

DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
Crater Lake National Park
Crater Lake, Oregon 97604

THE ORIGIN OF CRATER LAKE

The NATIONAL PARK SERVICE was established in 1916 for the purpose of preserving certain primitive wilderness areas and historic lands for "the benefit of all mankind". These lands are maintained so that future generations can enjoy the scenic and natural wonders. Crater Lake is one of these National Park Service areas. While the lake itself is the outstanding feature, there are 250 square miles of park lands for you to enjoy.

Crater Lake is located in southern Oregon on the crest of the Cascade Range. This chain of snow-capped mountains stretches from Mt. Garibaldi in British Columbia to Lassen Peak in northern California.

Shallow, tropical seas, abounding in aquatic life, covered this part of the country over sixty million years ago. As the land began its upward movements, the seas were forced westward. The climate became more temperate, and after thousands of years, redwood forests covered much of eastern Oregon. About fifty million years ago, at the time land upheavals were taking place, volcanic activity was beginning which was to continue at intermittent stages down to recent times.

After several million years of volcanic activity, the earth began to buckle in a north-south line. This buckling, or upheaval, was the beginning of the formation of the Cascade Range. The growing mountain range soon blocked moist Pacific air from reaching the land to the east, causing it to become arid, which was the beginning of the area now known as the "Oregon Desert".

Early volcanic eruptions in the Cascade Range produced gently sloping shield volcanoes. Later, about one million years ago, more violent eruptions took place which formed the larger composite volcanoes such as Mt. Shasta, Mt. Hood, and Mt. Rainier. Most of these larger mountains decreased their volcanic activity, but one 12,000 foot volcano, referred to as Mt. Mazama*, continued its eruptions until it finally destroyed itself 6,600 years ago.

The last stage of Mt. Mazama was devastating. Volcanic gases that had built up within the mountain were allowed to escape. This had the same effect as occurs when a bottle of Coke is shaken up. As the gases in the bottle escape, liquid Coke is forced out in the form of foam. The escaping gases in the volcano forced out a great quantity of foam, a frothy, foamy lava which is called pumice.

So much molten material was forced from Mt. Mazama that a huge cavern began to develop. After the tumultuous activity subsided, approximately 6,000 feet of the mountain had collapsed. The upper half had collapsed within itself, forming a 4,000 foot deep basin. Geologists call a basin formed in this manner a caldera.

Even though Mt. Mazama had collapsed, volcanic activity still continued and the large cinder cone known as Wizard Island was built from the floor of the caldera - in fact, it is actually a volcano inside a volcano.

The last volcanic activity in the park ended between 1000 and 2000 years ago. As the ground in the caldera cooled, rain water began to collect. Since there are no inlets, all the waters in the lake are collected from rain and snow falling directly into the basin. The lake is not rising; however, since a state of equilibrium has been reached. In other words, the amount of precipitation falling into the lake is equalled by that which evaporates and seeps into the ground.

Why is the lake so blue? Crater Lake is 1932 feet at its deepest point. The great depth and pure unpolluted water cause the lake to become a large spectrum. As the sun's rays penetrate into the water, wave lengths are absorbed, leaving only blue. The blue is then reflected to the surface, giving the lake its true blue color. When the sun's rays are blocked by clouds, the blue is not quite so intense.

We hope this brief outline of the creation of Crater Lake will provide you with a better understanding and appreciation for this natural scenic wonder. You can add to this information by referring to relevant books in your public library.

*Named by members of Mazama Club, a northwest climbing club, who made the trip to Crater Lake on September, 1896. Mazama is a word of Spanish-Indian origin adopted by the club for its meaning of "mountain goat".