

## Gallery

{smoothgallery}IN & AROUND MOUNT SHASTA, CALIFORNIA

photos by Ron Cooper

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You will often hear the expression, "Mount Shasta makes its own weather." How can a mountain make its own weather? The main answer is that Mount Shasta's presence causes air to be uplifted.

All precipitation comes from clouds. Clouds are formed through the process known as condensation, which is typically caused by cooling. Cooling, in turn, is often caused by the uplifting of air. There are four major processes by which air is uplifted: convective lifting, frontal lifting, convergent lifting, and orographic lifting. Convective summertime thunderstorms produce massive thunderheads on Mount Eddy and Mount Shasta. Wintertime extratropical cyclones produce most of the precipitation formed by frontal lifting in our region. It is the process of orographic lifting that results in Mount Shasta "producing its own weather."

The term orographic comes from the Greek word oros, meaning mountain. Orographic lifting is caused when moving air (wind) encounters a mountain and is forced upwards in the process. The layer of air replaced at the surface causes the air above it to be lifted and cooled. If there is enough moisture in the air, the cooling will cause it to condense and form clouds. If further condensation occurs then orographic precipitation can be produced.

Mount Shasta is known for its beautiful clouds. The lenticular clouds, often called "flying saucers," are probably the most well-known type of cloud in the region. However, there are many types of clouds that can be seen around Mount Shasta.

Clouds are the visible expression of the process known as condensation. We can learn to "read" what the weather holds for us in the near future by examining clouds. But clouds are more than the result of a scientific process. Clouds also bring beauty to our lives. The next time you say to yourself, "Mount Shasta is so beautiful today," look closely at the sky and you will probably find that the clouds that clothe Mount Shasta add to its beauty.

Mount Shasta is located in far northern California at 41.3° N, 122.3° W. Mount Shasta has a Mediterranean climate, characterized by hot, dry summers and cold, wet winters. Most of the yearly precipitation falls during the winter season. Because of its high elevation and latitude, much of the winter precipitation falls as snow. This snowpack acts as a reservoir for the surrounding area, providing water to the Shasta River watershed to the north as well as to the Sacramento River watershed to the south. Northern California receives five to seven major storms during the wet season. If fewer than five storms hit the region, it is likely to lead to drought conditions.

Mount Shasta is one of the twenty or so large volcanic peaks that dominate the High Cascade Range of the Pacific Northwest. These isolated peaks and the hundreds of smaller vents that are scattered between them lie about 200 kilometers east of the coast and trend southward from Mount Garibaldi in British Columbia to Mount Lassen in northern California. Mount Shasta stands near the southern end of the Cascades, about 65 kilometers south of the Oregon border. It is a prominent landmark not only because its summit stands at an elevation of 4,317 meters (14,162 feet), but also because its volume of nearly 500 cubic kilometers makes it the largest of the Cascade Stratovolcanoes.