

Thread

What are Threads?

- Launched by Facebook, Instagram, and WhatsApp parent Meta on July 5, Threads is a text-based public conversation app that was built by the team behind the photo-sharing app Instagram.
- Both iOS and Android users in over 100 countries could access the app this week

What is AT Protocol?

- Authenticated Transfer (AT) protocol is an open and decentralized standard for social media. AT is being developed by Bluesky, and it will help developers build social apps that safeguard users' data and privacy while increasing account portability across servers.
- Bluesky was started as a project at Twitter in 2019

THE HINDU

Global primary forest cover

- Tropical areas lost 4.1 million hectares of forest cover equivalent to losing an area of 11 football fields per minute in 2022, new research quoted by the World Resources Institute's (WRI) Global Forest

Watch has said.

- This forest loss produced 2.7 billion tonnes of carbon dioxide emissions, which is around the same as India's annual emissions due to the combustion of fossil fuels.
- According to the University of Maryland, primary forest cover loss in tropical areas in 2022 was 10% more than in 2021.
- Primary forests are mature, natural forests that have remained undisturbed in recent history.
- They often store more carbon than other forests and are rich sources of biodiversity
- WRI measures progress on two goals ending deforestation by 2030 and restoring 350 million hectares (MHA) of lost and degraded forests by 2030 that represent multiple global forest pledges.
- We need to reduce global deforestation by at least 10% every year to meet the 2030 target.
- Brazil and the Democratic Republic of Congo are the two countries with the most tropical forest cover and both registered losses of this resource in 2022. Ghana and Bolivia

also rapidly lost their primary forest cover.

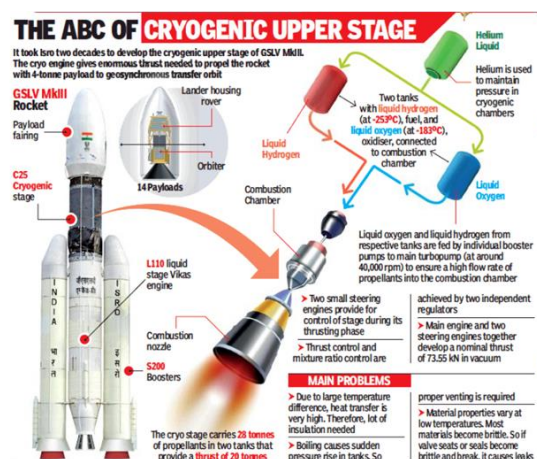
- Forest loss in the Amazon basin not only affects carbon but also regional rainfall. If deforestation continues at the current rate, it may eventually lead to a tipping point that, if crossed, could convert most of the ecosystem into a savanna.
- The Democratic Republic of Congo lost more than half a million hectares of primary forest cover in 2022.
- As the population of the country grows, there is more demand for food, which in turn is leading to an expansion of area under agriculture and encroachment of land hosting primary forests.
- Indonesia, on the other hand, reduced its primary forest loss rate more than any other country has in recent years.
- Malaysia also managed to keep its primary forest loss level low in 2022, alongside Costa Rica, China, Cote d'Ivoire, Vietnam, Gabon, Madagascar, Nicaragua, and Equatorial Guinea.
- According to Global Forest Watch, India lost 43.9 thousand hectares of humid primary forest between 2021

and 2022, which accounts for 17% of the country's total tree cover loss in the period.

- The total tree cover loss in India between 2021 and 2022 was 255,000 hectares.
- The total global tree cover loss in 2022 declined by 10%. This includes primary, secondary, and planted forest

THE HINDU

LVM3



- The Indian Space Research Organisation (ISRO) has three classes of launch vehicles: the Polar Satellite

Launch Vehicle (PSLV), the Geosynchronous Satellite Launch Vehicle (GSLV), and the new Small Satellite Launch Vehicle (SSLV).

- Of these, ISRO has launched the PSLV the most.
- It has a famous reputation as a “workhorse”, with a very low failure rate.
- The PSLV can lift up to 3.8 tonnes to low earth orbit.
- ISRO developed and uses the GSLV to launch heavier payloads, and if required into higher orbits. Like the PSLV, the GSLV also has multiple configurations.
- The most powerful configuration is LVM-3, short for ‘Launch Vehicle Mark 3’; it can lift up to 10 tonnes to low earth orbit.

The LVM-3 has three stages.

- The first (or bottom-most) stage is in the form of two S200 boosters strapped to the sides of the rocket body.
- They combust a solid fuel called hydroxyl-terminated polybutadiene.
- The second stage is powered by two Vikas engines, which combust a liquid fuel either nitrogen tetroxide

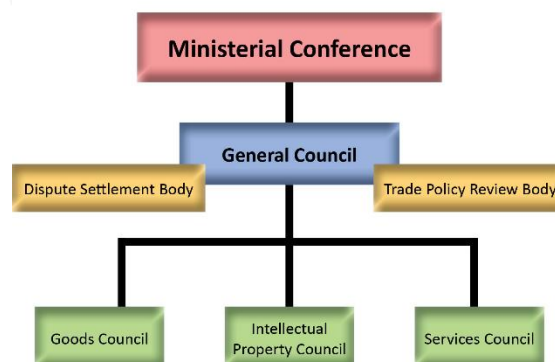
or unsymmetrical dimethyl hydrazine.

- The uppermost final stage is powered by a cryogenic engine.
- It combusts liquefied hydrogen with liquefied oxygen.
- Hydrogen has a very high specific impulse as rocket fuels go, but using it in an engine requires it to be liquefied first, which in turn means it must be stored at very low temperature, and with special pumping and transport systems.

THE HINDU

WTO-Dispute settlement body

Structures of WTO



- India played a vital role at the Geneva ministerial conference, thereby keeping faith in trade multilateralism alive.
- An important part was resurrecting the WTO’s dispute settlement system (DSS), also called WTO’s

‘crown jewel’, by 2024. Since 2019, the WTO’s two- tiered DSS remains paralyzed.

- The appellate body, which is the second tier of the WTO’s DSS that hears appeals from WTO panels, is non-functional because the United States, single-handedly, has blocked the appointment of its members.
- The appellate body, from 1995-2019, has upheld the international rule of law by holding powerful countries such as the U.S. and the European Union accountable for international law breaches
- The U.S. reproaches the appellate body for judicial overreach and exceeding its assigned institutional mandate.
- Thus it argues that till the time the appellate body’s role is defined precisely, it cannot be resurrected.
- One major problem that the U.S. identifies is that the appellate body, contrary to the text of the WTO’s dispute settlement understanding (DSU), has been creating binding precedents through its decisions.
- It is well-established that there is no rule of stare decisis i.e., no rule of precedent in international law.
- The WTO’s DSU also makes this clear in Article 3.2 by stating that the appellate body rulings can neither add nor diminish the rights and obligations of WTO member countries.
- However, the same Article also says: “The dispute settlement system of the WTO is a central element in providing security and predictability to the multilateral trading system.”
- Thus, it is incumbent on the appellate body to ensure that there is consistency in the interpretation and application of the WTO agreements without creating a binding precedent.
- This requires striking a fine balance between precisely what the appellate body has tried to do
- Moreover, the appellate body is not the only international court that follows its previous decisions.
- Other international courts such as the International Court of Justice and the International Tribunal for the Law of the Sea also follow past decisions unless there are valid reasons not to do so.
- De-judicialisation of trade

multilateralism

- The larger game plan of the U.S. seems to be the de-judicialisation of trade multilateralism as we know it.
- The WTO was created in a world that was resplendent with the neoliberal consensus that emerged after the Cold War and the collapse of communism.
- Ernst Ulrich Peterman, an international economic lawyer, argued that in a neoliberal economic system, the 'invisible hand' of market competition should be complemented by the 'visible hand' of the law.
- The WTO became this 'visible hand' of the law to regulate global trade.
- This period saw not only the legalization of international relations (states accepting precise international law standards to judge their behavior and delegating this power to judge to international courts) but also its judicialization (the expansion of international courts and tribunals that dominate decision-making in place of national actors).
- This, arguably, erodes the sovereignty of nations as they lose control over critical decision-

making. De-judicialisation, as Daniel Abebe and Tom Ginsburg define it, is the reverse phenomenon where countries weaken international courts to take back decision-making power.

- Given the emerging geo-economic challenges posed by a rising China, the U.S. wants to exercise full power over its trade policies, throwing off the shackles of the appellate body's judicial review.

THE HINDU

Urbanization and society

- High-rises separate people from the street.
- Residents there do not know the vegetable and grocery vendors, do not get to see the activities and excitement in the streets, but only learn about these second-hand, through newspapers and media reports.
- Interpersonal contact, essential for society, is lost. It is people and societies that make living fun.
- High-rise residents are in a world of their own, almost like astronauts
- High-rise buildings deprive their residents of walking and exercising

down the ground, and the children from playing with neighborhood peers.

- In effect, high-rise buildings are not good for the health of their people.

THE HINDU

Klotho

- Injecting aging monkeys with a 'longevity factor' protein called klotho can improve their cognitive function hinting at possible treatments for neurodegenerative diseases in people
- Klotho is an anti-aging single-pass membrane protein predominantly produced in the kidney,
- Circulating levels of soluble Klotho decrease with age, and the Klotho gene is associated with an increased risk of age-related diseases.

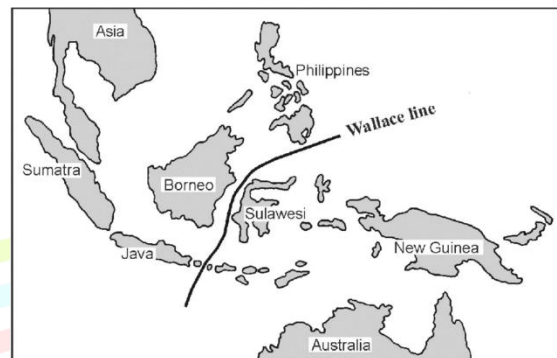
THE HINDU

The Wallace line

- A study helps explain why rates of species exchange are at least twice as high from west to east as in the opposite direction across Wallace's Line.
- Researchers discovered that precipitation tolerance and dispersal

ability influenced vertebrate species' movements.

- Species that evolved in dry Australian regions were less able to cross into Asia, while the large tracts of tropical forests across Asia and New Guinea allowed more species to move in the other direction (west to east).



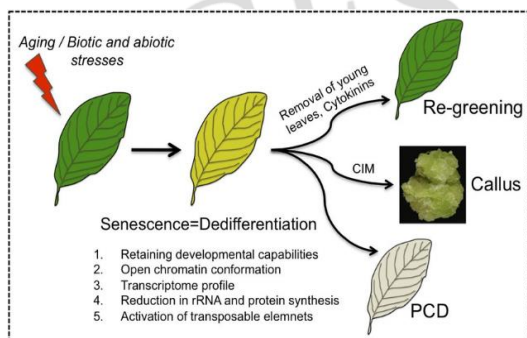
- The Wallace line or Wallace's line is a faunal boundary line drawn in 1859 by the British naturalist Alfred Russel Wallace and named by the English biologist T.H. Huxley that separates the biogeographical realms of Asia and 'Wallace', a transitional zone between Asia and Australia also called the Malay Archipelago and the Indo-Australian Archipelago.
- To the west of the line are found organisms related to Asiatic species; to the east, a mixture of species of Asian and Australian origins is present.
- Wallace noticed this clear division in

both land mammals and birds during his travels through the East Indies in the 19th century.

THE HINDU

Plant senescence

- Plant senescence is the process of aging in plants.
- Plants have both stress-induced and age-related developmental aging. Chlorophyll degradation during leaf senescence reveals the carotenoids, such as anthocyanin and xanthophyll's, which are the cause of autumn leaf color in deciduous trees



THE HINDU

Deccan Traps

- A team of scientists from IIT Kharagpur and Academia Sinica, Taipei has indeed found evidence of very high annual rainfall during the catastrophic volcanism that formed the Deccan Traps in India about 66 million years back.
- They used a new technique Nanoscale Secondary Ion Mass Spectrometry to analyze three isotopes of oxygen (Oxygen-16, 17, and 18) in fossil trees of the Cretaceous period and measure the isotopic composition of the lake water derived from rainfall.
- The depleted values of the oxygen isotopes suggest a higher tropical rainfall in India during the terminal Cretaceous period
- Deccan trap lavas were erupting, spewing huge amounts of carbon dioxide thus increasing the then atmospheric carbon dioxide concentration to as high as 1,000 ppm (parts per million),”
- Fossil fuel emission has increased carbon dioxide from a pre-industrial level of 280 ppm to about 420 ppm in 2023.
- Climate models suggest that a

doubling of carbon dioxide will intensify the atmospheric circulation and consequently the rainfall.

- The 2023 AR6 report by the IPCC warns if the carbon dioxide emission continues unabated, annual wettest day precipitation will increase by manifold across all continents.
- Rainfall associated with tropical cyclones over India will also increase by 40%.

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