river has been activated; landslide prone areas have been identified, along with dilapidated buildings," a senior civic officer, who did not wish to be named, told HT.

Maximum city braces for impact

City officials have these resources to marshal and deal with the possible outcome of the cyclone's landfall on June 3

MUMBAI FIRE BRIGADE

Disaster response standard operating procedure has been activated

35

Total fire stations

150

Fire personnel on standby

Emergency calls fire brigade handles and is prepared for: Tree collapse, house collapse, fires due to short circuit, land slide, floods

Equipment on stand-by

- 63 fire engines fitted with hydraulic, electrical and mechanical gears for cutting, lifting, spreading, and quenching
- 5 rescue vans pneumatic lifting bags, portable chain saws, various cutters, portable generators, flood lights, stretchers
- HAZMAT: Hazardous material handling vehicle with mast pump to transfer flammable liquid, de-contamination tent, chemical containment vessel

For beach safety

- 10** Total fire stations for disaster response near beaches
- 150** Fire Brigade personnel
- 94** Total life guards
- 5** Jet Skis for rescue
- 2** Floating stretchers
- 6** Beaches in Mumbai Fire Brigade's jurisdiction (Girgaum, Dadar, Juhu, Versova, Aksa, and Gorai)
- 6** Boats for rescue
- 6** Kayaks for rescue

NDRF RESPONSE TEAMS

Teams already stationed in Mumbai: 3

Additional teams for disaster response: 5

NDRF personnel: 45 persons per team

Equipment for rescue: Tree and pole cutters, rescue boats, life jackets, rescue ropes, breathing apparatus, floaters and life bouys

BMC

Number of schools identified as shelters: 2 to 3 per ward, Number of dewatering pumps: 300+

FLOOD PLAINS

Three pockets around Mithi have been identified as low lying areas
Schools identified as shelters: 3
Total capacity: 4,500 people

BMC'S INSTRUCTIONS TO ITS STAFF

All machinery, cranes, and loose construction material used in infrastructure projects such as coastal roads, Metro construction to be moved indoors or tied up. Low lying areas to be secured. Silt from nullahs to be discarded

RAILWAYS

Central, Western and Konkan have formed teams that will be positioned near the tracks. Track patrolling will be undertaken and if waterlogging or intense rain prediction is received from IMD, the train services will be stopped. 200 Railway Protection Force officials will be posted at the terminus to assist passengers

BMC ADVISORY FOR CITIZENS

Do's

- Stay away from windows
- Tie loose things outside the house
- Seal important documents and jewellery in a plastic bag
- Switch off power supply in case of sparks in electric equipment

Don'ts

- Stay at the corners of a room as debris accumulate in corners
- Leave battery operated and reserved power systems uninspected
- Keep power supplied to all non-emergency electric equipment and tools

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Coastal states try to evacuate people in time of Covid-19

Hindustan Times - 03/06/20

Surendra P Gangan and
Tanushree Venkatraman
letters@hindustantimes.com

MUMBAI: A day before tropical cyclonic storm Nisarga was expected to make landfall just south of Mumbai bringing with it high speed winds and very heavy rainfall, Maharashtra and Gujarat began evacuating thousands of residents of coastal districts, even as Prime Minister Narendra Modi assured the chief ministers of both states on Tuesday of help from the Centre.

The severe cyclonic storm with an expected wind speed ranging from 100-110 kmph (gusting to 120 kmph) is likely to make landfall near Alibaug in Raigad district on Wednesday afternoon according to a forecast by the Indian Meteorological Department (IMD).

This comes at a time when both states are already reeling under a high caseload of Covid-19 infections — while Maharashtra recorded 72,300 cases, Gujarat recorded 17,632 cases as on June 2 — raising concerns over the strain it would place on their health care infrastructure and municipal resources.

While Gujarat had started moving 13,000 people from coastal areas, Maharashtra had evacuated at least 7,600 people till Tuesday evening. Another 21,000 are expected to be moved from Palghar and at least 35,000 residents of Raigad — where the cyclone is expected to make landfall — will be evacuated, as well.

The National Disaster Relief Force (NDRF) has deployed 40 teams in Maharashtra, Gujarat and the UT.

Five additional NDRF teams from Visakhapatnam, Andhra Pradesh will be airlifted and deployed in Mumbai by Wednesday morning, a senior commander from NDRF said. State disaster relief teams have also been activated.

Officials of Gujarat and Maharashtra said that care was being taken to ensure separation of Covid-19 positive cases from others during the evacuation efforts. Anupam Srivastava, NDRF Maharashtra commandant, said each jawan has been provided with a rescuer Covid kit. "It will

OFFICIALS OF GUJARAT AND MAHARASHTRA SAID THAT CARE WAS BEING TAKEN TO ENSURE SEPARATION OF COVID-19 POSITIVE CASES FROM OTHERS DURING THE EVACUATION EFFORTS

be a difficult rescue operation, but we are well-prepared," Srivastava said.

Pankaj Kumar, additional chief secretary (ACS), revenue of Gujarat said that rescue teams were equipped with masks, PPE kits and hand sanitiser. "We will ensure that power cut doesn't affect functioning of Covid-19 hospitals," Kumar said.

On Tuesday, Maharashtra chief minister Uddhav Thackeray asked local residents to not step out of their houses on Wednesday and Thursday, and ordered establishments, which had opened in the past few days after the lockdown, to stay shut.

Of the seven districts likely to be affected in Maharashtra, Sindhudurg and Ratnagiri have more tehsils at the elevation of just 5 to 15 m above sea level, putting them at greater risk of inundation in the event of very heavy rainfall as predicted. Most of the district collectors have imposed curfew in the tehsils expected to be hit of cyclone over next three days.

Ganesh Kashnath Lohar, 30, a fisherman who resides 500-metres from the coast close to Mandwa jetty in Alibaug was surprised to see four boats and 13 officials of the Maharashtra Maritime Board, district collector's office and NDRF on Tuesday, as they assessed the level of storm surge in the region.

"We had only heard about devastating impacts that cyclones had caused in south Konkan but now, based on warnings issued by district officials, we are expecting to witness it first hand," said Lohar, adding, "First it was the lockdown that restricted fishing for almost the entire month of March, and then when we began fishing for just over a month, now a cyclone is coming."

With inputs from Jaykishan Sharma

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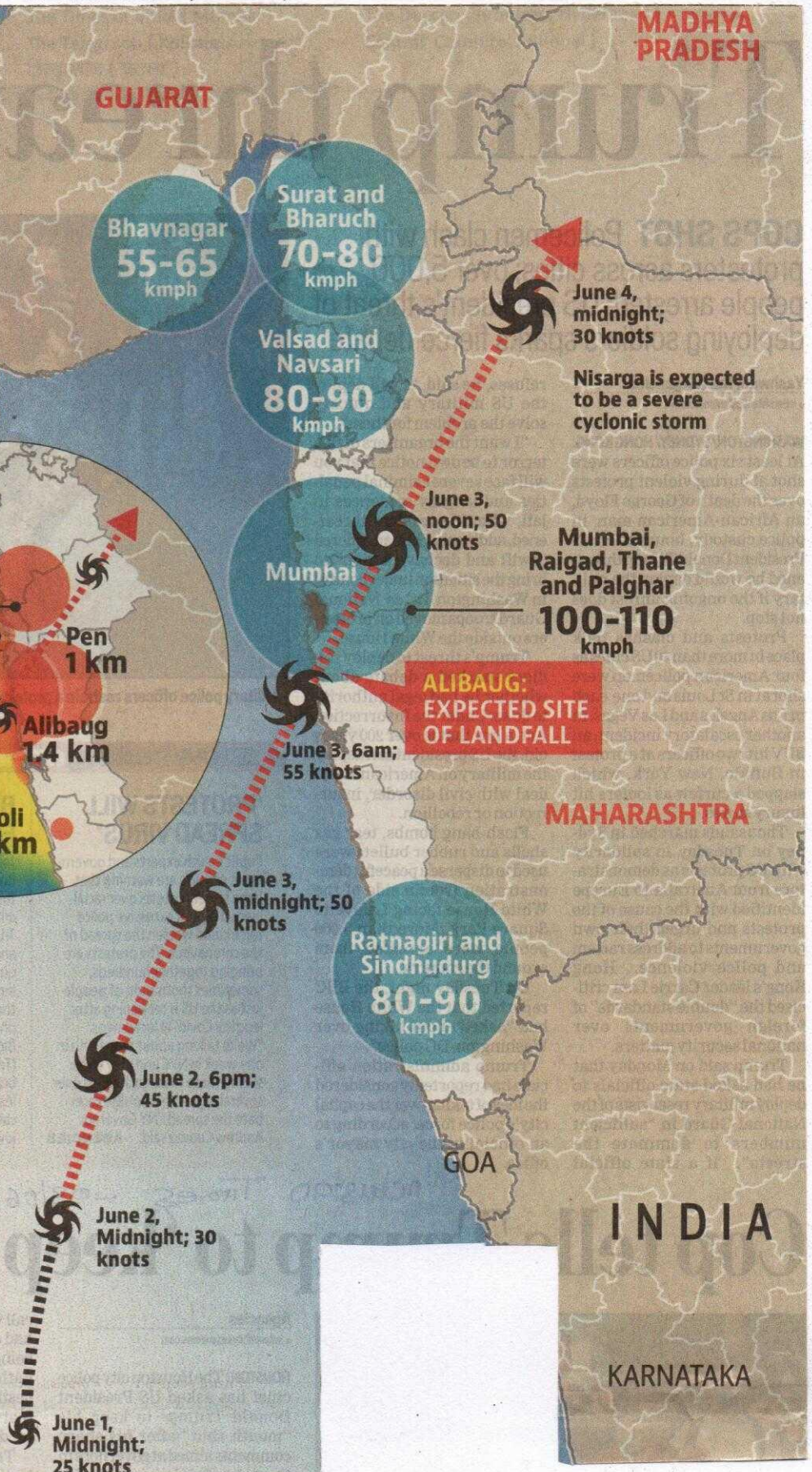
The Deccan Herald (Bengluru)

- District-level wind speed warning for Wednesday (in kmph)
- Expected inundation extent due to storm surge (in km)

PROGRESS OF A CYCLONE

A red alert has been issued for Mumbai, Thane, Palghar, Raigad, Dhule, Nandurbar, Nashik, and Pune.

A red alert warning directs the state, district and municipal authorities to take precautionary action based on a forecast for widespread extremely heavy rain with high speed winds by the weather department.



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FAQs

What is a severe cyclonic storm?

A cyclonic storm that travels at 89-117kmph is categorised as a severe cyclonic storm. By comparison, Cyclone Amphan, which was a super cyclone, travelled at a speed of 220kmph, but made landfall as a very severe cyclonic storm, which is characterised by speeds of 118-164kmph

What is storm surge?

■ The difference between the actual water level under the influence of a meteorological disturbance (storm tide) and the level, which would have been reached in the absence of the meteorological disturbance (astronomical tide). Storm surge results mainly from the shoreward movement of water under the action of wind stress.

■ Storm surge is expected to be about 1-2 meters height above astronomical tide and is 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.

What is an astronomical tide?

Tides are long-period waves that move through the oceans in response to the forces exerted by the moon and sun. Tides originate in the oceans and progress toward the coastlines where they appear as the regular rise and fall of the sea surface.

What is cyclogenesis?

Development or strengthening of cyclonic circulation in the atmosphere (a low pressure system)

Why is sea surface temp important?

A tropical cyclone can be compared to a heat engine. The energy input is from warm water and humid air over tropical oceans. When the sea surface temperature is warmer than normal e.g. it is about 32 degree C in parts



■ An Indian Navy rescue team gears up to assist local residents ahead of cyclone Nisarga in Mumbai on Tuesday.

PTI