

Press Release

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Geology of Ruby Falls

Lookout Mountain is noted for its unusual geological phenomena. One of its unique features is Ruby Falls, an underground waterfall located deep in the heart of the mountain. The fascinating story of the formation of Lookout Mountain and Ruby Falls is told by the rocks themselves.

About 200 million years ago, Lookout Mountain was formed. A powerful earthquake, or more likely a series of them, lifted the mountain up from the seabed. The layers of rock were bent and folded upward, raising the lower layers of rock closer to the surface. As the sandstone and limestone hardened, the bending and folding caused more brittle layers to develop a series of cracks or crevices that geologists refer to as joints in the limestone.

Through the years area rainfall would soak into the mountain and find its way out through these cracks and crevices. While circulating through these mountain passages the water would pick up and move minerals in a process referred to as erosion. This is how the Ruby Falls Cave was formed.

There are many different types of rock formations to be found in the Ruby Falls Cave. The most common are Stalactites (grow from the top down) and stalagmites (grow from the ground up). These formations are the result of a process in which a mineral deposit is left, as water drips and evaporates. Over time these deposits build up or “grow”. This process is a time consuming one in the Ruby Falls Cave. It is estimated to take 100-150 years for a formation to grow 1 cubic inch.

Factors that can affect the growth of cave formations include:

1. The amount of ground water flowing through the rocks in the area.
2. The types of rock found in the cave.
3. The chemistry of the ground water and the rocks themselves.
4. The relative humidity of the cave, its temperature, its surface evaporation, and the amount of air circulation.

Other types of formations found in the Ruby Falls cave include flowstone, draperies, helictites, and columns to name a few.

The most amazing feature of the Ruby Falls cave is not in the many and varied formations which you can see, but rather in the large vertical shaft at the end of the main passage. A flowing underground stream falls from the very top of this shaft 145 feet into a pool on the floor of the cave. This large waterfall named Ruby Falls, after it's founders wife is a remarkable testament to natures hidden beauties. Located 1120 feet underground, Ruby Falls' size depends on area rainfall that soaks into the ground and

flows through the mountain's passages and over the waterfall. Natural springs also work to feed the waterfall year round so that even in times of heavy drought the waterfall never dries, although its size is affected. The water from Ruby Falls continues its journey through the mountain streams until it reaches the Tennessee River at the base of Lookout Mountain.

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