



DAILY CURRENT AFFAIRS 02-04-2024

GS-1

1. **Tropical cyclones of higher intensity demand a new category**

GS-3

2. **Mushk budji rice**
3. **White Rabbit Collaboration**
4. **START 2024**
5. **Eturnagaram & Amrabad wildlife sanctuaries**

Tropical cyclones of higher intensity demand a new category

Syllabus: GS-1: Physical Geography – Cyclones.

Context:

- *Tropical cyclones with peak wind speeds far exceeding category 5 scale of 252 km/hour are increasingly seen due to global warming, making a case for introducing category 6 for wind speed above 309 km/hour*

More about issue:

- *Tropical cyclones are powerful weather systems forming over warm tropical ocean basins, characterized by strong winds, heavy precipitation, and storm surges.*
- *Occurs where sea surface temperatures exceed 26.5°C.*
- *Mainly in North Atlantic, East Pacific, West Pacific, South Pacific, and Indian Ocean.*
- *Out of 85 tropical storms annually, about 45 intensify into tropical cyclones.*
- *Western Pacific basin is most active, followed by the North Indian basin.*
- *Saffir-Simpson Scale: Categorizes cyclones by maximum sustained wind speed; categories 1 to 5.*

Impact of Global Warming:

- *Rising greenhouse gas emissions have led to global warming.*
- *Increased ocean heat content intensifies cyclones.*
- *Frequency and intensity of intense cyclones are rising.*
- *Shift of cyclones poleward.*
- *Heavier rainfall and faster strengthening.*
- *Longer lifetime over oceans.*
- *Possibility of category 6 storms due to record wind speeds.*

Category 6 Proposal:

- *Recent research suggests introducing a category 6 for **storms exceeding 309 km/hour.***
- *Observations show **increasing occurrences** of storms beyond category 5.*
- *Proposed category aims to **raise awareness of increased risk due to global warming.***
- *Impact on North Indian Ocean: Currently less vulnerable, but potential for category 6 storms in the future.*
- *Recommendations: Revisit disaster management strategies and early warning systems in vulnerable regions.*

About Tropical cyclones:

Formation:

- *Warm ocean temperatures (above 26°C) are essential, providing energy for the cyclone's development.*
- *Moist air is needed to fuel the storm's growth.*
- *Low wind shear (minimal variation in wind speed and direction) allows the cyclone to maintain its circulation.*

The process involves:

- *Warm, moist air rising from the ocean surface.*
- *As the air rises, it cools and condenses, releasing energy that further warms the air.*
- *This creates a low-pressure system at the surface, drawing in more warm, moist air.*
- *The Earth's rotation deflects these winds, causing them to spin – counter-clockwise in the Northern Hemisphere and clockwise in the Southern Hemisphere.*
- *As the system intensifies, a central "eye" with calm conditions develops surrounded by a wall of very strong winds.*

Impacts:

- *Destructive winds: Tropical cyclones can cause widespread devastation with wind speeds exceeding 200 km/h.*
- *Storm surge: The low pressure and strong winds cause a dome of ocean water to rise above normal tidal levels, leading to flooding in coastal areas.*
- *Heavy rainfall: Cyclones can bring torrential rains, causing flash floods and landslides.*
- *Other impacts: These storms can also trigger tornadoes, damage infrastructure, disrupt livelihoods, and cause salinization of freshwater resources.*

Regions affected:

- *The Bay of Bengal and the Arabian Sea are particularly vulnerable to cyclones impacting India.*
- *Other high-risk areas include the Atlantic Ocean (Caribbean and US coasts), Pacific Ocean (Southeast Asia and East Asia), and the Indian Ocean (Australia and East Africa).*

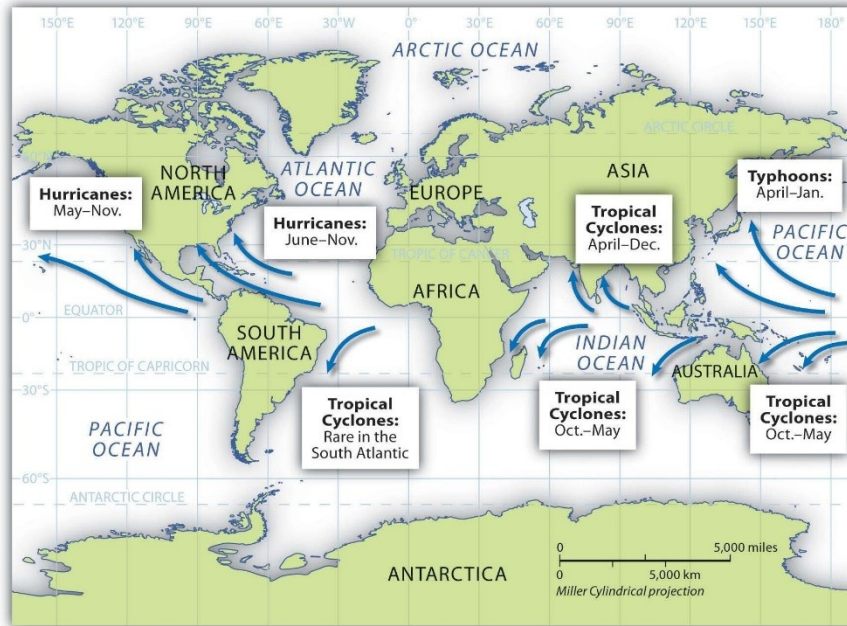


Fig: Distribution of cyclones in tropical regions.

Mushk budji rice

Syllabus: GS-3; Agriculture

Context

- Recently, scientists at the Sher-e-Kashmir University of Agricultural Sciences and Technology (SKUAST), Srinagar, reported that altitude and temperature play an important role in the development of the aroma of mushk budiji rice.
- In a study recently published in Nature Scientific Reports, they have reported identifying around **35 aromatic compounds in the variety at eight altitudes between 5,000 and 7,000 feet across the valley.**

More to know

- Mushk budji rice is a rare, **short-grained, aromatic rice native to Kashmir.**
- It has a nutty flavor, slightly chewy texture, and light ivory color.
- The rice is grown in high-lying areas of Kashmir, usually at an elevation of 5,500 feet above sea level.
- Mushk budji rice is low in fat and provides a balanced diet.
- It also provides quick energy to the body.

- *Mushk Budji rice is a good source of carbohydrates, fiber, and vitamins, and is often used in dishes like biryani, pulao, khichdi, and desserts*



GI Tag

- *Mushk Budji rice has been granted a Geographical Indication (GI) tag, which recognizes its unique qualities and opens the door to wider promotion and protection.*
- *Some researchers have found that cultivating Mushk Budji rice in regions where environmental conditions best express its flavor compounds could enhance its market value and lead to significant economic growth in the agricultural sector.*

White Rabbit Collaboration

Syllabus: GS-3: Science and Technology

Context:

- *CERN launches the White Rabbit Collaboration.*

More about White Rabbit (WR) is a technology:

- *White Rabbit (WR) is a technology developed at CERN to synchronize devices in accelerators with precision, down to sub-nanoseconds.*
- *It addresses the challenge of establishing a common notion of time across a network by considering factors like the time light takes to travel through fiber-optic cables and electronic signal processing times.*
- *A new **ethernet switch** was designed to avoid potential delays in the synchronization process.*
- *First used in 2012, White Rabbit's application has expanded beyond particle physics and is **now included in the Precision Time Protocol (PTP)**, a worldwide industry standard governed by IEEE.*
- *CERN launched the **White Rabbit Collaboration**, a global community focused on maintaining and promoting this open-source technology.*
- *The collaboration **aims to provide support**, training, and facilitate research and development projects between members.*
- *White Rabbit is **open source and based on standards**, allowing companies and institutes to adapt it to their needs and incorporate it into their products and systems.*
- *It is used in finance, research infrastructures, and is **being evaluated for potential use in the future quantum internet**.*
- *The technology could **potentially revolutionize global time dissemination**, offering an alternative to satellite-based systems, which are currently heavily relied upon.*
- *Governments and industries are starting to test **White Rabbit in their networks as an alternative time dissemination method**.*
- *The **White Rabbit Collaboration** aims to provide a neutral platform for this open-source technology, defining a long-term vision for its development and fostering innovation.*
- *To join the White Rabbit Collaboration, visit www.white-rabbit.tech.*

START 2024

Syllabus: GS-3; Space Technology

Context

- **The Indian Space Research Organisation (ISRO) will conduct the Space science and Technology Awareness Training (START) 2024 programme during April and May (2024).**

Objective

- **The main objective of the training programme is to attract the youngsters to the fields of space science and technology.**

More to know

- *The training modules will comprise introductory level topics on various verticals of space science and technology.*
- *In addition to these, there will be sessions on Indian space exploration programmes and research opportunities.*
- *Post-graduate students and final year undergraduate students of physical sciences (Physics and Chemistry) and technology (e.g. Electronics, Computer Science, Mechanical, Applied Physics, Radiophysics, Optics & Opto-electronics, Instrumentation and other associated subjects) studying in educational institutes, universities and colleges within India are eligible to be considered for the training.*

Significance

- **The program is expected to encourage domestic academic involvement in space sciences, and to help emerging talent gain the knowledge and skills to tackle tomorrow's challenges.**

Eturnagaram & Amrabad wildlife sanctuaries

Syllabus: G-3; Biodiversity

Context

- *Forest fires singe Eturnagaram & Amrabad wildlife sanctuary*

About

Eturnagaram Wildlife Sanctuary

- *Eturnagaram Wildlife Sanctuary is a wildlife sanctuary located in Eturnagaram village in Mulugu district in **Telangana, India**.*
- *The sanctuary is located near the **Maharashtra, Chhattisgarh and Telangana borders**.*
- *It is one of the oldest sanctuaries of Telangana.*
- *On 30 January 1952, the erstwhile Hyderabad Government declared it as a sanctuary because of its rich bio-diversity.*
- *The land is undulating from steep slopes to gentle slopes from west to east.*
- *Three-quarters of the area consists of a plain while the rest is hilly with many streams and springs.*
- ***The Godavari river passes through the sanctuary.***
- *The vegetation here is tropical dry deciduous with teak and other trees of good quality standing 60 ft (18 m) and above.*
- *The biennial festival of **Sammakka Saralamma Jatara** is held in the sanctuary.*
- *A perennial water source called "**Dayyam Vagu**", divides the sanctuary into almost two halves.*

Amrabad Tiger Reserve

- *The Amrabad Tiger Reserve which is part of the **Nallamala Forest track** has rich Biological Diversity with several endemic species of flora and fauna.*
- *This Forest tract is home to the largest number of Tigers in Telangana State.*
- *The hilly terrain of this Tiger Reserve with **deep valleys and gorges forms the catchment of the Krishna River**.*
- *This Tiger Reserve (ATR) is one of the largest tiger reserves in India that extends about 2611.4 Sq Km over Nagarkurnool and Nalgonda districts of Telangana State Amrabad Tiger Reserve a well-known and well-preserved nature reserve in Nallamala Hills, part of the Eastern Ghats chain.*
- *This is the **second-largest Tiger Reserve in terms of core area but the sixth-largest tiger reserve** in terms of total area among 51 Tiger Reserves in India.*
- *The reserve was notified as a sanctuary in the year 1983 and after the bifurcation of Telugu States in 2014, it was declared as Amarabad Tiger Reserve.*
- *Major reservoirs like the **Srishailam Dam and Nagarjunsagar Dam** are fed by the **river Krishna** and its several perennial streams that originate in the Tiger Reserve.*

Know more

