

Annual Precipitation

A Mediterranean **climate** of cool, wet winters and warm dry summers describes much of California. This climate is common to just two percent of the world's surface. The temperatures are similar from year to year, but the amount of winter **precipitation** can vary a lot. It is important to remember that even though the **deserts** and northwest coast have different climates, they are still influenced by the Mediterranean climate.

Winter storms from the Gulf of Alaska explain most of California's moisture. Three rules influence where this moisture falls. First, precipitation decreases from north to south. Second, precipitation increases with elevation. Third, more moisture falls on the windward side, where the storm first meets the mountain, than the leeward side, which is the other side of the mountain.

Most precipitation falls in a giant horseshoe-shaped ring of mountains that surround the Sacramento Valley. This includes the northern Coastal Ranges, Klamath and Trinity Mountains, Mt. Shasta and Lassen Peak, and the northern Sierra Nevada. Over 90 percent of the moisture falls during the winter months as rain or snow in the higher **elevations**. The storms originate in the Gulf of Alaska, then move south and east into California.

Not all of California's moisture originates in Alaska.

When jet stream winds that circle the globe high in the **atmosphere** change their normal pattern, cold Arctic winter storms sweep down California from the northeast. Another pattern occurs when winds from the Gulf of Mexico and Hawaii blow into California from the south, bringing warm air and rain.

