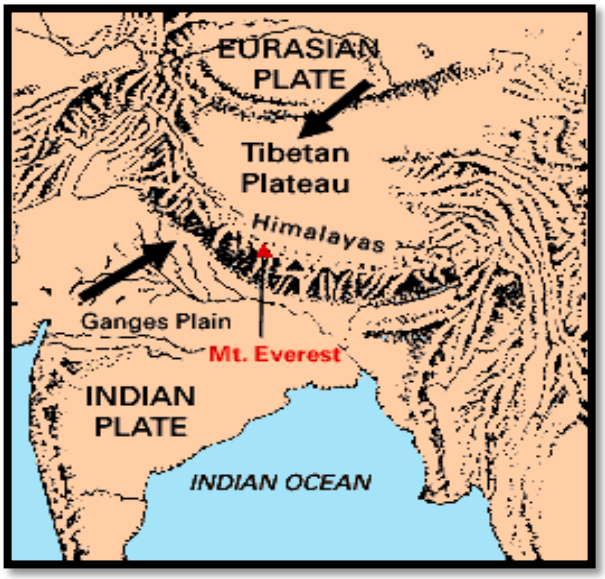
HIMALAYA MOUNTAINS

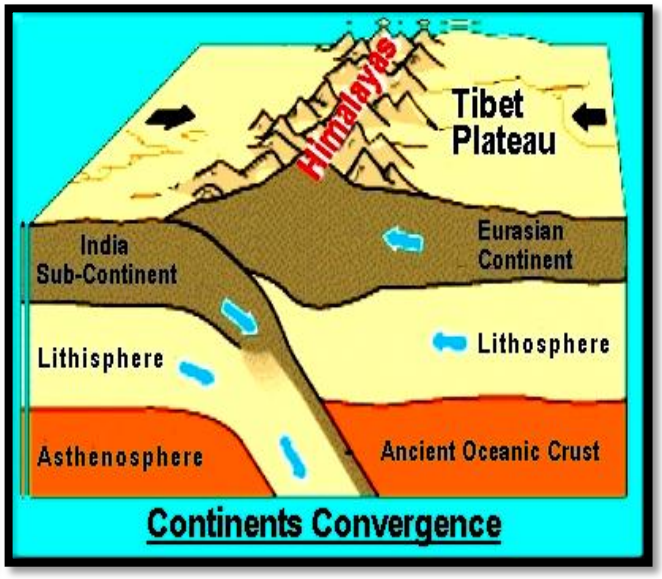
The Himalayas passes through five countries in Asia: India, Pakistan, China, Bhutan and Nepal. The Himalayas is also the origin or source of world's two important river systems: the Indus Basin and the Ganga-Brahmaputra Basin.

Eighty million years ago, India was approximately 6400 km (3968 miles) south of the Eurasian plate. Separating the two was the Tethys Sea. The Indo-Australian tectonic plate – containing the continent of Australia, the Indian subcontinent, and surrounding ocean – was pushed northward by the convection currents generated in the inner mantle. For millions of years, India made its way across the sea toward the Eurasian plate. As India approached Asia, around 40 million years ago, the Tethys Sea began to shrink and its seabed slowly pushed upwards. The Tethys Sea disappeared completely around 20 million years ago and sediments rising from its seabed formed a mountain range. When India and Tibet collided, instead of descending with the plate, the relatively light sedimentary and metamorphic rock that makes up the subcontinent of India pushed against Tibet, forcing it upwards, and created a massive mountain fold. The Himalayas.

This process hasn't stopped. The Indo-Australian plate is still moving toward Eurasia, still pushing Tibet upwards. The Himalayas continue to rise by an average of 2 cm each year. The highest mountains are only getting higher.

Approximately 20 million years ago India was connected to the southeastern tip of Africa. Stresses in the earth's crust resulted in the development of a rift between them. India broke free and began drifting north as part of the Indo-Australian Plate. The leading edge of the plate was oceanic crust. Several millions of years later this leading oceanic edge collided with the Eurasian Plate and began to be thrust upward. Eventually, the deep sea-floor of the Indo-Australian Plate rose above sea level, and the Himalayas were born.





This collision, which continues to this day, resulted in the uplift of the Himalayas and the formation of the Tibetan Plateau, the largest geographic feature on the Earth's surface. The uplift of the plateau also intensified the Asian monsoon and the large amount of rainfall combined with the steep relief and high mechanical erosion rates has resulted in some of the highest chemical weathering rates observed for any region. It is these chemical weathering reactions that, over 40 million years, have consumed atmospheric CO2, thus weakening the global "greenhouse" effect and causing the growth of continent-spanning ice sheets at both poles.

The Himalayan region contains the third largest ice mass on the earth, including well over 14,500 glaciers5 whose melt water sustains hundreds of millions of people. One estimate suggested that, during low flows, 70% of the Ganges water derives from Himalayan melt water.

The Himalayas as most everyone knows are the highest mountains in the world, with 30 peaks over 24,000 feet. The highest mountains in Europe, North and South America barely top 20,000 feet. The word Himalaya is Sanskrit for "abode of the snow" and a Himal is a massif of mountains. Technically Himalaya is the plural of Himal and there should be no such word as Himalayas.

The Himalayas stretch for 1,500 miles from eastern Tibet and China to a point where India, Pakistan, China and Afghanistan all come together. The mountain kingdoms of Sikkim, Bhutan and Nepal are all contained within the range. The southern side of the Himalayas are like a huge climatic wall. During the summer monsoon winds push massive rain clouds against the mountains squeezing out rain onto some of the wettest places on earth. On the leeward, rain-blocked side of the range, on the Tibetan plateau, are some of the driest and most barren places on the planet.

The Himalaya-Karakoram range contains nine of the world’s top ten highest peaks and 96 of the world's 109 peaks over 24,000 feet. If the Karakorum, Pamir, Tian Shan and Hindu Kush ranges and Tibet--which are extensions of the Himalayas into Pakistan, China, Afghanistan and Central Asia--are including in the Himalayas then the 66 highest mountains in the world are in the Himalayas.

Soil erosion is common in areas with steep slopes, where trees have been cut down, in droughts when crops and other vegetation grows poorly and in rural areas which are overpopulated. Nepal, in the Himalayan Mountains, has severe problems caused by increased population density and steep slopes.

Overgrazing by domestic animals like sheep, goats, cows, mules, horses and yaks has been responsible for large scale degradation of the vegetative cover in many parts of the Himalayas. Animal rearing is an important occupation in the mountains in areas where agriculture is difficult or not possible due to the environmental conditions. Moreover, there are many tribes like the Gujars and the Gaddis which make their living primarily by rearing animals.

Domestic animals are reared for many purposes. Their milk is consumed directly or used to make milk products like butter and yogurt, which are sold in the markets. The meat is another item of consumption. The hide is also used, and in the case of the sheep, the wool is a commodity of great commercial value. Even the animal dung is useful as manure. And most importantly, the animals are beasts of burden and also used on the farms.

Overgrazing by domestic animals has adverse effects on the vegetation -- in the case of both alpine grasslands and forests. Due to this, the forests and the grasslands become bare and subsequently prone to soil erosion.

Economic changes and population increases are threatening the ecology of the Himalayas. In recent years deforestation in the foothills and the Middle Himalayas and overgrazing on the high pastures have led to soil erosion and other environmental problems. Deforestation is a particular concern in the western Himalayas, where increased demand for firewood, extensive tree trimming in order to feed livestock, and construction of roads in the border regions have increased the destruction rate of forests and the number of landslides. Rapid population growth has accelerated pollution, and Himalayan streams that were once clear are now polluted with refuse and sewage. Hill people who use the water for drinking suffer from dysentery; cholera and typhoid epidemics are also common. Large lakes like Dal in Kashmir and Naini Lake (Nainital) have also become polluted.

Since 1950 tourism has emerged as a major growth industry in the Himalayas. Nearly 1 million visitors come to the Himalayas each year for mountain trekking, wildlife viewing, and pilgrimages to major Hindu and Buddhist sacred places. The number of foreign visitors has increased in recent years, as organized treks to the icy summits of the Great Himalayas have become popular. While tourism is important to the local economy, it has had an adverse impact on regions where tourist numbers exceed the capacity of recreational areas.

Illegal mining within the Himalayas is an ongoing problem that has been occurring for years. And why not? It’s a rich source of many precious metals and minerals that bring some form of wealth to an impoverished region. The topography of the area, however, is highly dependent on the concrete minerals that are being mined to retain its shape. Threatening both the wildlife and the residents in the area, the state government is trying to stem the bad behavior of these illegal miners and now the group of miners is not composed of poor locals attempting to provide sustenance for their families, but private miners who are already well-established.

Deforestation is a major concern in the Himalayan mountains. It has been estimated that 1.5 million hectares of forest cover is disappearing every year and another 1.0 million hectares is estimated to have become non- productive as a result of improper use of the natural resources. The deforestation has not only destroyed the homes of various tribal communities but also habitat of rare and valuable wild animals and birds. Construction of hill roads, mining activities, forest fires, building of great dams and reservoirs and modern tourism are the main causes of this deforestation.

Uncontrolled and unplanned tourism disturbs and destroys the ecological balance of the mountains and create environmental pollution. Tourism has also introduced new life styles which have a disruptive influence on local traditions and social cultures. Growth of poor quality restaurants and hotels has been increased due to tourism. The rubbish and debrish left behind by the tourists are not effectively disposed off, and consequently they pollute the river systems.

The lofty Himalayas are being slowly robbed of their butterflies, with at least 50 percent of the species showing a massive decline in less than a decade. The decline of the butterflies is to be attributed to human interference - vehicular traffic, habitat loss, pollution, deforestation, spraying of pesticides and smuggling.

The Himalayan region is prone to ecological disturbance by any kind of excessive activity, be it tourism, road construction, grazing, logging,

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A heavily glaciated region of the Himalayas is bucking the trend of global ice loss and showing small signs of increasing in mass, according to a new study. Data examining six regions in the Karakoram mountains in the western Himalayas, which contains 7,700 square miles (nearly 20,000 square kilometers) of glaciers, revealed more than half of them are either stable or have been advancing in recent years.

When translated, the Himalayas means the ‘abode of snow’! Although the Himalayas is the highest mountain range in the world, it is also the youngest.

Mount Everest (8,848 metres), the highest mountain in the world, is part of the Himalayas in Nepal. Edmund Hillary and Tenzing Norgay were the first people to climb Mount Everest in 1953.

Bhutan has a sparse population, which largely lives in scattered villages amongst the Himalayan Mountains and terrains and is dependent on subsistence farming. They do terrace farming in steep hill slopes.

Recent years have seen a renewed push for building dams in the Himalayas. Massive plans are underway in Pakistan, India, Nepal and Bhutan to build several hundred dams in the region. If all the planned capacity expansion materialises, the Himalayan region could possibly have the highest concentration of dams in the world. This dam building activity will fundamentally transform the landscape, ecology and economy of the region and will have far-reaching impacts all the way down to the river deltas.