



PIB, THE HINDU Newspaper and Editorial Current Affairs

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Phantom Lakes

Why in news?

Scientists provided the most comprehensive look to date at one of the solar system's most exotic features: prime lakeside property in the northern polar region of **Saturn's moon Titan, lakes made of stuff like liquid methane.**

Findings of the study:

- Using data obtained by **NASA's Cassini spacecraft before that mission ended in 2017** with a deliberate plunge into Saturn, the scientists found that some of frigid Titan's lakes of liquid hydrocarbons in this region are surprisingly deep while others may be shallow and seasonal.
- Titan and Earth are the solar system's two places with standing bodies of liquid on the surface. **Titan boasts lakes, rivers and seas of hydrocarbons:** compounds of hydrogen and carbon like those that are the main components of petroleum and natural gas.
- The researchers described landforms akin to mesas towering above the nearby landscape, topped with liquid lakes more than 300 feet (100 meters) **deep comprised mainly of methane.**
- The scientists suspect the lakes formed when surrounding bedrock chemically dissolved and collapsed, a process that occurs with a certain type of lake on Earth.
- The scientists also described "**phantom lakes**" that during wintertime appeared to be wide but shallow ponds perhaps only a few inches (cm) deep but evaporated or drained into the surface by

springtime, a process taking seven years on Titan.

Titan's hydrological cycle:

- The findings represented further evidence about Titan's hydrological cycle, with liquid hydrocarbons raining down from clouds, flowing across its surface and evaporating back into the sky. This is comparable to Earth's water cycle.
 - Because of Titan's complex chemistry and distinctive environments, scientists suspect it potentially **could harbour life**, in particular in its subsurface ocean of water, but possibly in the surface bodies of liquid hydrocarbons.
 - **Titan, with a diameter of 3,200 miles (5,150 km), is the solar system's second largest moon, behind only Jupiter's Ganymede. It is bigger than the planet Mercury.**
 - Titan is the **most Earth-like body** in the solar system. It has lakes, canyons, rivers, dune fields of organic sand particles about the same size as silica sand grains on Earth.
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Second generation policy signal

Why in news?

The recent statement by Reserve Bank of India (RBI) Governor Shaktikanta Das that suggested moving away from the **conventional magnitude of rate revisions** that are in multiples of 25 bps (basis points), was indicative of second-generation policy signals on the lines of the U.S. Federal Reserve, State Bank of India said in a report.

Report says:

- In a speech last week, Mr. Das had said that calibrating the size of the policy rate and the size of the change itself can convey the stance of policy.
- We believe that such thinking signifies the RBI's intent to use communication as a policy in itself rather than being the policy

statement being the vehicle for communication. These are akin to second generation policy signals that Fed provides to the market now,” wrote in a note.

Reducing disconnect:

- The report said second generation signals will reduce the disconnect with market expectations in the subsequent press conference with researchers and analysts.
 - The report says the intent of the RBI Governor looked quite positive but seemed to be futuristic.
 - It also raises the question that when 25 bps rate cut, or sometimes even a 50-bps rate cut is not able to initiate a transmission of rate cut, how an indicative rate cut of 10 or 15 bps will work.
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Notre-Dame cathedral

Why in news?

The fire that tore through Notre-Dame cathedral was probably caused by accident, French prosecutors said after fire-fighters doused the last flames in the ruins overnight and the nation grieved for the destruction of one of its symbols.

Rescue Operation:

- More than 400 firemen were needed to tame the inferno that consumed the roof and collapsed the spire of the **eight-centuries-old cathedral**. They worked through the night to extinguish the fire some 14 hours after it began.
- There was no obvious indication the fire was arson. Fifty people were working on what would be a long and complex investigation.
- One fire-fighter was injured but no one else was hurt in the blaze, which began after the building was closed to the public for the evening.
- From the outside, the imposing bell towers and outer walls, with their

vast flying buttresses, still stood firm, but the insides and the upper structure were eviscerated by the blaze.

- Fire-fighters examined the **gothic facade** and could be seen walking atop the belfries as police kept the area in lockdown. Investigators will not be able to enter the cathedral's blackened nave until experts are satisfied its stone walls withstood the heat and the building is structurally sound.
- The fire swiftly ripped through the cathedral's timbered roof supports, where workmen had been carrying out extensive renovations to the spire's wooden frame.

Treasure of France:

- Hundreds of stunned onlookers had lined the banks of the **Seine river** late into the night as the fire raged, reciting prayers and singing liturgical music in harmony as they stood in vigil.
- It was at **Notre-Dame that Napoleon was made Emperor in 1804**, Pope Pius X beatified Joan of Arc in 1909 and former presidents Charles de Gaulle and Francois Mitterrand were mourned.
- President Emmanuel Macron promised to rebuild Notre-Dame, considered among the **finest examples of European Gothic architecture**, visited by more than 13 million people a year.
- Notre-Dame is owned by the State. It has been at the centre of a years-long row between the nation and the Paris archdiocese over who should finance restoration work to collapsed balustrades, crumbling gargoyles and cracked facades.

