

## Prelim Bits 26-09-2023 | UPSC Daily Current Affairs

### Scarborough Shoal

*Philippine officials have vowed to remove a floating barrier placed by China's coast guard from entering a disputed lagoon at Scarborough Shoal in the South China Sea.*

- **About** - Scarborough is the largest atoll in the South China Sea.

*An atoll is a ring-shaped coral reef, island, or series of islets. An atoll surrounds a body of water called a lagoon.*

- **Location** - It is situated approximately 120 nautical miles west of the Philippine island of Luzon.
- **The standoff** - The shoal is located inside the Exclusive Economic Zone of the Philippines.

*An exclusive economic zone is an area of the ocean, generally extending 200 nautical miles beyond a nation's territorial sea, within which a coastal nation has jurisdiction over both living and nonliving resources.*

- It was seized by China in 2012 as Huangyan Island and forced Filipino fishermen to travel farther for smaller catches.



## Recent developments

- According to 2016 arbitration decision set up under the 1982 U.N. Convention on the Law of the Sea Philippines have exclusive rights to fish and other resources.
- China refused to participate in the arbitration sought by the Philippines in 2013, a year after a tense standoff between Chinese and Philippine ships at Scarborough.
- China refused to recognize the 2016 arbitration ruling and continues to defy it.
- Recently, the Chinese barrier denied Filipinos access to the rich fishing lagoon surrounded by underwater coral outcrops.
- The Philippines said it was weighing legal options over what it called China's destruction of coral in its EEZ, which could be another arbitration case.

## References

1. [The Hindu | Philippines have vowed to remove a floating barrier](#)
2. [Aljazeera | Floating barrier installed by China](#)
3. [Reuters | Philippines removes Chinese barrier](#)

## Green Hydrogen Bus

*Union Minister flags-off 1st green hydrogen fuel cell bus from New Delhi recently.*

- **Unveiled by** - IndianOil.
- **Fuel** - The fuel cell utilizes Hydrogen and air to generate electricity to power the bus and the only by-product from the bus is water.

*Green hydrogen is produced using renewable energy sources, and is regarded as*

*a low-carbon fuel and an alternative to imported energy.*

- **Advantages** - It is the most environmentally friendly mode of transportation as compared to conventional buses that run on diesel and petrol.
- The energy density is 3 times higher and the absence of harmful emissions, hydrogen shines as a cleaner, more efficient choice to meet the energy requirements.

## **Green Hydrogen Mission**

- **Aim** - To make India a global hub for production, usage and export of Green Hydrogen and its derivatives.
- The expected outcomes by 2030, are as follows:
  1. India's Green Hydrogen production capacity is likely to reach 5 MMT per annum, contributing to reduction in dependence on import of fossil fuels.
  2. Achievement of Mission targets is expected to reduce a cumulative Rs. 1 lakh crore worth of fossil fuel imports by 2030.
- Nearly 50 MMT per annum of CO2 emissions are expected to be averted through production and use of the targeted quantum of Green Hydrogen.

## **References**

1. [The Hindu | India's first green hydrogen-run bus](#)
2. [The Hindustan Times | India's 1st green hydrogen fuel cell public bus](#)
3. [PIB | 1st Green Hydrogen Fuel Cell Bus](#)

## **Bharat Drone Shakti 2023 & C-295 aircraft**

*First ever drone exhibition cum display 'Bharat Drone Shakti 2023', was inaugurated by Raksha Mantri at Hindan Air Force Station.*

- Bharat Drone Shakti 2023 hosted live aerial demonstrations of a variety of drone operations and applications by various drone companies.
- It features over 75 drone start-up companies from across the country.
- **Organized by** - Indian Air Force (IAF) and Drone Federation of India (DFI).
- **Kisan drones** - They can be transported using motorbikes across rural terrain to introduce modern agricultural practices.
- The drones with the capability to carry 50kg-100 kg payload & *Kamikaze drone* also witnessed.

### **Kamikaze drones**

- It is also known as loitering munitions or suicide drones are similar to precision missiles and Unmanned Aerial Systems (UASs), but with some distinct differences.
- Unlike missiles, a kamikaze drone is capable of occupying an airspace known as loitering for a relatively long period before engaging a target.

## **C-295 MW transport aircraft**

- **About** - It is a robust, reliable and highly versatile tactical transport.
- **Powered by** - Two Pratt & Whitney Canada PW127G turboprop engines.

- **Payload capacity** - It is capable of carrying up to 9 tonnes of payload or as many as 71 troops with a maximum cruise speed of 260 knots.
- It has the capability of being equipped for the air-to-air refueling of fixed-wing aircraft and helicopters.
- It has remarkable *short take-off & landing (STOL) performance* from unpaved, soft, and sandy/grass airstrips.
- **Uses** - Carrying troops and cargo, maritime patrol, airborne warning, surveillance, reconnaissance to signals intelligence, armed close air support, medical evacuation, VIP transport and airborne firefighting.

## National Drone Policy

- With this policy flying drones or remotely-piloted aircraft have become legal in India.
- Ministry of Civil Aviation has kick-started the online registration of drones in line with this policy in India through its Digital Sky portal.
- **Categories** - The Directorate General of Civil Aviation (DGCA) has designed five different categories of drones as Nano, Micro, Small, Medium, and Large.
- Under the new policy, Nano drones which weigh less than 250 grams or equal does not need a registration or license.
- However, drones that belong to remaining categories will need to be registered on the Digital Sky portal.
- **Digital Sky portal** - It is an online platform as part of an enforcement system designated as No Permission No Takeoff (NPNT).

## References

1. [PIB | Bharat Drone Shakti 2023](#)
2. [The Hindustan Times | Bharat Drone Shakti show at Hindan airbase](#)

## CO2 on Jupiter's moon Europa

*Scientists have revealed that carbon dioxide is being detected on Jupiter's moon Europa using the James Webb Space Telescope.*

## Jupiter's moon Europa

- Jupiter is the largest planet in the solar system.
- **Moons of Jupiter** - Jupiter has around 80 to 95 moons.
- Io, Europa, Ganymede and Callisto are 4 of Jupiter's moon which are relatively large, spherical complex worlds.
- **Europa** - Europa is about 90% the size of Earth's Moon.
- Europa's surface is made of water ice and so it reflects 5.5 times the sunlight than our Moon does.
- Europa orbits Jupiter at about 417,000 miles from the planet, which itself orbits the Sun at a distance of roughly 500 million miles or 5.2 astronomical units (AU).

*One AU is the distance from Earth to the Sun.*

- Because of the distance, sunlight is about 25 times fainter at Jupiter and Europa than at Earth.

## Europa Clipper

- It is a mission by NASA to investigate Jupiter's moon.
- NASA is also planning to launch a robotic spacecraft named Europa Clipper to the Jovian moons in October 2024.
- Europa Clipper would arrive at Jupiter in 2030.
- It aims to study its Europa moon and will make dozens of close flybys of Europa.

*Only 2 other spacecraft have ever examined Jupiter - Voyager 1 and Voyager 2.*

## Recent findings

- There is a huge ocean of saltwater, kilometres below Europa's ice-covered surface, making the moon a prime candidate for hosting extra-terrestrial life in our solar system.
- The most CO<sub>2</sub> was in a 1,800 kilometre-wide area called ***Tara Region***.

## References

1. [WIO News | source of CO<sub>2</sub> on Jupiter's moon Europa](#)
2. [Science Alert | Source of Carbon on Jupiter's Moon Europa](#)

## World Coffee Conference (WCC 2023)

*The fifth edition of the World Coffee Conference to be held in Bengaluru.*

## WCC

- WCC is a property of the London-based International Coffee Organization (ICO), a body set up in 1963 under the auspices of the United Nations to boost the economic importance of coffee globally.
- The earlier editions of WCC were held in London (2001), Brazil (2005), Guatemala (2010), and Ethiopia (2016).

## 5<sup>th</sup> WCC

- It is the first time India is hosting the conference.
- **Aim** - To significantly increase India's access and acceptance in the global coffee markets.
- **Organized by** - The Coffee Board, the Ministry of Commerce and Industry and International Coffee Organization.
- **Theme of the Conference** - Sustainability through circular economy and regenerative agriculture.
- **Brand ambassador** - Coffee Board inducted tennis player, Arjuna awardee, and coffee planter Rohan Bopanna.

- The event will feature engaging sessions, coffee tastings, competitions, panel discussions, and an exhibition showcasing cutting-edge coffee products and services.
- **Significance of Bengaluru** - It is the coffee capital of India State, solely accounting for over 70% of the country's total coffee production.

*India, the 7th largest producer of coffee, is the 5<sup>th</sup> largest exporter with its main destinations being European countries such as Italy and Germany and also Russia.*

### **The Coffee Board of India**

- It is an organisation managed by the Ministry of Commerce and Industry, Government of India to promote coffee production in India.
- **Headquarters** - Bengaluru.

### **International Coffee Organization (ICO)**

- ICO is the main intergovernmental organization for coffee, bringing together exporting and importing Governments to tackle the challenges in the coffee sector.
- **Aim** - To strengthen the global coffee sector and promote its sustainable expansion in a market-based environment for the betterment of all participants in the coffee sector.
- **Members** - Its Member Governments represent 98% of world coffee production and 67% of world consumption and India is one among them.

### **References**

1. [The Hindu | World Coffee Conference](#)
2. [WCC India | World Coffee Conference & Expo 2023](#)
3. [The Hindu Business line | World Coffee Conference 2023](#)

