

1. White Cheeked Macaque

Why in News?

- The Scientists from the Zoological Survey of India (ZSI) have recently found a new mammal species in the country – the White Cheeked Macaque (*Macaca leucogenys*).



Highlights:

- While the species was first discovered in China in 2015, its existence was not known in India before this.
- It is only now that Indian scientists have discovered its presence in the remote Anjaw district in central Arunachal Pradesh.
- The latest discovery takes India's mammal count from 437 to 438.
- It has distinct white cheeks, long and thick hair on the neck and a longer tail than other Macaque species.
- It is the last mammal to have been discovered in Southeast Asia.
- Both the Arunachal macaque as well as the White Cheeked Macaque exist in the same biodiversity hotspot in the eastern Himalayas.
- Along with White-Cheeked Macaques and Arunachal Macaque (*Macaca munzala*) the other species of Macaques are Assamese Macaque (*Macaca assamensis*) and Rhesus Macaque (*Macaca mulatta*) reported from the same landscape.
- The potential threat to all species of macaques in the landscape are due to hunting by locals for consumption and habitat degradation due to urbanisation and infrastructure development.
- This species is not covered by the Wildlife Protection Act of India, because till now it is not known that the species existed in India.

2. Geomagnetic Storm – Starlink

Why in News?

- Elon Musk's Starlink has recently lost dozens of satellites that were caught in a geomagnetic storm a day after they were launched.

Highlights:

- The satellites were designed to burn up on reentry into the Earth's atmosphere, and did not create debris in space.

- Solar Storms occur during the release of magnetic energy associated with sunspots ('dark' regions on the Sun that are cooler than the surrounding photosphere – the lowest layer of the solar atmosphere), and can last for a few minutes or hours.
- A geomagnetic storm Is a major disturbance of Earth's magnetosphere that occurs when there is a very efficient exchange of energy from the solar wind into the space environment surrounding Earth.
- The magnetosphere shields our home planet from harmful solar and cosmic particle radiation, as well as erosion of the atmosphere by the solar wind – the constant flow of charged particles streaming off the Sun.
- These storms result from variations in the solar wind that produce major changes in the currents, plasmas, and fields in Earth's magnetosphere.
- The solar wind conditions that are effective for creating geomagnetic storms are sustained (for several to many hours) periods of high-speed solar wind, and most importantly, a southward directed solar wind magnetic field (opposite the direction of Earth's field) at the dayside of the magnetosphere.
- This condition is effective for transferring energy from the solar wind into Earth's magnetosphere.
- The largest storms that result from these conditions are associated with solar Coronal Mass Ejections (CMEs) where a billion tons or so of plasma from the sun, with its embedded magnetic field, arrives at Earth.
- CMEs are large ejections of plasma and magnetic fields that originate from the Sun's corona (outermost layer).

3. Diversification of Crops

Why in News?

- Recently, the Department of Economic Affairs said that there is an urgent need for Crop Diversification in view of the severe water stress in areas where paddy, wheat and sugarcane are grown as well as to increase oil seed production and reduce dependency on imports of cooking oil.

Highlights:

- Crop diversification refers to the addition of new crops or cropping systems to agricultural production on a particular farm taking into account the different returns from value-added crops with complementary marketing opportunities.

- Cropping System refers to the crops, crop sequences and management techniques used on a particular agricultural field over a period of years.
- Major cropping systems in India are sequential-cropping, monocropping, intercropping, relay Cropping, mixed-cropping and alley cropping.
- Many farmers also use the mixed crop-livestock system to increase their standards of living and income.
- Agroforestry is a part of primitive and tribal agriculture nourished with indigenous technical knowledge.
- Agroforestry is a land-use system that includes trees, crops and / or livestock in a spatial and temporal manner, balancing both ecological and economic interactions of biotic and abiotic components. It harnesses the complementarity between trees and crops for efficient utilisation of available resources.
- Agroforestry is practiced for diversification around the world in different spheres of Biological, Ecological, Economical and Sociological Considerations.

4. Atal Tunnel

Why in News?

- Recently, Atal Tunnel has officially been certified by World Book of Records as the 'World's Longest Highway Tunnel above 10,000 Feet'.

Highlights:

- World Book of Records UK, is an organisation that catalogues and verifies extraordinary records across the world with authentic certification.
- It was built by the Border Roads Organisation (BRO).
- The 9.02-km tunnel is the longest highway tunnel in the world above the height of 3,000 metres. It cuts through a mountain west of the Rohtang pass and shortens the distance between Solang Valley and Sissu by around 46 km and takes around 15 minutes to cover. Earlier, it would take nearly 4 hours to travel between the two points.
- Rohtang Pass (elevation 3,978 m) is located in the state of Himachal Pradesh.
- It is present on the Pir Panjal Range of Himalayas.
- The Atal tunnel is the first step towards all-year connectivity to Ladakh. The tunnel has the potential to link Ladakh to Manali and Chandigarh throughout the year, as it bypasses Rohtang Pass, which is snowed in through the winter months.

- The tunnel provides a strategic advantage to the country's armed forces by providing year-long connectivity to border areas. It will save an entire day for troops and supplies as they move towards forward posts.
- The residents of Ladakh who had to face immense hardship to avail even basic facilities like healthcare and food supplies now are able to reach Manali and connect with the rest of the country using this new tunnel. Essential commodities like petrol and vegetable supplies would also likely be available throughout the year.
- The drop in travel time helps many, especially farmers whose precious crops like peas and potatoes will no longer rot in trucks before reaching the market.
- The region has seen an unprecedented increase in the arrival of tourists, and in a little more than a year, the valley and the state have witnessed growth in the socio-economic domains.

