

# Great Basin

Great Basin National Park  
Nevada

National Park Service  
U.S. Department of the Interior



## Mountains in a Sea of Sagebrush

We call it the Great Basin, this vast region of sagebrush-covered valleys and narrow mountain ranges named for its lack of drainage. Its streams and rivers mostly find no outlet to the sea, and water collects in shallow salt lakes, marshes, and mud flats to evaporate in dry desert air. It's not just one but many basins, separated by mountain ranges roughly parallel, north to south, basin and range alternating in seemingly endless geographic rhythm. Broad basins hang between craggy ranges—from California's Sierra Nevada to Utah's Wasatch Mountains.



**The Great Basin**  
Centered on Nevada the Great Basin stretches from California's Sierra Nevada to Utah's Wasatch Mountains. The region features high, silent valleys, many mountain ranges, and few rivers. Great Basin National Park protects the South Snake Range near Utah's border east of Ely, Nev.

At first glance (or after long driving) you might see the landscape as monotonous—a sea of pale green shrubs. But looks deceive. As with oceans, much life here is not immediately apparent. Above the sagebrush sea, mountain ranges form a high-elevation archipelago as islands of cooler air and more abundant water. Richly varied plants and animals live up there that could not survive in the lower desert.

Congress created Great Basin National Park in 1986, including much of the South Snake Range, a superb example of a desert mountain island. From sagebrush at its base to Wheeler Peak's 13,063-foot summit, the park offers streams, lakes, abundant wildlife, varied forest types (even groves of ancient bristlecone pines), alpine plants, and many limestone caverns, including beautiful Lehman Caves.

Wheeler Peak  
©JEFF GRASS

On the Edge of the Desert

A Land of Lakes and Forests

Treeline and Above

The Snake Range exemplifies how living things and landscapes interrelate. As elevation increases, the climate changes, creating habitats for different plants and animals. The most recent ice age glaciers sprawled across these high peaks. The air was cooler, so forests of bristlecone and limber pine grew in the valley, beside long sinuous lakes. Lake Bonneville was the largest—today's Great Salt Lake is its shrunken remnant—and 15,000 years ago its waves lapped shoreline 10 miles from today's park boundary.

All that changed starting about 10,000 years ago as the climate warmed. Glaciers melted. Lakes dried up. Desert plants invaded the desiccated



Sunrise at Baker Lake  
©TOM BEAN

Close beneath Wheeler Peak's summit the ice age persisted until recently as a small, one-of-its-kind Great Basin glacier. This token called to mind Snake Range-capping glaciers a few millennia back. Other evidence is easy to find. Piles of glacial debris—boulders, sand, gravel—form mounds and ridges, and sparkling Teresa and Stella lakes sit in ice-gouged hollows.

These were alpine glaciers, not the continental ice sheets that blanketed the northern part of our continent. Ice never reached the valley floor here, but melted at about 8,000 feet of elevation. Baker Creek drainage's shape shows this. Above 8,000 feet glaciers plucked and carried bedrock, making mountain slopes wider and U-shaped. Below that level, cascading streams cut sharp-sided, V-shaped canyons.

Wheeler Peak Scenic Drive offers good views of the range. Starting near the park entrance, it climbs from Lehman Creek across a dry shoulder of mountain, ending near the treeline. In 12 miles it gains 3,400 feet in elevation, showing you varied habitats. You go from pinyon-juniper woodlands along an aspen-lined creek bed, through shrubby mountain mahogany and manzanita, into deep forests of Englemann spruce and Douglas fir. Then you move on to flower-spangled meadows and subalpine forest—limber pine, spruce, and aspen—at Wheeler Peak campground.

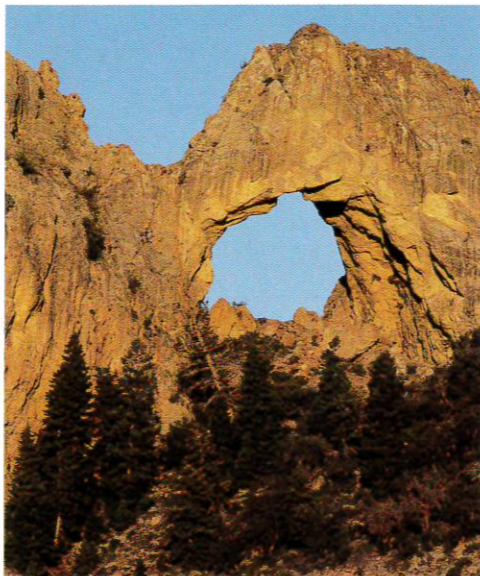
Hiking opportunities abound throughout the park. Easy to moderate trails lead to subalpine lakes and a bristlecone pine forest. More strenuous is a climb up Wheeler Peak, the park's highest point. Rangers lead nature walks and tours of world-class Lehman Caves.

In the South Snake Range, 13 peaks rise above 11,000 feet, where the winter is never far off. Snow can fall in any month, even July. Freezing night temperatures are common. Plants cope with a short growing season, poor soil, thin air, high winds, and intense solar radiation. High winds punish anything much above the ground—even hikers. Living up there demands a low



Parry's primrose  
©SUZI MOORE

profile. Lichens cling like paint to rocks and dwarfed plants grow snug to the ground, anchored in crevices. Shrubs look like a bonsai gardener pruned them, and trees live in cavities or hollows.

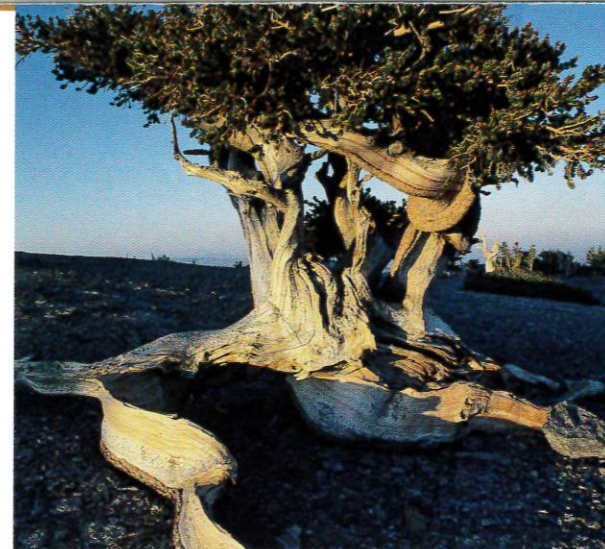


Lexington Arch  
©TOM BEAN

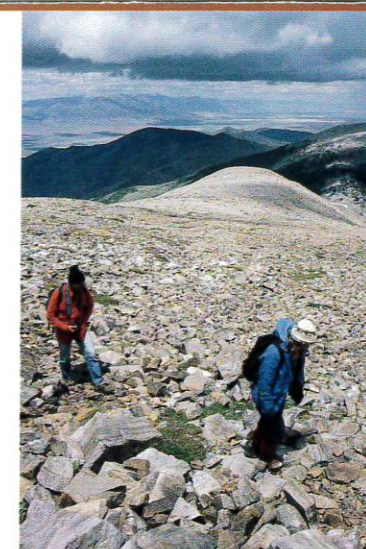
The trees highest up in the Snake Range, the limber and bristlecone pines, appear between 9,500 and 11,000 feet. Both are hardy, but bristlecone pines are masters of longevity, enduring not centuries but millennia. On rocky slopes past Wheeler Peak Scenic Drive's end, you walk among trees 2,000 to 3,000 and more years old.

Not all bristlecones live that long. Ironically, the oldest grow near treeline where survival is the most difficult. Adversity seems to foster long life. They grow slowly, a branch at a time, their needles living up to 40 years. Often, a tree looks nearly dead—a thin strip of living tissue clinging to a gnarled, naked trunk. Most species decay under such conditions, but bristlecone wood's high resin content prevents rot. Instead, the wood erodes, like stone, from wind and ice crystals. Even dead wood endures and is of scientific value. At lower elevations' lesser extremes, bristlecones grow faster and larger but die at tender ages, 300 or 400 years.

**People of the Great Basin** Archeology reveals that prehistoric peoples lived along the ancient Lake Bonneville around 10,000 years ago. From about 1100 to 1300, American Indians (known as Fremont) lived in small villages near today's Baker and Garrison. They irrigated corn, beans, and squash in the valley and hunt-



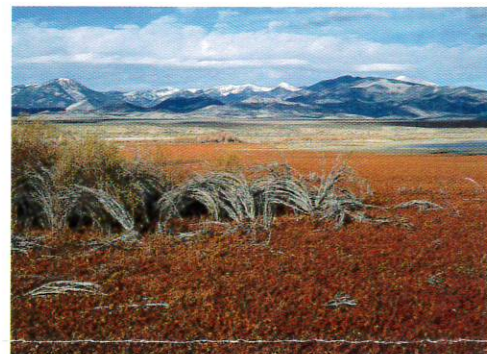
Bristlecone pine  
©TOM BEAN



Climbing Wheeler Peak  
©TOM BEAN

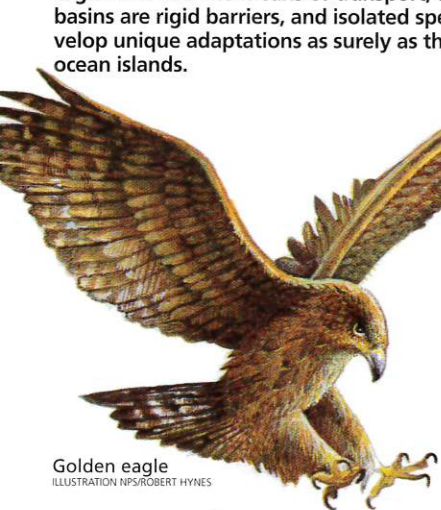
ed in the mountains. Several rock art sites in the park recall their presence. Small kin groups of Shoshone and Paiute peoples lived near the springs and other water sources from 1300 until recently. They hunted and gathered wild foods, but their staple, especially in winter, was pin-

yon nuts. Their descendants still live in this area and share the harvest with resident pinyon jays, rock squirrels, wood rats, and other small animals.



Basin meets range: park peaks seen from the southeast  
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valleys. The Snake Range became an island surrounded by desert, its elevation giving temperate-climate dwellers cooler refuge. For many organisms with no means of transport, desert basins are rigid barriers, and isolated species develop unique adaptations as surely as those on ocean islands.



Golden eagle  
ILLUSTRATION NPS/ROBERT HYNES

## The Underground World



Touring Lehman Caves  
©TOM BEAN

Lehman Caves is a single cavern despite the name. It extends a quarter-mile into the limestone and marble that flank the base of the Snake Range. American Indians knew of it long before the rancher and miner Absalom Lehman explored it in 1885. It is one of the region's most profusely decorated caves.

What you see today started hundreds of thousands of years ago. Surface water, turned slightly acidic from carbon dioxide gas, mixed with water deep below the surface, dissolving the soluble rock at the horizontal water table. Evidence of the dissolving action from the slowly circulating water was recorded in the cave's rock as spherical domes in ceilings and spoon-shaped scallops on walls. Eventually the water drained from the cave, leaving behind hollow rooms and sculptured walls.

In the second stage of cavern development, water percolated down from the surface, carrying small amounts of dissolved limestone (calcite). Drop by drop, over centuries, seemingly insignificant trickles deposited the wonders of stone. The result is a rich display of cave formations scientists call speleothems. Lehman Caves has familiar formations like stalactites, stalagmites, columns, draperies, flowstone, and soda straws. But there are also rarities, like shields—two roughly circular plates fastened like flat-

tened clam shells, often with graceful stalactites and draperies hanging from their lower plate. Lehman Caves is most famous for its abundant shields.

A shield called the Parachute (right) and other formations make a tour of Lehman Caves both an unusual and rewarding experience. Delicate helictites, small branching formations that defy gravity, are found throughout. Cave popcorn, which looks like the edible kind, adorns many walls and formations.

THE TEXT IS BASED ON ORIGINAL WRITING BY JEREMY SCHMIDT



©TOM BEAN



tor Center for the exhibits and to learn about the Great Basin Desert. Drive up to the Lehman Caves Visitor Center and take a ranger-led cave tour. Drive to Wheeler Peak, then follow trails to subalpine lakes and bristlecone pine forest.

**For a Longer Visit** Climb Wheeler Peak and explore the park canyons. Snake Creek flows through aspen groves beneath limestone outcroppings. Visit Lexington Arch in the range's south end. At the north end, Strawberry Creek runs through aspen stands and open meadows. All park roads except Wheeler Peak Scenic Drive are unpaved and rarely traveled. (Snow closes many roads in winter.) Ask for details at a visitor center.

**Activities** There are scheduled tours of Lehman Caves when Lehman Caves Visitor Center is open. **Cave tours**, up to a ½-mile walk on paved trail with stairways and indirect lighting, take up to 90 minutes. Shorter walks are available. Dress warmly; the cave is 50°F year-round. Those under 16 must be accompanied by an adult. For advance ticket sales call 775-234-7331, ext. 242.

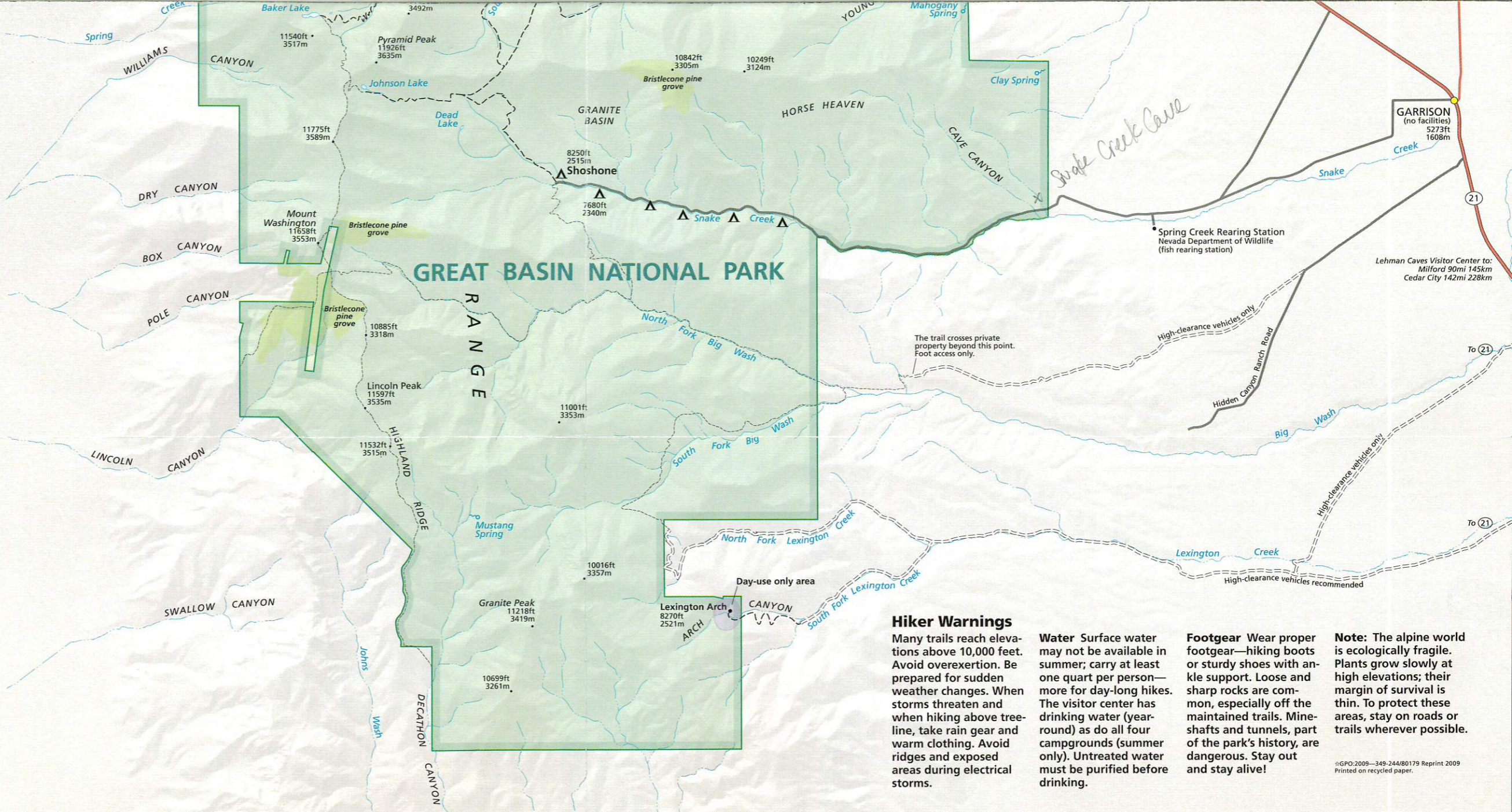
**Fishing** requires a Nevada fishing license; state regulations apply. **Hunting** is prohibited; firearms must be cased and unloaded. **Horseback riding** is permitted on some trails. **Mountain biking** is allowed only on designated motor vehicle roadways. Vehicles and drivers on park roads must be licensed.

summer only), restrooms, fire rings, tables, and tent pads. One campground is open year-round (no water in winter). Primitive sites along Strawberry and Snake creeks have tent sites, fire grates, and tables; some Snake Creek sites have pit toilets but no water. Some sites have road access in summer only.

**Backcountry Hiking** and backpacking options abound, but many park trails are primitive and route finding may be difficult. Most routes follow ridge lines or canyons. Plan ahead: bushwhacking through mountain mahogany can be tough or impossible. Get topographic maps and information on conditions at a visitor center. Backcountry registration is strongly recommended.

**Regulations** • **Pets** must be on a leash six feet long or less. They are prohibited in buildings or caves, on trails, or over 100 feet from roads. • **Campfires** are permitted only in campgrounds and picnic areas in the designated grills. Above 10,000 feet campfires are prohibited; use a portable stove. • **All plants, animals, and natural and cultural features** are protected and may not be disturbed or damaged. • **Do not feed wildlife.** • **In Lehman Caves**, stay on the trail with the ranger. Do not touch any cave formations. • **Obey posted speed limits and traffic regulations.**

See the park website for more information on safety, rules, and regulations.



### Hiker Warnings

Many trails reach elevations above 10,000 feet. Avoid overexertion. Be prepared for sudden weather changes. When storms threaten and when hiking above treeline, take rain gear and warm clothing. Avoid ridges and exposed areas during electrical storms.

**Water** Surface water may not be available in summer; carry at least one quart per person—more for day-long hikes. The visitor center has drinking water (year-round) as do all four campgrounds (summer only). Untreated water must be purified before drinking.

**Footgear** Wear proper footgear—hiking boots or sturdy shoes with ankle support. Loose and sharp rocks are common, especially off the maintained trails. Mineshafts and tunnels, part of the park's history, are dangerous. Stay out and stay alive!

**Note:** The alpine world is ecologically fragile. Plants grow slowly at high elevations; their margin of survival is thin. To protect these areas, stay on roads or trails wherever possible.

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