

Research reveals why people pick certain campsites

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The researchers studied the busy Watchman Campground in Utah's Zion National Park. They used big data from national park reservations to understand how visitors pick campsites. Credit: U.S. National Park Service

Those in love with the outdoors can spend their entire lives chasing that perfect campsite. New University of Montana research suggests what they are trying to find.

Will Rice, a UM assistant professor of outdoor [recreation](#) and wildland management, used big data to study the 179 extremely popular campsites of Watchman Campground in Utah's Zion National Park. Campers use an online system to reserve a wide variety of sites with different amenities, and people book the sites an average of 51 to 142 days in advance, providing hard data about demand.

Along with colleague Soyoung Park of Florida Atlantic University, Rice sifted through nearly 23,000 reservations. The researchers found that price and availability of electricity were the largest drivers of demand. Proximity to the adjacent river and ease of access also affected demand. Other factors—such as views of canyon walls or number of nearby neighbors—seemed to have less impact.

The work was published in the *Journal of Environmental Management*.

"This study demonstrated the power of using the big data of outdoor recreationists' revealed preferences to build models of decision-making, and did so in a setting that is incredibly relatable to many Americans," Rice said. "For instance, anyone who has ever picked a campsite within a campground has certainly dealt with the dilemma of proximity to the restroom. I mean, we want to be close enough to make navigation easy in the middle of the night, but not so close that we're smelling it and listening to the door open and close all night."

He said past studies on recreation decision-making have relied on surveying people about their stated preferences—basically asking them what they like. This study broke new ground by using revealed preferences—observations of people's actual decision-making—made possible by the Recreation Information Database. That database contains facts about all bookings made through the federal Recreation.gov site, which makes reservations for many [national parks](#) across America.

The researchers studied these site variables at the Watchman Campground: Distance to the nearest dump station; distance to the nearest restroom, trash or recycling station, or water spigot; whether it was a walk-in site; price and electricity; number of neighboring campsites within a 40-meter radius; campsite shading; access to the nearby Virgin River; direct access to canyon walls; and views of canyon walls. These variables were broken into three setting categories: Managerial, social and ecological.

Certain amenities at sites influenced how early they are reserved, on average. For instance, good views of the canyon walls increase the average booking window by three days. Price, access to electricity and ease of access also increase how early sites are reserved, demonstrating their popularity.

Rice said they were surprised that sites with access to the Virgin River were less popular. He suspects this might be because of known struggles with the river's water quality, and Zion National Park has issued a press release urging visitors not to swim or submerge themselves in the river.

Rice said their work and new research model can help park managers make better decisions about campground design and recreation planning.

"Since the 1960s, park managers—in collaboration with researchers—have been trying to figure out how people make decisions when choosing campsites, trails or any number of recreation facilities," he said. "This information is vital for recreation planning, not only for improving visitor experiences but also for ensuring the protection of ecological resources and fair allocation of recreation opportunities."

It also demonstrates the usefulness of a [big-data](#) approach for measuring the demand on stretched recreational resources.

"Our findings specific to Zion's Watchman Campground highlight the merit of using these methodologies elsewhere," Rice said. "As campers, we're always in search for the perfect campsite."

More information: William L. Rice et al, Big data spatial analysis of campers' landscape preferences: Examining demand for amenities, *Journal of Environmental Management* (2021). [DOI: 10.1016/j.jenvman.2021.112773](https://doi.org/10.1016/j.jenvman.2021.112773)

Provided by University of Montana

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