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La Soufriere Volcano Eruption

- Sulphur dioxide (SO2) emissions from La Soufriere volcanic eruption in the Caribbean have reached India, sparking the fear of increased pollution levels in the northern parts of India and acid rain.
- Volcanic plumes reached a height of 20 kms above the Earth's surface, seen by the Multi-Angle Imaging Spectro Radiometer instrument on NASA's Terra satellite. It will cause aviation and air quality hazards.
- La Soufrière has delivered 0.4-0.6 teragram of SO2 into the upper atmosphere which is the highest-ever recorded after satellites started observing the Earth's atmosphere in the mid 20th century.

Effect of Sulphur Emissions

- Emission particles in the relatively dry stratosphere last much longer and travel much farther than if they remain in the troposphere.
- This might be the reason that the particles have reached as far as India and will likely travel beyond to reach South East Asia.
- The impacts from volcanic injections into the stratosphere come from the conversion of sulphur dioxide to sulphuric acid, which condenses rapidly in the stratosphere to form fine sulphate aerosols.
- These aerosols increase the reflection of radiation from the Sun back into space, cooling the Earth's lower atmosphere or troposphere.

La Soufrière

- It is a volcano on St Vincent Island in the West Indies. It is one of the 45 currently erupting volcanoes on Earth. Last eruption was in 1979.
- It is a stratovolcano with a crater lake and is the St Vincent Island's youngest and northernmost volcano.

Indo-French Agreement on Gaganyaan Mission

- Space agencies of India (Indian Space Research Organisation) and France (National Centre for Space Studies - CNES) signed an agreement for cooperation for India's first human space mission Gaganyaan.
- CNES will train India's flight physicians and CAPCOM mission control teams

in France at the CADMOS centre at CNES in Toulouse and the European Astronaut Centre (EAC) in Cologne, Germany.
- The agreement provides for the CNES to support implementation of a scientific experiment plan on validation missions, exchange information on food packaging and the nutrition programme.
- There will be help on the use by Indian astronauts of French equipment, consumables and medical instruments.
- French equipment developed by CNES, operating at the International Space Station (ISS) will be made available to Indian crews.
- The CNES will also be supplying fireproof carry bags made in France to shield equipment from shocks and radiation.

Currency Practices Monitoring List

- The United States of America placed 11 countries in its Currency Practices Monitoring List or Currency Manipulators Watch List.
- Countries in the List are India, China, Japan, South Korea, Germany, Italy, Ireland, Malaysia, Singapore, Thailand and Mexico.
- As directed by the US Congress, Department of Treasury has established a monitoring list of major trading partners that merit close attention to their currency practices and macroeconomic policies.
- An economy meeting two of the three criteria in the Trade Facilitation and Trade Enforcement Act of 2015 is placed on the Monitoring List.
    1. High bilateral trade surplus with the US - at least USD 20 billion over a 12-month period.
    2. A material current account surplus equivalent to at least 2% of Gross Domestic Product (GDP) over a 12-month period.
    3. Persistent, one-sided intervention - when net purchases of foreign currency totalling at least 2% of the country's GDP over a 12 month period are conducted repeatedly, in at least six out of 12 months.
- Countries that meet all three of the criteria are labeled as currency manipulators by the Treasury.
- Treasury will add on the List any major US trading partner that accounts for a large and disproportionate share of the overall US trade deficit even if that economy has not met two of the three criteria from the 2015 Act.

Multisystem Inflammatory Syndrome in Children

- Doctors in the United States have reported neurological symptoms in children with Multisystem Inflammatory Syndrome in Children (MIS-C).
- MIS-C is a surge of inflammation triggered by an immune response to the COVID infection. It emerges 2 to 6 weeks after a Covid infection, often one

that produces only mild symptoms or none at all.
- It is rare, but can be very serious.
- **Symptoms** - Headaches, Encephalopathy (confusion, problems with memory or attention and other types of altered mental function), visual hallucinations, weakness or difficulty controlling muscles used in speech.
- Some have balance or coordination problems, seizures and peripheral nerve abnormalities (weakness in facial or shoulder muscles).
- On time treatment with care will help is reducing complications.

Global Diabetes Compact

- It was launched by the World Health Organization (WHO) to better fight the diabetes while marking the centenary of the insulin discovery.
- The number of people with diabetes has quadrupled in the last 40 years.
- About half of all adults with type 2 diabetes remain undiagnosed and 50% of people with type 2 diabetes don't get the insulin they need.
- The Compact will bring together in all WHO materials available for the prevention and management of diabetes, both existing and new.
    1. Prevention side - Reducing obesity, mainly among young people.
    2. Treatment side - Scaling up access to diagnostic tools and medicines, mainly in low- and middle-income countries.
- It will set standards for tackling the diseases in the form of '**global coverage targets**' for ensuring a wider reach of diabetes care.
- The bodies will also release a '**global price tag**' that will calculate the costs and benefits of meeting these targets.
- It aims to **unite key stakeholders** from the public and private sectors, and, critically, people who live with diabetes, around a common agenda, to generate new momentum and co-create solutions.
- It aims to ensure care during humanitarian emergencies.

Diabetes

- It is the only major Non-Communicable Disease (NCD) for which the risk of dying early is going up. It is a major co-morbid conditions linked to severe COVID-19 infections.
- Diabetes is a disease that occurs when the body doesn't make enough or any insulin hormone or doesn't use insulin well. It occurs when your blood glucose (blood sugar) is too high.
- **Types of diabetes** - Type 1, type 2, and gestational diabetes.
    - **Type 1 diabetes** occurs when a person's body doesn't make insulin, as the immune system attacks and destroys the cells in the pancreas that make insulin.
    - It is usually diagnosed in children and young adults, although it can

appear at any age. (So, it is known as juvenile diabetes).
    - People with type 1 diabetes need to take insulin every day to stay alive (So, it is known as insulin-dependent diabetes).
    - **Type 2 diabetes** is the most common type of diabetes that occurs when a person's body does not make or use insulin well.
    - It can develop at any age. However, it occurs most often in middle-aged and older people.
    - **Gestational diabetes** develops in some pregnant women. Most of the time, this type of diabetes goes away after the baby is born.
    - However, if one have had gestational diabetes, they have a greater chance of developing type 2 diabetes later in life.
    - **Other types of diabetes** - Monogenic diabetes (an inherited form of diabetes), and cystic fibrosis-related diabetes.

Disk-footed Bat

- Disk-footed bat (Eudiscopus denticulus) was recorded in Meghalaya's Lailad area near the Nongkhyllem Wildlife Sanctuary.
- Meghalaya has yielded India's first bamboo-dwelling bat with sticky disk-like pads in the thumb and bright orange colouration.
- The disk-footed bat was also found to be genetically very different from all other known bats bearing disk-like pads.
- Their very high frequency echolocation calls, flattened skull and sticky pads make them suitable for orientation in a cluttered and cramped environment such as inside bamboo groves.

Nongkhyllem Wildlife Sanctuary

- It falls in the Eastern Himalayan Global bio-diversity hot spot.
- It is located near Lailad village in the Ri Bhoi district of Meghalaya.
- Species - Endangered Rufous Necked Hornbill and the brown hornbill bird, the Bengal tiger, the black bear, the leopard.

Source: PIB, The Hindu, The Indian Express, Down To Earth, Business Line, Deccan Herald

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