

GUEST ESSAY

36 Years Later, the Climate Changes at This National Park Stunned Me

Dec. 7, 2021, 5:00 a.m. ET

By Jon Waterman

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Secluded in the far-flung Gates of the Arctic National Park in northwestern Alaska, the flooded Noatak River pushed our raft downstream into a brisk wind. Caribou trails spider-webbed the hillsides, while cumulus clouds gathered like ripened fruit above a valley so vast that you could feel lost without binoculars and frequent map consultations.

To avoid crashing into the banks, I had to keep sharp eyes on the surging river and hands on the oars. Since extreme rainfall had lifted the river out of its banks (and delayed our floatplane flight in from Bettles, Alaska, for three days), every potential campsite had been sluiced over with silt and left soaking wet.

Thirty-six years had passed since I had last worked as a guide on the Noatak River. This year, instead of simply enjoying a float down memory lane in the wildest country imaginable, I was stunned by how climate change had radically altered the place I once knew.

Drawn to wild places all my life for spiritual renewal, I had chosen the Noatak as the ultimate wilderness trip to share with my 15-year-old son, Alistair, and another family. I had also come to escape the record heat and forest fire smoke in Colorado for what I believed would be a cool interlude in the Far North.

To my surprise, the temperatures approached 90 degrees Fahrenheit for three consecutive days. The bugs were strangely thick. We had come in August hoping the frosts that usually began that month would have killed off the infamous clouds of mosquitoes. But climate change had lengthened the summers and delayed the cold, so we needed head nets and bug dope.

Alistair and I repeatedly cooled off by swimming in the river, an activity I had never considered during dozens of trips to the chilly North. But the last six years have seen some of the warmest weather on record in Alaska.

Since my first trip down those headwaters in 1982, temperatures in the Arctic have risen several degrees Fahrenheit. Back then, we dressed for winter in the first week of August. Soon afterward, though, scientists began to warn that the Arctic was warming at twice the global average. In the decades since this part of Alaska has been subjected to abnormal heat waves and wildfires.

When a storm blew in on Aug. 5, temperatures dropped into the 50s and rain fell again as we floated out of Gates of the Arctic and into the Noatak National Preserve. The legislated wilderness shared between these two parks stretches more than 13 million acres, which makes it the nation's greatest untrammeled landscape sheltering the largest unaltered river system. But the region's protected status seems scant consolation given the cascade of climate change anomalies.

One of them is the thawing of the permafrost, the frozen ground that covers nearly a quarter of the Northern Hemisphere. I explained to Alistair that global warming has taken the permafrost out of the proverbial freezer. Eons of crustal earth movement, glacial scraping and soil deposition stirred and pushed ancient masses of plant life underground and flash-froze everything into permafrost before it could rot. More carbon is contained within this frozen ground than humankind has released since the Industrial Revolution began.

Now, it's as if frozen spinach was left out on the kitchen counter. The permafrost has begun to decompose and emit carbon and methane into the atmosphere — adding to the human-generated greenhouse gases that are already causing planetary warming.

The effects of the thawing were plain to see.

My feet mostly stayed dry on my tundra hikes in the 1980s; this time, we repeatedly soaked our boots walking across tundra drenched with weeping permafrost. The mountains above were bereft of snow. Year-round snow cover in Gates of the Arctic has all but disappeared. Of the 34 square miles of white snowfields seen in 1985, just four square miles remained by 2017, according to one study.

On the Noatak, we had to steer our rafts wide around thawing riverbanks as stones fell and silt rained down into the river. Our drinking water filter repeatedly plugged up from the dislodged sediment.



A view of the Noatak River and the Brooks Range in 2008. Year-round snow cover in Gates of the Arctic has all but disappeared. Scott Dickerson / Design Pics, via Getty Images

The consequences pile on, in little ways and big ones.

A recent study of the area's smaller rivers and streams found that the thawing permafrost is cooling the waters, which biologists say could hurt salmon reproduction. This raises long-term concerns for remote downstream communities that depend on salmon for sustenance.

Flying in, we had also seen watery craters known as thermokarsts punched into the verdant tundra. They're caused by the melting of surface ice on top of thawing permafrost. Lakes have flooded out of their basins, too, as the surrounding tundra walls have melted away like butter.

Woody shrubs are also moving north over the tundra and low grassy areas as the climate becomes more hospitable for them. The shrubs in turn transfer more of the sun's heat through the snow and ground and into the permafrost. In 1982 I had discovered a den occupied by a family of wolves on a high bank of the Noatak amid knee-high dwarf birch and grass; today most of the river banks are festooned with head-high willows.

Since plants harbor a large part of the energy supply and habitat for wildlife, this "greening of the Arctic" is changing the entire ecosystem. Drawn by these woody shrubs, moose, beavers and snowshoe hares are now moving north and causing further alterations. Shrubs also reduce lichen cover, which is an essential food for over 250,000 caribou that pass through the region, some traveling up to 2,700 miles in their migration to and from their calving grounds.

For all of the changes we saw, we still reveled in a wilderness so remote and untraveled that we saw only one other person on our 90-mile, six-day trip from Pingo Lake to Kavachurak Lake. We caught grayling in the river and sautéed it for dinner while sheltering from the hot sun under a propped-up raft. We gorged on wild blueberries. For an hour in a bug-quelling wind atop a hillside we watched a grizzly and its cubs, unaware of our presence, cavort and splash across the tundra.

All this as caribou shepherded their young down from the summer calving grounds as they have done for thousands of years. We didn't see many, but we knew they were out there, somewhere, cantering in synchronized, thousandfold troupes, inches apart yet never jostling one another, their leg tendons a veritable orchestra of clicking castanets, their hooves clattering on stones. These tawny creatures drift along their ancient trails like tendrils of smoke through one of our last great wild places.

These parks are an essential treasure of our democracy, conceived by Congress and presidents past as monuments for posterity. Now they offer a look at the future of climate change, which has slammed into the Arctic in ways not yet seen in the temperate world.

Unable to sleep one night, I slipped past my dozing son and emerged from our tent into the surreal soft light of a midnight sunset as a rainbow arced like an heaven-sent bridge over the river. In times like this I could only think about both of my sons and how they and all of our future generations will be left to face the uncertainties of an overheated planet.

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