

Western U.S. becoming a bit of a dust bowl

By Kirk Johnson, New York Times

DENVER – Oh say, can you see across the Grand Canyon? Not as well as you used to on some days.

A dust storm that covered Phoenix in July dramatically attested to Western air quality concerns.

The question of how clean the air is in the American West has never been an easy one to answer, strange to say. And now scientists say it is getting harder, with implications that ripple out in surprising ways, from the kitchen faucets of Los Angeles to public health clinics in canyon-land Utah to the economics of tourism.

It is at least partly about dust, something that has been entwined with Western life for a long time, and now appears to be getting worse.

In the 1800s, the high deserts stretching west and south of the Rockies became a famed destination for respiratory sufferers like “Doc” Holliday, the gunfighter-dentist (and tuberculosis patient), who came to take what was called the desert cure.

But cattle and sheep by the tens of thousands were at the same time trampling across those fragile landscapes, loosening once stable soils to the four winds and creating a kind of parallel – but equally true – Western mythology around the tumbleweed and the dusty trail.

The region’s air quality, then as now, was partly pristine and partly poor depending on when and where you looked and which way the wind blew.

But now a new and even more complicated chapter appears to be unfolding, researchers in many different fields say. From off-road vehicle use, which has in some places replaced the clumping trod of the old cattle herds, to drought's impact on plants with their soil-anchoring roots, more dust appears to be up and moving.

And scientists say they are also understanding for the first time the deep connections between the dust's main source – a vast high-desert region called the Colorado Plateau, which stretches through four states and is home to national parks like the Grand Canyon and Arches – and the economic, environmental and demographic life in cities and suburbs far removed.

“Changing conditions on the Colorado Plateau affect high-elevation water sources, commerce and population centers with tens of millions of people,” said Richard L. Reynolds, a research geologist who has been studying dust at the United States Geological Survey. And with climate models suggesting a hotter, drier future in much of the West, potentially compounding dusty conditions, the dust is also opening a window on how the region is changing. “It's giving a glimpse of what we can expect,” Reynolds said.

In the last few years, winter dust storms on the high peaks of the Rocky Mountains in Colorado have sharply increased in number, affecting the rate of melting snows into the Colorado River, a main source of water for agriculture and for the drinking supply for more than 20 million people. Of 65 so-called dust-on-snow events since 2003, when tracking began, 32 have struck in just the last three years, according to the Center for Snow and Avalanche Studies, a nonprofit research group based in Silverton, Colo. Dust can accelerate how fast snow melts because it absorbs heat.

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