Opinion

Imagine Mount Rainier without its icy mantle

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By Jon Waterman

Special to The Times

More than 14,000 feet above the bustling metro area, Mount Rainier confers a sense of calm and appreciation for the wonders of the Earth. But this glowing landmark, as the most heavily glaciated mountain in the Lower 48, also serves as a reminder of profound changes taking place before our eyes. We are bearing witness to the end of ice in Washington's national parks.

For more than a century, Mount Rainier National Park has kept its cool by reflecting solar radiation off the white glacier surfaces and back up into the atmosphere. But as rising temperatures cause glaciers to thin and recede, the newly exposed darker rocks absorb the heat and accelerate glacial melt. Since 1970, Mount Rainier's glaciers have lost 18% of their volume. Over the last decade, these glaciers have been melting at six times the historic rate, causing damaging floods.

Across Puget Sound and above the rain forest of Olympic National Park, the mid-elevation glaciers are not as cold and protected as the high-altitude glaciers of Rainier. A 2009 inventory of Olympic National Park glaciers showed that over 27 years, 82 glaciers have disappeared. Fewer than 184 glaciers remain in the park, and diminishing melt water has caused the Quinault River to reach record lows.

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Amid the most glacially populated region of the state, North Cascades National Park would appear to be enriched by its 312 glaciers. But over the last century, those icefields have thinned, and in many cases, disappeared to 44% of their former size.

As changing climate increasingly warms snow to rain and speeds glacier melt up high in Washington's three national parks, the frozen and flowing remnants of the Pleistocene will soon be replaced by rocky moonscapes. A drive through Rainier National Park reveals many huge, moraine-filled streambeds — empty of vegetation as if annihilated by a convoy of bulldozers — as glaciers have retreated out of sight up the mountain.

Collectively, the 2 million acres of Mount Rainier, Olympic and North Cascades National Parks offer us the opportunity to reconnect with the natural world, while serving as a refuge for fauna and flora threatened by habitat loss. These parks also are filled with old-growth forests that absorb the carbon dioxide that would otherwise add to the greenhouse gases heating up the earth.

Yet even the abundance of forests and reflective glaciers is scant protection, because national parks are more fragile and susceptible to deleterious effects of climate change. According to a recent University of California, Berkeley, study, many U.S. national parks warmed an average 1.8 degrees Fahrenheit from 1885 -2010, which is twice the average rate in the rest of the country. We know this in part because climate trends have been monitored in parks like Rainier since its establishment in 1899.

In the contiguous U.S., Washington happens to be the most glaciated state. Of the 173 square miles of glaciers found in Washington, Rainier, Olympic and North Cascades National Parks contain most of the ice — more than 600 glaciers' worth.

Both glaciers and humankind need the frozen moisture. While lately it has fallen through a miasma of gray rainclouds, up high, the snow replenishes glaciers and will keep the lifts spinning and skiers turning. Come midsummer, like a good savings account, when Mounts Rainier and Olympus and Goode and other glaciated peaks release the winter's savings, the vineyards from the Olympic Peninsula to the abundant orchards of Eastern Washington get to spend it.

The salmon and the fishermen, along with the dairy and poultry farms, need this snow and these glaciers. So do the river runners. But the principal snow banks are now overdrawn, despite a relatively wet and snowy period over the last 35 years in Washington. So the good news is that this wet weather trend has held glacial loss to a minimum compared to other areas of the U.S. But according to a study published

by scientists in the Geophysical Research Letters earlier this year, it's "very unlikely to see that [wet] trend continue."

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As some Washington, D.C., lawmakers continue to resist climate-change reforms, in the interim we must speak out and support local efforts to further reduce greenhouse gas emissions. This year, the Evergreen state's legislation to reduce carbon in vehicle fuels failed but may get a vote in the New Year. Meanwhile, the recently passed Clean Energy Transformation Act commits Washington to an electricity supply without greenhouse-gas emissions by 2045, showing the sort of leadership desperately needed nationwide.

Heralded as one of the snowiest places on Earth, Mount Rainier (named after the 18th century Rear Admiral Peter Rainier) is a lighthouse to all that is wild and beautiful. Yet increasing temperatures have already changed snowfall patterns — the mountain is in fact becoming "rainier." While developing a precise timeline for the evolution of Washington's high glaciers is tricky, in adjoining Montana, many scientists agree that Glacier National Park will lose its ice as soon as 2030. Without significant intervention, the once luminescent glaciers of Washington's national parks will likely be gone before the century's end.

Jon Waterman *is a lifelong explorer and mountaineer and author of 14 books, including the first-ever "Atlas of the National Parks," released by National Geographic Books in November 2019.*