

**20– 06 – 2024**

**News: Aurora Borealis**

- Recently, Auroras which are typically visible in high-latitude regions such as the North and South poles were observed worldwide, including in areas where they are uncommon.
- In India, they were observed through all-sky cameras positioned around the Indian Astronomical Observatory (IAO) in Hanle, Ladakh.

**Aurora Borealis**

- Aurora Borealis are bright and colourful lights, formed due to an active interaction in Space between charged solar winds and the Earth's magnetosphere.
- They occur when violent solar events eject charged particles into space, which become trapped in Earth's magnetic field and interact with atmospheric atoms, ultimately resulting in geomagnetic storms and the creation of aurora.
- The constantly changing inputs from the sun, the varying responses from the Earth's upper atmosphere, and the motion of the planet and particles in near-Earth space all work together to create different auroral motions and shapes.

- In the Northern Hemisphere, the phenomenon is called the northern lights (aurora borealis), while in the Southern Hemisphere; it's called the southern lights (aurora australis).

### **Composition and Colors**

- Auroras consist of gases and particles, including oxygen and nitrogen.
- The collisions of these particles with the atmosphere release energy in the form of light.
- The colors observed in auroras depend on the type of gas and altitude of the collisions.

### **Impact**

- They can trigger blackouts on the Earth, knock out satellites in space, endanger the lives of astronauts, and affect space weather throughout the Solar System.