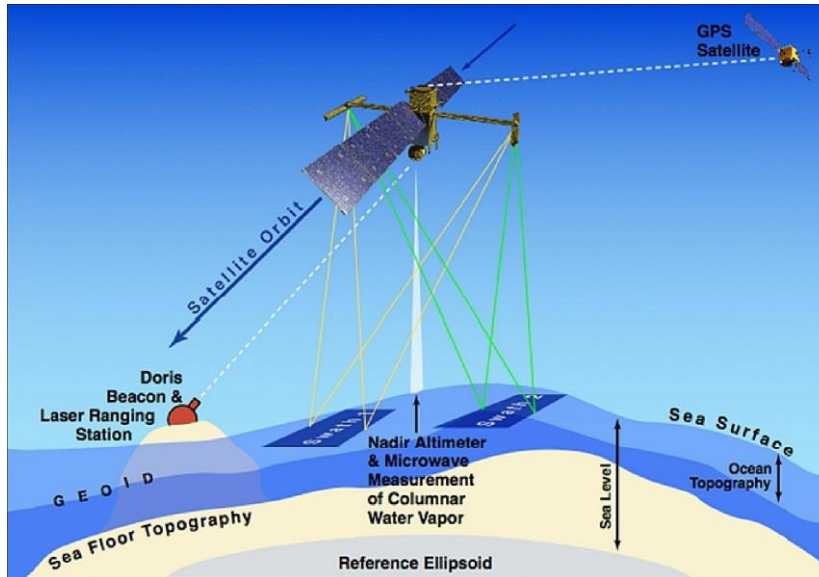


1. Surface Topography and Ocean Topography Mission

Topic: Science and Technology



In News: A SpaceX Falcon 9 rocket has launched NASA's Surface Water and Ocean Topography (SWOT) spacecraft recently.

More on the Topic

- SWOT will cover the entire Earth's surface between 78 degrees south and 78 degrees north latitude at least once every 21 days, sending back about one terabyte of unprocessed data per day.
- The scientific heart of the spacecraft is an innovative instrument called the Ka-band radar interferometer (KaRIn), which marks a major technological advance.
- KaRIn bounces radar pulses off the water's surface and receives the return signal using two antennas on either side of the spacecraft.
- This arrangement – one signal, two antennas – will enable engineers to precisely determine the height of the water's surface across two swaths at a time, each of them 30 miles (50 kilometers) wide.

Significance of the Mission:

- The satellite will measure the height of water in freshwater bodies and the ocean on more than 90% of Earth's surface.
- This information will provide insights into how the ocean influences climate change; how a warming world affects lakes, rivers, and reservoirs; and how communities can better prepare for disasters, such as floods.
- It will provide data on more than 95% of the world's lakes larger than 15 acres (62,500 square meters) and rivers wider than 330 feet (100 meters) across.

- Along the coast, **SWOT will provide information on sea level, filling in observational gaps** in areas that don't have tide gauges or other instruments that measure sea surface height.
- Over time, **that data can help researchers better track sea level rise**, which will directly impact communities and coastal ecosystems.
- SWOT measurements will also **help researchers, policymakers, and resource managers better assess and plan for things, including floods and droughts.**

Source: Indian Express

2. The National Defence Authorisation Act (NDAA) of USA and India

Topic: International Relations



In News: The National Defence Authorisation Act (NDAA) bill of United States' recommended to expand US' cooperation with India in emerging technology, readiness and logistics.

More on the Topic:

- The act focuses on the most critical national security priorities for the United States, such as strategic competition with China and Russia; disruptive technologies such as hypersonic weapons, artificial intelligence, 5G and quantum computing and modernising our ships, aircraft and vehicles.
- The bill states that **a strong US-India defence partnership is critical to advancing US interests in the Indo-Pacific region.**
- The bill also seek to study opportunities and challenges related to **reducing India's reliance on Russian-built weapons and defence systems.**

About India US Defence Relations:



- Defence relationship has emerged as a major pillar of India-U.S. strategic partnership with the signing of **‘New Framework for India-U.S. Defense Relations’ in 2005.**
- India and the United States have launched a **Defence Technology and Trade Initiative (DTTI)** aimed at simplifying technology transfer policies and exploring possibilities of co-development and co-production to invest the defence relationship with strategic value.
- During the visit of Prime Minister to the U.S. in June 2016, the **U.S. recognised India as a "Major Defence Partner"**, which commits the U.S. to facilitate technology sharing with India equal to closest allies and partners.
- India was accorded **‘Strategic Trade Authorization Tier 1 status’** in 2018 for high-technology product sales particularly in civil space and defence sectors.

India’s Major Defence Agreements With USA?

- General Security of Military Information Agreement (GSOMIA), 2002 - military information exchange.
- Logistics Exchange Memorandum of Agreement (LEMOA), 2016 - utilise each other’s military base.
- Communications Compatibility and Security Agreement (COMCASA), 2018 - interoperability between two militaries and sale of high-end technology to India.
- Basic Exchange and Cooperation Agreement (BECA), 2020 - high-end military technology, logistics and geospatial maps.

Source: Hindu

3. Citizenship to the Minority Communities

Topic: Governance

Waiting in queue

According to reports, there are 18,000 registered Pakistani Hindus who await citizenship

■ Home Ministry informed Parliament in December 2021 that from 2018 to 2021, the government received 8,244 citizenship applications from the minority groups and granted citizenship to 3,117 applicants



■ According to the Ministry’s annual report 2021-22, in the COVID-19 affected year of 2021, from April-December, as many as 1,414 citizenship certificates were granted to members of the minority communities from Pakistan, Afghanistan and Bangladesh



In News: The Centre is all set to ease the citizenship process for minorities from Pakistan, Afghanistan and Bangladesh who entered India on valid documents, but whose passports and visas have since expired.

More on the Topic:

- The Ministry of Home Affairs (MHA) is expected to rejig the citizenship portal to accept expired passports and visas as supporting documents to process the citizenship application for members of six minority communities — **Hindu, Sikh, Parsi, Christian, Buddhist and Jain** — **from Pakistan, Afghanistan and Bangladesh.**
- Currently, the citizenship portal **accepts expired passports as supporting documents only for those Hindu and Sikh applicants from Pakistan and Afghanistan who entered India before December 31, 2009.**
- This causes misery to many of the minority migrants.

The CAA Act:

- The Citizenship Amendment Act (CAA), 2019, that **intends to grant citizenship to undocumented (or illegal) migrants from these six non-Muslim communities from the three neighbouring countries who entered India before December 31, 2014, is yet to come into force** as the rules that govern the law are yet to be notified.
- The CAA could have helped the documented minority migrants in fast-tracking their applications as it reduces the mandatory requirement of 11 years aggregate stay in India to five years, to be eligible for citizenship.
- Many Pakistani Hindus who entered India legally and have spent more than 11 years in India also await citizenship.

Source: Hindu

4. 'Coalition for Nature'

Topic: Environment and Ecology



In News: A number of Small Island Developing States (SIDS) have agreed to form a 'Coalition for Nature' for the implementation and adoption of the Global Biodiversity Framework (GBF) at the 15th Conference of Parties (COP15) to the Convention on Biological Diversity.

More on the Topic:

- The goal of the coalition is **to advocate for agreed common SIDS priorities and needs such as greater means of implementing biodiversity objectives** in these places by putting up a unified front.
- SIDS host **19 per cent of the world's coral reefs and their geographic isolation safeguards an array of endemic plants and animals** found nowhere else on earth.
- Belize, Cabo Verde, Comoros, Dominican Republic, Guinea Bissau, Kiribati, Samoa, Saint Lucia, Sao Tome and Principe, Seychelles, Solomon Islands, Tuvalu and Vanuatu are the current members of the coalition with Germany, France, Italy, Luxembourg, Monaco, Netherlands, Portugal, Spain and United Kingdom as Friends of the SIDS Coalition.

The disproportionate risk faced by SIDS:

- Small land mass, small population, geographic isolation, limited resource base, and the vulnerability of low-lying areas puts small island states at a disproportionate risk to external shocks, as illustrated by the COVID-19 pandemic.

Source: Indian Express

5. Tal Chhapar Blackbuck Sanctuary

Topic: Environment and Ecology



In News: Rajasthan's Tal Chhapar sanctuary has received protection from the plan to reduce its size.



More on the Topic:

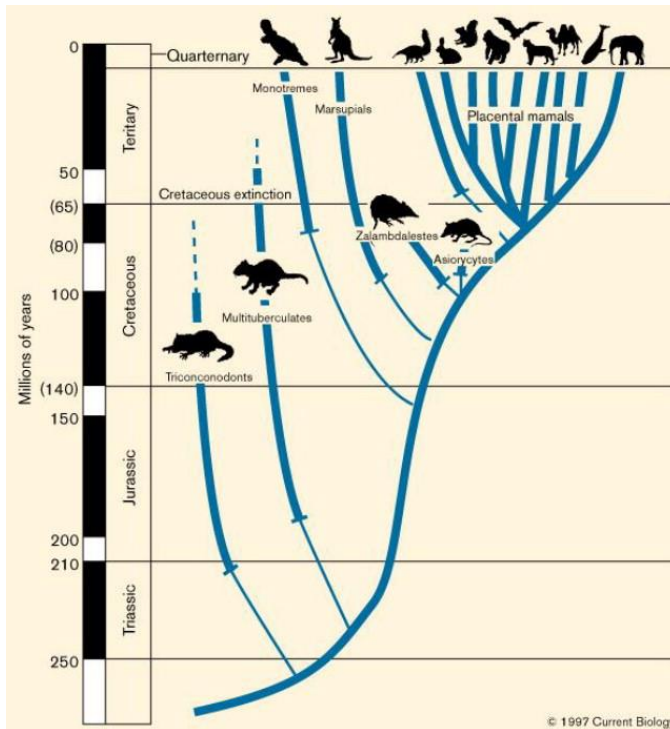
- The Rajasthan High Court has intervened through a suo motu public interest litigation to protect the sanctuary, taking cognisance of WWF reports that its area was going to be reduced to three sq. km. under pressure from mine owners and stone crusher operators.
- The court recently ordered a “complete prohibition” on any action to reduce the wildlife sanctuary’s area.
- The sanctuary is host to about **4,000 blackbucks and other wild animals, over 40 species of raptors and more than 300 species of resident and migratory birds.**
- The raptors, which include predators and scavengers, are on top of the food chain and control the populations of small mammals, birds and reptiles as well as insects.

Challenges Faced By the Sanctuary:

- The sanctuary earlier had a large population of desert foxes and similar burrowing animals.
- The issues confronting the sanctuary include **hyper-aridity, grazing pressure, the invasive weed Prosopis juliflora, and salt mines** in the vicinity.
- The sanctuary’s **area is insufficient for its large blackbuck population.**

Source: Hindu

6. Mammalian Evolution



Topic: Science and Technology

In News: According to a New research Mammals may have evolved in Gondwana, the southern landmass formed from the supercontinent Pangaea millions of years, rather than its northern counterpart Laurasia.

More on the Topic:

- The researchers studied the molars of fossils found in Madagascar, South America and India to come to this conclusion.
- Modern mammals consist of three sub groups: Monotremes, marsupials and placentals.
- **Monotremes are primitive mammals that lay large eggs** and have a common opening for the urogenital and digestive systems.
- **Marsupials are mammals whose young are born incompletely developed.** They develop inside a pouch on the mother's belly.
- **The third subgroup is placentals which carry the foetus until a late stage of development.**

Source: Business Standard

7. Kanheri Caves

No 18, B.B.M.P Building
 Kanakapura road ,
 Tata Silk Farm, Jayanagar,
 Bengaluru, Karnataka-560028

+91 89710 43904

rvta@rvei.edu.in

Go, change the world



In News: Members of a G20 delegation visited the Kanheri Caves in Mumbai.

More on the Topic:

- The Kanheri Caves are a group of caves and rock-cut monuments cut into a massive **basalt outcrop in the forests of the Sanjay Gandhi National Park**, on the former island of Salsette in the western outskirts of Mumbai, India.
- They contain **Buddhist sculptures and relief carvings, paintings and inscriptions, dating from the 1st century CE[1] to the 10th century CE.**
- Kanheri comes from the Sanskrit Krishnagiri, which means black mountain.
- **Most of the caves were Buddhist viharas**, meant for living, studying, and meditating. The larger caves, which functioned as **chaityas, or halls for congregational worship**, are lined with intricately carved Buddhist sculptures, reliefs, pillars and rock-cut stupas.
- **Avalokiteshwara is the most distinctive figure.** The large number of viharas demonstrates there was a well organized establishment of Buddhist monks.
- This establishment was also connected with many **trade centers, such as the ports of Sopara, Kalyan, Nasik, Paithan and Ujjain.**
- **Kanheri was a University center** by the time the area was under the rule of the Maurayan and Kushan empires.
- In the late 10th century, the **Buddhist teacher Atisha (980–1054) came to the Krishnagiri Vihara to study Buddhist meditation under Rahulagupta.**

Source: Business Standard