

Mount Everest

Mount Everest, the crowning peak on the crest of the Great Himalayas of southern Asia, lies on the border between Nepal and the Tibet Autonomous Region of China, at 27°59' N, 86°56' E. Reaching an elevation of 29,035 feet (8,850 metres), it is the highest mountain in the world and the highest point on Earth.

Like other high peaks in the region, Mount Everest has long been revered by local peoples. Its most common Tibetan name, Chomolungma—rendered in Chinese as (Wade-Giles) Chu-mu-lang-ma Feng or (Pinyin) Zhumulangma Feng—means “Goddess Mother of the World” or “Goddess of the Valley.” The Sanskrit and Nepali name, Sagarmāthā, means literally “Ocean Mother.” Its identity as the Earth’s highest point was not recognized, however, until 1852, when the governmental Survey of India established that fact. In 1865 the mountain—previously referred to as Peak XV—was renamed for Sir George Everest, British surveyor general of India from 1830 to 1843.

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Physical features

GEOLOGY AND RELIEF

The Himalayan ranges were thrust upward by tectonic action as the Indian-Australian Plate moved northward from the south and was subducted (forced downward) under the Eurasian Plate following the collision of the two plates about 50 million years ago. The Himalayas themselves started rising about 25 to 30 million years ago, and the Great Himalayas began to take their present form during

the Pleistocene Epoch (about 1,600,000 to 10,000 years ago). Everest and its surrounding peaks are part of a large mountain massif that forms a focal point, or knot, of this tectonic action in the Great Himalayas. Information from global positioning instruments in place on Everest since the late 1990s indicates that the mountain continues to move a few inches to the northeast and rise a fraction of an inch each year.

Everest is composed of multiple layers of rock folded back on themselves (nappes). Rock on the lower elevations of the mountain consists of metamorphic schists and gneisses, topped by igneous granites. Higher up are found sedimentary rocks of marine origin (remnants of the ancient floor of the Tethys Sea that closed after the collision of the two plates). Notable is the Yellow Band, a limestone formation that is prominently visible just below the summit pyramid.

The barren Southeast, Northeast, and West ridges culminate in the Everest summit; a short distance away is the South Summit, a minor hump on the Southeast Ridge with an elevation of 28,700 feet (8,748 metres). The mountain can be seen directly from its northeastern side, where it rises about 12,000 feet above the Plateau of Tibet. The peak of Changtse (24,803 feet [7,560 metres]) rises to the north. Khumbutse (21,867 feet [6,665 metres]), Nuptse (25,791 feet [7,861 metres]), and Lhotse (27,923 feet [8,511 metres]) surround Everest’s base to the west and south.

Everest is shaped like a three-sided pyramid. The three generally flat planes constituting the sides are called faces, and the line by which two faces join is known as a ridge. The North Face rises above Tibet and is bounded by the North Ridge (which meets the Northeast Ridge) and the West Ridge; key features of this side of the mountain include the Great and Hornbein couloirs (steep gullies) and the North Col at the start of the North Ridge. The Southwest Face rises above Nepal and is bounded by the West Ridge and the Southeast Ridge; notable features on this side include the South Col (at the start of the Southeast Ridge) and the Khumbu Icefall, the latter a jumble of large blocks of ice that has long been a daunting challenge for climbers. The East Face—or Kangshung Face—also rises above Tibet and is bounded by the Southeast Ridge and the Northeast Ridge.

The summit of Everest itself is covered by rock-hard snow

Rock composition



Bottleneck of climbers waiting to scale the Hillary Step (left center) on May 10, 1995. More than two dozen climbers reached the summit that day, but eight died on the descent, including Scott Fischer, the photographer, when a severe storm hit.



Edmund Hillary (left) and Tenzing Norgay preparing to leave the South Col to establish the ridge camp (Camp IX) below the South Summit of Mount Everest, May 28, 1953; the two made their summit ascent the following day.



Members of the 1821 British reconnaissance expedition to Mount Everest; George Mallory is standing in the top row, far right.



Luther G. Jerstad, member of the 1963 U.S. expedition to Mount Everest, approaching the summit on May 22; the U.S. flag there was placed on May 1 by James W. Whitaker, the first American to scale the mountain.



The North Face of Mount Everest, seen from the Rong River valley, Tibet.