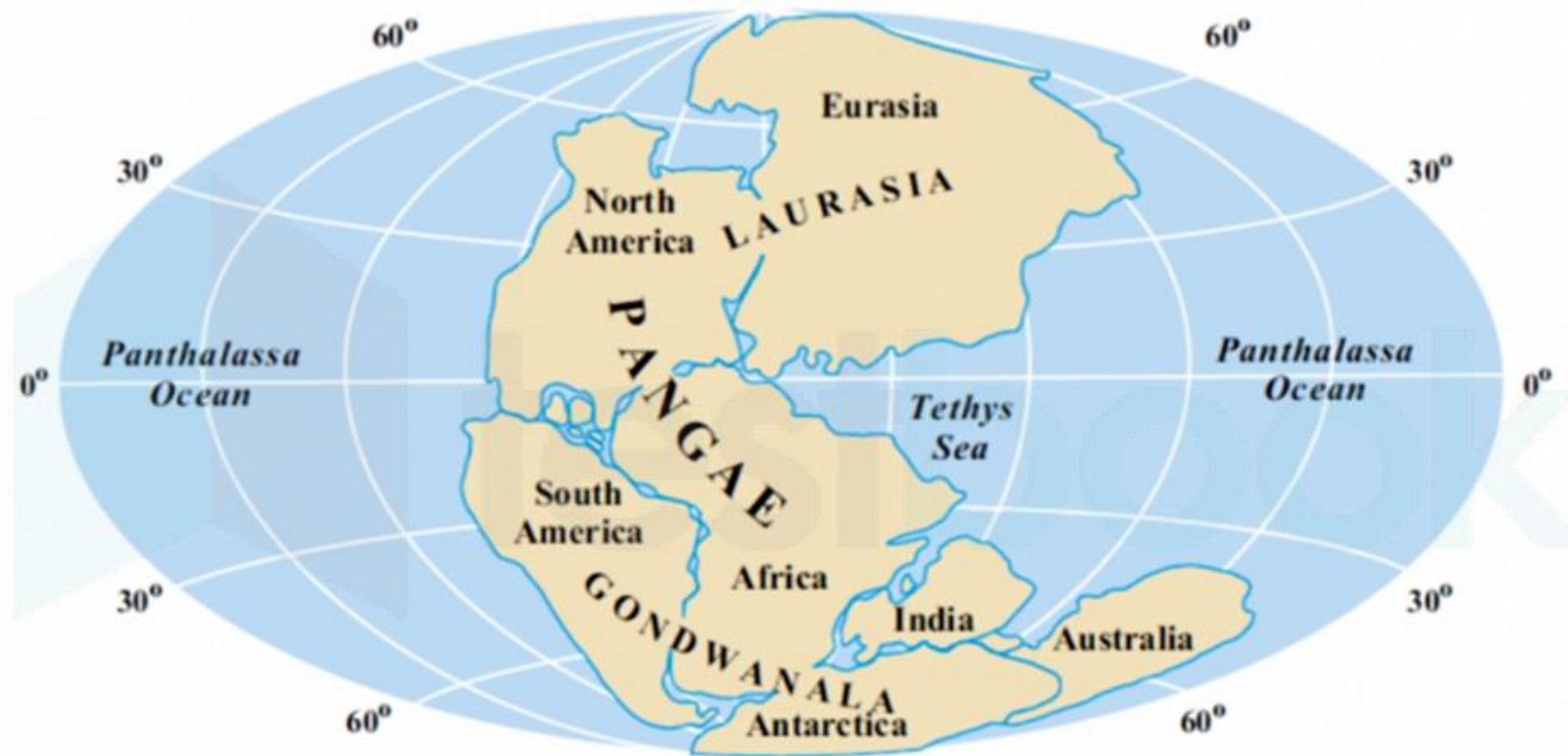
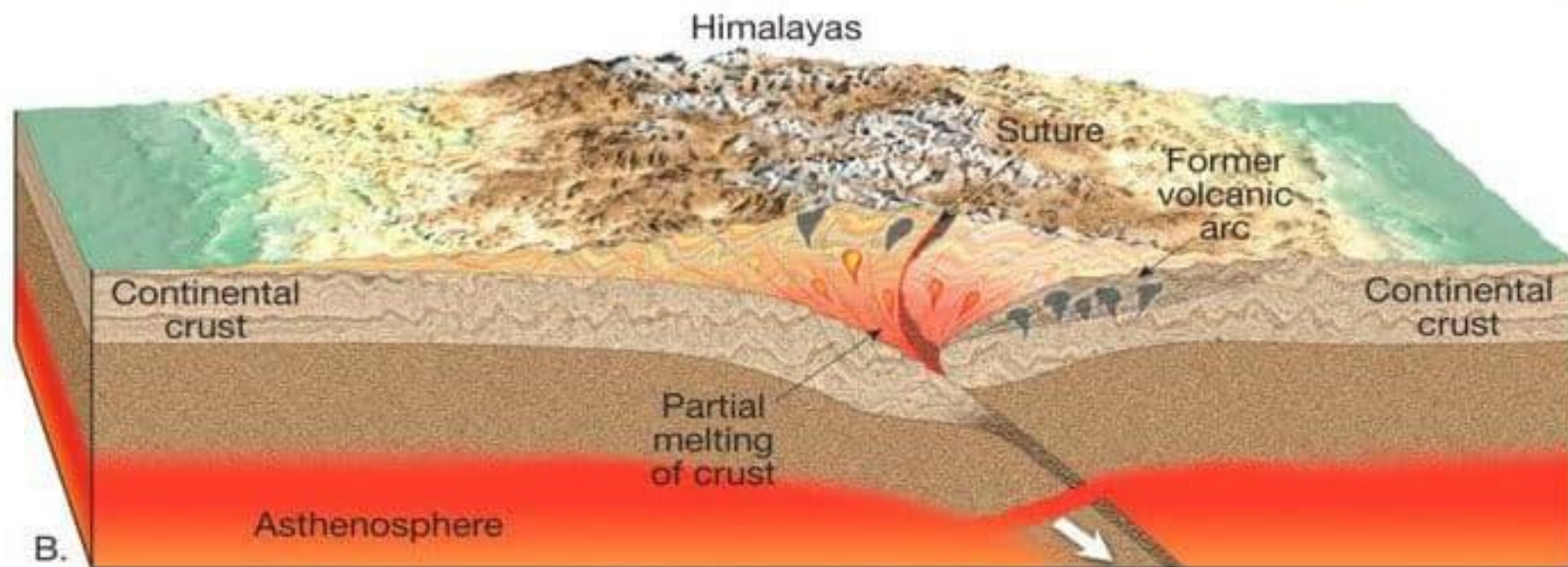
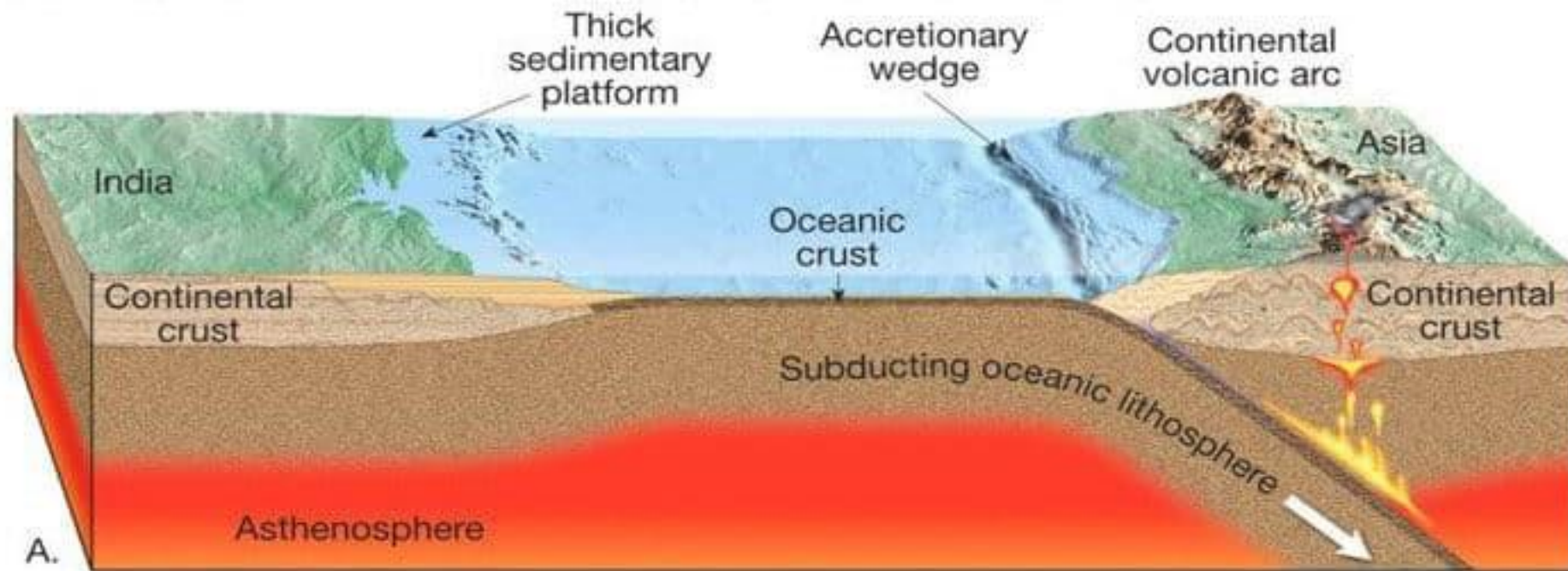


HIMALAYAS



(a) 225 million years ago



Phases of Himalayas formation

The Himalayas do not comprise a single range but a series of at least three ranges running more or less parallel to one another. Therefore, the Himalayas are supposed to have emerged out of the Himalayan **Geosyncline, i.e. the Tethys Sea in Six different phases** following one after the other.

6 phases involved in the formation of Himalayas

- Phase 1 – **100 million years ago**
- Phase 2 – **71 million years ago**
- Phase 3 – **The Drass volcanic arc**
- Phase 4 – **Greater Himalayas were raised**
- Phase 5 – **Rise of lesser Himalayas**
- Phase 6 – **Rise of the Shiwalik ranges**



Division of the Himalayas

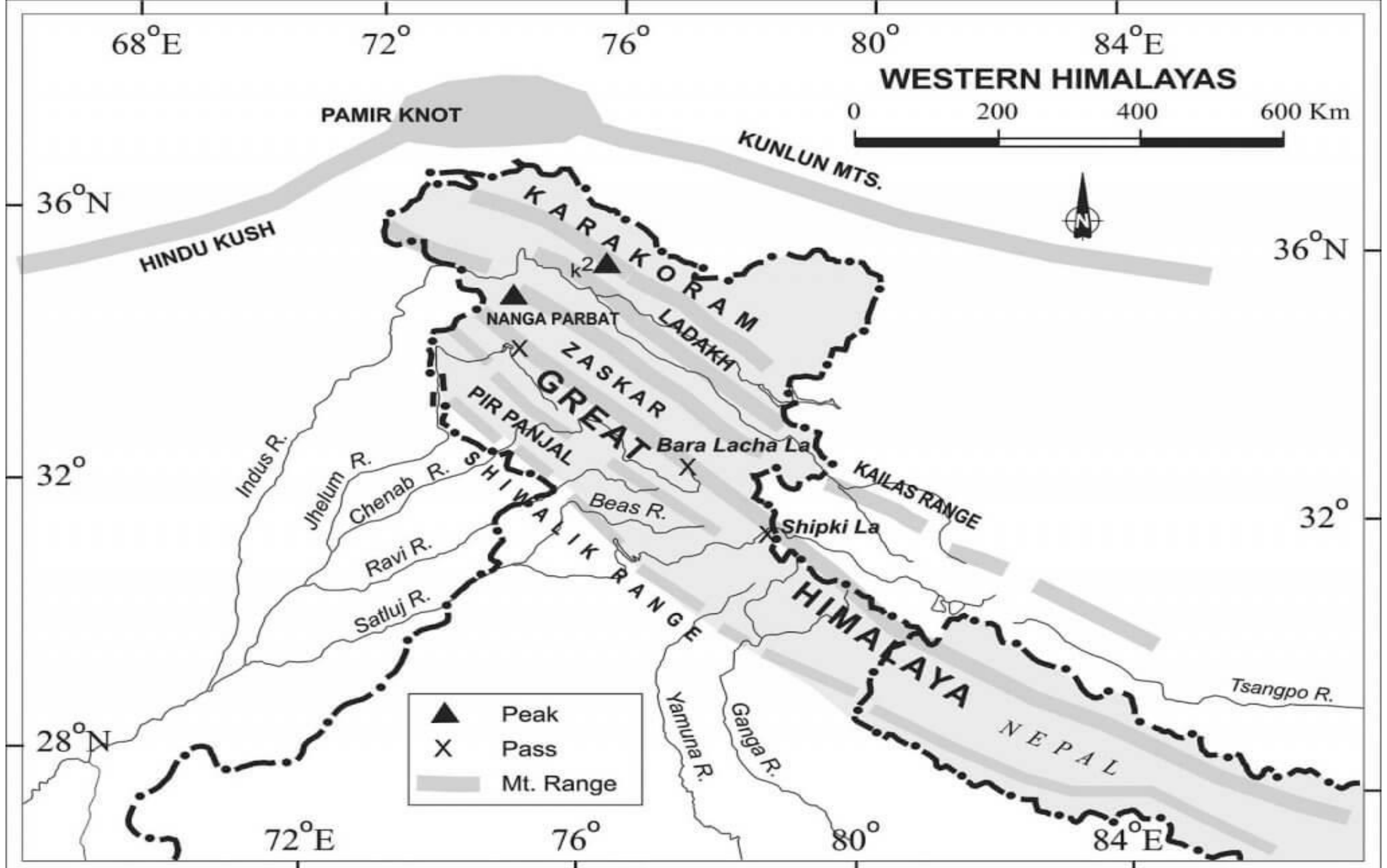
1. Shiwaliks or outer Himalayas

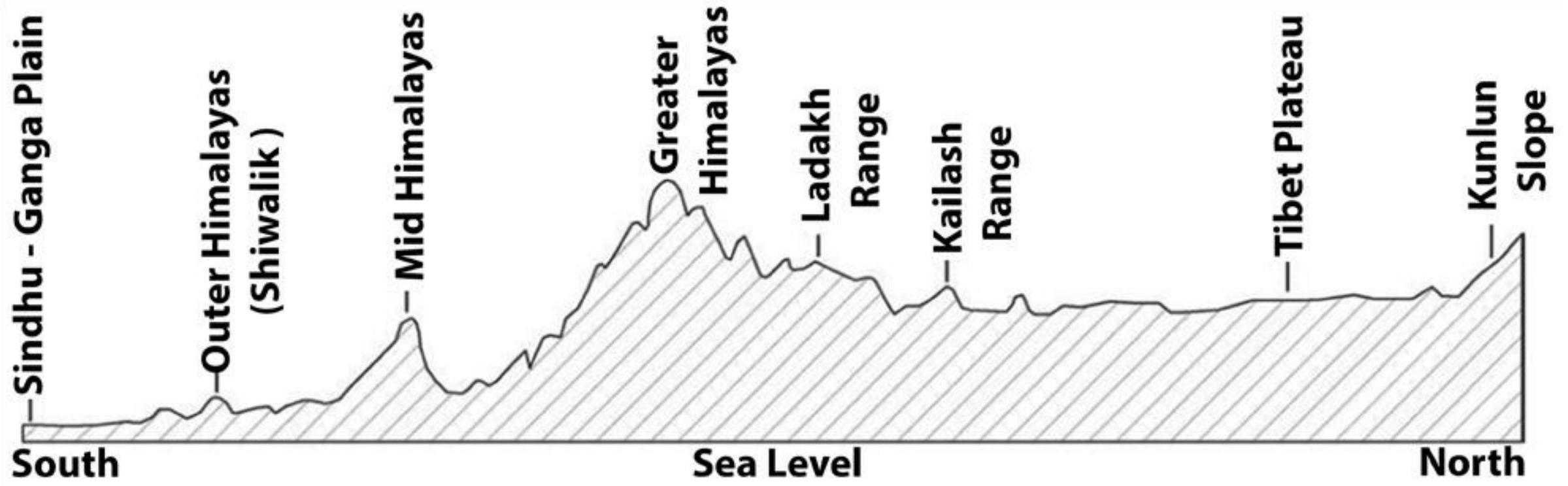
2. Lesser or Middle Himalayas

3. The Greater Himalayas

4. The Trans-Himalayas – Tibetan Himalayas.

5. The Eastern Hills – Purvanchal: A chain of hills in North-East India.





The Trans-Himalayas

- It is the name denoted to the Himalayan Ranges which are **north of the Great Himalayan Range**.
- They stretch in an **east-west direction** for a distance of about 1,000 km.
- Their **average elevation** is approximately **3000 meters** above mean sea level.
- The **prominent ranges** that comprise the Trans-Himalayas include – The **Karakoram Range**, the **Ladakh Range**, and the **Zaskar Range**.

Karakoram Range

- The Karakoram Range is the **northernmost range of the Trans-Himalayan in India**.
- It forms **India's boundary** with **Afghanistan** and **China**.
- The average width of this range is 110-130 km.
- It is home to some of the **highest peaks** and the **largest glaciers** in the world.
 - **K2**, also known as **Mount Godwin-Austen**, lies in this range.
 - It is approximately **8611m high** and is the **second-highest peak in the world**.
 - **Siachen Glacier** and **Remo Glacier** are some of the prominent glaciers lying in this range.

Ladakh Range

- It is considered the **southeastern extension of the Karakoram Range**.
- From the mouth of the Shyok River in north Kashmir, it **extends in the southeast direction** towards the Indo-Tibetan borders.
- The **Deosai Mountains**, situated towards the southwest of the Indus River in Pakistan-Occupied Kashmir (POK), are occasionally considered part of the Ladakh range.
- The **Kailash Range** in western Tibet is also considered a **westward extension of the Ladakh Range**.

Zaskar Range

- It runs more or less **parallel to the Great Himalayan Range**.
- This range **extends in the southeast direction** from the Suru River to the upper Karnali River.
- **Kamet Peak** (25,446 feet) is the **highest peak in this range**.

The Greater Himalayas

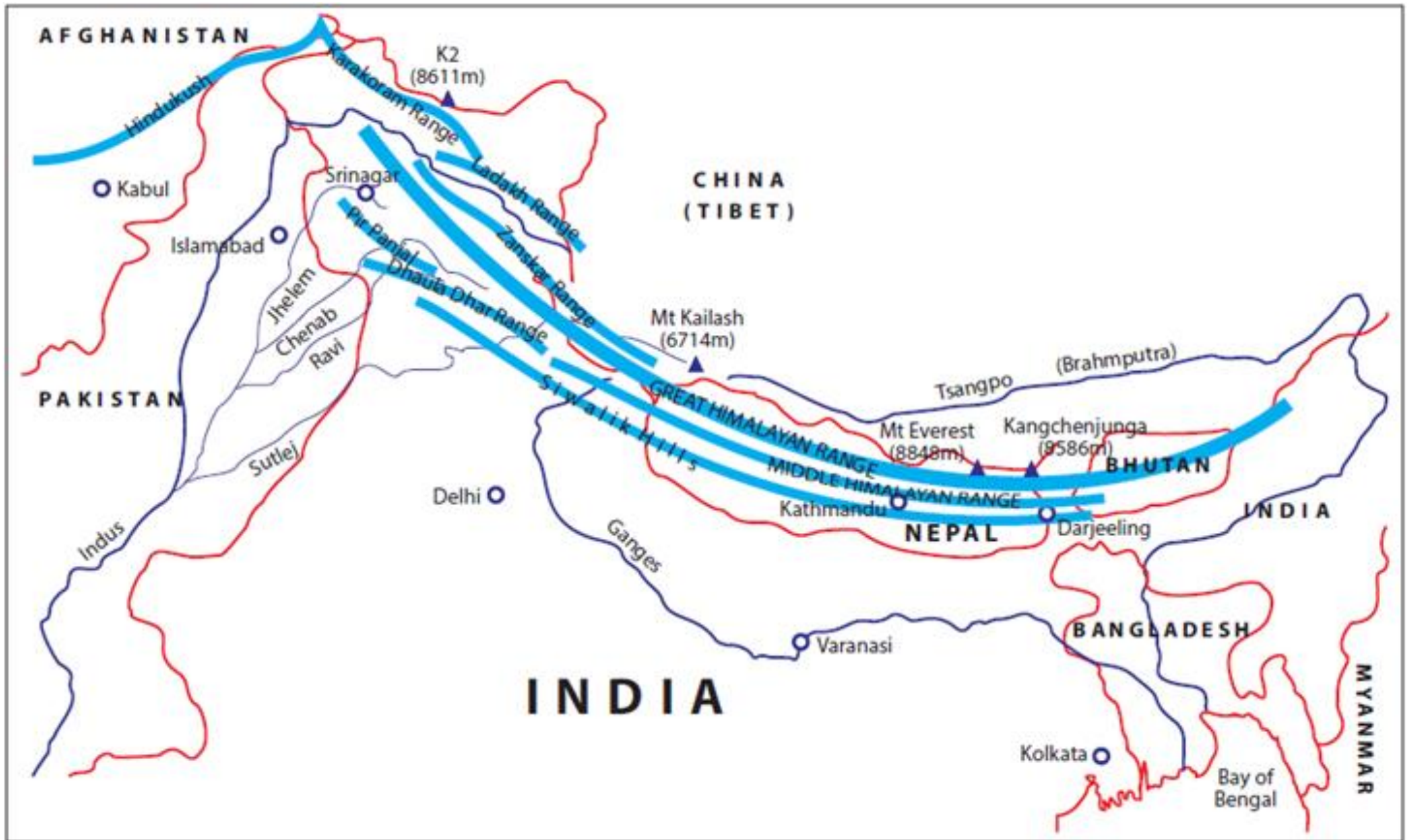
- They are also known as the **Himadri**, the **Inner Himalayas**, or the **Central Himalayas**.
- These mountains are composed of **Archaean rocks** like **granite**, **gneisses**, and the ancient **schist**.
- The **orientation** of the Greater Himalayas changes in different regions as explained below:
 - They extend towards the **southeast** across the regions of **northern Pakistan, northern India, and Nepal**
 - Thereafter, they **curve eastwards** across the regions of **Sikkim** and **Bhutan**.
 - Finally, they **turn towards the northeast** across the region of **northern Arunachal Pradesh**.
- They comprise several of the **world's highest peaks**.
 - Some of the **prominent peaks** in the Greater Himalayas (**from west to east**) include – **Nanga Parbat, Mount Everest, Kanchenjunga, and Namcha Barwa**.
- The orientation of **slopes** in this range is **steep towards the north** and **gentle towards the south**.

The Inner or Middle Himalayas

- They are also called **Lesser Himalayas** or **Lower Himalayas**.
- Their **mean elevation** is about **3,500 to 5,000 meters** and their **average width** is about **60 to 80 km**.
- **Prominent ranges** comprising this sub-division of the Himalayas include – **Nag Tibba, Mahabharat Range, Dhauladhar, the Pir Panjal**, and the **Mussoorie Range**.
- Various important rivers such as **Jhelum** and **Chenab** pass through this range.
- The famous **Valley of Kashmir** lies between Pir Panjal and Zaskar range.
 - The Jhelum River cuts through the Kashmir valley.
- They are also home to some **famous hill resorts** like Shimla, Chail, Ranikhet, Chakrata, Nainital, Almora, etc.
- The Middle Himalayas are also famous for the formation of **Karewas**, which refer to fluvio-glacial deposits between the Greater Himalayas and the Middle Himalayas (Pir Panjal).

The Shiwalik or Outer Himalayas

- The Shiwalik Hills are the **southernmost range of the Himalayas** which lie **between** the **Middle Himalayas** in the **north** and the **Indo-Gangetic Plains** in the **south**.
- They rise abruptly from the plain of the Indus and Ganges rivers in the south and **parallel the main range of the Himalayas** in the north.
 - They are separated from the main Himalayan Range by valleys.
- The **portion of the Shiwalik** lying in the **region of Nepal** is called the **Churia Range**.
- The Shiwaliks are **wider on the western side** compared to the eastern side.
- Formation of **Doons** and **Duars** is the **peculiar feature** of the Shiwaliks.
 - The upliftments of the Shiwaliks stopped the flow of many rivers, resulting in the formation of temporary lakes. The sediments being carried by these rivers were deposited at the bottom of these lakes. Over a period of time, the rivers could cut through the Shiwalik. As a result, water drained away from these lakes, and the sediments in the form of fertile alluvial soils were left behind.
 - It is these fertile alluvial soils, which are known as **Doons in the west** and **Duars in the eastern** part of India.
 - They are **important for the cultivation of tea**.



The Eastern Hills or the Purvanchal

- Towards the region of Dihang Gorge, the Himalayas take a rapid southward turn because of Syntaxial Bend and form a **series of relatively low hills**. Collectively, these hills are also called Purvanchal as they are located **in the eastern part of India**.
- They extend from **Arunachal Pradesh** in the **north** to **Mizoram** in the **south**.
- These hills **constitute India's border with Myanmar**.
- Prominent ranges** comprising the Purvanchal include the following:

Patkai Bum

They are the northernmost range of Purvanchal, lying along the boundary between Arunachal Pradesh and Myanmar.

Naga Hills

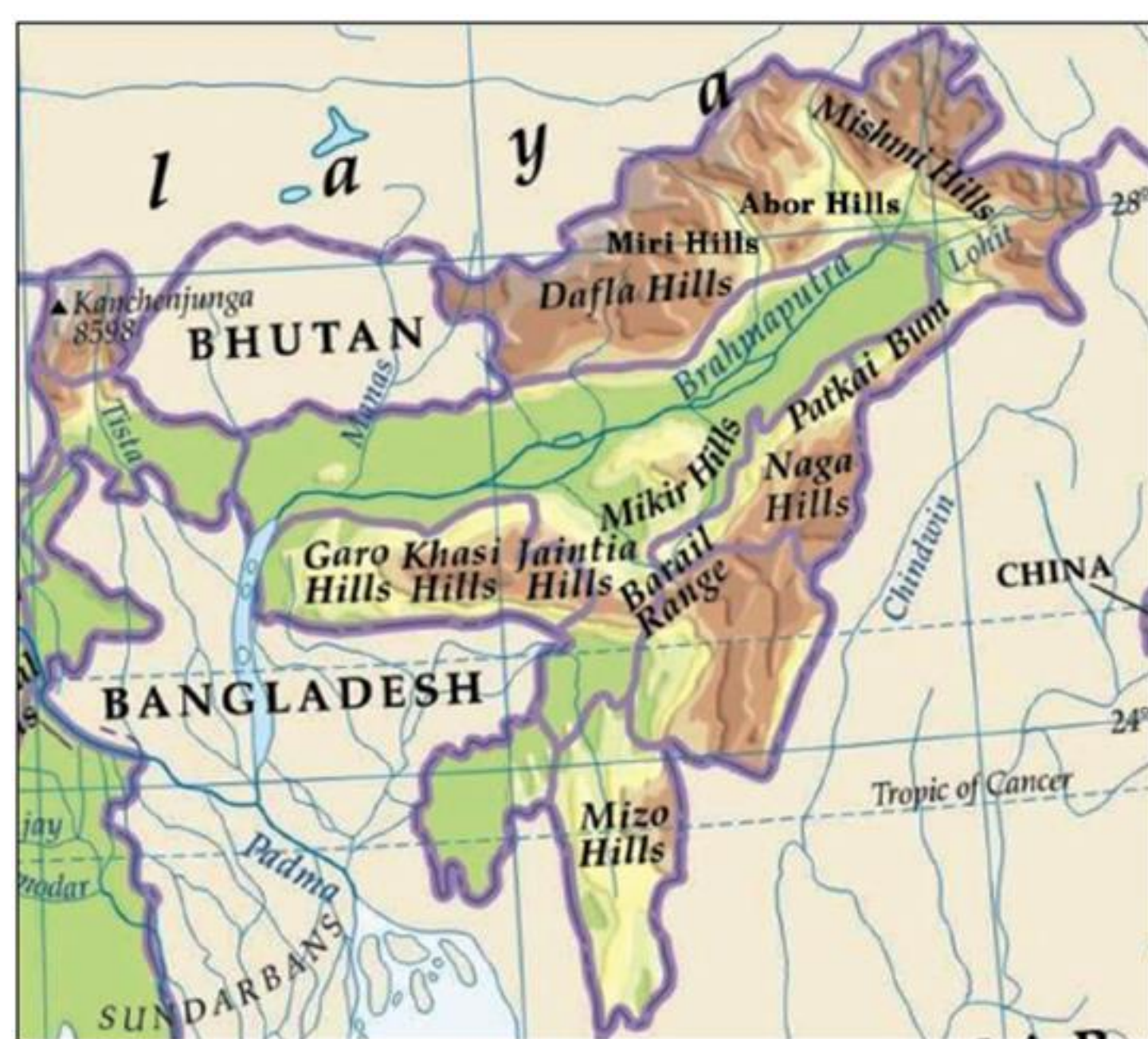
They lie to the south of Patkai Bum. They, along with Patkai Bum, form the watershed between India and Myanmar.

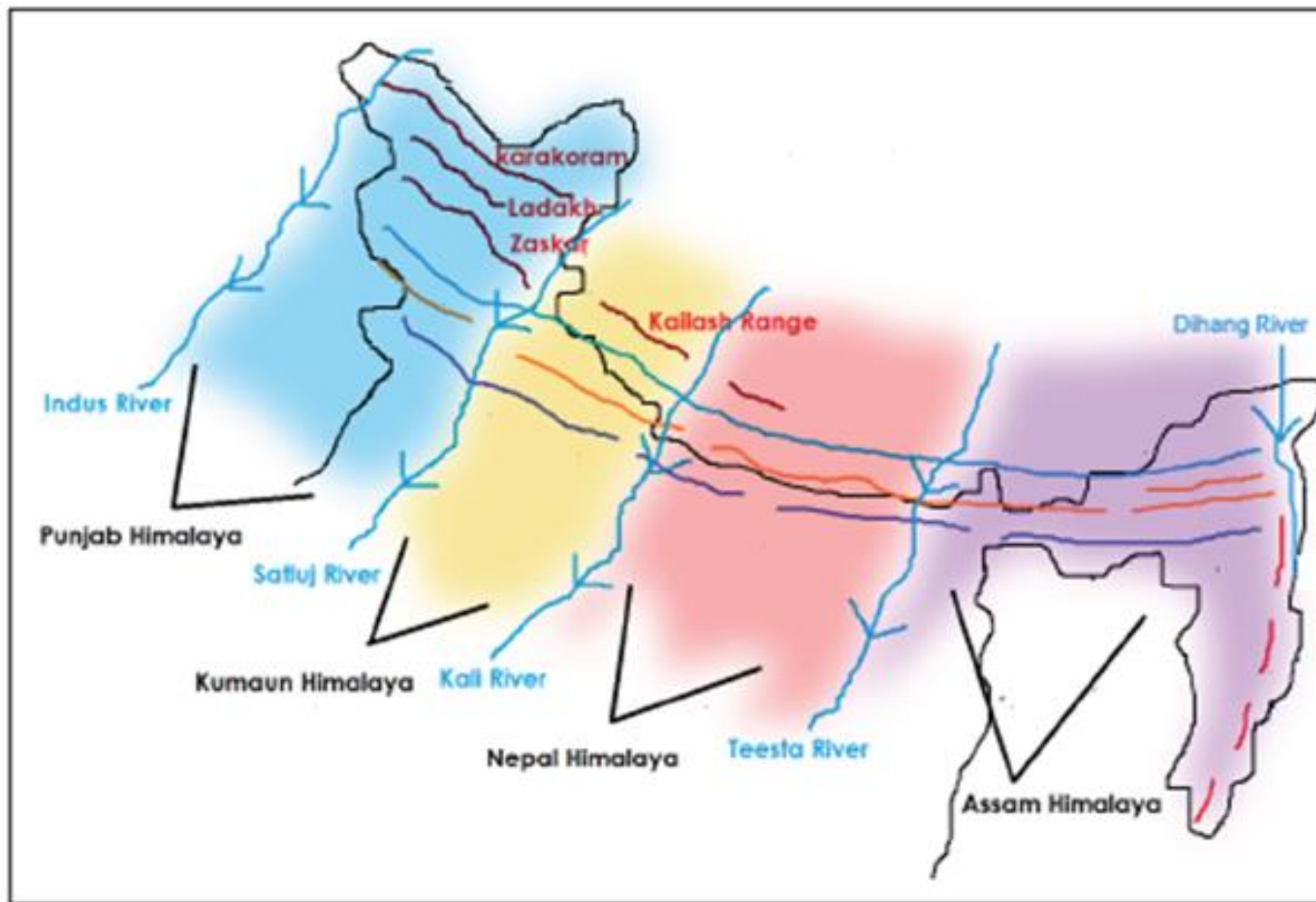
Manipur Hills

They are situated to the south of Naga Hills. The Barail Range splits the Naga Hills from the Manipur Hills.

Mizo Hills or Lushai Hills

They lie to the south of Manipur Hills.





INDIA

(Mountain Ranges)

