

AWALANCHIE

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AVALANCHE: THE POWER OF SNOW



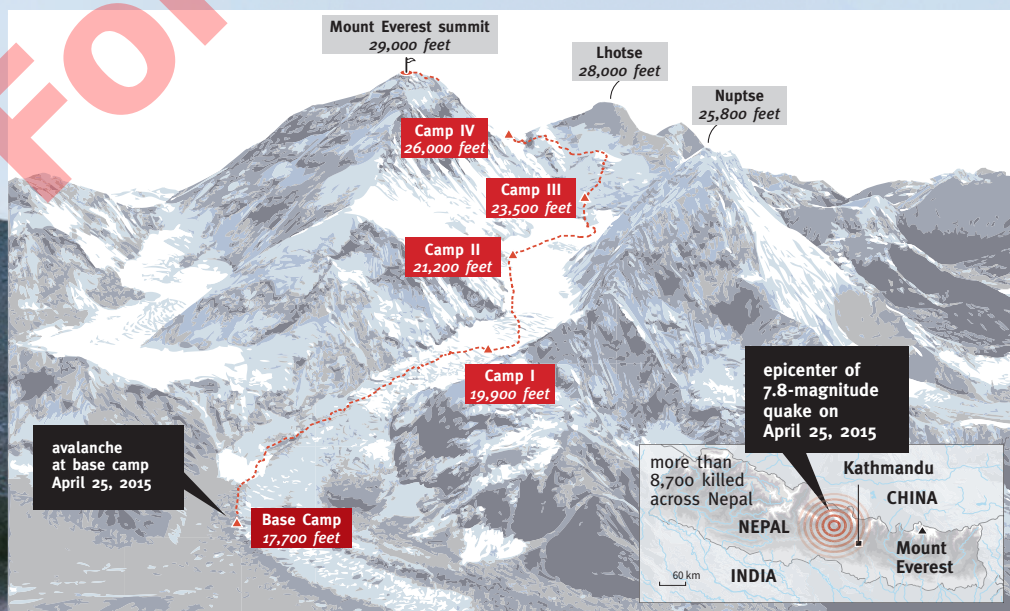
The south base camp is a tent city that houses climbers and people who meet the needs of the climbers, including doctors, nurses, mountain guides, and many others.


Disaster on Mount Everest

Around noon on an April day in 2015, an earthquake jolted the mountains of Nepal. Climbers on Mount Everest felt the ground move. Tents danced in the snow. Then, a large shelf of ice broke off a nearby mountain, bounced, and shattered. A giant cloud of snow crystals blew toward the climbers' base camp. To climber Steve Watkins, it looked like something out of a movie. Beside him, experienced climber Vilborg Arna Gissurardóttir saw the wall of snow and knew it was an avalanche. With the avalanche came an explosive blast of air. Ice, snow, and boulders tumbled down the mountain, burying or sweeping away everything in their path.

According to an article in the *Washington Post*, the avalanche lasted

about a minute. Massive chunks of ice—part of a glacier—had broken off a high ridge. They hit the slope below and exploded into an avalanche. About 1,000 people were on the mountain at the time. A few hundred climbers were higher up, above the avalanche. They escaped the disaster but remained stranded because the route down had been wrecked. In the end, many would have to be rescued by helicopter. Hundreds more were in the base camp when the avalanche blew through. It damaged mainly the upper part of the camp, missing the lower part completely. Survivors scrambled to help each other, digging people out of the snow and treating injuries. Most of the people at the base camp and higher up the mountain survived. According to a report from *National Geographic*, twenty-four lives were lost.





Avalanches are super fast, reaching speeds up to 128 kilometers per hour (80 miles per hour) in 5 seconds.

What Is an Avalanche?

The 2015 avalanche on Mount Everest was unusual because so many people were in its path. But avalanches are not rare events—they happen all the time.

According to the National Snow and Ice Data Center (NSIDC), an avalanche is a fast-moving flow of snow down a hill or mountainside. A large avalanche rushes like floodwater, breaking off trees and carrying along chunks of rock and ice. Clouds of powder, or fine snow crystals, can rise two or three stories high around the flow.

Avalanche Warning Signs



WINDBLOWN SNOW: If it looks like the wind has blown lots of snow to one place, this may be a sign of danger.

WHUMPHS: Snow that falls in on itself makes a sound like *whumph*! The sound of snow collapsing should signal a fast getaway. Believe it or not, *whumph* is a word that experts use to talk about collapsing snow, according to the National Avalanche Center.

CRACKING: Cracks in the snow are another sign that the snowpack is unstable.

Avalanches happen when layers of snow, or snowpack, become unstable. Snow builds up over time, in layers. These layers bond, or stick to each other, but changing weather can weaken the bonds. For example, warm weather can melt some of the snow, making it slushy. This changes its bond with lower layers. Or a big storm can drop lots of snow and make the

top layer too heavy. This also weakens the bond with lower layers. Very often, wind is to blame. Wind picks up snow from one side of a mountain and drops it on the other. The snow-loaded side can be highly unstable. A vibration of any kind—earthquake, explosion, even the weight of a moving snowboarder—can trigger a slide on an unstable slope.

The weight of a snowboarder, skier, or snowmobile can trigger an avalanche on an unstable slope.



Full Speed Ahead!

When a slide is triggered, upper layers in the snowpack might slide across more stable layers below. Sometimes, the entire snowpack lets go. Either way, the avalanche begins to move slowly, but it quickly picks up speed. Within seconds, it can be rocking along faster than a

car on an open highway. It roars down a slope until something slows it down—usually the terrain, which flattens out or widens in an area called the runout zone, where the avalanche stops sliding. As the avalanche stops, snow, ice, and debris lock together, almost like concrete.



According to the National Snow and Ice Data Center, an avalanche has three main parts.

1 The starting zone, where it begins to slide

2 The track, where it moves fast downhill

3 The runout zone, where it slows to a stop

What's in an Avalanche? Almost Anything that Gets in Its Way!

In the spring of 1910, heavy snow blanketed the Cascade Mountains of western Washington. Two trains were caught in the blizzard. They waited for the storm to end, stuck on the tracks just outside the town of Wellington. For a week, they waited. Giant, steam-powered snowplows tried to sweep the tracks clear, but snow fell faster than

they could clear it. The snowplow teams gave up. Then, the snow turned to rain, with lightning crackling across the sky. One night, the rain triggered an avalanche. A great slab of ice and snow pushed the trains 150 feet down the mountainside. They came to rest in a gully below the town.

