

# World Mountains

6 Articles

Check articles you have read:

- ☐ **The Importance of Mountains**  
186 words
- ☐ **How Mountains Form**  
581 words
- ☐ **How Animals Survive on Mountains**  
574 words
- ☐ **Mountain Animals**  
307 words
- ☐ **Mountains as Barriers**  
680 words
- ☐ **Mountains and People**  
296 words

# The Importance of Mountains

This text is excerpted from an original work of the Core Knowledge Foundation.

People have long admired the beauty of mountains. Some people long ago even worshipped them. They placed offerings on mountain slopes in the hope of good crops, good weather, or good luck.

Mountains play a part in many religions. Moses, for example, received the Ten Commandments on the top of a mountain. The ancient Greeks believed that their gods lived in the mountains.

Mountains are important in many ways. They affect Earth's weather and climate. They provide a home for many animals. They contain valuable minerals.

Mountains have historically made trade and travel difficult. They have also acted as barriers to keep out or slow down invading armies. More recently, mountains have attracted tourists, skiers, hikers, and climbers.

## Cool Facts About Mountains:

- For a landform to be called a mountain, it must rise at least one thousand feet (three hundred meters) above its surrounding area.
- Some mountains, such as the Himalayas, are still growing. Others, such as the Appalachians, are being worn down by weathering, erosion, and mining.



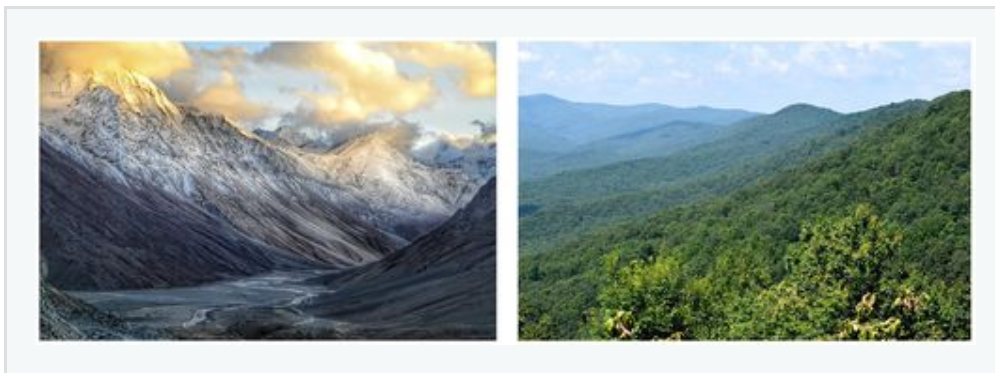
*Denali is a mountain in the U.S. state of Alaska. It is the highest mountain in North America.*

# How Mountains Form

This text is excerpted from an original work of the Core Knowledge Foundation.

Mountains are formed in several different ways. To understand how mountains are formed, you need to remember that the Earth has a crusty shell made up of gigantic plates. These plates can shift, crack, and wrinkle.

Folded mountains are created when Earth's crust shifts. As it shifts, one piece of rock folds on top of another. The Himalayas (/him\*uh\*lae\*uhz/) in Asia are folded mountains. Some of the Appalachian (/ap\*uh\*lae\*chun/) Mountains in the eastern United States are folded mountains, too.



*Folded mountains are created when one piece of rock folds over another. Both the Himalayas (left) and the Appalachians (right) are folded mountains.*

Fault block mountains are also created by shifting plates. In this case, pieces of rock are broken off and driven upward by the force of the shifting plates. The Sierra Nevadas of western North America are fault block mountains.

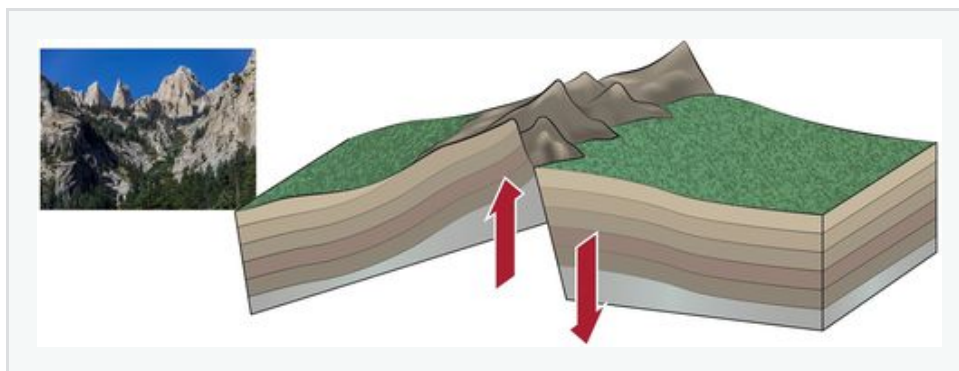


photo: Cullen328 (CC BY 3.0); illustration: Core Knowledge

*Fault block mountains are created when pieces of rock are driven up. The Sierra Nevadas are fault block mountains.*

Dome mountains are created when melted rock called magma pushes up below the surface of the Earth. As the magma moves up, it makes bumps on Earth's surface.

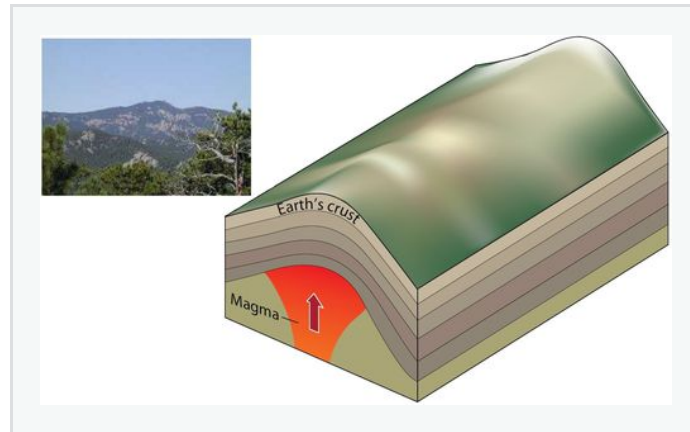


photo: © 2001 Doug Swisher (CC BY-SA 3.0); illustration: Core Knowledge

*Magma pushing up below the surface of the Earth forms dome mountains. The Black Hills of South Dakota are dome mountains.*

These bumps often look more like hills than mountains.  
The Black Hills of South Dakota are dome mountains.

Volcanic mountains form when a volcano erupts and breaks a hole in Earth's crust. Lava and ash flow down the sides of the volcano and harden into a mountain. Many islands, such as the Hawaiian Islands, are actually the tops of volcanic mountains. Japan's highest mountain, Mount Fuji, is a volcano. It last erupted in 1707.



*Japan's Mount Fuji is a volcano.*



*Mountains sometimes form when a volcano erupts. The Hawaiian Islands are the tops of volcanic mountains.*

The highest mountain in Africa, Mount Kilimanjaro (/kil\*uh\*man\*jar\*oe/), is an extinct (/ek\*stinkt/) volcano.

Volcanic mountains can be produced by a few days of huge eruptions. However, most mountains take thousands, or even millions, of years to form. They form so slowly that, in real life, you can't see them changing.

Some of Earth's mountains, such as the Appalachians, were formed more than two hundred million years ago. Others, such as the Rocky Mountains in western North America, were formed only about a million years ago. You can often tell whether mountains are young mountains or old mountains by their shape. Young mountains are usually steep, have a high elevation, and are often sharp or pointy. Old mountains have been worn down by many years of erosion (/er\*oe\*zhun/).

Look at the picture of Mount Everest. You'll notice that there is snow on top of the mountain. Most tall mountains are covered with snow all year long. That is because the farther above sea level you go, the colder it gets. We use the term sea level to explain land elevation in relation to the surface level of the world's oceans. You may have noticed this if you have ever hiked up a mountain or driven to the top of one.



*Mount Everest is the highest mountain in the world.*

Mountaintops are usually cold, even when they are located in hot places. Snow covers the top of Mount Kilimanjaro, in the African country of Tanzania (/tan\*zuh\*nee\*uh/), all year long even though it is very close to the equator.

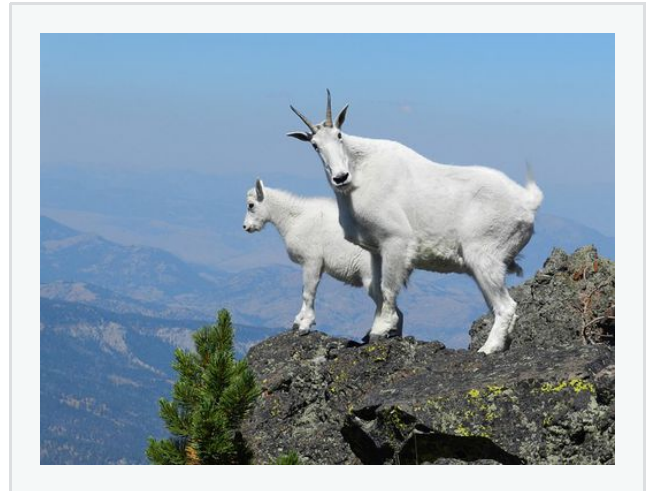


# How Animals Survive on Mountains

This text is adapted from an original work of the Core Knowledge Foundation.

An old tall tale says that mountain animals, such as goats, are born with the legs on one side of their bodies longer than the ones on the other side. The idea is that this would make it easier for them to walk along steep mountain slopes.

If you think about it, though, there would be one big drawback to such an arrangement. The animal could only move in one direction! If it turned around so that its short legs were on the downhill side, it would tip over and tumble down the mountain!



*Mountain goats have little trouble moving around some of the world's highest places.*

## Getting Around

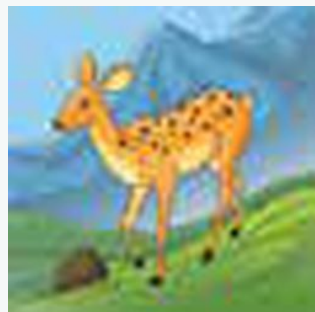
Animals such as mountain goats and sheep have bodies that make it easier for them to get around. For example, their hooves have sharp edges that help them grip the steep mountainside. Mountain goats are probably the most surefooted of the mountain animals. Goats sometimes walk out onto a narrow ledge. When the ledge ends, the goats rise up on their back legs, turn around, and walk back.

## Cool Facts About Mountain Animals:

- The Rocky Mountains in western North America are home to 67 different species of mammals, including wolverines, and 270 different species of birds, including the three-toed woodpecker.
- The Himalayas are home to 300 different identified species of mammals, including the red panda, 977 identified species of birds, including the Himalayan Griffon Vulture, 105 identified species of amphibians, and 269 identified species of fish.
- Between 2009 and 2014, scientists discovered more than two hundred new species of plants and animals living in the eastern Himalayas. One new discovery is of a blue “walking” snakehead fish. These fish can breathe air and can survive on land for short periods of time.

## Surviving the Cold

Mountains can get very cold, especially in winter. Mountain animals need a way to survive the cold weather. Animals can deal with that problem in four ways:



1. They can move down the mountain to where it is warmer and there is more shelter.



2. They can grow heavy coats to keep them warm.



3. They can find shelter underground or under the snow.



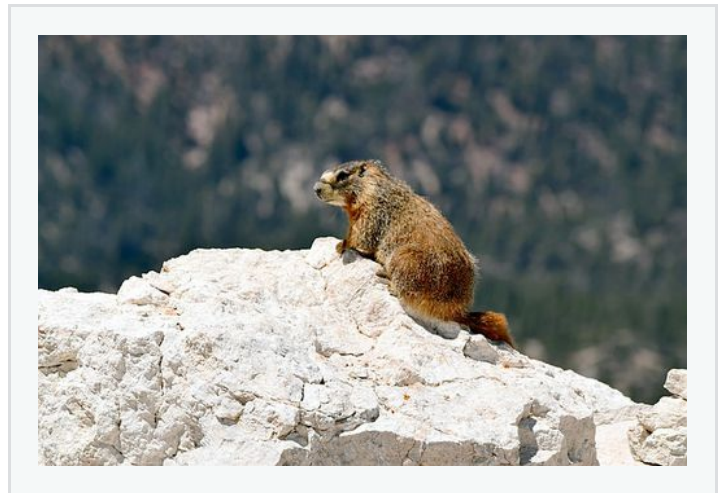
4. They can hibernate.

Most large mountain animals spend the winter lower down the mountain. In the Rockies, elk and bighorn sheep move farther down. There, they find shelter from the cold and wind among trees and bushes.

Mountain goats, on the other hand, stay high up. They have two layers of fur to keep them warm. One is a soft, woolly undercoat. The other layer is a longer, shaggy outer coat. In the spring and summer, they shed large parts of these coverings. They end up looking rather untidy.

The meadow vole also stays high up in the mountains. A vole is a small animal similar to a mouse. The vole digs tunnels under the snow. It lives underground during the winter. The snow keeps the wind and cold away.

Some animals, such as ground squirrels, survive by hibernating. They spend the summer and fall eating lots of food. The food is stored as fat in their bodies. In the late fall, they go into their holes and sleep. Slowly their bodies cool off until they are the same temperatures as the hole, about 45°F (7°C) to 50°F (10°C). Their heartbeats and breathing slow down. Their bodies need less energy and can live off their stored body fat.



*Marmots survive the winter by hibernating.*



# Mountain Animals

This text is adapted from an original work of the Core Knowledge Foundation.

Many different animals live in the mountains. The mountain lion is the largest wild cat in North America. The mountain lion is also known as the puma, panther, cougar, or catamount. Once the mountain lion roamed all over North America. As more and more people moved into the lowlands and built towns and cities, the mountain lion was driven away. Unable to survive in the lowlands, the lions were forced to mostly live in the mountains.

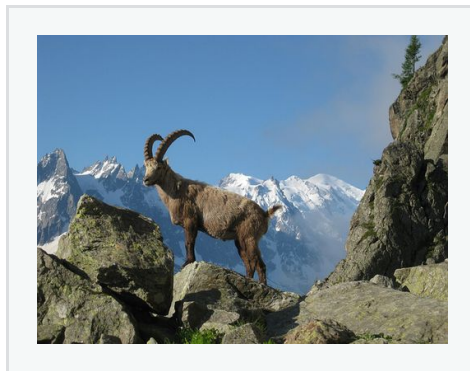


*The mountain lion, or puma, is found in certain parts of the Rocky Mountains.*

Guanacos (/gwah\*nah\*koez/) live in the Andes of South America. Guanacos are related to llamas (/lah\*muz/).

Guanacos are very shy. As they graze, one member of the herd stands guard on higher ground. If they are in danger, the guard gives a signal. The herd then runs away.

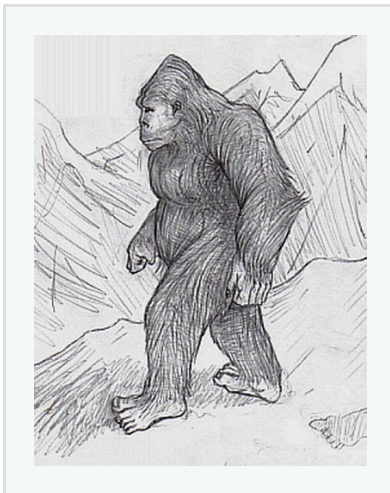
The ibex has lived in the Alps for a long time. Its image appears in cave drawings made thousands of years ago. Its horns can grow as long as three feet (0.9 meters). Its horns are so long, it can scratch an itch on its rump with the tip of a horn!



*The mountain-dwelling ibex sports some of the most magnificent horns of any animal.*

Mountain animals come in many sizes and shapes. The tiny wolf spider lives in the mountains of North America. The much bigger giant panda makes its home in the mountains of China. Many birds, such as eagles and condors, fly through the air above mountains all around the world.

Some mountain animals are probably myth. Local people in the Himalayas tell stories of a huge apelike creature called the Yeti (/yet\*ee/). No one has been able to prove that the Yeti is real.



Lizard King (CC BY-SA 3.0)

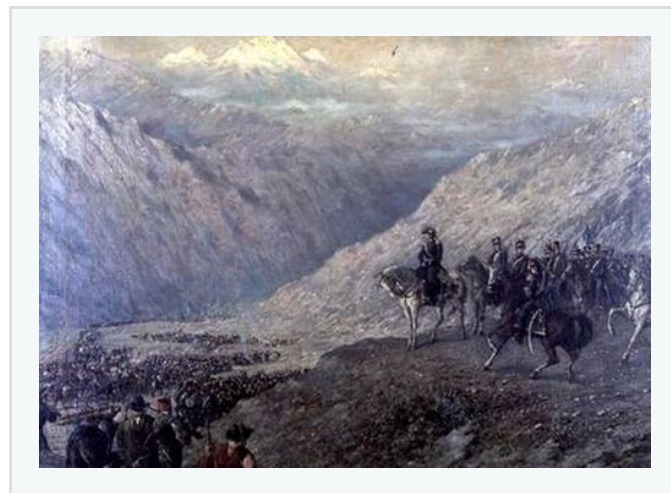
*The Yeti is a creature of myth. This is what people say it looks like.*

# Mountains as Barriers

This text is adapted from an original work of the Core Knowledge Foundation.

## San Martín Crosses the Andes

In the early 1800s, colonies in South America began seeking independence from Spain. One of the leaders in the fight for independence was José de San Martín (/hoe\*zae/de/san\*mar\*teen/) of Argentina. After Argentina became independent, he decided to help defeat the Spaniards in Chile and Peru. He had one major problem. San Martín and his army were in Argentina, on the eastern side of the Andes. San Martín had to cross the Andes to get to Chile. San Martín chose to cross the Andes using a pass that was nearly fifteen thousand feet (4,572 meters) high.



*In this painting, artist Augusto Ballerini imagines San Martín and his army crossing the Andes.*

The Andes are difficult to climb. They are steep and rugged. Even the passes are high. At such elevations, it is cold and windy. The air has less oxygen. People who aren't used to being so high up can become confused and sick. Some even die in the thinner air.

San Martín and his army set out early in 1817. They had five thousand soldiers, 10,600 mules, 1,600 horses, and seven hundred head of cattle. They also had to get all their supplies, including heavy cannons, over the mountains. The soldiers were lucky—most of them survived. The animals were not so lucky. Only 4,300 mules and five hundred horses made it to Chile, and none of the cattle were left. The struggle paid off, though. The Spaniards in Chile were caught by surprise and were quickly defeated. San Martín also won the battle in Peru. By crossing the Andes, San Martín and his soldiers helped Chile and Peru gain independence.

## Getting Over or Through Mountains

Mountains cause difficulties for all travelers, not just for armies. Still, people have managed to find ways to cross mountains.

**Cool Facts About the Andes:**

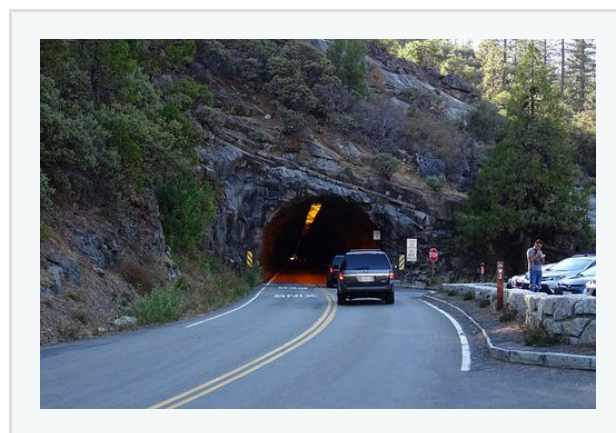
- The Andes are the longest mountain range in the world. They stretch 5,500 miles (about 8,900 km) through seven countries along the west coast of South America.
- José de San Martín crossed the Andes at Los Patos Pass. At fifteen thousand feet (4,572 meters), Los Patos is higher than the tallest mountain in North America's Rockies.

Sometimes people build roads that go in S-curves back and forth across the mountainside. That way, cars or trucks don't face such a steep climb all at once. Even so, traveling these mountain roads is tricky.



*This road uses S-curves to climb the steep mountainside.*

Sometimes you can't go around or over a mountain. But, you can try going through it. How? By using a tunnel. People have dug tunnels for thousands of years. However, new machines were invented in the 1800s, which allowed people to dig tunnels through mountains. The first mountain tunnel was a railroad tunnel built through the Alps between France and Italy. This tunnel took more than fourteen years to complete. Today a tunnel for cars, buses, and trucks runs beside the railroad tunnel.



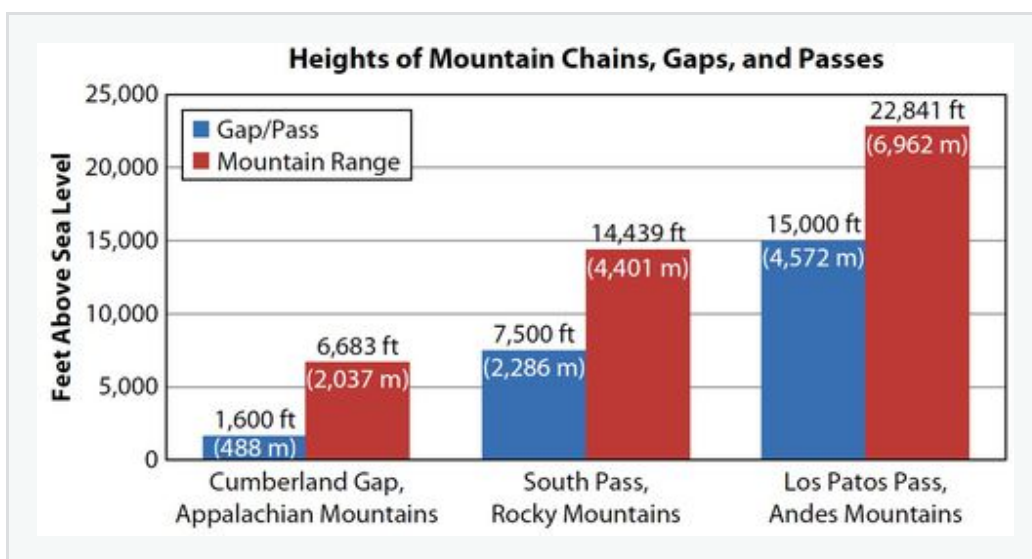
*This mountain road uses a tunnel to pass through the mountain.*



## Mountain Passes and Gaps

When people need to cross mountains, they look for the lowest places to cross. These are called passes and gaps. In the late 1700s, Daniel Boone helped create a road through the Appalachian Mountains of eastern Virginia, using the Cumberland Gap to cross these mountains. Settlers in the United States followed this road to new homes in Kentucky.

Farther north, engineers and laborers used the Mohawk River Gap in a clever way to pass through the Appalachian Mountains. In the early 1800s, engineers and laborers built the Erie Canal across New York. The canal dramatically cut the amount of time needed to travel from east to west across the state. In settling what eventually became the western United States, wagon trains needed to cross the Rockies to reach the Pacific Coast. They used passes including the South Pass of Wyoming.



*This graph shows the heights of different mountain chains, gaps, and passes. Notice that South Pass is higher than the tallest mountain in the Appalachians. Even a pass can be pretty high up!*



# Mountains and People

This text is excerpted from an original work of the Core Knowledge Foundation.

Long ago, people began to settle and create villages. Most people chose to settle in valleys and on plains. But some people chose to settle in the mountains. Some settled on the mountainsides, others on plateaus in the mountains. A plateau is a flat area of high ground. Sometimes plateaus stand on their own. Sometimes they are part of a mountain range.

So, why did people settle in these high places? Maybe they went there to escape enemies. Maybe the beauty of the mountains attracted them.

People who live in the mountains often are separated from other people. For example, the Basques (/basks/) settled thousands of years ago in the Pyrenees (/pihr\*uh\*neez/), which are the mountains separating Spain and France. The mountains cut the Basques off from other people. Over time, their language became quite different from Spanish and French.

People living in the Andes Mountains live at very high elevations. So do the people living in the Himalayas. When people from lower elevations travel high up into the mountains, they tire easily. They find themselves short of breath and get headaches. Yet the people who live high up in the mountains don't have these problems. Why? Because they have lived at high elevations for hundreds of years. Their bodies have adapted to their mountain environment.

Mountains have had both positive and negative effects on history. Mountains have prevented the spread of new ideas. They have made it difficult for people to communicate with each other. However, mountains have also offered protection and contributed to the creation of unique cultures. Perhaps now when you see mountains off in the distance, or drive over or through them, you will think about how they have helped to shape our world.



Indalecio Ojanguren (CC BY-SA 3.0)

*Basque peasants*