

# NEWS TODAY

## Odisha Commemorates 25 Years of Resilience Since Devastating Supercyclone in 1999

In 1999, 'BoB 06', a supercyclone with 250 kmph winds made landfall near Paradip in Jagatsinghpur of Odisha claiming more than 9,000 lives and leaving millions homeless.

- However, since then, Odisha's cyclone management has undergone a sea change, and in **2013 and 2014, it was lauded as a 'global example' by the UN.**

### Key Issues in 1999's Disaster Response

- **Ignored Warnings:** Despite IMD alerts, authorities underestimated storm's severity.
- **Lack of Preparedness:** Inadequate location-specific landfall warnings, limited resources, and poor communication strategy was seen.

### Disaster resilient initiatives taken since 1999

- **State**
  - ⊖ **Odisha State Disaster Management Authority (OSDMA):** Odisha founded **India's first** state-level disaster management agency that led to **decentralized disaster response** and minimized bureaucratic delays.
  - ⊖ **Mission Zero Casualty:** OSDMA introduced cyclone shelters, rapid response teams, and streamlined protocols to reduce human casualties in cyclones and floods.
  - ⊖ **Community-centred efforts:** Involving local volunteers, including members from gram panchayats and women's SHGs, to lead rescue operations and reduce disaster risks.
- **Centre**
  - ⊖ **Improved Early Warning and Response Systems:** In 1999, IMD provided **cloud imagery with a significant delay but now it can provide such images every 15 minutes.**
  - ⊖ **Disaster Management Act (DMA), 2005:** Under it, National Disaster Management Authority (NDMA) was created.

### About Cyclones

Cyclones are caused by **atmospheric disturbances around a low-pressure area** distinguished by swift and often destructive air circulation.

### Classification

- ⊖ **Extra tropical cyclones or temperate cyclones** (occur in temperate zones and high latitude regions)
- ⊖ **Tropical cyclones** (occur between the Tropics of Capricorn and Cancer).

### Terminologies used by IMD: Based on wind speed, IMD classifies low-pressure systems in the Bay of Bengal as

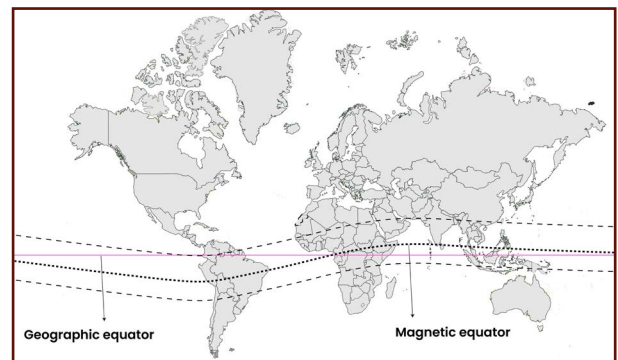
- ⊖ **Super Cyclone:** 221 Km/h
- ⊖ **Severe Cyclonic Storm:** 88-117
- ⊖ **Cyclonic Storm:** 61-88 Km/h

## Indian Scientists develop Model to understand the Equatorial ElectroJet (EEJ)

EEJ model will help to understand the EEJ's impact on **orbiting satellite**, Global Navigation Satellite System (**GNSS**)-based **navigation/positioning** and other satellite **communication links** as well as **electrical power grids**.

### About the Equatorial ElectroJet (EEJ)

- **EEJ:** It's a ribbon of **intense 100 kA** (kiloamperes) current flowing in **Earth's ionosphere** (Earth's Upper atmosphere) at 100km altitude.
  - ⊖ **EEJ's (North-South) width:** It's of a few hundred kilometres (~600 km).
- **Place of Genesis:** It is formed in Earth's **magnetic equator**, where **magnetic field lines run parallel** to Earth's surface, leading to an **intense current density** in the ionosphere.
- **Path of travel:** EEJ travels along **magnetic equator** (See image).
  - ⊖ Typically, the EEJ current flows **eastward during the day, and reverses direction in the night-time** & produce a characteristic magnetic signature both on ground and in space (measured by magnetometers).



### Effects of EEJ

- **EEJ intensifies Earth's geomagnetic field near equator.**
- **EEJ disruptions impact power infrastructure and electricity monitoring systems across equatorial regions.**

### About Magnetic equator

- It is a **line of zero magnetic dip**, meaning that a **magnetic needle has no dip at these points.**
- Unlike Earth's geographic equator, **the magnetic equator is not fixed, but slowly changes.**
  - ⊖ The geographic equator is a **great circle** around the Earth and it remains fixed at **Zero-degree latitude.**

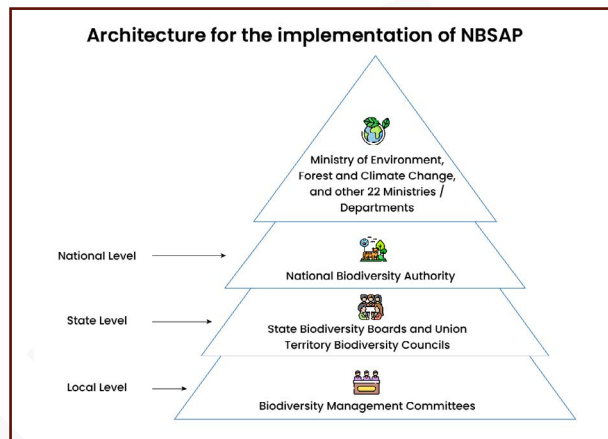
## India launches 'National Biodiversity Strategy and Action Plan (NBSAP) 2024-2030'

Updated NBSAP was launched at the **Conference of Parties (COP) 16 to the Convention on Biological Diversity (CBD)** in Colombia.

- **NBSAP** provides a **framework for biodiversity conservation**, enables focus on **sustainable use** of biological resources, and ensures **fair and equitable sharing of benefits** derived from them.

### Key highlights of NBSAP 2024-30

- **Background:** First NBSAP was created in 1999. National Biodiversity Action Plan (NBAP) was adopted in 2008, which was updated in 2014 to align with Aichi Biodiversity Targets.
- **Aligns with KMGBF:** Kunming-Montreal Global Biodiversity Framework (KMGBF) adopted in 2022 aims to **halt and reverse biodiversity loss by 2030**
- **23 National Biodiversity Targets:** They are focused on three themes
  - ⊕ reducing threats to biodiversity,
  - ⊕ ensuring sustainable use of resources, and
  - ⊕ enhancing tools for **implementation**
- **Implementation:** MoEFCC serves as the central agency (refer to the infographic)
- **Capacity building:** Efforts may include
  - ⊕ need and gap assessment;
  - ⊕ target group identification;
  - ⊕ identify experts/environment;
  - ⊕ Train for the acquisition of knowledge, skills
- **Resource mobilization:**
  - ⊕ Recognises **India among the leading** countries for implementation of **Biodiversity Finance Initiative (BIOFIN)** at national level.
    - ◆ BIOFIN is a global partnership **launched by UNDP** and the **European Commission** to support countries to enhance their financial management of biodiversity and ecosystems.
  - ⊕ **Calls for encouraging private entrepreneurs, business houses, donors, and international agencies** to support initiatives like, Greenbonds, Green Fund, Payment for Ecosystem Services.



## MoEFCC approved Coastal Zone Management Plan (CZMPs) of 10 coastal districts of Kerala

- Kasaragod, Kannur, Kozhikode, Malappuram, Thrissur, Ernakulam, etc. are the district for which CZMP was approved.

### About CZMP

- **CZMP** is a strategic framework designed to manage and regulate human activities in coastal areas.
- **Key components of CZMPs**
  - ⊕ **Zoning:** CZMPs divide coastal areas into different zones, such as **No Development Zones (NDZ)**, and **Coastal Regulation Zones** (Refer Table).
  - ⊕ **Public Participation:** Discussions with public to consider the opinions and worries of local communities etc.
- Approval of CZMP is a **pre-condition for the States** to make the Coastal Regulation Zone (CRZ) Notification **2019 applicable and avail relaxed norms under it.**

### About CRZ

- Central Government declares the **coastal stretches** of the country and the water area **up to its territorial water limit**, excluding the islands of Andaman and Nicobar and Lakshadweep and the marine areas surrounding these islands, as **CRZ**.
- **MoEF&CC** under the **Environment Protection Act, of 1986**, issued the first **CRZ notification in 1991**.
  - ⊕ Subsequently, **CRZ was noticed in 2011 which was further superseded by CRZ 2019.**

<b>CRZ-IA</b>	Ecologically Sensitive Areas like Mangroves, Corals and coral reefs, Sand dunes, Salt Marches etc.
<b>CRZ-1B</b>	<b>Intertidal zone</b> i.e. area between Low Tide Line and High Tide Line.
<b>CRZ-II</b>	<b>Developed Land Areas</b> up to or close to the <b>shoreline</b> , within the existing <b>municipal limits</b> or in other existing <b>legally designated urban areas</b>
<b>CRZ-III A</b>	Area with <b>population density is more than 2161 per square kilometre</b> . In CRZ-III A, area <b>up to 50 meters from the HTL</b> on the landward side shall be earmarked as the <b>'No Development Zone (NDZ)'</b> , provided the CZMP have been approved.
<b>CRZ-III B</b>	All other CRZ-III areas with population density of less than 2161 per square kilometre. In CRZ-III B, the <b>area up to 200 meters from the HTL</b> on the landward side shall be earmarked as the <b>'NDZ'</b> .
<b>CRZ-IV</b>	CRZ- IV shall constitute the water area and shall be further classified as <b>CRZ-IVA</b> and <b>CRZ-IVB</b> .

## Centre for Science and Environment release a report on Extended Producer Responsibility (EPR) for Plastic Packaging

Plastic waste is set to **triple** (globally), with **less than 20%** of it being **recycled by 2060**. In this backdrop, **EPR** has emerged as a **globally recognized policy principle** to tackle this plastic crisis.

### EPR for Plastic Packaging

- **Genesis: The Plastic Waste Management Rules (2016)** introduced **EPR & Ministry of Environment, Forest, and Climate Change** notified the **Extended Producer Guidelines for plastic packaging in 2022**.
- **Tenure:** Till fiscal year 2027–28.
- **PIBOs:** The **'polluters'** identified in the **plastic waste management value chain** are producers, importers, brand owners, and manufacturers (PIBOs).
  - ⊖ PIBOs are responsible for collecting back **100%** of the plastic packaging they put in the market.

- **EPR regime:** EPR certificates are generated by **plastic waste processors (PWP)** for **recycling & disposal**, which are **traded with polluters**.
  - ⊖ PIBOs must purchase **EPR certificates** from the **PWPs which act as proof of compliance**.

### Challenges in the current EPR regime for plastic:

- High number of **importers** operate **without being monitored or regulated**.
- **Difficult to distinguish** between **packaging and non-packaging** plastic waste.
- PWP have been issuing **fraudulent certificates** to various **PIBOs**.

**Recommendations:** Establishing fair EPR pricing; Invalidate fake EPR certificates; Include the informal sector in EPR guidelines, etc.

### About EPR:

- **Definition:** It's a **policy principle** that holds **producers accountable** for the entire **lifecycle of their products**, particularly during the take-back, recycling, and final disposal phases.
- **Elements of EPR:** Producer responsibility, Waste minimization, Lifecycle approach, Polluter pays principle, etc.
- **Types of waste streams under EPR policy:** Packaging, Electronic, Battery, Hazardous Waste, etc.
- **Implementing agencies:** Producer Responsibility Organizations (PROs) are 3rd party agencies that help polluters comply with EPR.

## Astronomers discovered the first "black hole triple system"

**Binary black hole systems** often pair a **black hole** with either a **star, neutron star, or another black hole**, orbiting each other due to **gravitational attraction**.

- However, **V404 Cygni system**, initially believed to be a **binary black hole system**, was discovered to be a **triple system**.

### About V404 Cygni system

- It holds a **central black hole** in the act of **consuming a small star** that's spiralling in very close to the **black hole (every 6.5 days)**.
- **The new discovery found, a 2nd star orbiting** the black hole at a **vast distance**, completing one orbit **every 70,000 years. (making it a triple system)**.
- The **system V404 Cygni** is located within the Milky Way and around **8,000 light-years from Earth**.

### Significance of the New Discovery

- **Debunks Supernova explosion:** The distant star's presence challenges traditional black hole formation theory, as supernova explosions should have expelled loosely-bound objects from its vicinity.
  - ⊖ **Supernova:** Is a massive explosion that occurs when a star runs out of fuel and collapses
- **Direct collapse:** Scientists suggest this black hole is formed through **"direct collapse,"** where a star quietly implodes, allowing distant objects to maintain their orbital connections.

### About Black hole

- Black hole is a **cosmic body of extremely intense gravity**.
- A black hole's **"surface,"** called its **Event Horizon**, **defines the boundary where the velocity needed to escape exceeds the speed of light**.
- In 2019, the **Event Horizon Telescope (EHT)** captured an **image of a black hole for the first time**.
  - ⊖ **The supermassive black hole is located at the heart of a galaxy called M87, located about 55 million light-years away.**

## Also in News



### World Cities Day

**World Cities Day**, designated by United Nations General Assembly, is celebrated annually on 31<sup>st</sup> October.

- The Day serves as an opportunity to **promote the international community's interest in global urbanization**, push forward cooperation among countries in addressing challenges of urbanization and contribute to **sustainable urban development around the world**.
- **"Youth leading climate and local action for cities,"** is theme of World Cities Day 2024

### About urbanisation

- **World:** Cities are projected to house **70% of the world's population by 2050**.
- **India:** By 2036, India's towns and cities will be home to 40% of the population, up from 31% in 2011.



### Global Health Emergency Corps (GHEC)

WHO and partners, **activated the GHEC for the first time** in response to a recent Mpox outbreak.

### About GHEC

- **Genesis:** WHO founded the GHEC in **2023** after the response to **COVID-19 pandemic** revealed the need to **ensure better-coordinated support to countries**.
- **Objective:** Strengthening the **response to health emergencies**, and a **collaboration platform** for countries and health emergency networks.
- **Role:** It supports countries on their health emergency workforce, the surge deployment of experts and the networking of technical leaders.

NOTE: To know more about Mpox, refer NewsToday document dated 16 Sep 2024.



### The 'peace with nature' coalition

Colombia at the 16th meeting of the Conference of the Parties (COP) to the Convention on Biological Diversity (CBD) launched 'peace with nature' coalition.

#### About The 'peace with nature' coalition'

- The coalition includes countries from **four continents including Mexico, Sweden, Uganda and Chile.**
- None of the countries are from the **Asia-Pacific region.**
- **The coalition is open** to countries that **agree to a set of principles** aimed at changing humanity's relationship with nature.

**Convention on biological diversity (CBD)** is a **legally binding treaty** for the conservation of biological diversity that has been **ratified by 196 nations.**



### Asset Recovery Interagency Network-Asia Pacific (ARIN-AP)

India, represented by the Directorate of Enforcement (ED), has been included in the Steering Committee of ARIN-AP.

- This will enable India to contribute to ARIN-AP's decision-making and administrative responsibilities, furthering its mission to combat economic crimes.
- India will assume the presidency of the network and host the Annual General Meeting in 2026.

#### About ARIN-AP

- It is a prominent multi-agency network dedicated to tackling the proceeds of crime in the Asia-Pacific.
- It is also a member of the Global CARIN Network.
  - ⊖ CARIN is an informal network of law enforcement and judicial practitioners, specialist in the field of asset tracing, freezing, seizure and confiscation.
- **Members:** 28 member jurisdictions (including India) and nine observer.



### Exercises in News

- **Garud Shakti:** Indian Army contingent departed for **Cijantung, Jakarta, Indonesia** to take part in the 9th edition of India-Indonesia Joint Special Forces Exercise GARUD SHAKTI 24.
- **SIMBEX- 2024:** The 31st edition of Singapore India Maritime Bilateral Exercise (SIMBEX) was concluded recently at **Visakhapatnam (Andhra Pradesh)**



### Digital India Service Center Project (DICSC)

MeitY has announced the launch of the DICSC project.

#### About DICSC

- **Aim:** Bridge the digital divide in rural India by providing citizens with accessible e-governance, financial, and commercial services.
- It will serve as a **one-stop solution for a variety of essential services**, including Aadhaar registration, banking, tele-law etc.
- Each centre will be equipped **with high-speed broadband connectivity and modern infrastructure**
- **Implementation:** Common Services Centres e-Governance Services India Limited.



### The Iron Beam

Israel expects its "Iron Beam" laser defense system to be operational within one year.

#### About Iron Beam:

- Aims to **intercept and destroy various projectiles** with precision using **high-powered laser.**
- The laser weapon **operates at the speed of light** and has a **range that extends from several hundred meters to multiple kilometers.**
- It would be a **significantly cheaper alternative to the interceptor missiles.**
- It would supplement other **existing aerial defense capacities such as the iron dome.**
- **Limitation:** it struggles in poor weather and low-visibility conditions.



### Aditya-L1 mission

Aditya-L1 mission has recently **reported its first science result.**

- The **Visible Emission Line Coronagraph (VELC)** onboard Aditya-L1 precisely estimated the onset time of a **coronal mass ejection (CME)** that erupted on the Sun.
- CMEs can damage satellites in near-earth space and disrupt radio communication networks on the earth.

#### About Aditya L1 mission

- **Aditya-L1** is a spacecraft dedicated to the **comprehensive study of the Sun** placed in a **halo orbit** around the first **earth-Sun Lagrange point (or L1).**
- **Lagrange Point 1:** Where the **gravitational forces of two celestial bodies, such as the Sun and Earth, are in equilibrium.**



### Indian Green Building Council (IGBC)

Upcoming '**Durgesh Aranya Zoological Park**' at Bankhandi in Kangra district (Himachal Pradesh) would become **India's first zoo to receive certification** from the IGBC for its sustainable and eco-friendly initiatives.

#### About IGBC

- **Genesis:** IGBC, part of the Confederation of Indian Industry (CII) was established in 2001.
- **Vision:** To enable a **sustainable built environment for all** and facilitate **India** to be one of the **global leaders** in the sustainable built environment **by 2025.**
- **Role:**
  - ⊕ Developing new **green building rating programmes, certification services** and green building **training programmes.**
  - ⊖ The council also organises **Green Building Congress**, its annual flagship event on green buildings.



AHMEDABAD



BHOPAL



CHANDIGARH



DELHI



JAIPUR



JODHPUR



GUWAHATI



HYDERABAD



LUCKNOW



PRAYAGRAJ



PUNE



RANCHI



SIKAR