

## **Prelim Bits 19-04-2019**

### **Western Disturbances**

- Western Disturbance is an extratropical storm originating in the Mediterranean region that brings sudden winter rain to the north-western parts of the Indian sub-continent.
- It is a non-monsoonal precipitation pattern driven by the westerlies.
- Extratropical storms are a global phenomenon with moisture usually carried in the upper atmosphere, unlike their tropical counterparts where the moisture is carried in the lower atmosphere.
- Western disturbances bring moderate to heavy rain in low-lying areas and heavy snow to mountainous areas of the Indian Subcontinent.
- Precipitation has great importance in agriculture, particularly for the Rabi crops. Wheat among them is one of the most important crops, which helps to meet India's food security.

### **UNESCO Geo Park**

- UNESCO Global Geoparks are single, unified geographical areas where sites and landscapes of international geological significance are managed with a holistic concept of protection, education and sustainable development.
- At present, there are 147 UNESCO Global Geoparks in 41 countries
- UNESCO Global Geoparks is given this designation for a period of four years after which the functioning and quality of each UNESCO Global Geoparks are thoroughly re-examined during a revalidation process.
- In 2018 Lonar Lake in Maharashtra and St. Mary's Island and Malpe beach in coastal Karnataka are listed for UNESCO Global Geopark Network status.

### **Helium Hydride Ion**

- Scientists have detected that Helium hydride ion ( $\text{HeH}^+$ ) was the first molecule to be formed in the universe.
- During big bang, ionized hydrogen and neutral helium atoms reacted to form  $\text{HeH}^+$ .
- The molecule will emit its strongest spectral line at a characteristic

wavelength of 0.149 mm.

- NASA's high-flying observatory SOFIA detected this molecule towards a planetary nebula.

## **SOFIA**

- Stratospheric Observatory for Infrared Astronomy (SOFIA) is an aircraft with reflecting telescope, flying into the stratosphere at 38,000-45,000 feet.
- SOFIA is put above Earth's infrared-blocking atmosphere, allowing astronomers to study the solar system and beyond in ways that are not possible with ground-based telescopes.
- The observatory's mobility allows researchers to observe from almost anywhere in the world and enables studies of transient events that often take place over oceans where there are no telescopes.

## **Genome Sequencing**

- Council of Scientific and Industrial Research (CSIR) with co-operation of Centre for Cellular and Molecular Biology (CCMB) has initiated a genome sequencing project for educating a generation of students on the "usefulness" of genomics.
- Globally, many countries have undertaken genome sequencing of a sample of their citizens to determine unique genetic traits, susceptibility (and resilience) to disease.
- This is the first time that such a large sample of Indians will be recruited for a detailed study.
- The project aims to sequence at least 10,000 Indian genomes, where Genomes will be sequenced based on a blood sample.

## **International Fleet Review**

- International Fleet Review (IFR) is a parade of naval ships, aircraft and submarines, and is organized by nations to promote goodwill, strengthen cooperation and showcase their organizational capabilities.
- IFR also serves as an ideal platform for the world's navies to showcase their prowess and indigenous ship designing and shipbuilding capabilities in a global/ international arena.
- Indian Navy warships INS Kolkata and INS Shakti will be participating in IFR 2109, China.

**Source: The Hindu, PIB, Down to Earth**

