



Pyrocumulonimbus clouds

Context: The wildfires in the U.S. and Canada are so intense they have created 'pyrocumulonimbus' clouds, which can generate thunder and spark additional fires.

- **Definition:** Pyrocumulonimbus clouds, also known as pyrocumulus clouds or fire clouds, are dense cumuliform clouds associated with intense fires or volcanic eruptions. They can be similar to firestorms but can also occur independently.
- **Formation:**
 - Pyrocumulonimbus clouds form from extremely hot wildfires or volcanic eruptions. For example, the Australian bushfires of 2019-2020 created these clouds when temperatures exceeded 800°C.
 - The formation process involves:
 - Intense heat from the fire warming the surrounding air.
 - The hot air rises, carrying water vapor, smoke, and ash.
 - As it rises, the air cools and expands.
 - Water vapor condenses on ash, forming a pyrocumulus cloud (fire cloud).
 - With sufficient water vapor and intense upward movement, pyrocumulus clouds evolve into pyrocumulonimbus clouds.
 - These clouds can reach up to 50,000 feet and generate thunderstorms. They produce lightning but minimal rain, potentially sparking new wildfires and creating strong, unpredictable winds.

➤ Characteristics:

- Often grayish to brown in color due to ash and smoke.
- They expand as ash increases the amount of condensation nuclei.

➤ Effects on Wildfires:

- **Can either help or hinder a fire:**
 - Moisture from the cloud can condense and fall as rain, potentially extinguishing the fire.
 - Large pyrocumulonimbus clouds may evolve into cumulonimbus clouds (cumulonimbus pyrocumulonimbus) and produce lightning, which can ignite new fires.
 - Increased wind speed from the cloud can exacerbate the wildfire.

➤ Increasing Frequency:

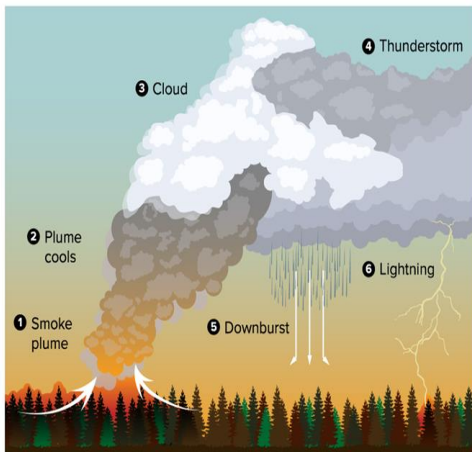
- The increase in frequency is not yet fully understood, as studies on these clouds are relatively new.
- Climate change is believed to contribute, as rising global temperatures lead to more frequent and intense wildfires, potentially increasing the occurrence of pyrocumulonimbus clouds.

➤ Additional Information:

- Severe turbulence in pyrocumulonimbus clouds can lead to strong surface gusts.
- Large clouds, particularly those from volcanic eruptions, may produce lightning due to charge separation and ice formation. The World Meteorological Organization (WMO) formally named these clouds "pyrocumulonimbus" in 2017, replacing previous classifications.

The rise of a fire-fueled storm cloud

How a pyrocumulonimbus cloud develops



SOURCE: BUREAU OF METEOROLOGY, AUSTRALIA

KNOWABLE MAGAZINE

➤ Historical Data:

- Before 2023, an average of 102 pyrocumulonimbus clouds were recorded globally each year, with 50 of these observed annually in Canada.
- During the extreme wildfire season of 2023, Canada alone recorded 140 pyrocumulonimbus clouds.

Waqf Board

Context: The government has introduced the Waqf Act Amendment Bill 2024, focusing attention on the Waqf Boards.

➤ What is Waqf?

- Waqf is an Islamic endowment of property for charitable or religious purposes, dedicated in the name of God.
- Once designated as a waqf, property cannot be sold, inherited, or gifted, as it belongs to Allah.

➤ Historical Background

- The concept of waqf has long existed, but formal Waqf Boards in India were established with the Wakf Act of 1954.
- This Act was replaced by the Wakf Act of 1995, which was later updated by the Wakf Act 2013 to improve management and transparency.

➤ Wakf Act 1995

- Defines waqf as the permanent dedication of property for pious, religious, or charitable purposes.

Face to Face Centres





9 August, 2024

- Establishes State Waqf Boards for property registration and management.
- Outlines the powers of Waqf Councils, State Waqf Boards, and the Chief Executive Officer.
- Details duties of mutawallis (managers) and the powers of Waqf Tribunals.

➤ Waqf Board

- **Definition**
 - A statutory body managing and regulating waqf properties in India, operating under state government supervision.
 - Recognized as a legal entity with advisory support from the Central Waqf Council.
- **Functions**
 - **Maintenance:** Ensures proper upkeep and utilization of waqf properties.
 - **Registration:** Registers all waqf properties.
 - **Administration:** Manages properties for charitable or religious purposes.
 - **Supervision:** Oversees mutawallis (custodians) managing waqf properties.
- **Types of Waqf Boards**
 - **Sunni Central Waqf Board:** Manages properties for the Sunni sect and handles major disputes.
 - **Shia Central Waqf Board:** Manages properties for the Shia sect, coordinating with other boards for proper utilization.
- **Composition**
 - **Chairperson:** Leads the board.
 - **State Government Nominees:** Appointed representatives.
 - **Legislators and Parliamentarians:** State representatives from the Muslim community.
 - **State Bar Council Members:** Legal experts providing guidance.
 - **Mutawallis:** Managers of high-income waqf properties.
 - **Islamic Scholars:** Religious experts involved in decision-making.
- **Powers**
 - **Inspection:** Can inspect properties and accounts.
 - **Appointment of Mutawallis:** Authority to appoint or remove mutawallis.
 - **Legal Actions:** Takes action against encroachment or misuse.
 - **Audit:** Conducts audits of waqf accounts and properties.

Monetary Policy

Context: For the ninth consecutive time, the RBI's Monetary Policy Committee kept the benchmark repo rate unchanged at 6.5% on August 8.

- **Definition:** A macroeconomic policy tool used by the Central Bank to influence the money supply to achieve macroeconomic goals, such as controlling inflation, managing employment, and stabilizing the economy.
- **Objectives of Monetary Policy**
 - Accelerate economic growth.
 - Maintain price stability.
 - Generate employment.
 - Stabilize the exchange rate.
- **Types of Monetary Policy**
 - **Expansionary Monetary Policy**
 - Also known as Accommodative Monetary Policy.
 - Increases money supply by decreasing interest rates, lowering reserve requirements, and purchasing government securities.
 - Aims to stimulate economic growth and lower unemployment but can lead to hyperinflation.
 - **Contractionary Monetary Policy**
 - Decreases money supply by raising interest rates, increasing reserve requirements, and selling government bonds.
 - Aims to reduce inflation.
- **Monetary Policy in India**
 - **Pre-2016:** Formulated solely by the RBI Governor, with advisory support from a Technical Committee.
 - **Post-2016:** The Finance Act established the Monetary Policy Committee (MPC) to formulate monetary policy.
- **Monetary Policy and Inflation in India – Flexible Inflation Target (FIT) Framework**
 - **Background:** Introduced in 2016 with a focus on price stability while supporting growth.
 - **Prominent Provisions:**
 - Inflation target set by the Center in consultation with the RBI every five years.
 - For 2021-25, the target is 4% ±2%.
 - Headline Consumer Price Inflation is the key indicator.
 - **Pros:**
 - Provides stability and transparency.
 - Enhances RBI accountability.
 - **Cons:**
 - Limits RBI's flexibility in policy adjustments.
- **Monetary Policy Committee (MPC)**
 - **Established:** By the Finance Act of 2016, following the Urjit Patel Committee's recommendations.
 - **Major Provisions:**
 - Meets at least four times a year.
 - Consists of six members with a four-year term.
 - RBI Governor has a casting vote in case of a tie.
 - **Composition:**
 - RBI Governor (Chairperson).

Face to Face Centres





9 August, 2024

- RBI Deputy Governor in charge of monetary policy.
- One official nominated by the RBI Board.
- Three members appointed by the Central Government.

➤ Monetary Policy Tools in India

- **Quantitative Tools:** Control cost and quantity of credit.
- **Bank Rate:** Affects money supply by changing borrowing costs.
- **Reserve Requirements:** Includes CRR and SLR to regulate money available for lending.
- **Liquidity Adjustment Facility (LAF):** Manages day-to-day liquidity through repo and reverse repo rates.
- **Marginal Standing Facility (MSF):** Provides emergency funding to banks at a penal rate.
- **Open Market Operations (OMOs):** Buying/selling government securities to control money supply.

- **Market Stabilization Scheme (MSS):** Withdraws excess liquidity by selling government securities.
- **Term Repos:** Injects liquidity over a longer period.
- **Qualitative Tools:** Control use and direction of credit.
- **Margins Requirements:** Controls credit flow to specific sectors.
- **Consumer Credit Regulation:** Adjusts credit terms for consumer durables.
- **Moral Suasion:** Persuades banks to adhere to policy directives.
- **Direct Action:** Imposes penalties for non-compliance.
- **Rationing of Credit or Credit Ceiling:** Caps on loan amounts.
- **Priority Sector Lending:** Mandates lending to specified sectors like agriculture and small enterprises.

NEWS IN BETWEEN THE LINES

Repo Rate



In its first meeting after the Union Budget, the Reserve Bank of India's Monetary Policy Committee (MPC) decided to keep the policy repo rate unchanged at 6.50% for the ninth consecutive time.

About Repo Rate:

- The repo rate is the **interest rate** at which the Reserve Bank of India (RBI) **lends money to commercial banks** or financial institutions in India against government securities.
- The primary purpose of the repo rate is to **regulate liquidity in the economy** by influencing the cost of borrowing for commercial banks.
- The repo rate is a **benchmark interest rate** in the economy when the economy is growing healthily because it's the lowest rate of interest at which funds can be borrowed.
- An increase in the repo rate raises borrowing costs and **leads to higher loan interest rates**, while a decrease lowers borrowing costs, **boosts liquidity**, and **supports economic growth**.
- The **Monetary Policy Committee (MPC)** **sets the repo rate** to achieve the inflation target of 4% while also considering economic growth.
- Other factors that influence rate decisions include **economic indicators** and overall monetary policy goals.

Anti-Romeo Squads



The Uttar Pradesh government is planning to reactivate its Anti-Romeo Squads, which were meant to provide security to women and curb incidents of harassment.

About the Anti-Romeo Squads:

- Anti-Romeo Squads are special police teams formed by the Uttar Pradesh government in 2017 to prevent harassment of women in public places.
- The primary aim is to **ensure the safety and security of women** by curbing eve-teasing and other forms of sexual harassment in public areas **like schools, colleges, and markets**.
- These squads patrol public places, identify potential offenders, and take preventive actions to deter harassment.
- The squads operate under the provisions of the Indian Penal Code (IPC) and the Protection of Women from **Domestic Violence Act, 2005**, ensuring legal action against offenders.

Face to Face Centres





9 August, 2024

AFSPA



Recently, Manipur Chief Minister assured the Manipur Assembly that the State Government will convince the centre for removal of Armed Forces (Special Powers) Act, (AFSPA) 1958 from the hill areas of Manipur.

About AFSPA:

- The Armed Forces (Special Powers) Act (AFSPA) was enacted in **1958** to grant special powers to the armed forces in "disturbed areas" to maintain public order.
- It was known initially as the **Armed Forces (Assam and Manipur) Special Powers Act, 1958**.
- It is typically enforced in regions facing significant internal security challenges or insurgency, primarily in the **Northeastern states** and **Jammu and Kashmir**.
- Under AFSPA, armed forces personnel **have powers to arrest without a warrant**, conduct searches and use force, including opening fire if deemed necessary for "the maintenance of public order."
- The Act provides legal immunity to the armed forces for their actions undertaken in the line of duty, shielding them from prosecution without prior government sanction.
- AFSPA has been criticized by human rights organizations for **alleged human rights violations**, including extrajudicial killings, disappearances and abuse of power.
- The legal validity of AFSPA is based on Entry 2A of the **Union List under the Seventh Schedule of the Indian Constitution**, which grants the Parliament exclusive powers to legislate on matters related to the armed forces.

Guru Ghasidas-Tamor Pingla Tiger Reserve



Recently, the Chhattisgarh government announced the establishment of the Guru Ghasidas-Tamor Pingla Tiger Reserve.

About the Guru Ghasidas-Tamor Pingla Tiger Reserve:

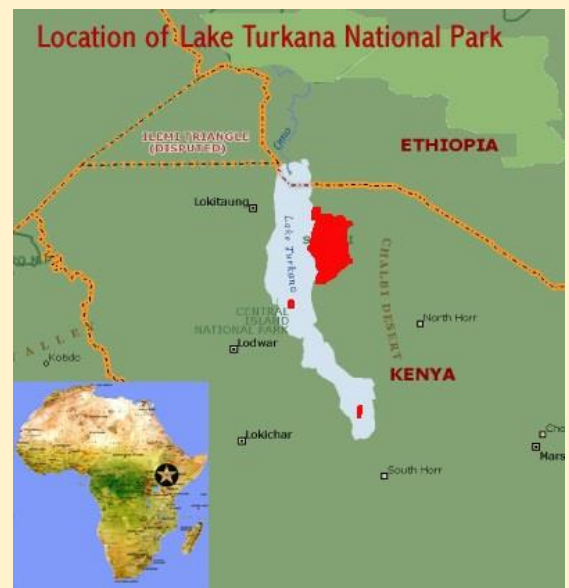
- The Guru Ghasidas-Tamor Pingla Tiger Reserve is situated in the northern part of **Chhattisgarh**, **bordering Madhya Pradesh** and **Jharkhand**.
- It will be the **fourth tiger reserve in Chhattisgarh**, following the Udanti-Sitanadi, Achanakmar and Indravati Reserves.
- The reserve encompasses the combined areas of the **Guru Ghasidas National Park** and **Tamor Pingla Wildlife Sanctuary**.
- The reserve is home to a variety of mammal species, including **tigers, leopards, hyenas, jackals, wolves, sloth bears, barking deer, chinkara and chital**.
- It is the source of significant rivers such as **Hasdeo Gopad** and **Baranga** and serves as a catchment area for rivers like Neur, Bijadhur, **Banas, Rehand**, as well as numerous smaller rivers and rivulets.

Lake Turkana

Recently, the first comprehensive survey in 50 years of Lake Turkana, led by UNESCO and the World Food Programme (WFP), revealed the lake's high fish potential.

About the Lake Turkana:

- Lake Turkana is located in the remote northern region of **Kenya**, **listed as a UNESCO World Heritage Site**.
- The lake is the **world's largest permanent desert lake** and alkaline water body, and is also **Africa's fourth largest lake by volume**.
- It is **situated in the Great Rift Valley**, stretches 249 kilometers long, 44 kilometers wide, 30 meters deep, and extends into Ethiopia at its northern end.
- Lake Turkana is **known for its unique greenish-blue color** and is sometimes called the **Jade Sea**.
- It is a unique ecosystem that **supports local communities** through fishing and is also a **site of archaeological significance**, with fossil finds indicating early human habitation.



Face to Face Centres





9 August, 2024

POINTS TO PONDER

- Who was recently sworn in as the head of Bangladesh's interim government? – **Muhammad Yunus**
- The Sri Lanka-India Friendship Arch was recently inaugurated as part of which campaign? – **Plant4Mother**
- Recently, researchers discovered a new clade of which pathogen, increasing the total number of known clades globally to six?
– **Candida auris**
- Recently, astronomers discovered ten of which type of celestial objects near the heart of the Milky Way? – **Neutron stars**
- What type of clouds have been created by the intense wildfires currently raging in the United States and Canada, and what potential do they have? – **Pyrocumulonimbus clouds that can produce thunder and spark more fires**

Face to Face Centres

