Seminar on Everest

Introduction

Mount Everest (), known locally as Sagarmatha in Nepal and Qomolangma in Tibet, is Earth's highest mountain above sea level. It lies in the Mahalangur Himal sub-range of the Himalayas and marks part of the China?Nepal border at its summit. Its height was most recently measured in 2020 by Chinese and Nepali authorities as 8,848.86 m (29,031 ft 8+1?2 in).

Mount Everest attracts many climbers, including highly experienced mountaineers. There are two main climbing routes, one approaching the summit from the southeast in Nepal (known as the standard route) and the other from the north in Tibet. While not posing substantial technical climbing challenges on the standard route, Everest presents dangers such as altitude sickness, weather, and wind, as well as hazards from avalanches and the Khumbu Icefall. As of May 2024, 340 people have died on Everest. Over 200 bodies remain on the mountain and have not been removed due to the dangerous conditions.

Climbers typically ascend only part of Mount Everest's elevation, as the mountain's full elevation is measured from the geoid, which approximates sea level. The closest sea to Mount Everest's summit is the Bay of Bengal, almost 700 km (430 mi) away. To approximate a climb of the entire height of Mount Everest, one would need to start from this coastline, a feat accomplished by Tim Macartney-Snape's team in 1990.

Climbers usually begin their ascent from base camps above 5,000 m (16,404 ft). The amount of elevation climbed from below these camps varies. On the Tibetan side, most climbers drive directly to the North Base Camp. On the Nepalese side, climbers generally fly into Kathmandu, then Lukla, and trek to the South Base Camp, making the climb from Lukla to the summit about 6,000 m (20,000 ft) in elevation gain.

The first recorded efforts to reach Everest's summit were made by British mountaineers. As Nepal did not allow foreigners to enter the country at the time, the British made several attempts on the

North Ridge route from the Tibetan side. After the first reconnaissance expedition by the British in 1921 reached 7,000 m (22,966 ft) on the North Col, the 1922 expedition on its first summit attempt marked the first time a human had climbed above 8,000 m (26,247 ft)

and it also pushed the North Ridge route up to 8,321 m (27,300 ft). On the 1924 expedition George Mallory and Andrew Irvine made a final summit attempt on 8 June but never returned, sparking debate as to whether they were the first to reach the top. Tenzing Norgay and Edmund Hillary made the first documented ascent of Everest in 1953, using the Southeast Ridge route. Norgay had reached 8,595 m (28,199 ft) the previous year as a member of the 1952 Swiss expedition. The Chinese mountaineering team of Wang Fuzhou, Gonpo, and Qu Yinhua made the first reported ascent of the peak from the North Ridge on 25 May 1960.

Name:

Mount Everest's Nepali/Sanskrit name is Sagarm?th? (IAST transcription) or Sagar-Matha (???-????, [s???rmat?a], lit. "goddess of the sky"), which means "the head in the great blue sky", being derived from ??? (sagar), meaning "sky", and ???? (m?th?), meaning "head".

The Tibetan name for Everest is Qomolangma (???????????, lit. "holy mother"). The name was first recorded (in a Chinese transcription) in the 1721 Kangxi Atlas, issued during the reign of Qing Emperor Kangxi; it first appeared in the West in 1733 as Tchoumour Lancma, on a map prepared by the French geographer D'Anville and based on Kangxi Atlas. The Tibetan name is also popularly romanised as Chomolungma and (in Wylie) as Jo-mo-glang-ma.

The official Chinese transcription is ????? (t ?????), or Zh?mùl?ngm? F?ng in pinyin. While other Chinese names have been used historically, including Shèngm? F?ng (t ???, s ???, lit. "holy mother peak"), these names were largely phased out after the Chinese Ministry of Internal Affairs issued a decree to adopt a sole name in May 1952.

The British geographic survey of 1849 attempted to preserve local names when possible (e.g., Kangchenjunga and Dhaulagiri.) However, Andrew Waugh, the British Surveyor General of India,

claimed that he could not find a commonly used local name, and that his search for one had been hampered by the Nepalese and Tibetan policy of exclusion of foreigners. Waugh argued that ? because there were many local names ? it would be difficult to favour one name over all others; he therefore decided that Peak XV should be named after British surveyor Sir George Everest, his predecessor as Surveyor General of India. Everest himself opposed the honour, and told the Royal Geographical Society in 1857 that "Everest" could neither be written in Hindi nor pronounced by "the native of India". Despite Everest's objections, Waugh's proposed name prevailed, and the Royal Geographical Society officially adopted the name "Mount Everest" in 1865. The modern pronunciation of Everest () is different from Sir George's pronunciation of his surname (EEV-rist).

In the late 19th century, many European cartographers incorrectly believed that a native name for the mountain was Gaurishankar, a mountain between Kathmandu and Everest.

Surveys:

Geology:

Geologists have subdivided the rocks comprising Mount Everest into three units called formations. Each formation is separated from the other by low-angle faults, called detachments, along which they have been thrust southward over each other. From the summit of Mount Everest to its base these rock units are the Qomolangma Formation, the North Col Formation, and the Rongbuk Formation.

The Qomolangma Formation, also known as the Jolmo Lungama Formation, runs from the summit to the top of the Yellow Band, about 8,600 m (28,200 ft) above sea level. It consists of greyish to dark grey or white, parallel laminated and bedded, Ordovician limestone interlayered with subordinate beds of recrystallised dolomite with argillaceous laminae and siltstone. Gansser first reported finding microscopic fragments of crinoids in this limestone. Later petrographic analysis of

samples of the limestone from near the summit revealed them to be composed of carbonate pellets and finely fragmented remains of trilobites, crinoids, and ostracods. Other samples were so badly sheared and recrystallised that their original constituents could not be determined. A thick, white-weathering thrombolite bed that is 60 m (200 ft) thick comprises the foot of the "Third Step", and base of the summit pyramid of Everest. This bed, which crops out starting about 70 m (230 ft) below the summit of Mount Everest, consists of sediments trapped, bound, and cemented by the biofilms of micro-organisms, especially cyanobacteria, in shallow marine waters. The Qomolangma Formation is broken up by several high-angle faults that terminate at the low angle normal fault, the Qomolangma Detachment. This detachment separates it from the underlying Yellow Band. The lower five metres of the Qomolangma Formation overlying this detachment are very highly deformed.

The bulk of Mount Everest, between 7,000 and 8,600 m (23,000 and 28,200 ft), consists of the North Col Formation, of which the Yellow Band forms the upper part between 8,200 to 8,600 m (26,900 to 28,200 ft). The Yellow Band consists of intercalated beds of Middle Cambrian diopside-epidote-bearing marble, which weathers a distinctive yellowish brown, and muscovite-biotite phyllite and semischist. Petrographic analysis of marble collected from about 8,300 m (27,200 ft) found it to consist as much as five per cent of the ghosts of recrystallised crinoid ossicles. The upper five metres of the Yellow Band lying adjacent to the Qomolangma Detachment is badly deformed. A 5?40 cm (2.0?15.7 in) thick fault breccia separates it from the overlying Qomolangma Formation.

The remainder of the North Col Formation, exposed between 7,000 to 8,200 m (23,000 to 26,900 ft) on Mount Everest, consists of interlayered and deformed schist, phyllite, and minor marble. Between 7,600 and 8,200 m (24,900 and 26,900 ft), t


MOUNT EVEREST