

# NEWS TODAY

## The USA Experiences Extreme Cold Events due to Polar Vortex

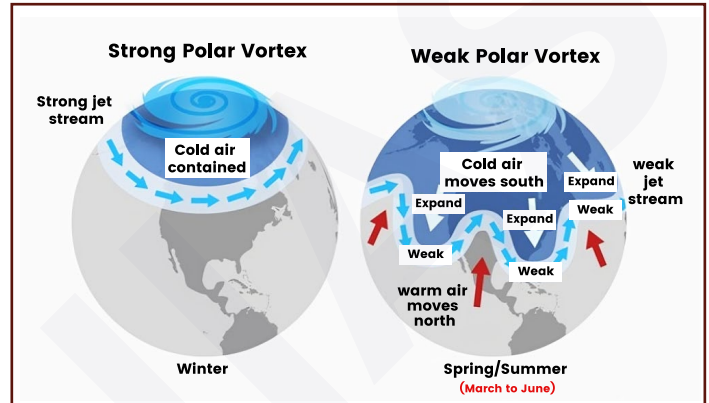
The ongoing extreme cold spell in USA & Canada is attributed to Arctic blast due to **southward expansion of the polar vortex**.

### What is Polar Vortex?

- **Definition:** It is a large area of **low-pressure and cold air** that swirls like a wheel (counter-clockwise) around both of the **Earth's poles**.
- **Types:**
  - ⊕ **Tropospheric Polar Vortex:** It forms in the **lowest atmospheric layer**, extending from surface to 10-15 km.
  - ⊕ **Stratospheric Polar Vortex:** It forms at around 15 km to 50 km high.
    - ◆ Unlike tropospheric polar vortex, the **stratospheric polar vortex disappears during summer** & is strongest during the autumn.

### Impacts of Polar Vortex

- **Arctic Blast:** It is **sudden and intense surge of cold air in US** due to disruptions in the polar vortex, which usually **keeps cold air confined to the Arctic region**.
- **Extreme Weather Events:** A **weakened vortex** can cause the **jet stream to dip southward**, bringing cold Arctic air to lower latitudes & triggering extreme weather events.
- **Ozone Depletion:** The trapped cold air in the vortex **accelerates ozone depletion**, particularly over Antarctica, leading to the **ozone hole**.
- **Impact on India:** A **weakened polar vortex** results in **more western disturbances**, bringing heavy **snowfall to the western Himalayas** and **colder temperatures** to northern India.



## An Advisory Group under IndiaAI Mission Releases Report on AI Governance Guidelines Development

Under the Advisory Group's guidance (**headed by Principal Scientific Advisor**), a Subcommittee on '**AI Governance and Guidelines Development**' was formed to provide **actionable recommendations for AI governance in India**.

**About AI Governance:** Artificial intelligence (AI) governance refers to the processes, standards and guardrails that help ensure AI systems and tools are safe and ethical and thereby ensuring fairness and respect for human rights.

### Key Issues Highlighted by the Report

- **Deepfakes and Malicious Content:** Legal frameworks exist, but enforcement gaps hinder the removal of harmful AI-generated content.
- **Cybersecurity:** Current laws apply to AI-related cybercrimes, but they need strengthening to address evolving threats.
- **Intellectual Property Rights (IPR):** AI's use of copyrighted data raises infringement and liability concerns, with existing laws not fully addressing AI-generated content.
- **AI-led Bias and Discrimination:** AI can reinforce biases, making it harder to detect and address discrimination despite existing protections.

### Key Recommendations:

- **Establish an Inter-Ministerial AI Coordination Committee:** To coordinate AI governance across various ministries and regulators. Include representatives from MeitY, NITI Aayog, RBI, SEBI, and other sectoral regulators.
- **Create a Technical Secretariat:** To serve as a **technical advisory body** for the AI Coordination Committee.
- **Leverage Techno-Legal Measures:** Explore **technological solutions** like **watermarking** and **content provenance** to combat deepfakes.
- **Set Up an AI Incident Database:** To document real-world AI-related risks and harms; Encourage voluntary reporting from both public and private sectors.

### 8 principles for AI governance

<p><b>Transparency:</b> AI systems should provide meaningful information about their development, capabilities, and limitations.</p>	<p><b>Accountability:</b> Developers and deployers must take responsibility for AI outcomes.</p>	<p><b>Safety, Reliability &amp; Robustness:</b> AI systems should be resilient to risks, errors, and misuse.</p>	<p><b>Privacy &amp; Security:</b> AI systems must comply with data protection laws.</p>
<p><b>Fairness &amp; Non-Discrimination:</b> AI systems should avoid biases and ensure inclusivity.</p>	<p><b>Human-Centered Values:</b> AI systems should respect human oversight and ethical considerations.</p>	<p><b>Inclusive &amp; Sustainable Innovation:</b> AI should distribute benefits equitably.</p>	<p><b>Digital by Design Governance:</b> Leverage digital technologies for effective governance and compliance.</p>

### IndiaAI Mission:

- **Approved in 2024** with a budget of **INR 10,300 crore**.
- **Aim:** To create a robust AI ecosystem through **seven key pillars**, including **AI Compute Capacity, FutureSkill, Safe & Trusted AI, and Startup Financing**.
- **Focuses on democratizing AI access**, improving data quality, and ensuring ethical AI development.

## World's First Cryo-Born Baby Corals Successfully Settled on the Great Barrier Reef

This groundbreaking advancement in coral conservation and restoration is a collaborative effort led by Australian researchers.

### About Cryo-born coral

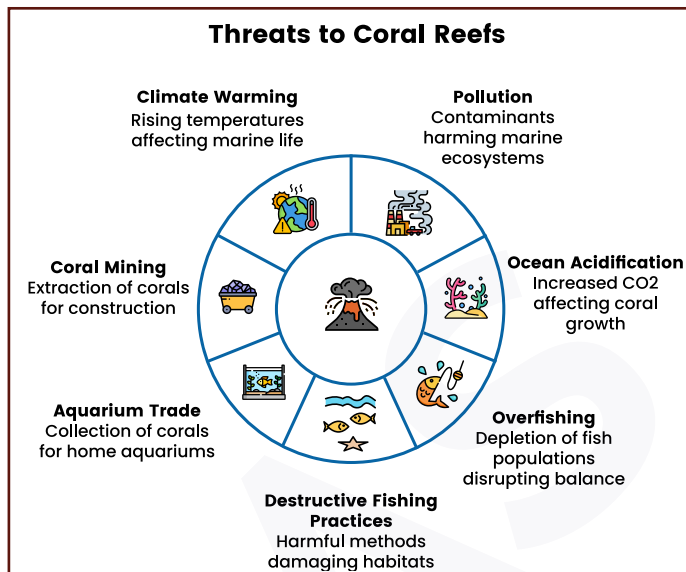
- **Cryo-born corals:** They are created using **cryopreservation techniques**, which involve freezing coral cells and tissues at very low temperatures.
- **Cryopreservation Process:**
  - ⊕ Coral cells and tissues contain water, which forms damaging ice crystals when frozen.
  - ⊕ Cryopreservation uses **cryoprotectants** to remove water from cells during freezing & Support cell structures when thawed.

### Significance of the Breakthrough

- **Climate Change Resilience:** The project aims to **deploy millions of heat-tolerant corals** onto the reef annually to combat the effects of climate change.
- **Selective Breeding:**
  - ⊕ Cryopreservation allows researchers to bypass the limitations of natural coral spawning, which occurs **only once a year**.
  - ⊕ It enables **selective breeding** and the **use of colonies for reproduction multiple times**.

### About Coral Reefs

- Corals are **invertebrates** from the class **Anthozoa**, phylum **Cnidaria**.
- They form reefs through **colonies of polyps** that secrete limestone skeletons and rely on **symbiotic algae** (zooxanthellae) for nutrition.
- **Distribution:** Mainly found in shallow, sunlit waters between 30°N and 30°S latitude, with a preferred temperature range of 16-32°C.
- ⊕ **Depth:** They typically grow at depths less than 50 meters, where light levels are high.



### Other Conservation Measures:

- **India:**
  - ⊕ **National Committee on Wetlands, Mangroves, and Coral Reefs (1986):** Advises on conservation.
  - ⊕ **Environment (Protection) Act (1986):** Prohibits coral and sand use for construction.
  - ⊕ **The Zoological Survey of India (ZSI):** Used Biorock or mineral accretion technology to restore coral reefs.
- **Global:**
  - ⊕ **CITES** lists coral species in **Appendix II** to regulate trade.
  - ⊕ **World Heritage Convention** designates coral reef sites for protection.
  - ⊕ **World's Largest Frozen Coral Repository:** The Taronga CryoDiversity Bank holds trillions of sperm from 32 coral species, collected annually since 2011.

## Union Home Minister Inaugurated the BHARATPOL Portal Developed by the CBI

The launch of BHARATPOL represents a significant advancement in India's law enforcement capabilities, particularly in international cooperation and crime control.

- The CBI, which serves as the **National Central Bureau (NCB-New Delhi)** for INTERPOL in India, will manage the portal.

### Five Key Modules of BHARATPOL

- **Connect:** Enables all Indian law enforcement agencies to function as an extension of INTERPOL's NCB-New Delhi.
- **INTERPOL Notices:** Facilitates a **scientific mechanism to swiftly locate criminals** both within India and globally.
- **References:** Simplifies **seeking and providing international assistance** for investigations abroad.
- **Broadcast:** Ensures immediate availability of requests for **assistance from 195 countries**.
- **Resources:** Facilitates **exchange and management of documents** and capacity-building initiatives.

### Potential Benefits

- It will **streamline collaboration among central, state, & union territory law enforcement agencies** by serving as a **unified platform for handling international criminal investigation requests**.
- **Address rising threat of transnational crimes:** i.e. cybercrime, financial fraud, human trafficking, and organized crime.
- **Crime Control:** Access to INTERPOL databases will enable officers to analyze data, develop crime prevention strategies, & apprehend criminals more effectively.
- It will **simplify the process of extraditing convicted criminals** from foreign countries to India.

### International Criminal Police Organization (INTERPOL)

- **Establishment:** Founded in 1923, INTERPOL is the **world's largest international police organization**.
- **Headquarters:** Lyon, France
- **Member Countries:** 196
- **Purpose:** Facilitates global cooperation among law enforcement agencies to combat international crime.
- **Key Functions:** Issues alerts like Red Notices, maintains databases on criminal activities, supports member countries with training, resources etc.

## Supreme Court (SC) Directs Timely Filling of Vacancies in Central and State Information Commissions

The directive of SC follows the **Public Interest Litigation (PIL)** that highlighted the **lack of progress in filling vacancies** despite the Court's 2019 judgment in **Anjali Bhardwaj v. Union of India**.

### SC's Key Observations & Directions

- **Central Information Commission (CIC):** The CIC has a Chief Information Commissioner and 2 Information Commissioners (ICs). There are 10 sanctioned posts for ICs.
- **States:** Most states have initiated selection processes of **State Information Commissions (SICs)** but lack clear timelines for appointments.
- **Highlighted the need for diversity in appointments:** As the 2019 judgment mandated selecting ICs from various walks of life, not just bureaucrats.
- **Supreme Court Directives:** To Department of Personnel and Training & States that they should provide a detailed timelines for selection completion and appointment notifications of Information Commissioners.

### Concerns due to Defunct Information Commissions

- **Vacancies in ICs lead to increased pendency:** E.g., West Bengal IC would take 24 years to dispose of a complaint filed in 2022.
- **Proactive Disclosure Gaps:** A significant portion (44%) of RTIs is filed for information that should be proactively disclosed **under Section 4 of the RTI Act**, but such disclosures have declined over the years.
- **Defunct Commissions:** Several ICs, such as those in Tripura and Jharkhand, are defunct and do not contribute to addressing the backlog.

### Important Supreme Court judgments related to RTI

- **Peoples Union for Civil Rights vs. Union of India (2004):** Recognized the right to information as a fundamental right under the Constitution, laying the foundation for the RTI Act.
- **Subhash Chandra Agarwal vs. Dept. of Personnel (2010):** Clarified that the Office of the Chief Justice of India (CJI) falls under the RTI Act
- **Namit Sharma v. Union of India (2013):** The IC is a tribunal with quasi-judicial functions, similar to a court.

## An Earthquake of Magnitude 7.1 Struck Tibet in the Himalayas

The Himalayas remain **one of the world's most geologically active zones**, with a history of significant earthquakes.

- Himalayan region falls primarily in **Seismic Zone IV & Seismic Zone V** of India's seismic zoning map prepared by Bureau of Indian Standards.
- It classifies India into 4 zones - V, IV, III and II. **Zone V is seismically most active region**, while zone II is the least.

### Why Himalayas are prone to frequent earthquakes?

- **Tectonic Collision of Indian & Eurasian Plate:** Himalayas lie at the **convergent boundary** of Indian & Eurasian plates, where **Indian Plate subducts beneath the Eurasian Plate**, generating immense stress that is released as earthquakes.
- **Active Fault Lines:** Numerous fault systems, like **Main Central Thrust & Main Boundary Thrust**, where sudden slip or movement along these faults causes earthquakes.
- **Young Mountain Range:** Himalayas are **geologically young & structurally unstable**, which amplifies seismic activity.

### Consequences of Earthquakes in Himalayas

- **Landslides & Avalanches:** **Steep terrain** exacerbates landslides, leading to significant infrastructure damage & loss of life.
- **Glacial Lake Outburst Floods (GLOFs):** Earthquakes can destabilize glacial lakes, leading to catastrophic floods.
- **Tectonic Uplift and Faulting:** Sudden **changes in elevation, affects ecosystems, human settlements** etc.
- **Cultural & Heritage Loss:** The region has **ancient monasteries, temples, & cultural sites**.

### Way Forward

- **Stricter building regulations:** Ensuring that infrastructure is designed to withstand strong earthquakes.
- **Regional collaboration:** Encouraging Himalayan countries to share knowledge, resources, and technology for earthquake preparedness and recovery
- **Other:** Developing **Early warning system**, increasing awareness about safety protocols during & after earthquakes, **Research and Risk Mapping** etc.

## Also in News



### Indo-Tibetan Border Police (ITBP)

The ITBP has relocated 33 border posts closer to the India-China LAC to boost security and operational readiness.

#### About ITBP

- It is a **Central Armed Police Force** functioning under the **Ministry of Home Affairs**.
- **Motto:** Shaurya-Dridhata-Karma Nishtha.
- **Genesis:** Initially raised under **CRPF Act**, in the **wake of Chinese aggression in 1962**. However, in 1992, parliament enacted the ITBPF Act.
- **Diverse Roles:**
  - ⊕ Guards 3,488 km long India-China borders.
  - ⊕ Provides security to various installations of national importance including Rashtrapati Bhawan.
  - ⊕ **First Responders** for natural calamities in the Himalayan region.



### India's Coastline Recalculated

India's coastline has been recalculated from 7,516 km in 1970 to **11,098 km** in 2023-24, reflecting a **48% increase** over the past 53 years.

- Upward revision is attributed to a new methodology to measure India's maritime established by **National Maritime Security Coordinator**.
  - ⊕ It **measures complex coastal formations** like bays, estuaries, and inlets, unlike **older methods that used straight-line distances**.

#### Key Findings

- **West Bengal recorded highest percentage increase (357%)** while Kerala (5%) reported the smallest increase.
  - ⊕ **Puducherry's coastline contracted by 4.9 km**.
- **Gujarat retains its position** as the state with the longest coastline followed by **Tamil Nadu** which **overtaken Andhra Pradesh** (now 3<sup>rd</sup>).



### Garudakshi

Karnataka launched the 'Garudakshi' online FIR system to curb wildlife crimes.

#### About Garudakshi

- It is software to enable an online FIR system similar to that of the Police Department.
- It will allow the public to register complaints on forest offences using mobile phones or email addresses
- Developed in collaboration with the Wildlife Trust of India.



### Anji Khad Bridge

The Indian Railways has unveiled a monumental engineering achievement with the completion of the Anji Khad Bridge, India's first cable-stayed rail bridge.

#### Anji Khad Bridge: Key Details

- Location:** Reasi district, Jammu and Kashmir, part of the Udhampur-Srinagar-Baramulla Rail Link (USBRL) Project.
- Dimensions:**
  - Length:** 725.5 meters
  - Height:** 331 meters above the Anji River (a tributary of the Chenab).
- Significance:**
  - Enhances connectivity between **Katra** and the **Kashmir Valley**.
  - Expected to boost tourism and foster economic growth in Jammu and Kashmir.



### Global Energy Alliance for People and Planet (GEAPP)

The GEAPP and the International Solar Alliance (ISA) signed an agreement to establish a \$100 million fund to support high-impact solar energy projects.

- Additional Initiatives Announced:**
  - Digitalization of Utilities for Energy Transition (DUET)
  - Energy Transitions Innovation Challenge (ENTICE 2.0)

#### About Global Energy Alliance for People and Planet (GEAPP)

- GEAPP is a **global, public-private initiative** focused on accelerating the **clean energy transition in developing countries**.
- Goals:** 1 billion people with energy access, 150 million green jobs, 4 billion tons of emissions avoided.
- Focus Areas:** Distributed renewable energy solutions, energy poverty alleviation, sustainable development.



### The Bhashini project

Union Minister of Labour & Employment and Youth Affairs & Sports launches Multilingual Functionality on e-Shram Portal.

- The Bhashini project upgraded the e-Shram portal to support all **22 Scheduled Languages** (previously it only included English, Hindi, Kannada, and Marathi).

#### About The Bhashini project

- Launched in 2022.
- Ministry:** Ministry of Electronics and Information Technology (MeitY).
- It is part of the broader **National Language Translation Mission (NLTM)**.
- It is an **AI-based language translation tool**, enabling multilingual support for Indian languages.
- Aim:** Bridge language barriers and provides content and services in speech and text to citizens in their native language.



### Kandla Port

Union Minister of Ports, Shipping & Waterways announced major initiatives to boost the capacity at Kandla Port.

#### About Kandla Port

- Establishment:** Constructed in the 1950s as a replacement for the **Karachi Port** (lost after the partition of India).
- Official Name:** Deendayal Port (renamed in 2017 under the Indian Ports Act, 1908.)
- Location:** Kutch District, Gujarat, India
- Significance:**
  - India's **second largest port by cargo volume** (Paradip Port ranked one).
  - It serves as a **gateway port for states in North, West, and Central India**.
  - It hosts the **Kandla Special Economic Zone (KASEZ)**, established in 1965 as the **first SEZ in India and Asia**.

### Place in News



### Ghana (Capital: Accra)

John Mahama sworn in as Ghana's president for a third term.

#### Physical Features

- Ghana, country of western Africa, situated on the **coast of the Gulf of Guinea**.
  - It was known as '**Gold Coast**' before its independence in 1957.
- Land Boundary:** Ivory Coast (West); Burkina Faso (North); Togo (East).
- Marine Boundary:** Gulf of Guinea (South).

#### Geographical Features

- Climate:** Tropical, with two main seasons – wet and dry.
- Highest Peak:** Mount **Afadja** (part of Akwapim-Togo Ranges).
- Major Rivers:** Volta River, Black Volta, White Volta, Pra, tano etc.
- Natural Resources:** One of the world's largest producers of **gold and cocoa**.



AHMEDABAD BENGALURU BHOPAL CHANDIGARH DELHI GUWAHATI HYDERABAD JAIPUR JODHPUR LUCKNOW PRAYAGRAJ PUNE RANCHI