



TIBETAN PLATEAU - GEOGRAPHY

News: Indian scientists use machine learning to predict crustal movements in Tibetan Plateau.

What's in the news?

Plateau

- A plateau is an **elevated flat land**.
- It is a flat-topped table land standing above the surrounding area.
- A plateau may have one or more sides with steep slopes.
- Plateaus, like mountains may be young or old.

Formation:

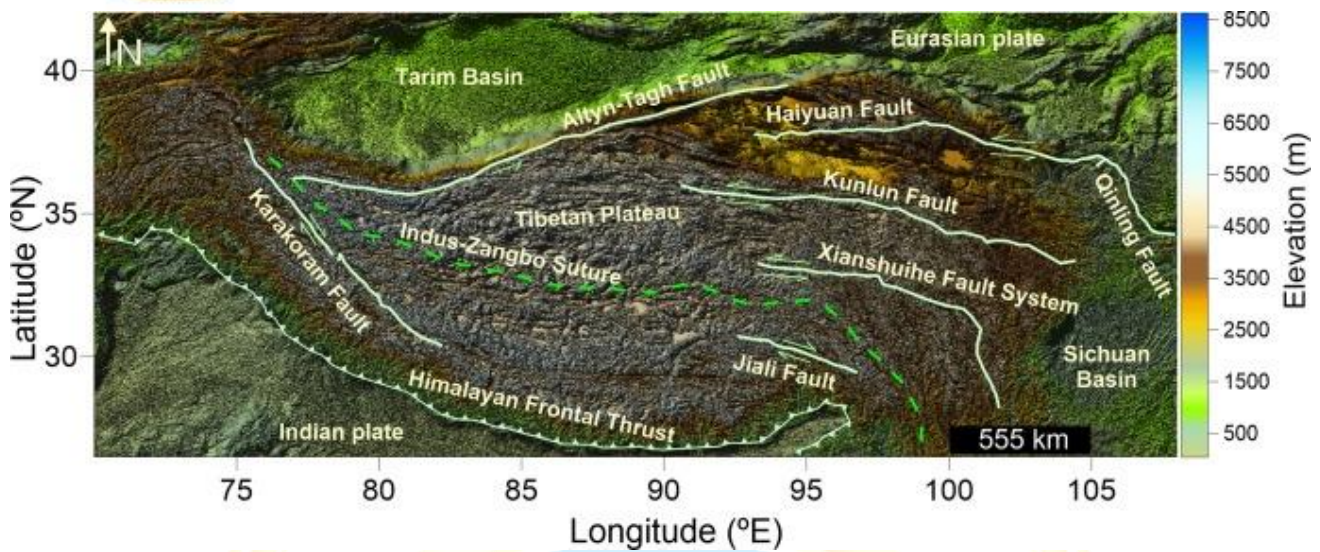
The formation of a plateau requires one of the three types of tectonic processes that create mountain ranges—**volcanism** (Eg: Deccan Plateau) , **crustal shortening** (by the thrusting of one block or slice of crust over another or by the folding of layers of rock(Eg: **Tibetan Plateau**) , and **thermal expansion** (Eg: The **massif Central in France, Ethiopian Plateau in Africa**).

Tibetan Plateau Known as "**Roof of the World**,".

Elevation: The Tibet plateau is the highest plateau in the world with a height of 4,000 to 6,000 metres above the mean sea level.

Formation:

- The formation of the Tibetan Plateau is tied to **Himalayan orogeny**.
- The northward-moving Indian plate collided with the Eurasian plate.
- The movement resulted in strong **uplift of the then southern edge of the Asian continental mass**, which led to the uplift of the **Tibetan plateau**
- The rise occurred during the first **10 million years** after the tectonic collision between **Asia and India began 45 million years ago**.
- Still growing, the Tibetan Plateau's spread has slowed to an annual growth rate of 7 cm wider per year.



Extent:

- With the **Pamir Plateau** to its west and the **Loess Plateau** in the East, the Tibetan Plateau starts from the **southern margin of the Himalayas** and stretches northward to the **northern edge of the Kunlun Mountains and the Altun Mountain**.
- **Area: Total area: 2,500,000 square km (970,000 square miles).**

Drainage:

- Contain the headwaters of the **Indus, Ganges, and Brahmaputra** rivers, which flow southwards through the Indian subcontinent.
- The eastwards flowing rivers are the **Yellow River I and the Yangtze**, which flows east through China to the Yellow Sea.
- The southeastward flowing rivers are the **Mekong and Salween** in the Southeast Asian peninsula and the **Irrawaddy River** in Burma.

Lakes:

- **Saltwater lakes: Qinghai Lake and Lake Namtso.**
- **Freshwater lakes** on the plateau include **Lake Manasarovar, Lake Yamdrok, and Lake Pangong Tso.**

Canyon:

The deepest and longest canyon in the world is the **Yarlung Tsangpo Grand Canyon** located here.

Climate:

- The weather on the plateau depends on the **altitude**: temperature decreases with an increase of altitude.
- It is generally dry and cold in winter, while cool and rainy in summer, sometimes with hail.



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- **Tibetan plateau and Monsoon:** The Tibetan plateau gets intensely heated during summer, which results in strong vertical air currents and the formation of low pressure over the plateau at about 9 km above sea level, which plays a significant role in advancement of south west monsoon.

Glaciers

The Tibetan plateau has more than 46,000 glaciers, 14.5 percent of the world's total.

Wildlife

- Tibet is home to the **Chang Tang Wildlife Reserve**.
- One of endangered species is **the chiru (Tibetan) antelope found here**.
- **Tibetan Brown Bear**.

Threat: Global warming, Black carbon emission, pollution.

Source: <https://www.indiatoday.in/science/story/indian-scientists-use-ai-to-study-movements-deep-below-tibetan-plateau-2588700-2024-08-27>

