



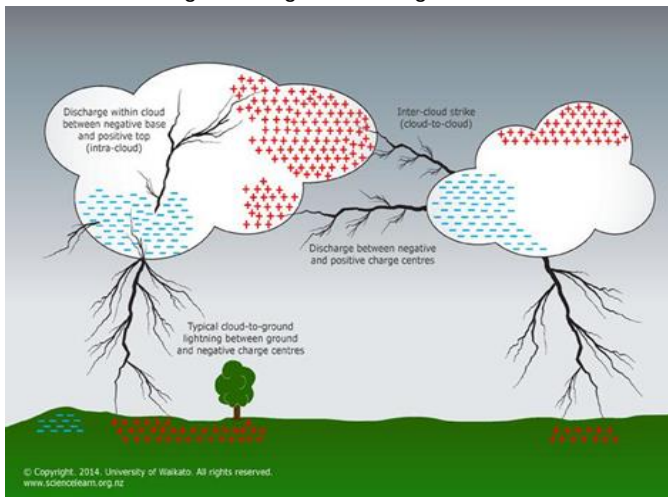
19 August, 2024

Lightening as Disaster in India

Context: Odisha has started planting 20 lakh palm trees to safeguard against lightning strikes, which were classified as a state-specific disaster in 2015.

➤ What is Lightning?

- **Definition:** A natural phenomenon where electric charges travel within clouds or between a cloud and the Earth.
- **Accompaniment:** Bright flashes and sometimes thunderstorms.
 - **Inter-cloud or intra-cloud lightning:** Visible and harmless.
 - **Cloud-to-ground lightning:** Harmful due to high voltage and electric current leading to electrocution.
- **Formation:**
 - When temperatures drop, water droplets in clouds become ice crystals.
 - Ice crystals rub against each other, creating a static charge.
 - Lighter positive charges migrate to the upper part of the cloud.
 - Heavier negative charges move to the lower part of the cloud.
 - A positively charged surface forms on the Earth's surface.
- **Electrostatic Discharge:** Opposite charges attract each other, but air (a poor conductor) resists the charge flow.
- When charge build-up becomes massive, discharge occurs, generating heat and light.



➤ Causes of Lightning in Coastal Regions

- **Cyclonic Circulation:** Low-pressure areas over adjacent seas and coastal regions, drawing in moist air.
- **Western Disturbances:** Storms originating over distant seas (e.g., Mediterranean), impacting coastal areas and surrounding regions.

- **Easterly Trough:** Low-pressure zones in easterly winds from the equatorial region affecting coastal climates.
- **Active ITCZ:** Intertropical Convergence Zone providing moisture, leading to thunderstorms in coastal areas.

➤ Impacts of Lightning

- **Loss of Life:** Major cause of weather-related deaths in India; 2,876 deaths reported in 2019.
- **Health Effects:** Burns, wounds, tissue damage, scarring, cataracts, hearing loss, broken bones, muscle pain, brain damage, memory loss, coma, stroke, seizures, heart disorders, and respiratory arrest.
- **Psychological Effects:** Behavioral changes, emotional distress, anxiety, depression, PTSD, and phobias.
- **Environmental Impacts:** Fires, power outages, damage to buildings, and ozone depletion.
- **Loss of Biodiversity:** Forest fires destroy habitats and food sources for wildlife.
- **Positive Impact:** Nitrogen oxides from lightning fertilize soil and oceans, and trigger ozone creation.

➤ Steps Taken to Prevent Lightning

- **Lightning Alert System:** IMD uses satellite and radar data for lightning potential maps and issues warnings through SMS, apps, and social media.
- **Lightning Safety Awareness:** NDMA's campaign to promote safety awareness.
- **30-30 Rule:** Seek shelter if thunder is heard within 30 seconds of seeing lightning.
- **Lightning Protection Devices:** Encouragement to install lightning arresters, surge protectors, and earthing systems.
- **Forest Fire Management:** Monitoring, early warning, prevention, suppression, and post-fire rehabilitation efforts to

Mpox

Context: The WHO has declared the mpox outbreaks in Congo and Africa a global emergency, urging immediate action to control transmission.

- **Disease:** Mpox (formerly monkeypox), caused by the monkeypox virus.
- **Symptoms:** Painful rash, enlarged lymph nodes, fever; most people recover fully, but some may become very ill.
- **Transmission:**
 - **Person-to-person:** Contact with infected individuals, including through touch, kissing, or sex.

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- **Animal-to-human:** From bites, scratches, or handling animals.
- **Materials:** Contaminated sheets, clothes, or needles.

➤ Virus Information

- **Type:** Enveloped double-stranded DNA virus of the Orthopoxvirus genus, family Poxviridae (includes variola, cowpox, and vaccinia).
- **Clades:** Clades I and II.
- **Discovery:** First found in monkeys in Denmark (1958); first human case in the Democratic Republic of the Congo (1970).
- **Spread:** Person-to-person or from animals; emerged in Africa post-smallpox eradication; global outbreak in 2022-2023.

➤ Transmission

- **Person-to-person:** Direct contact with skin lesions or bodily fluids; includes face-to-face, skin-to-skin, mouth-to-mouth, and respiratory droplets.
- **Animal-to-human:** Through bites, scratches, or activities involving infected animals.
- **Contaminated objects:** Clothing, linens, sharps injuries, or in community settings.
- **Pregnant persons:** Virus can be transmitted to the unborn baby.

➤ Signs and Symptoms

- **Onset:** Typically 1–21 days after exposure, lasting 2–4 weeks.
- **Common Symptoms:** Rash, fever, sore throat, headache, muscle aches, back pain, low energy, swollen lymph nodes.
- **Rash Progression:** Starts as flat sores, becomes blisters, then crusts over and falls off. Can appear on various body parts.
- **Complications:** Bacterial infections, pneumonia, corneal infection, dehydration, sepsis, encephalitis, myocarditis, proctitis, balanitis, urethritis, or death. Higher risk for those with immune suppression.

➤ Diagnosis

- **Challenges:** Must differentiate from other conditions like chickenpox, measles, bacterial infections, and STIs.
- **Preferred Test:** PCR to detect viral DNA; best specimens are from the rash or mucosal surfaces.

➤ Treatment and Vaccination

- **Treatment:** Focuses on symptom management and preventing complications; includes supportive care and antivirals like tecovirimat.
- **Vaccination:** Effective within 4 days of exposure; recommended for high-risk groups including health workers, men who have sex with men, and those with multiple partners.

➤ Outbreaks

- **Historical Cases:** Sporadic in Central and East Africa (clade I) and West Africa (clade II); notable outbreaks in the USA (2003) and Nigeria (2017).
- **2022 Global Outbreak:** Rapid spread across Europe, Americas, and other WHO regions; primarily affects men who have sex with men; about 87,000 cases and 112 deaths reported.

	Monkeypox	COVID-19
		
Causative Agent	Monkeypox virus (MPV)	SARS-CoV-2
Year of Discovery	1958	2019
Genome	Double-stranded DNA	Single-stranded RNA
Variants and Genotypes	2 clades	27 clades*
Primary Route of Transmission	Direct, prolonged contact with monkeypox rash, scabs or bodily fluids from infected person.	Respiratory droplets
Potential Animal Reservoirs	Monkeys, rodents, other small mammals.	Bats, pangolins, minks

*Based on Nextstrain analysis of GISAID data collected between Dec. 2019 and Aug 2022.

1. <https://www.cdc.gov/poxvirus/monkeypox/transmission.html>
2. <https://www.cdc.gov/socialmedia/lyndication/405580/405327.html>
3. <https://www.livescience.com/original-sars-cov-2-reservoir.html>
4. <https://www.who.int/news-room/fact-sheets/detailed/monkeypox>
5. <https://nextstrain.org/ncov/gisaid/global/all-time>

Lateral Entry into Bureaucracy

Context: The UPSC has announced a lateral recruitment drive for talented Indian nationals for Joint Secretary, Director, and Deputy Secretary positions across 24 Union government ministries.

➤ Definition and Background

- **Lateral Entry:** Hiring professionals from outside the traditional civil service for specific roles in government.
- **Initiation:** Recommended by NITI Aayog in 2017 and the Sectoral Group of Secretaries, allowing personnel at middle and senior management levels.
- **Terms:** Contracts for three years, extendable up to five years.

➤ Positions Open for Lateral Entry

- **Initial Recruitment (2018):** Joint Secretary-level positions.
- **Expanded Roles:** Later included Director and Deputy Secretary positions.

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• Rank Descriptions:

- **Joint Secretary:** Third-highest rank, administrative head of a department wing.
- **Director:** One rank below Joint Secretary.
- **Deputy Secretary:** One rank below Director, often performing similar duties.

➤ Government's Logic

- **Objectives:** Bring in fresh talent and augment manpower.
- **Specialized Expertise:** Targeted recruitment for specific assignments based on domain expertise.

➤ Appointments and Statistics

- **Initial Recruitment (2018):** 6,077 applications, nine appointments.
- **Subsequent Rounds:** 2021 and May 2023 recruitment rounds.
- **Total Appointments:** 63 appointments over five years; 57 currently in position.

➤ Reservation Policy

- **Circulars:** 2018 and earlier circulars specify reservations for SC/ST/OBC in central government posts.
- **Deputation Exception:** Lateral entry considered akin to deputation, not requiring mandatory reservation.
- **Single-Post Vacancies:** Reservation policies do not apply to single-post vacancies, as per the 13-point roster system.

➤ Current Recruitment and Reservation

- **Policy Bypass:** Lateral entry vacancies advertised as single-post positions, effectively bypassing reservation requirements.
- **Example:** UPSC's current advertisement of 45 openings bypasses reservation quotas due to single-post classification.

NEWS IN BETWEEN THE LINES

Central Consumer Protection Authority



Recently, the Central Consumer Protection Authority (CCPA) has imposed a penalty of ₹3 lakh on Sriram's IAS, a coaching institute, for publishing a misleading advertisement.

About Central Consumer Protection Authority:

- The Central Consumer Protection Authority (CCPA) is a **regulatory authority** that was established in **2019**.
- Its **mandate is to protect consumer rights** by regulating unfair trade practices and misleading advertisements.
- It also **issues guidelines** to help enforce and improve consumer rights.
- It **works under the Ministry of Consumer Affairs, Food and Public Distribution**.
- It is comprised of **members appointed by the Central Government**, including a **Chief Commissioner** and **two Commissioners** (One Commissioner will represent goods, while the other will represent services).
- Its **headquarter is in New Delhi** and has regional and other offices in other parts of India.

Food Safety and Standards Authority of India



Recently, the Food Safety and Standards Authority of India (FSSAI) has launched a project to assess microplastic contamination in food products and develop methods for its detection.

Food Safety and Standards Authority of India

- The Food Safety and Standards Authority of India (FSSAI) is a **statutory body established under the Ministry of Health and Family Welfare**, Government of India.
- It was established on **5 September 2008 under Food Safety and Standards Act, 2006**
- It serves as the apex body responsible for **regulating and supervising the food safety and standards in India**.
- Its regulations aim to prevent foodborne illnesses and promote consumer confidence in the food supply chain.
- It is comprised of a **Chairperson and 22 members** representing various stakeholders including food industry, consumer organizations and food scientists.
- FSSAI undertakes various initiatives such as **the Eat Right India movement** to promote healthy eating habits and reduce food wastage.
- Its headquarter is in **New Delhi**.

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Baya Weavers



Recently, Baya weavers were spotted foraging in the woods of Amreli, Gujarat, skillfully building their nests that hang precariously from branches.

About Baya Weavers:

- Baya weavers (*Ploceus philippinus*) are **social birds** that forage in flocks during the day, both on the ground and in plants and found in **South and Southeast Asia**.
- They **eat seeds, grains, insects** and sometimes small frogs, geckos and molluscs.
- Baya weavers eat wild grasses like **Guinea grass** for food and nesting material and also **consume butterflies** and other insects, which can help reduce crop damage.
- The construction of the nest is initiated by a **male Baya Weaver** but completes it only after getting a female mate.
- Sometimes they **glean paddy** and other grains in harvested fields, which can damage ripening crops and make them pests.
- The Baya weaver is listed as "**Least Concern**" on the IUCN Red List.

Place in News

Thailand

The Prime Minister of India congratulated Paetongtarn Shinawatra, elected as Thailand's new Prime Minister on August 18.

Thailand (Capital: Bangkok)

Location: Thailand is a country located in Southeast Asia.

Boundaries: Thailand shares its borders with **Myanmar** (Northwest), **Laos** (Northeast), **Cambodia** (Southeast), **Gulf of Thailand and Malaysia** (South), the **Andaman Sea** (Southwest).

Physical Features:

- Thailand boasts numerous islands in the Andaman Sea and the Gulf of Thailand, such as **Phuket, Koh Samui, Koh Phi Phi and Koh Tao**.
- The highest point in Thailand is **Doi Inthanon**, located in the Chiang Mai Province in the northern part of the country.
- The major rivers in Thailand include the **Chao Phraya, Mekong, Mae Klong, Nan and Ping**.
- Thailand generally experiences a **tropical climate** characterized by hot and humid weather throughout the year.



POINTS TO PONDER

- Which ministry launched the Prerana Programme? – **Ministry of Education**
- What is the goal of the National Pest Surveillance System (NPSS)? – **To reduce farmers' dependence on pesticide retailers**
- In which Sikkim sanctuary was the orchid *Gastrodia indica* recently discovered? – **Fambongliho Wildlife Sanctuary**
- Which country has recently deployed the long-range AIM-174B air-to-air missile in the Indo-Pacific? – **US**
- What is Californium? – **A highly radioactive element**

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