DAILY CURRENT AFFAIRS 13-04-2026

Mapping Perspective

1. **Canary Islands**

Prelims Perspective

2. **Caribou**
3. **Morchella Mushroom**
4. **Methanol**
5. **PACE Satellite**

Canary Islands

Syllabus:Prelims Bits – Mapping.

Context:

- A man has died and 27 others were injured after a bus carrying British tourists veered off a mountain road and crashed into a ravine in Canary Islands, Spain

About Canary Islands

Location & Geographical Setting

- The Canary Islands are an archipelago located off the northwest coast of Africa in the Macaronesia region of the North Atlantic Ocean
- Geographically part of continental Africa, but politically and economically part of Europe
- Located ~100 km from Morocco and southwest of Spain

Political Status

- A Spanish territory and its southernmost autonomous community
- Largest and most populated archipelago in Macaronesia

Major Islands

- Important islands: Lanzarote, Fuerteventura, Gran Canaria, and Tenerife
- Tenerife:

- Largest island (2,034 sq. km)
- Second-largest island in Spain and most populated

Capital & Key Physical Features

- Capital: Santa Cruz de Tenerife (located on Tenerife)
- Teide: Spain's highest point located on Tenerife

Geological Characteristics

- Formed millions of years ago through volcanic eruptions
- Some volcanoes are still active
- Only Spanish region with volcanic eruptions in the modern era
- Beaches predominantly have black sand due to volcanic origin

Climate

- Desertic and tropical climate
- Moderated by trade winds and surrounding ocean

Strategic & Economic Importance

- Located in the Atlantic Ocean with proximity to Africa, Europe, and the Americas
- Major global tourist destination due to strategic location and climatic conditions

Caribou

Syllabus: Prelims Bits – Wildlife in News.

Context:

- According to a study by researchers, lichen continues to decline across the Arctic and caribou populations could struggle to survive the winter.

About Caribou

- Species: It is a species of cervidae or deer family.
- Scientific Name: *Rangifer tarandus*
- Habitat: It survives in Arctic, subarctic, tundra, boreal, and mountainous regions.
- Distribution: It is found in Greenland, Scandinavia, Russia, Alaska, and Canada.

Features

- **Physical adaptation:** They have nasal turbinate bones which serve to increase the surface area in their nostrils; cold air can thus be warmed up by their body heat prior to entering their lungs.
- Both male and female caribou grow antlers, which they shed and regrow every year.
- **Diet:** Caribou (called reindeer in Eurasia) are one of the few animals that can eat and digest lichen.
- Caribou dig through snow in a behavior known as 'cratering'.
- **Migration:** They travel distances that are greater than those traveled by any other terrestrial mammal.
- They have the ability to see ultraviolet light – helps them to recognize predators in time and find food.

Conservation Status

- IUCN Red List: Vulnerable

Threats

- Habitat destruction and climate change.

Morchella Mushroom

Syllabus: Prelims Bits – Species in News.

Context:

- Recently, Sheri Kashmir University of Agriculture and Sciences has cultivated the Morchella mushroom for the first time in controlled condition.

About Morchella Mushroom

- It is an edible mushroom from the Ascomycota group.
- Morels or Morchella is locally known as Kangaech or Gucchi mushroom.
- It traditionally belongs to the family morchellaceae of the Ascomycota.

Habitat & Growth Pattern

- It grows naturally in specific high elevation forest ecosystems during a narrow rainy season.
- These mushrooms usually grow in clusters on logs of decaying wood, leaves or humus soil.
- They may or may not grow in the same spot the next season, which only makes the process of collection more tedious.

Climatic Conditions for Growth

- Ideal weather conditions for the great morel:
    - Daytime temperature is between 15 and 20°C
    - Night-time temperatures are in the five to nine

Distribution

- They grow in conifer forests across temperate regions.
- Found in the foothills in Himachal Pradesh, Uttaranchal, and Jammu and Kashmir.

Physical Characteristics

- They are pale yellow in colour with large pits and ridges on the surface of the cap.
- Raised on a large white stem.

Economic & Nutritional Importance

- It is a highly valued gourmet mushroom known for its intense and distinct flavour.
- Known for superior nutritional profile and medicinal properties.
- It is known to be one of the most expensive mushrooms.

Analytical Note

- Cultivation in controlled conditions reduces dependence on wild collection and ensures sustainability.
- Potential for livelihood generation in Himalayan regions due to high market value.

Methanol

Syllabus: Prelims Bits – General Science.

Context:

- Recently, Deendayal Port Authority (Kandla Port) has advanced its methanol bunkering capabilities, positioning itself as a key player in India's energy transition efforts and global green shipping corridors.

Methanol – Overview

- Methanol, also known as wood alcohol, is the simplest alcohol (**CH_3OH**).

Production of Methanol

- Produced by **steam-reforming natural gas** to create synthesis gas.
- Feeding this synthesis gas into a reactor with a catalyst produces methanol and water vapor.

Properties of Methanol

- Appears as a **colorless, fairly volatile liquid** with a faintly sweet pungent odor like that of ethyl alcohol.
- Completely **miscible with water**.
- **High-octane, clean-burning fuel**, potentially important substitute for gasoline in automotive vehicles.

Applications of Methanol

- Used to make **chemicals**.
- Used to **remove water from automotive and aviation fuels**.
- Acts as a **solvent for paints and plastics**.
- Ingredient in a **wide variety of products**.

Benefits of Methanol

- **Alternative fuel:** Can substitute conventional transportation fuels.
- **Lower production cost:** Cheap to produce relative to other alternative fuels.
- **Improved safety:** Lower risk of flammability compared to gasoline.
- **Energy security:** Can be manufactured from diverse domestic carbon-based feedstocks such as **biomass, natural gas, and coal**.

PACE Satellite

Syllabus: GS-3: Science and Technology – Satellites.

Context:

- Researchers found that PACE satellite can detect **nitrogen dioxide pollution at fine scale**, enabling isolation of emissions from **individual factories and highway corridors**

About PACE Satellite

Basic Overview

- **Plankton, Aerosol, Cloud, and ocean Ecosystem (PACE)** is a **NASA satellite mission** studying **global ocean biology, aerosols, and clouds**
- **Launched:** February 2024; **Orbit:** Sun-synchronous orbit
- Provides **world's first and only hyperspectral coverage of the globe every 1–2 days**

Key Instrumentation

- **Ocean Color Instrument (OCI):** highly advanced optical spectrometer measuring **ocean colour from ultraviolet to shortwave infrared**
- Enables **continuous measurement of light at finer wavelength resolution** than previous NASA satellite instruments, extending **ocean colour data records for climate studies**

Polarimeters

- Includes two polarimeters:
    - Spectro-polarimeter for Planetary Exploration (SPEXone)
    - Hyper Angular Research Polarimeter (HARP2)
- Measure **polarization (oscillation of sunlight in a geometric plane)** altered by **clouds, aerosols, and ocean**

Significance / Applications

- Enables study of:
    - Microscopic life in ocean and airborne particles
    - Issues like **fisheries health, harmful algal blooms, air pollution, wildfire smoke**
- Helps investigate **ocean–atmosphere interactions** and their response to **changing climate**

Analytical Insight

- Enhances **high-resolution environmental monitoring** → supports **pollution tracking & regulatory enforcement**
- Strengthens **climate change studies** via long-term ocean colour datasets
- Integrates **oceanography + atmospheric science**, reflecting **interdisciplinary Earth system approach**