Annual Precipitation

A Mediterranean **climate** of cool, wet winters and warm, dry summers describes much of California. This climate is common to just 2% of Earth's surface. The temperatures are similar from year to year, but the amount of winter **precipitation** can vary a lot. It is important to understand that even though the **deserts** and northwest **coast** have different climates, they are both part of the Mediterranean climatic region.

Three rules explain where moisture falls as precipitation in the state. First, precipitation decreases from north to south. This is because most of California's moisture comes from winter storms that form the Gulf of Alaska, to our northwest. Ocean currents and winds bring that moisture south along the coastline, but it doesn't always reach Southern California. The second rule is that precipitation increases with **elevation**, since the land pushes air masses upward where the air cools and can hold less moisture. Over 90% of the state's precipitation falls as rain or snow in the higher elevations. These first two rules explain why the highest amounts of precipitation fall in a giant horseshoe-shaped group of mountains that surround the Sacramento Valley. The third rule is that more precipitation falls on the **windward** side of mountains than the **leeward** side, which is in the wind shadow. Throughout California tends to blow from west to east, bringing moisture from the ocean across the land and up and over the **terrain**. This is why there is more precipitation along the rugged northwest coast than there is in low-lying Sacramento. It also explains why deserts are found on the leeward (eastern) side of the Sierra Nevada and other Southern California mountain ranges.