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Tropical Cyclones

- A new study has found that the tropical cyclones across the globe have been moving westward by 30 km per decade since 1982.
- This is putting them closer to land and making them more dangerous.
- But the Atlantic hurricane basin didn't show any westward shift, which could be because it is more closely surrounded by continents.
- The busiest tropical cyclone basin is in the western Pacific, where the westward shift is twice as big as the global average.
- Storms generally move east to west because of trade winds in the tropics, so a greater westward shift usually puts them closer to where the land is.
- Storms that form west of land, such as in the Pacific off the California and Mexican coasts, are usually moving away from land already, so this shift doesn't spare more land.
- Changes in atmospheric currents that steer storms tend to be pushing cyclones farther west, but why this is happening is still an open question.

Archaeological Circles

- Archaeological Survey of India, an attached office of Ministry of Culture, established Six new Circles by bifurcation of its existing Circles as,

1. Rajkot Circle (Gujarat) – by bifurcating Vadodara Circle
2. Jabalpur Circle (Madhya Pradesh) – by bifurcating Bhopal Circle
3. Trichy Circle (Tamil Nadu) – by bifurcating Chennai & Thrissur Circle
4. Meerut Circle (Uttar Pradesh) – by bifurcating Agra Circle
5. Jhansi Circle (Uttar Pradesh) – by bifurcating Lucknow Circle
6. Raiganj Circle (West Bengal) – by bifurcating Kolkata Circle

- The step has been taken to facilitate and strengthen the process of preservation and registration of archaeological monuments.

Shivalik Elephant Reserve

- The Uttarakhand government issued a stay on its earlier government order (GO) to denotify the Shivalik Elephant Reserve.
- Covering both Kumaon and Garhwal regions, Shivalik Elephant Reserve is the premier and only elephant reserve of Uttarakhand.

- Shivalik is home to over 2,000 elephants and has around a dozen elephant corridors.
- Shivalik Elephant Reserve was first identified by the central government in 1991-92 under 'Project Elephant'.
- Its objective was to arrest man-animal conflict in the region and rehabilitate elephants that were held captive.
- In 2002, Shivalik was notified through a government order by the Uttarakhand government.
- In 2003, Uttarakhand was included in the 10 MIKE (Monitoring of Illegal Killing of Elephants) sites of India.

Deep Ocean Mission

- This mission, announced by Indian government, will cover deep ocean survey exploration and projects for the conservation of deep sea bio-diversity.
- Indian Ocean floor at 3,000 m to 6,000 m depth ias rich in bio diversity.
- Most of these species found around underwater mountain ridges remain virtually unexplored.
- There are two ongoing government projects on to study the Indian Ocean under the Ministry of Earth Sciences (MoES). They are,
    1. Ocean Services, Technology, Observations, Resources, Modelling and Science (O-STORMS) project.
    2. Ocean Services, Modelling, Application, Resources and Technology (O-SMART) project.
- **O-STORMS** project developed a polar remotely operated vehicle indigenously for shallow waters of up to 500m depth.
- The vehicle was successfully deployed in the Andaman coral islands.
- It was manoeuvred in the undulating reef terrain to record high quality underwater visuals of coral reef biodiversity with spectral irradiance.
- **O-SMART** project collects information of marine living resources, monitors pollution in the Indian Ocean and develop underwater vehicles.
- It will carry out exploration of poly-metallic nodules from water depth of 5,500 m in Central Indian Ocean Basin.
- This was to investigate the depths of the ocean for gas hydrates.

Gas hydrates

- These are ice-like crystalline minerals formed when low molecular weight gas combines with water and freezes into a solid under low temperature and moderate pressure conditions.
- [Low molecular weight gases are methane, ethane, or carbon dioxide]
- Most gas hydrates are formed from methane (CH_4).

- Gas hydrates in the ocean can be associated with unusual and possibly unique biological communities that use hydrocarbons or hydrogen sulphide for carbon and energy via a process known as chemosynthesis.
- They could also be dangerous as their decomposition can release large amounts of methane.

Centre for Wetland Conservation and Management

- The Indian government announced the establishment of the first Centre for Wetland Conservation and Management (CWCM).
- This Centre will be a part of the National Centre for Sustainable Coastal Management (NCSCM), Chennai - An institution under the Ministry of Environment, Forest and Climate Change.
- It would address specific research needs and knowledge gaps.
- It would aid in the application of integrated approaches for conservation, restoration, management and wise use of the wetlands.
- It will help in building partnership and networks with relevant national and international agencies.
- WCM would serve as a knowledge hub and enable exchange between State/ UT Wetland Authorities, wetland users, researchers, etc.
- It would assist the national and State/ UT Governments in the design and implementation of policy and regulatory frameworks, management planning, monitoring and targeted research for its conservation.

Statue of Unity Act, 2019

- The Statue of Unity Area Development and Tourism Governance Act, 2019 (SoU Act) is not in consonance with the Panchayat Extension to Scheduled Areas (PESA) Act, 1996.
- The SoU Act was enacted to develop the area around the statue of Sardar Vallabhbhai Patel in the Narmada district of Gujarat.
- It empowers the Gujarat government to establish a tourism authority for development of infrastructure and planning to promote tourism.
- The entire Narmada district is a Schedule V area where PESA Act and Gujarat PESA Rules of 2017 are applicable.

Panchayat (Extension to the Scheduled Areas) Act, 1996

- Based on the report submitted by the Bhuria Committee in 1995, the Parliament enacted the PESA Act, 1996 in 10 states.
- [10 states - Andhra Pradesh, Chhattisgarh, Gujarat, Himachal Pradesh, Jharkhand, Madhya Pradesh, Maharashtra, Orissa, Rajasthan and Telangana]
- This act was enacted to cover the “Scheduled Areas”, which are not covered

in the 73rd Constitutional amendment.

- It extends the provisions of Part IX of the Constitution to the Scheduled Areas of the country.
- Ministry of Panchayati Raj is the nodal Ministry for implementing PESA in the States.
- PESA brought powers further down to the Gram Sabha level for people living in scheduled areas.
- Gram Sabha have powers ranging from consultation on land acquisition to that of ownership over minor forest produces and leasing of minor minerals.
- Every Gram Sabha shall be competent to preserve the traditions and customs of the people, their cultural identity, community resources and the customary mode of dispute resolution.

Source: PIB, The Hindu, Down To Earth, Times of India

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