

Mount Rainier National Park, National Park Service Longmire, WA

I wrote exhibit copy for 60 outdoor exhibit panels for Mount Rainier National Park, working closely with park rangers, biologists, botanists, archeologists, architects as well as USGS hydrologists and vulcanologists to interpret the park's natural and man-made features.

Mount Fremont Fire Lookout

Built in 1934 by the Civilian Conservation Corps, the Mount Fremont Fire Lookout is a historic structure located within the Mount Rainier National Historic Landmark District. One of four lookouts remaining in the park, it helped protect the park and surrounding national forests from fire.

This historic lookout was used by firewatchers to spot smoke and lightning strikes and report them by telephone. Firewatchers determined the coordinates of a fire's location using the Osborn Fire Finder, a 360° compass that allowed them to pinpoint a lightning strike. After World War II, aerial surveillance became the primary mode of fire-spotting. These lookouts, fully equipped for fire detection, are still used occasionally.

An Ancient Community

Enter an ancient forest and find yourself sheltered by giant trees reaching more than 200 feet into the sky. Western hemlock and western red-cedar, some as old as 850 years, are the dominant trees in Mount Rainier's old-growth lowland forests. These large, old trees live together with others of different ages. This diversity creates a rich understory and canopy of vegetation, which provides habitat for a variety of animals.

Some of the last extensive stands of old-growth forest left in the United States are the lowland forests of Mount Rainier. Old-growth lowland forests can be found in many areas of the park including Ohanapecosh, Longmire, and Carbon River.

Peak Adventure

The most challenging endurance climb in the lower 48 states, the 14,410-foot Mount Rainier draws mountain climbers like a magnet. Its deep crevasses and towering ice blocks rival those on Mount McKinley and the Himalayas.

Each year, thousands of people summit Mount Rainier. To reach the top and return before nightfall, many climbers begin their final ascent from high camp around midnight. They make their way through the darkness by the light of headlamps, roped to at least one other team member. About half the people who attempt it turn back due to weather, exhaustion or altitude sickness.

Hiking Above Treeline

Above Glacier Basin, conditions become dramatically less forgiving. There are no paths and few landmarks. In sudden white-outs, hikers and climbers can become disoriented in an instant. Hiking to Camp Schurman requires traveling on a glacier. Exposed and hidden crevasses do exist, especially in summer. This is a trailhead where climbers begin their trip to the upper mountain. Hiking to Camp Schurman requires special equipment, skills, experience and keen judgment.

Mount Rainier National Park, National Park Service (*continued*)

Mountain Building

At 14,410 feet, Mount Rainier is the highest peak in the Cascade Range. Along with Mount St. Helens, Mount Adams, and Mount Baker, it is part of a chain of volcanoes that extends from northern California to southern British Columbia.

Cascade volcanoes arise from the collision of enormous sheets of the planet's surface. These large slabs of rock, called tectonic plates, float atop the Earth's mantle. Here in the Pacific Northwest, the Juan de Fuca Plate plunges beneath the North American Plate, a process called subduction. The high temperatures and pressures of the subduction zone melt solid rock. Some of the newly-formed magma rises to the surface to erupt, forming volcanoes such as Mount Rainier above the subduction zone.

Moving Mountains

About 5,600 years ago, the entire summit and northeast face of Mount Rainier fell away suddenly in a massive landslide accompanied by volcanic explosions. Called the Osceola Mudflow, it was the largest mudflow originating from Mount Rainier in the last 10,000 years.

The towering wall of mud and rock thundered down the valley at up to 50 miles per hour, temporarily filling the White River Valley with up to 600 feet of rock, clay, water, and ice. As the mudflow left the mountains, it spread out to form the Enumclaw Plain and plunged into Puget Sound.

The Osceola Mudflow destroyed the top of Mount Rainier, lowering it by as much as 1,000 feet. Since that time, at least five immense landslides have sent massive mudflows down Mount Rainier, while eruptions of lava quickly filled the huge crater left by the Osceola collapse. The Osceola Mudflow covered about 212 square miles of the Puget Sound lowland, extending at least as far as the Seattle suburb of Kent and the Port of Tacoma.

Powerful mudflows have swept down Mount Rainier repeatedly, often without warning. Because of the hazard surrounding communities face from catastrophic mudflows, scientists have ranked Mount Rainier the most hazardous volcano in the lower 48 states.

When Fire and Ice Collided

You are standing at the toe of an ancient lava flow. Here flowing lava met glacial ice. Unable to melt through the thickest part of the ice, the lava was forced along the sides of large glaciers or atop thinly ice-buried ridge crests, where it cooled and hardened into rock. When the glaciers retreated, they left behind high ridges of resistant rock like the one you are standing on now.

The struggle between fire and ice has shaped Mount Rainier for hundreds of thousands of years. Today's glaciers are tiny remnants of those that once filled Mount Rainier's deep canyons. During the ice age, the White River Valley to your left was filled with glacial ice a thousand feet thick.

The interaction of fire and ice also created unusual rock formations. Half a million years ago, andesite lava, the most common type on Mount Rainier, flowed along the margin of a large glacier that filled the White River Valley. The ice cooled the lava quickly, causing it to shrink and crack into narrow hexagonal columns that pointed toward the cool glacial ice.