# 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 $CO_2$ 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 CO2 was in a 1,800 kilometre-wide area called ***Tara Region***.

**References**


1. WIO News | source of CO2 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).

## 5th 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 5th 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 (IOC)

- 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



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