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Source : www.livemint.com Date : 2022-05-10

MINT

Relevant for: Geography | Topic: Important Geophysical Phenomenon - Tropical Cyclones

Severe cyclonic storm Asani is about 590 km southwest of Puri in Odisha and is about 510 km south-southwest of Gopalpur, the Meteorological Centre said on Tuesday, according to news agency *ANI* report.

The storm moved with a speed of 12kmph in west northwest direction during last six hours and is about 590 southwest of Puri and about 510 km south southwest of Gopalpur in Odisha, the Meteorological Centre noted.

Severe Cyclonic Storm Asani is about 590 km* southwest of Puri & about 510 km south-southwest of Gopalpur, Odisha: Meteorological Centre, Bhubaneswar

The severe cyclonic storm which packed gale-force winds up to 120 kmph, is likely to curve away from the coast and run parallel to the east coast in a north-northeast-ward direction and gradually weaken, the Met office said on Monday. Coming close to North Andhra Pradesh-Odisha coasts, it is likely to lessen in intensity into a cyclonic storm by Tuesday night.

On Sunday, IMD Director General Mrutunjay Mohapatra had said that the cyclone will not make landfall either in Odisha or Andhra Pradesh but will move parallel to the east coast and cause heavy rain.

At least 11 fishermen from Odisha, who were stranded for around eight hours in the rough sea due to the raging severe cyclone 'Asani', were rescued on Monday with help of the Indian Coast Guard, an official said. The fishermen had on May 7 gone to Andhra Pradesh's Visakhapatnam to buy a fishing boat, and while returning from there, they were stuck in the sea around 4-5 km off the coast near Sonaput in Ganjam district after their newly-bought vessel developed some technical glitches, he said.

The cyclonic storm system, which lay about 410 km southeast of Visakhapatnam and 590 km south of Puri at 2.30 pm on Monday, is moving in a north-westward direction with a sustained surface wind speed of 100-110 kmph gusting to 120 kmph. It caused heavy to moderate rainfall in Odisha and West Bengal during the day. Under the influence of the cyclone, coastal Odisha and adjoining areas of north coastal Andhra Pradesh and coastal West Bengal are expected to receive more rainfall from Tuesday evening.

The weather office said that very high sea conditions were likely to prevail over west-central and adjoining south Bay of Bengal and asked fishermen not to venture out in the region from Tuesday for at least two days. It also advised that tourism activities in coastal areas and sea beaches be suspended till May 13. In Odisha, two to three spells of rain occurred in districts such as Khurda, Ganjam, Puri, Cuttack and Bhadrak.

The Odisha government on Monday planned evacuation of people residing in four coastal districts. Distant warning signal 2 (asking ships not to come near the coast) has been hoisted in all ports in Odisha in view of the approaching severe cyclone. The cyclone is likely to cause heavy rain in the southern part of West Bengal including Kolkata, Howrah, Purba Medinipur, North and South 24 Parganas and Nadia districts between Monday and Thursday, the weatherman said. Kolkata and its adjoining areas received a spell of downpour on Monday morning, leading to waterlogging of thoroughfares and causing traffic snarls in various parts of the city.

The Regional Met department at Alipore in Kolkata recorded 58 mm rainfall till 5.30 pm, while Salt Lake received 61 mm rainfall. The weather office in Ranchi said that Jharkhand will experience light to moderate rainfall, besides lightning and thunderstorm, in its southern, central and northeast parts from May 11 to 13. Gusty winds at speed of 30 to 40 kmph are also expected in some pockets. “Since the system is unlikely to make landfall on either Odisha or Andhra Pradesh, it will not make any large impact in Jharkhand. The state will experience a change in weather due to the system’s expanded cloud band and the incursion of moisture from the Bay of Bengal," Ranchi meteorological centre in charge Abhishek Anand told *PTI*.

The system is expected to provide further respite from the hot weather condition. Jharkhand’s maximum temperature has already dropped by one to two degrees Celsius from the normal due to intermittent rains in parts of the state for the past few days. Capital Ranchi registered 34.6 degrees Celsius at 2.30 pm on Monday, a drop of 1.6 degrees Celsius from Sunday.

Daltonganj recorded the state’s highest temperature at 39.8 degrees Celsius, a fall of one degree Celsius from the normal since Sunday, and Jamshedpur at 36.6 degrees Celsius, a drop of 2.4 degrees Celsius from the normal temperature, the Met office said. In Andaman and Nicobar Islands, however, normal life remained unaffected as no rainfall was experienced on Monday. Inter-island ferry services were operational but fishermen were advised not to venture into deep seas, officials said.

(With inputs from agencies)

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Source : www.thehindu.com Date : 2022-05-13

EXPLAINED

Relevant for: Geography | Topic: Important Geophysical Phenomenon - Tropical Cyclones

A pair of tropical cyclones, Asani & Karim one on each side of the equator, is putting on a show for satellites passing over the Indian Ocean. | Photo Credit: Nasa Earth Observatory

Recent satellite images have shown a pair of cyclones in the Indian Ocean region, one in the northern hemisphere and one in the southern hemisphere. Named cyclone Asani and cyclone Karim respectively, these are twin cyclones originating in the same longitude and now drifting apart.

According to a bulletin posted on the Indian Meteorological Department website, the severe cyclonic storm Asani moved in from its position in the Bay of Bengal, reaching a point 210 km south-southeast of Kakinada in Andhra Pradesh around 11.30 a.m. on May 10. It is expected to move nearly northwestwards and reach the coast near Kakinada-Vishakhapatnam around the morning of May 11. Then it is predicted to curve and move along the Andhra Pradesh coast before moving back over the Bay of Bengal, where it will weaken to a cyclonic storm and then a depression by the morning of May 12.

It is fascinating that cyclone Asani is not alone, but has a twin in the southern hemisphere – cyclone Karim. According to NASA's Earth Observatory website, cyclone Karim has created a path in the open seas west of Australia.

A much stronger wind speed has been observed in this member of the pair, which has led to its classification as a category one hurricane. According to the website, the cyclone will weaken quickly due to wind shear in the coming days and will pose no problem for heavily populated areas, although it may affect the Cocos Islands with a population of 600.

Twin cyclones are not really rare. The interplay of the wind and the monsoon system combined with the Earth system produces these synchronous cyclones.

Debasis Sengupta, professor at the Centre for Atmospheric and Oceanic Sciences at the Indian Institute of Science, Bengaluru, explains that twin tropical cyclones are caused by what are called equatorial Rossby waves.

Rossby waves are huge waves in the ocean with wavelengths of around 4,000–5,000 kilometres. This system has a vortex in the northern hemisphere and another in the southern hemisphere, and each of these is a mirror image of the other. The vortex in the north spins counterclockwise and has a positive spin, while the one in the southern hemisphere spins in the clockwise direction and therefore has a negative spin. Both have positive value of the vorticity which is a measure of the rotation. Very often twin cyclones are formed from these Rossby waves.

Rossby waves are named for famous meteorologist Carl-Gustaf Rossby who was the first to explain that these waves arose due to the rotation of the Earth.

When the vorticity is positive in both Northern and Southern hemispheres, as is the case with Rossby waves, the air in the boundary layer, which is moist, is lifted slightly. That is enough to set off a feedback process.

When the air is lifted slightly, the water vapour condenses to make clouds. As it condenses, it

lets out the latent heat of evaporation. The atmosphere warms, this parcel of air rises, and a positive feedback is set off by this process. The warmer parcel of air can rise further because it is lighter than the surrounding air, and it can form deeper clouds. Meanwhile, moisture comes in from both sides. This leads to the formation of a cyclone if certain conditions are present.

“The ocean’s surface temperature has to be 27 degrees or warmer; the wind shear in the atmosphere must not be too high,” says Prof. Sengupta. For example, if you have westerly winds at the lower level and easterly winds at the upper level, if the difference between them is too high, cyclones will not form. But if the difference is modest, cyclones will still form. “There will be a big, tall vortex with all sorts of clouds inside. Once they are stronger, they will spin faster and faster and organise themselves into the big storms,” says Prof. Sengupta.

Yes, once they form, generally, they will go westward. In the northern hemisphere, they will have a slightly northward component of motion; whereas, in the southern hemisphere, they will usually have a slightly southward component to their movement. So this means the northern hemisphere cyclone would go North and West, while the southern one would go South and West.

The MJO is a large cluster of clouds and convection, around 5000-10,000 kilometres in size. It is composed of a Rossby wave and a Kelvin wave, which is a type of wave structure that we see in the ocean. On the eastern side of the MJO is the Kelvin wave, while on the western, trailing edge of the MJO, is the Rossby wave, once again with two vortices on either side of the equator.

However, not all tropical cyclones are born from the MJO. Sometimes it is a mere Rossby wave with two vortices on either side.

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Source : www.pib.gov.in Date : 2022-05-16

PRESIDENT OF INDIA ADDRESSES THE GOLDEN JUBILEE CELEBRATIONS OF AKHIL BHARTIYA KOLI SAMAJ THROUGH A PRE-RECORDED VIDEO MESSAGE

Relevant for: Geography | Topic: Indian Demography including Tribes

The President of India, Shri Ram Nath Kovind addressed the golden jubilee celebrations of Akhil Bhartiya Koli Samaj today (May 14, 2022) through a pre-recorded video message.

In his address, the President said that he would be happier if he could address the gathering in person. But due to obligations of his constitutional position, he had to go for a state visit of Jamaica and Saint Vincent and Grenadines to further strengthen India's mutual relations with these countries.

Recalling his association with Akhil Bhartiya Koli Samaj since its inception, the President said that the golden jubilee celebration of this society is personally very satisfying and pleasant achievement for him. It takes a lot of hard work and dedication to build and grow any organization. Therefore, it is a matter of pride for all of us that by moving forward together today we are all celebrating the golden jubilee of Akhil Bhartiya Koli Samaj. More satisfaction is that the members of this society have made their valuable contribution in the progress of the society and nation.

The President said that visionary people of our previous generations took small steps to give direction to the society. Subsequent generations went further. He expressed confidence that younger generations would take the identity and dignity of Koli Samaj to even higher level and members of the society would continue to present examples of modernity, sensitivity, service to humanity and patriotism. He urged every member of the Koli Samaj to take a pledge that they would not only increase the prestige of our society but also continue to contribute in the nation-building.

Click here to see the President's Speech

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DS/BM

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Click here to see the President's Speech

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DS/BM

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Source : www.thehindu.com Date : 2022-05-18

EXPLAINED

Relevant for: Geography | Topic: Indian River System Including Lakes, and HEPs

Barrier removal on Hucava river in Slovakia in progress. | Photo Credit: Screenshot via YouTube/DamRemovalEurope

The story so far: At least 239 barriers – a record figure – were removed from rivers across 17 countries of Europe, the 2021 Dam Removal Progress report has revealed. This is a 137 per cent increase from the previous year.

A total of 4,984 dams have been removed so far, according to data from nations across Europe —France, Sweden, Finland, Spain, Scotland, Denmark, Portugal, Italy, Switzerland, Estonia, Germany, and England and Wales,

The Dam Removal Progress report has been prepared by Dam Removal Europe (DRE), an organisation that aims to restore rivers in the continent that have high cultural or natural importance. It is a coalition of seven organisations – World Wildlife Fund, The Rivers Trust, The Nature Conservancy, the European Rivers Network, Rewilding Europe, Wetlands International, and the World Fish Migration Foundation.

The report serves as a means for European countries to evaluate EU policies and track the progress and impact of the removal of dams and subsequent river restoration. The 2021 report shows an increase in both the total number of removals and the number of European countries reporting barrier removals.

The EU’s 2030 Biodiversity Strategy lists restoring 25,000 km of rivers across the bloc to a “free-flowing state” as one of the key steps to improve degraded ecosystems. The Biodiversity Strategy is a core part of the European Green Deal.

Spain led the way in barrier removal in 2021, removing 108 barriers over its rivers, while Portugal, Montenegro, and Slovakia reported removing riverine barriers for the first time.

There was a 55 per cent jump in the number of countries which reported their barrier removal statistics in 2021 as compared to the previous year.

All riverine barriers eventually outlive their utility and no longer serve any economic purpose. In 2020, a study led by French scientist Barbara Belletti found that around 15 per cent of the 1.2 million barriers on rivers and streams in Europe are obsolete. In most cases, costs of demolition are lower than costs of repair for such obsolete barriers.

In Finland, the first of three dams under the Hiitolanjoki restoration project was demolished in 2021, and the rest of the dams are expected to be removed in the coming years. The main objective of the project is to enable upstream migration of the landlocked salmon population at Lake Ladoga. The Hiitolanjoki project is the largest river restoration project in Finland.

For a barrier removal to qualify as successful, it must have been removed through its full vertical extent so that a significant portion of the stream can pass through, allowing ecological flow, and for fish to pass. Per the International Union for Conservation of Nature (IUCN), ecological or environmental flow refers to water required for a river, coastal zone, wetland, or other water body “to maintain ecosystems and their benefits where there are competing water uses and where flows are regulated.”

Technical fishways and bypasses are not considered to be barrier removals.

Data presented in the 2021 Dam Removal Progress report has been collected from three sources:

On the face of it, dams fragment rivers and streams, but their effects are far-reaching. Dams, and barriers at large, lead to the loss of habitat for species belonging to riverine ecosystems and severely impact the routes of migratory fish. A 2020 analysis by the World Fish Migration Foundation found that migratory freshwater fish in Europe have declined by 93 per cent.

High sedimentation in older dams is a threat to their structural integrity and can lead to floods and other threats to life. In some rivers, the loss of income from fishing is larger than the value of power produced by hydroelectric dams.

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MINT

Relevant for: Geography | Topic: Important Geophysical Phenomenon - Tropical Cyclones

MEXICO CITY : The first hurricane of the season formed off Mexico's southern Pacific coast Sunday and rapidly gained power ahead of an expected strike along a stretch of tourist beaches and fishing towns as a major storm.

Agatha could make landfall as a Category 3 hurricane Monday afternoon or evening in the area near Puerto Escondido and Puerto Angel in the southern state of Oaxaca — a region that includes the laid-back tourist resorts of Huatulco, Mazunte and Zipolite.

In early evening Sunday, the recently formed hurricane had maximum sustained winds of 110 mph (175 kph) — just 1 mph under the threshold for a Category 3, the U.S. National Hurricane Center said. It was centered about 160 miles (255 kilometers) southwest of Puerto Angel and heading to the northeast at 5 mph (7 kph).

The center said Agatha could have winds of 120 mph (193 kph) when it makes landfall.

A hurricane warning was in effect between the port of Salina Cruz and the Lagunas de Chacahua.

The civil defense office in Oaxaca said the hurricane's outer bands were already hitting the coast. The office published photos of fishermen hauling their boats up on beaches to protect them from the storm.

Municipal authorities in Huatulco ordered "the absolute closure" of all the resort's beaches and its famous "seven bays," many of which are reachable only by boat. They also closed local schools and began setting up emergency storm shelters.

To the east in Zipolite, long known for its clothing-optional beach and bohemian vibe, personnel at the small Casa Kalmar hotel gathered up outdoor furniture and put up wooden storm shutters to prevent strong winds from blowing out glass windows and doors.

"The biggest worry here is the wind," hotel manager Silvia Ranfagni said.

With only one guest — and plenty of cancellations due to the hurricane — Ranfagni planned to ride out Agatha at the property, which is three or four blocks from the beach.

"I'm going to shut myself in here with my animals," she said, referring to her dog and cats.

The government's Mexican Turtle Center — a former slaughterhouse turned conservation center in Mazunte — announced it was closed to visitors until further notice because of the hurricane.

The U.S. National Hurricane Center warned of dangerous costal flooding as well as large and destructive waves near where Agatha makes landfall.

The storm was expected to drop 10 to 16 inches (250 to 400 millimeters) of rain on parts of Oaxaca state, with isolated maximums of 20 inches (500 millimeters), posing the threat of flash floods and mudslides.

Because the storm's current path would carry it over the narrow waist of Mexico's isthmus, the

hurricane center said there was a chance the storm’s remnants could reemerge over the Gulf of Mexico.

In northern Guatemala, a woman and her six children died Saturday when a landslide hit their home, but the accident did not appear to be related to Agatha.

END