



Most Promising Astronomical Site: Hanle

Why in News

According to a recent study, the **Indian Astronomical Observatory (IAO)** located at Hanle near Leh in Ladakh is becoming one of the promising observatory sites globally.

- The **Indian Astronomical Observatory** has one of the **world's highest sites for optical, infrared and gamma-ray telescopes.**

Key Points

▪ About:

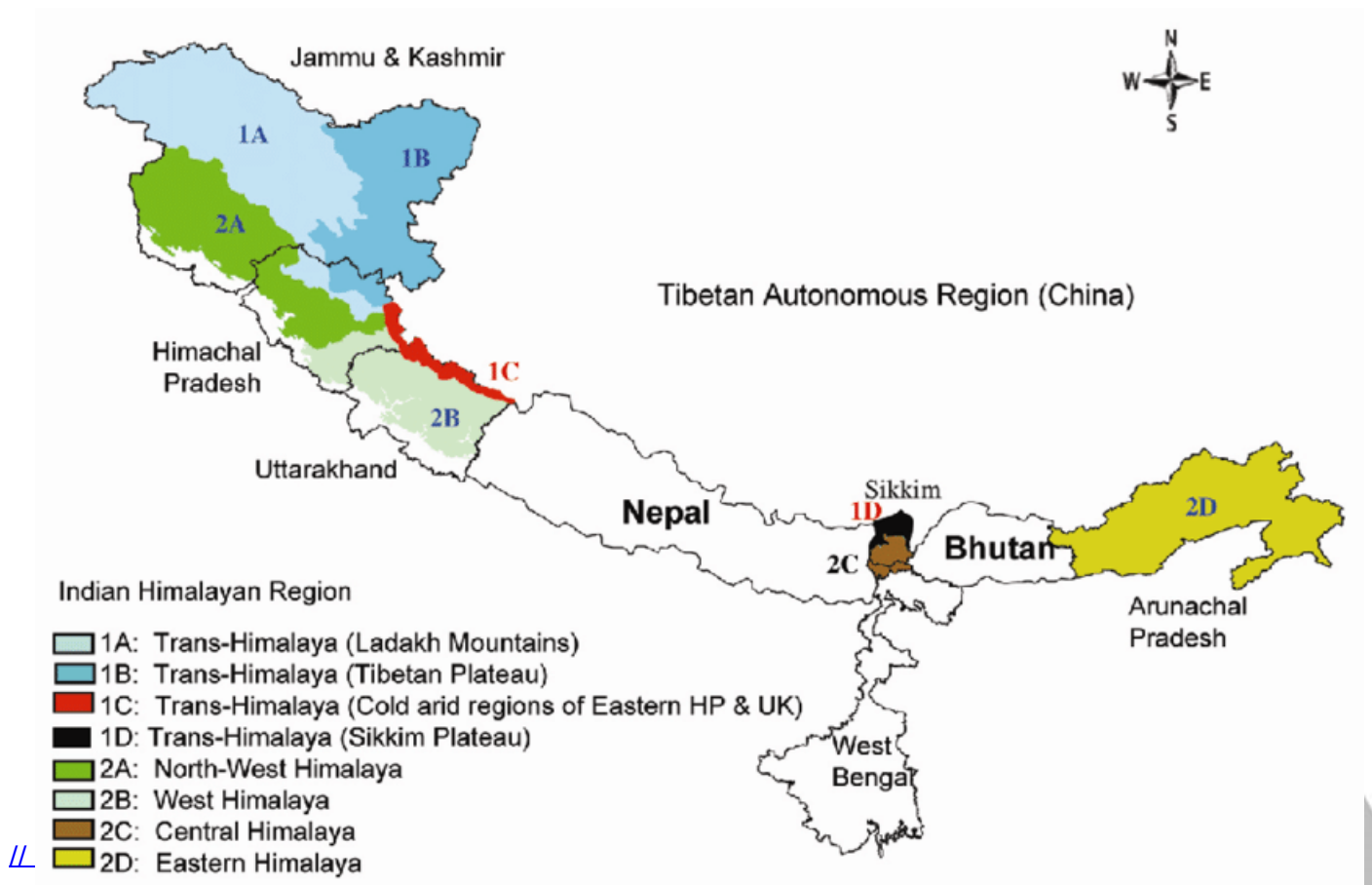
- Hanle site is **as dry as the [Atacama Desert](#)** in Chile and much drier than Devasthal (Uttarakhand) and has around **270 clear nights in a year** and is also one of the **emerging sites for infrared and sub-mm optical astronomy.**
 - This is **because water vapour absorbs electromagnetic signals** and reduces their strength.
- It has advantages of more **clear nights, minimal [light pollution](#), background [aerosol concentration](#), extremely dry atmospheric conditions, and uninterrupted [monsoon](#)**.
- Such conditions are considered **crucial for astronomers to build huge telescopes and plan for future observatories** and predict how they will vary with time.

▪ Other Promising Sites:

- **Merak observatories** in Ladakh.
- **Devasthal** in Nainital, Ali Observatory in the **Tibet Autonomous Region** in China.
- **South African Large Telescope** in South Africa.
- **University of Tokyo Atacama Observatory** and Paranal in Chile.
- **Mexico's National** Astronomical Observatory.

▪ Trans- Himalayan Region:

- The **Trans-Himalayas Mountain Region or Tibet Himalayan Region** is located to the north of the Great Himalayas which consists of **[Karakoram](#), [Ladakh](#)**, Zaskar and Kailash mountain ranges.
 - It is also called the **Tibet Himalayan Region** because most of the part of these ranges lies in Tibet.
- They are the eastward continuation of the most northerly ranges of the **Himalayas.**
- It consists of an **ill-defined mountain area** about 600 miles long and 140 miles wide in the centre, narrowing to a 20-mile width at the eastern and western ends.
- It is mainly composed of **granites** and **volcanic rocks** of the Neogene and Paleogene age.



Source: PIB

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