

## 2. The Mountain Ecosystem

Mountains are a common sight on this planet. They make up one-fifth of the world's landscape, so it is important that we learn about them. To help us learn more about mountains, we visited Rocky Mountain National Park near Grand Lake, Colorado.

The Rocky Mountains are a beautiful yet challenging and difficult landscape. In order to survive, plants and animals need certain things. Plants need a specific mixture of soil quality, nutrients, moisture, sun-exposure and temperature. Wildlife looks for food, shelter, protection, and numerous other less obvious characteristics of range. We noticed that in the areas we would find moose, we would generally see moose each time we passed through, and as we climbed the mountain, we no longer would see moose. These animals are smart enough to know that they need to live in the regions that fit their lifestyles. For example Mountain goats prefer the rocky world of the alpine while the elk wander the valleys, and moose like the meadows in lower altitudes. An understanding of mountain habitats can help us to better understand the many plants and animals found in the mountains.

The mountain environment is usually divided into three main life zones: the Montane, Subalpine and Alpine. Each zone is beautiful to explore in its own way and offers unique landscapes, climates, and wildlife and plant life.

The Montane Ecosystem occurs at elevations between approximately 5,600 and 9,500 feet and contains a mixture of trees that grow closely together. A few shade-tolerant plants grow on the floor of the forest.

Further up the mountain, we find the Subalpine Ecosystem. The Subalpine Ecosystem occupies the lands between 9,000 and 11,000 feet. This is the area immediately below the tree line, which is the edge of the habitat at which trees are capable of growing, usually because of the cold temperatures and lack of moisture.

Traveling up the mountain further still to an elevation of around 11,000 feet, and almost to the summit, or peak, we find the Alpine Tundra. This region is above the altitude where trees are able to grow. The Alpine Tundra is an area of extremes and perhaps the most fragile and unique ecosystem that occurs in mountain regions.

Strong winds and cold temperatures limit what plants can grow there. Plants are generally small and grow close to the ground to escape the strong winds. Some of the plants have deep roots which help keep them from blowing away as well as protect them from the cold temperatures. Some of the plants have hairs on the stems and leaves which provide wind protection or red-colored pigments capable of converting the sun's light rays into heat. Some plants take two or more years to form flower buds.

These plants have made adaptations which may make them seem very hardy, but in some respects the tundra is very fragile. Repeated footsteps often destroy tundra plants, leaving exposed soil to blow away, and recovery may take hundreds of years. Surprisingly, there are many species of wildlife that have adapted to life in this area of harsh extremes. We found Elk, Marmots, American Pikas, and even a fuzzy caterpillar!

I find the mountain ecosystem beautiful and I really enjoyed seeing and learning about both the plants and the wildlife. I can't wait to go back and study it some more!

**Sources**

Mountain Nature

<http://www.mountainnature.com/ecology/lifezones.htm>

National Park Service

<http://www.nps.gov/romo/naturescience/naturalfeaturesandecosystems.htm>

Think Quest

<http://library.thinkquest.org/11353/mountain.htm>