



From Rainforest to Rain Shadow United States

Within a three-hour drive across Oregon, you can visit a beach, a temperate rainforest, a mountain glacier, and the high desert. The diversity of the landscape is mostly driven by the interaction of air masses and mountains.

This false-color Landsat 5 image from October 2011 shows the bare soil and sparse vegetation of the high desert in shades of pink, together with the deep-green vegetation on the west side of the Cascade Mountains. The one blue spot is the glacial cap of Mount Hood.

The transition from green to brown is indicative of a “rain shadow.” Winds blowing from the west carry moisture from the Pacific Ocean. As the air moves up into the mountains, it cools and the pressure decreases; the moisture condenses and falls out as rain or snow. On the eastern side, as the elevation drops, the air pressure increases and the air warms, effectively shutting off precipitation because the air can better hold the remaining moisture.