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**DAILY CURRENT AFFAIRS 21-06-2024**

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1. Crete Island
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**GS-3**

3. Dead zone
4. *Filoboletus manipularis*
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## **Crete Island**

### **Syllabus: GS-1; Geography**

#### **Context**

- *As per the latest development, a monumental ancient structure has been unearthed in the Greek island of Crete, a popular tourist hot spot in Greece.*

#### **As regarding the structure**



- *It dates back to the **Minoan civilisation**, which was primarily in use between 2000 and 1700 BCE, thereby coinciding with the era when Crete's iconic palaces at **Knossos** and **Phaistos** were constructed, reports suggest.*
- *Despite its significance, the purpose of this building remains a mystery, sparking considerable archaeological interest and speculation.*
- *Described by experts that the structure resembles 'a huge car wheel from above,' the structure has a diameter of 157 ft and covers an area of 19,000 sq ft.*
- *Certain features of the structure bear similarities to **Minoan tombs**, such as its circular stone rings and intricate design.*
- *However, the discovery of numerous ancient animal bones nearby complicates researchers' understanding of the site.*

## Now

- The Ministry's statement suggests that the structure may have been periodically used for ritual ceremonies involving food, wine, and possibly offerings.
- As archaeologists continue to excavate and study this site atop **Papoura Hill near Kastelli**, they are facing challenges due to its proposed future use as a radar station for Crete's new international airport.

## About- Crete Island



- Crete is the largest and most populous of the **Greek islands**, the 88th largest island in the world and the **fifth largest island in the Mediterranean Sea**, after Sicily, Sardinia, Cyprus, and Corsica.
- Crete is located about 160 km (99 mi) south of the Greek mainland, and about 100 km (62 mi) southwest of Anatolia.
- It bounds the southern border of the Aegean Sea, with the **Sea of Crete** (or North Cretan Sea) to the north and the **Libyan Sea** (or South Cretan Sea) to the south.
- Crete and a number of islands and islets that surround it constitute the **Region of Crete**, which is the southernmost of the 13 top-level administrative units of Greece, and the fifth most populous of Greece's regions.
- Its capital and largest city is **Heraklion**, on the north shore of the island.
- The Dodecanese are located to the northeast of Crete, while the Cyclades are situated to the north, separated by the Sea of Crete. The Peloponnese is to the region's northwest.

## Kuwait

**Syllabus: GS-1-Mapping, GS-2; International Relations**

### Context

- *Three Indians, four Egyptians and a Kuwaiti national have been detained in connection with the devastating fire that killed 50 people, including 46 Indians, in the southern Ahmadi Governorate in the Gulf Kingdom.*

### What happened?

- *The massive fire which occurred at a six-storey building in the city of Mangaf on July 12 2024 was caused by an electrical short circuit in the guard's room on the ground floor. The building was home to 196 migrant workers, mostly Indians.*
- *The defendants have been charged with manslaughter and negligence.*

### About



- *Kuwait, officially the State of Kuwait, is a country in West Asia.*
- *It is situated in the northern edge of Eastern Arabia at the tip of the Persian Gulf, bordering Iraq to the north and Saudi Arabia to the south.*
- *With coastline of approximately 500 km (311 mi), Kuwait also shares a maritime border with Iran.*
- *Most of the country's population reside in the urban agglomeration of Kuwait City, the capital and largest city.*
- *Historically, most of present-day Kuwait was part of ancient Mesopotamia.*
- *Like most other Arab states in the Persian Gulf, Kuwait is an emirate; the emir is the head of state and the ruling Al Sabah family dominates the country's political system.*
- *Kuwait's official state religion is Islam, specifically the Maliki school of Sunni Islam.*
- *Kuwait is a high-income economy, backed by the world's sixth largest oil reserves.*
- *Kuwaiti popular culture, in the form of theatre, radio, music, and television soap opera, is exported to neighboring Gulf Cooperation Council (GCC) states.*
- *Kuwait is a founding member of the GCC and is also a member of the UN, AL, OPEC and the OIC.*

### **Kuwait and India Relations**

- *India and Kuwait have a long history of friendly relations and trade.*
- *In 2023–2024, the two countries had \$10.479 billion in bilateral trade, with India exporting \$2.1 billion to Kuwait.*
- *Kuwait is also a key supplier of crude oil and LPG to India, meeting about 3% of the country's energy needs.*
- *Kuwait is also home to a large Indian expatriate community, with almost one million NRIs living there.*
- *This community includes professionals like engineers, doctors, and software experts, as well as skilled workers like technicians and nurses, and semi-skilled workers.*
- *Kuwait views India as a source of a fast-growing economy and highly qualified personnel.*
- *In total, an estimated \$3.5 billion is remitted from Kuwait to India annually.*

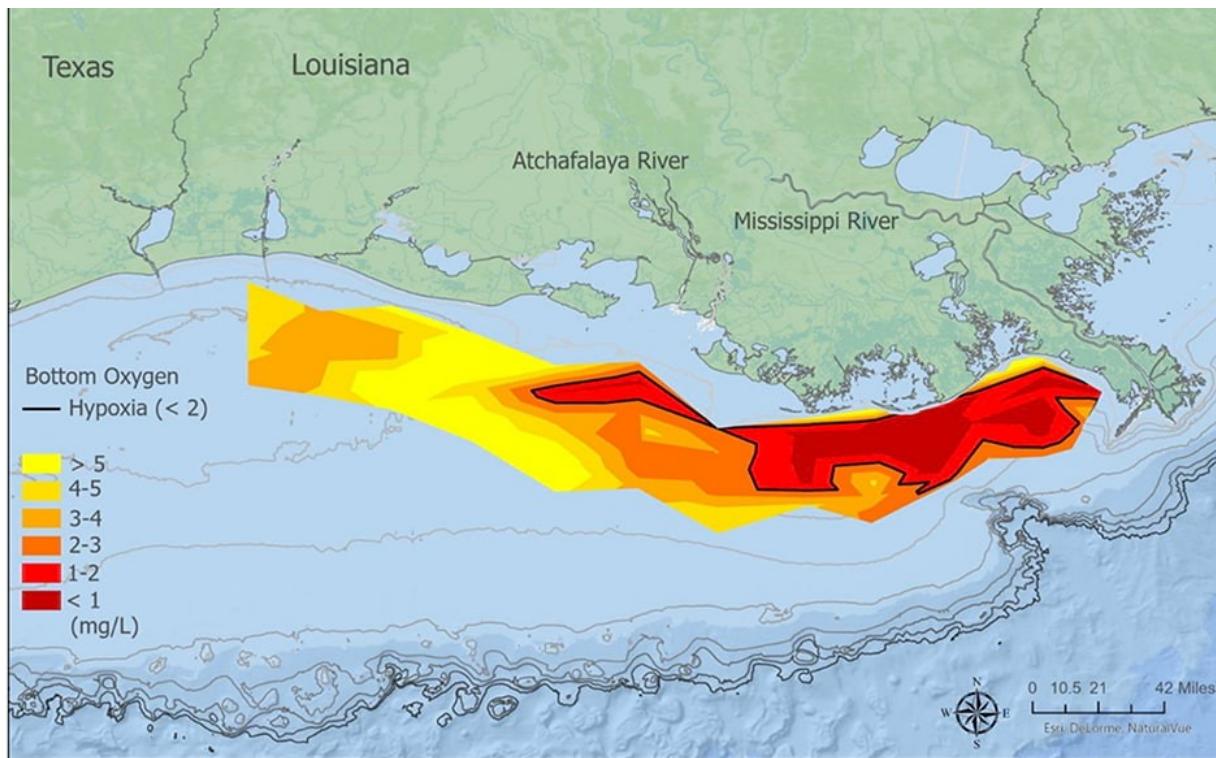
## **Dead zone**

### **Syllabus: GS-3; Science and Technology**

#### **Context**

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- A team of scientists, including a University of Michigan aquatic ecologist, is forecasting an above average summer “dead zone” in the Gulf of Mexico covering about 5,827 square miles—an area roughly the size of Connecticut.



## About

- The dead zone, or hypoxic area, is an **area of low oxygen that can kill fish and other marine life.**
- It occurs every summer and is primarily a result of excess nutrient pollution from human activities in cities and farm areas throughout the **Mississippi-Atchafalaya watershed.**

## Reason

- Hypoxic zones can occur naturally, but scientists are concerned about the areas **created or enhanced by human activity.**
- There are many physical, chemical, and biological factors that combine to create dead zones, but nutrient pollution is the primary cause of those zones created by humans.
- Excess nutrients that run off land or are piped as wastewater into rivers and coasts can stimulate an overgrowth of algae, which then sinks and decomposes in the water.
- The decomposition process consumes oxygen and depletes the supply available to healthy marine life.

## Filoboletus manipularis

**Syllabus: GS-3; Environment and ecology**

### **Context**

- *In the forests of Kasaragod, researchers have discovered a rare species of **bioluminescent mushrooms** that emit a brilliant, otherworldly green light in the darkness of night.*



### **More to know**

- *These fascinating fungi, scientifically known as *Filoboletus manipularis*, are capable of producing their own light through a biochemical process.*
- *They were found after a micro-fungal survey was conducted jointly by the Kasaragod division of the Kerala Forest and Wildlife Department and the Mushrooms of India Community in the Ranipuram forest.*
- **Filoboletus manipularis*, is a fascinating species of bioluminescent mushroom.*
- **These mushrooms glow a bright green at night due to a chemical reaction in their cells.**
- *They thrive in **tropical, humid environments**, typically found in dense forests where there's plenty of decaying organic matter, like fallen trees and leaves.*

- *This rich, moist environment provides the nutrients and conditions necessary for their growth and their unique glowing property.*

### **Biochemical process of bioluminescence in *filoboletus manipularis***

- *The glow in *Filoboletus manipularis* is thanks to a chemical reaction involving luciferin (a pigment) and luciferase (an enzyme), with oxygen playing a critical role.*
- *This reaction produces light, a trait shared with other bioluminescent organisms like fireflies and certain marine creatures.*
- *In fungi, this glowing mechanism is thought to attract insects, "which help disperse the mushroom's spores".*
- *While the process is similar to other bioluminescent beings, the specific chemicals involved can vary, adding to the diversity of bioluminescent life.*

### **Contribution to understanding fungal biodiversity in Ranipuram forest**

- *These bioluminescent mushrooms not only contribute to the ecosystem by breaking down organic matter but also open up new avenues for research.*
- *Scientists can study their genetic makeup to understand more about bioluminescence and uncover potentially new species, enhancing our knowledge of fungal ecosystems.*

### **Health risks and reasons to avoid consumption of *Filoboletus manipularis***

- *While *Filoboletus manipularis* might look magical with its glowing green light, scientists strongly advise against consuming them.*
- *The reasons behind this. "Many wild mushrooms contain toxins that can be harmful, and bioluminescent ones are no exception. The chemicals that make them glow could be toxic, leading to severe gastrointestinal issues or worse if ingested."*

## **CDS releases blueprint for warfare in cybercrime**

### **Syllabus: GS-3; Defence and Security**

#### **Context**

- *Acknowledging that cyberspace has emerged as a crucial and challenging domain in modern warfare, the **Chief of Defence Staff General Anil Chauhan** released India's first joint doctrine for cyberspace operations during a meeting of the Chiefs of Staff Committee.*

### Shared sovereignty

- *Unlike territorial limits in the traditional domains of warfare, such as land, sea, and air, cyberspace is a “global common and hence has shared sovereignty”, the statement noted.*
- *Hostile actions in cyberspace can impact the nation’s economy, cohesion, political decision making, and the ability to defend itself. “Operations in cyberspace need to be dovetailed into the national security fabric, to evolve the ‘ends,’ ‘ways’ and ‘means’ to create advantage and influence events in all other operational environments and across all instruments of power,” the statement added.*
- *This doctrine lays emphasis on understanding military aspects of cyberspace operations and provides conceptual guidance to commanders, staff and practitioners in the planning, and conduct of operations in cyberspace, as also to raise awareness in our warfighters at all levels.*

### Significance

- ***The joint doctrine is a keystone publication that will guide commanders of the armed forces in conducting cyberspace operations in today’s complex military operating environment.***