1. **Nocturnal Bull Ants:** Scientists at Macquarie University, have recently discovered that two nocturnal bull ant species (Myrmecia pyriformis and Myrmecia midas) use **polarised moonlight** to navigate at night.



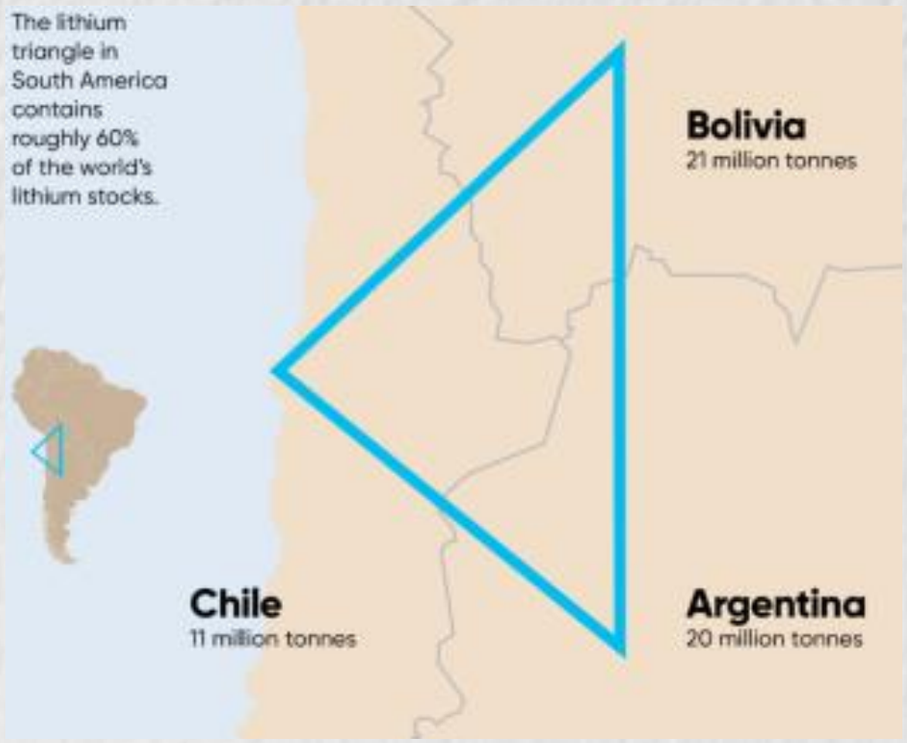
   - **About the Nocturnal Bull Ants:** These are ants that are active at night and use polarized light to navigate. They are the first known animals to use moonlight for navigation.
   - **Moon Visibility:** Varies due to waxing, waning, cloud cover, or tree canopies.
   - **Key Findings:**
     - **Polarised Moonlight:** Myrmecia pyriformis & Myrmecia midas navigate using polarised moonlight, which serves as a natural compass.
     - **Lunar Cycle Navigation:** Their ability to use polarised moonlight throughout the lunar cycle has now been confirmed.
     - **Foraging Patterns:** M. midas ants are most active overnight, while M. pyriformis ants forage more during full-moon nights.
     - **E-vector Pattern:** Both sunlight and moonlight become linearly polarised after scattering in the Earth's atmosphere, creating an e-vector pattern for orientation.
2. **Sagittarius A*:** NASA's James Webb Space Telescope (Webb) has recently captured the best view of the supermassive black hole Sagittarius A* at the center of the Milky Way.
   - **About Sagittarius A*:** It is a supermassive black hole at the Milky Way's center, 26,000 light-years from Earth. It has 4 million times the Sun's mass and is in a relatively quiescent state.
     - Black holes have extreme gravity, preventing light escape, making direct observations difficult.
   - **About James Webb Space Telescope:** Launched in 2021 and began data collection in 2022.
     - Webb's Near-Infrared Camera (NIRCam) provides better infrared sensitivity, capturing continuous brightness measurements at two infrared wavelengths.
   - **Key Finding:** Researchers observed steady **flickering light** from its **accretion disk**, with **occasional bright flares**, revealing the chaotic environment around it.
     - **Flickering Light:** Constant flickering light comes from gas near the event horizon.

- **Bright Flares:** Large flares occur 1-3 times every 24 hours, with smaller bursts in between.
- **Turbulent Accretion Disk:** The disk is chaotic and turbulent, with gas compression due to extreme gravity.

3. **Sea Ice:** According to BBC analysis of data from the US National Snow and Ice Data Center (NSIDC), Global sea ice reached a record low.
   - **About Sea Ice:** It refers to **free-floating ice** in the **Polar Regions**.
     - It expands in winter and melts in summer, but some remains year-round.
     - Different from icebergs, glaciers, ice sheets, and ice shelves, which form on land.
   - **Declining Arctic Sea Ice:**
     - **2025 decline due to:** Delayed freezing in Hudson Bay (due to warmer ocean temperatures) → Storms breaking ice in Barents Sea and Bering Sea → Higher air temperatures (e.g., Svalbard, Norway) → Thinner, more fragile ice that is easily broken by storms.
   - **Fluctuating Antarctic Sea Ice:** In 2025 low caused by: Warm air & sea temperatures at the end of the Southern Hemisphere summer → Ice-breaking winds (Antarctic ice is thinner, more mobile than Arctic ice) → Melting of Antarctic ice shelves due to ongoing ocean warming (British Antarctic Survey).
   - **Consequences of Sea Ice Decline:** Less sea ice → more ocean exposure → more heat absorption → faster warming.
4. **Lake Kivu:** As per UN report, the Lake Kivu offers leisure in Rwanda, Goma (DRC) faces devastation after M23 rebels seized the city last month, killed nearly 3,000 people, worsening the humanitarian crisis.
   - **About Lake Kivu:**
     - Located one of East Africa's Great Lakes, situated between DRC (west) and Rwanda (east).
     - Rwanda's largest lake and Africa's sixth largest.
     - Lies in the Albertine Rift, part of the East African Rift system.
     - Water Distribution: **58% in DRC, remaining in Rwanda**.
     - Landscape: Features irregular shores, inlets, peninsulas, and waterfalls.
     - Drainage: Flows into the Rusizi River, which leads to Lake Tanganyika.
     - Notable Island: Idjwi Island, the tenth largest inland island globally, is in Lake Kivu.

5. **SOUL Leadership Conclave:** Prime Minister will inaugurate the first edition of the SOUL Leadership Conclave.
   - **About SOUL Leadership Conclave:**
     - **Premier Platform:** Brings together leaders from diverse domains to share transformative insights.
     - **Focus:** Encourages learning from both failures and successes, fostering collaboration and thought leadership.
     - **Inspiration for Youth:** Leaders discuss pivotal moments where they took leaps of faith to create exponential impact.
     - **Annual/Biennial Event:** The inaugural edition marks the beginning of a regular leadership gathering across various locations in India.
6. **International Classification of Diseases (ICD-11):** Recently, the World Health Organization (WHO) has announced the 2025 update to the International Classification of Diseases (ICD-11).
   - **About International Classification of Diseases (ICD):**
     - **Flagship WHO Product:** Used to identify health trends and statistics at national and global levels.
     - **Supports WHO's Goals:** Integral to the Fourteenth General Programme of Work, aiding progress toward health-related SDGs and national health targets.
   - **Key Uses of ICD:**
     - **Global Health Monitoring:** Provides crucial data on the extent, causes, and impact of diseases and deaths worldwide.
     - **Clinical & Statistical Application:** ICD-coded terms form the basis for health records, disease statistics, and cause-of-death certificates across primary, secondary, and tertiary healthcare.
     - **ICD in India:** The Central Bureau of Health Intelligence (CBHI), under the Ministry of Health and Family Welfare, functions as the WHO Collaboration Centre for ICD-related activities.
7. **Lithium Triangle:** Recently, a Memorandum of Understanding (MoU) was signed between the **Ministry of Mines,** and the Provincial Government of Catamarca, **Argentina,** for collaboration in critical mineral exploration and resource development.

- The MoU aims to accelerate lithium exploration, strengthen resource security, and create new business opportunities for Indian companies in the Latin American mining sector.
- **About Lithium Triangle:** It refers to the region spanning **Argentina, Bolivia, and Chile**, which holds the **world's largest lithium reserves.**
  - Argentina, as part of this triangle, is a key global lithium supplier, essential for electric vehicle batteries, renewable energy storage, and advanced technologies.
  - India's engagement with Argentina aims to secure a stable lithium supply, supporting the country's clean energy transition and reducing dependence on imports.



8. **UN HABITAT (United Nations Human Settlements Programme):** C40 Cities & UN-Habitat have announced a landmark partnership to transform urban planning.
   - **About the partnership:** It will launch an Urban Planning Accelerator to cut city emissions by 25% by 2050 while promoting safer, fairer, & inclusive urban spaces.
   - **About UN Habitat**
     - **Launch:** 1978
     - **Mission:** To promote socially & environmentally sustainable towns and cities, ensuring adequate shelter for all.
     - **Role:** Through initiatives like New Urban Agenda, it seeks to make cities inclusive, safe, resilient, & sustainable.
   - **About C40:** C40 is a global network of nearly 100 mayors of world's leading cities that are united in action to confront climate crisis.