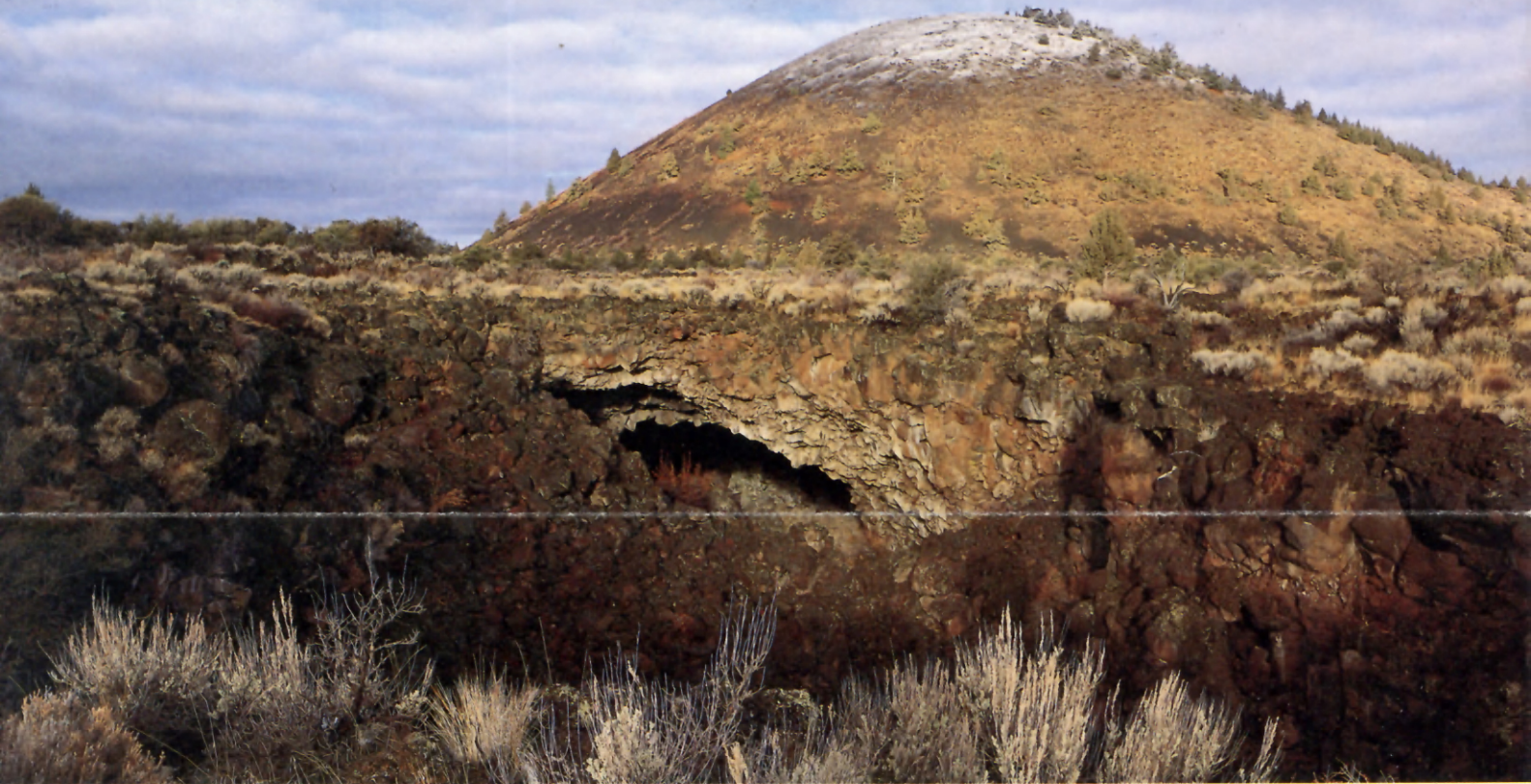


Lava Beds



Schonchin Butte, with Big Painted Cave entrance in foreground. © TOM BEAN

A Turbulent Past

Lava Beds National Monument lies on the northern flank of the massive Medicine Lake Volcano. During the last half-million years this shield volcano's many eruptions spewed lava, gases, and cinders and created a seemingly inhospitable landscape. Here you can explore the resulting geologic features, including lava tubes, surface lava flows, cinder cones, and spatter cones.

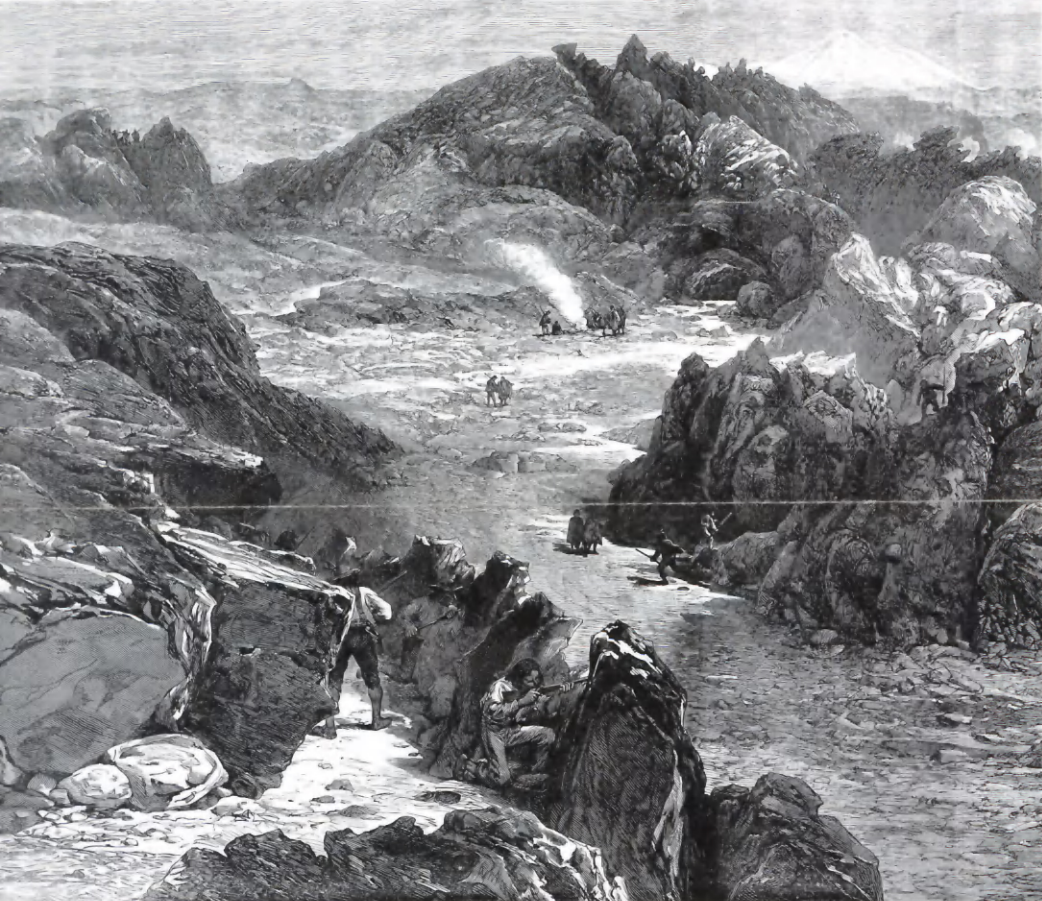
Quiet for now, Medicine Lake Volcano is tectonically active—last erupting 950 years ago. The US Geological Survey (USGS) monitors seismic

activity. Volcanic activity is possible again as tectonic plates under the Pacific Ocean descend and melt deep beneath the Cascade Range.

Historic events echo the geological turmoil. Trade took place as early as 1820, but conflicts arose between the Modoc Tribe and Euro-American settlers who arrived after Lindsay Applegate opened the South Emigrant Trail in 1846. In 1864, the Modoc reluctantly signed a treaty giving up their homeland and moved to the Klamath Indian Reservation. After hardships on the

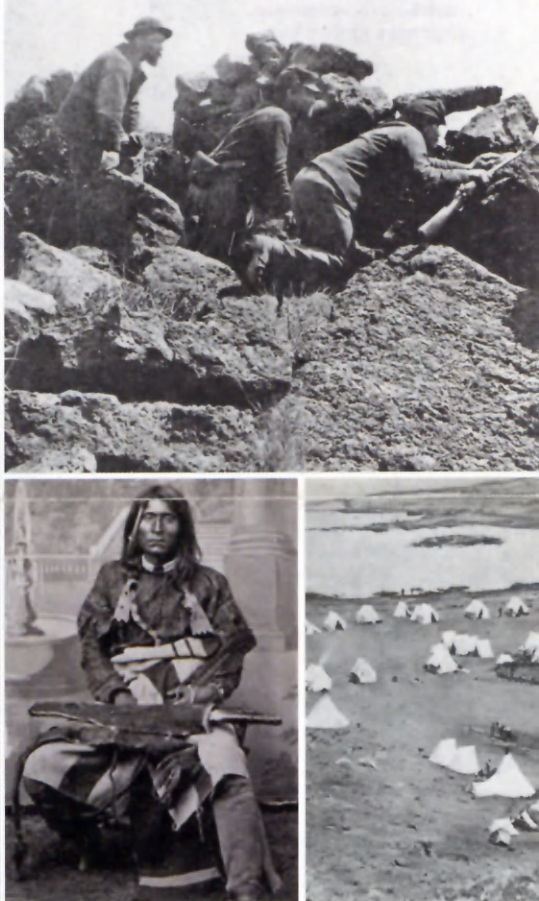
reservation and clashes among different tribal bands, Captain Jack's band left the reservation for their former homeland. Tensions arose between the Modoc and settlers on their homeland, sparking the Modoc War of 1872–1873.

During the Modoc War, Captain Jack and over 150 men, women, and children withdrew to a natural fortress, Captain Jack's Stronghold. From there fewer than 60 warriors held off a vastly larger army force for five months.



Interest in the Modoc War was widespread. This engraving appeared in the *Illustrated London News*. Rough volcanic terrain made

fighting difficult (top right). The US Army encamped (bottom right) near the shore of Tule Lake. ENGRAVING LIBRARY OF CONGRESS



Settlers named Modoc leader Kientpoos (above) Captain Jack. THREE PHOTOS NATIONAL ARCHIVES

Cultural and Natural Wealth

Lava Beds' natural wealth sustained native peoples for over 10,000 years. The semi-nomadic, Modoc People lived off the land, traveling in season to food sources at Klamath Basin lakes and rivers and south through lava fields to the Medicine Lake highlands forests. They used abundant waterfowl and other animals, edible and medicinal plants, and accessible water to survive. Native people who fished, hunted, and lived here created thousands of carved petroglyphs and painted pictographs at Petroglyph Point and elsewhere.

The story of these lava beds' natural wealth spans thousands of years, as erosion has turned rocky lava flows into life-supporting soil. Lying where the Great Basin and Cascade regions

meet, the monument hosts a diverse mixture of plants. Juniper trees and mountain mahogany dot this landscape that is brilliantly colored by wildflowers from spring to fall.

Wildlife includes 14 species of insect-eating bats that spend all or part of their lives here. There are prey species, like ground squirrels and pikas, and predators, like mountain lions, bobcats, and falcons. As you drive, watch for mule deer and pronghorn antelope crossing the road.

Located along the Pacific Flyway, the monument rewards birders in all seasons. In spring and summer many songbirds call Lava Beds home. Purple martins nest in cave entrances, lazuli buntings sing atop bitterbrush,

and western tanagers hunt insects in the pine forests. Vast numbers of ducks, snow geese, and tundra swans fly overhead in fall and winter. Barn owls, great-horned owls, and prairie falcons find critical summer nesting habitats in the cliffs. Winter nights find bald eagles taking refuge in the trees in the monument after hunting waterfowl on the adjacent wetlands.

The National Park Service preserves this landscape much as it looked in the Modoc War era, and historical and natural wonders await you at every turn. Congress has designated over half of the monument as wilderness, where you can be transported back in time to enjoy solitude, starry nights, and rugged beauty.



Modoc basket maker

NATIONAL ARCHIVES



Pine seedling

© DAVID HAYS



Mule deer

© CONNIE TOOPS



Mariposa lily

© DAVID HAYS



Western fence lizard

© DAVID HAYS



Scrub jay

© CONNIE TOOPS



Petroglyph Point

NPS

Exploring Lava Beds



Catacombs

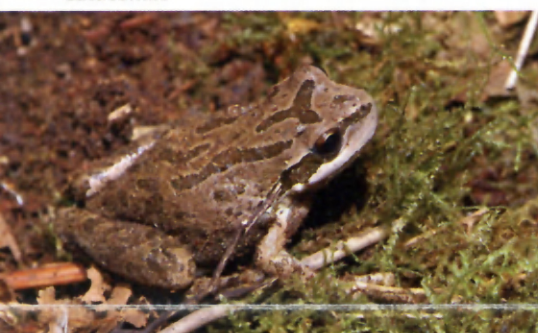
CATACOMBS, HEPPE CAVE, BLUE GROTTO © DAVID HAYS



Ice in Heppe Cave



Blue Grotto



Pacific coast tree frog

© JEAN KREJCA, ZARA ENVIRONMENTAL LLC



Brown bat

© MERLIN D. TUTTLE, BAT CONSERVATION INTERNATIONAL



Valentine Cave

© JEAN KREJCA, ZARA ENVIRONMENTAL LLC

Exploring caves can be exciting with proper precautions and common sense. Wear some-

thing on your head; hard hats are sold in the visitor center. Wear hard-soled shoes; lava can be sharp. Carry at least three different

sources of light; lights are available free in the visitor center. Do not explore caves alone.

A Hidden World

Lava tube caves—over 700—are striking volcanic features at Lava Beds. This is the highest concentration in the contiguous United States. By exploring lava tube caves you can discover a fascinating and foreign underground environment.

Eruptions at Mammoth Crater 32,000 years ago sent massive flows of lava as far as 10 miles downhill, creating a vast network of lava tubes. Lava tubes formed when the edges of highly fluid, 1,800°-Fahrenheit lava started to cool. Eventually a roof formed that insulated liquid lava still flowing inside. Think of it like surface ice on a flowing river. When an erup-

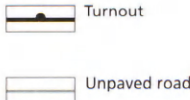
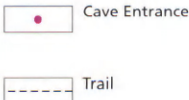
tion stopped and the hot lava drained out, a lava tube—the outer shell—was left. If multiple flows followed one channel, lava tubes lay atop one another, like stacked pipes, forming multilevel caves. When a lava tube ceiling collapses from its own weight, it opens access to the caves below.

Cave roof collapses let in plants, animals, and moisture, creating a world of life within. Ferns, mosses, insects, frogs, pack rats, and bacteria are a few of the cave organisms adapted to these dark, cool, more humid environments. Caves are critical habitat here. In summer, female bats raise pups in maternity colonies in the

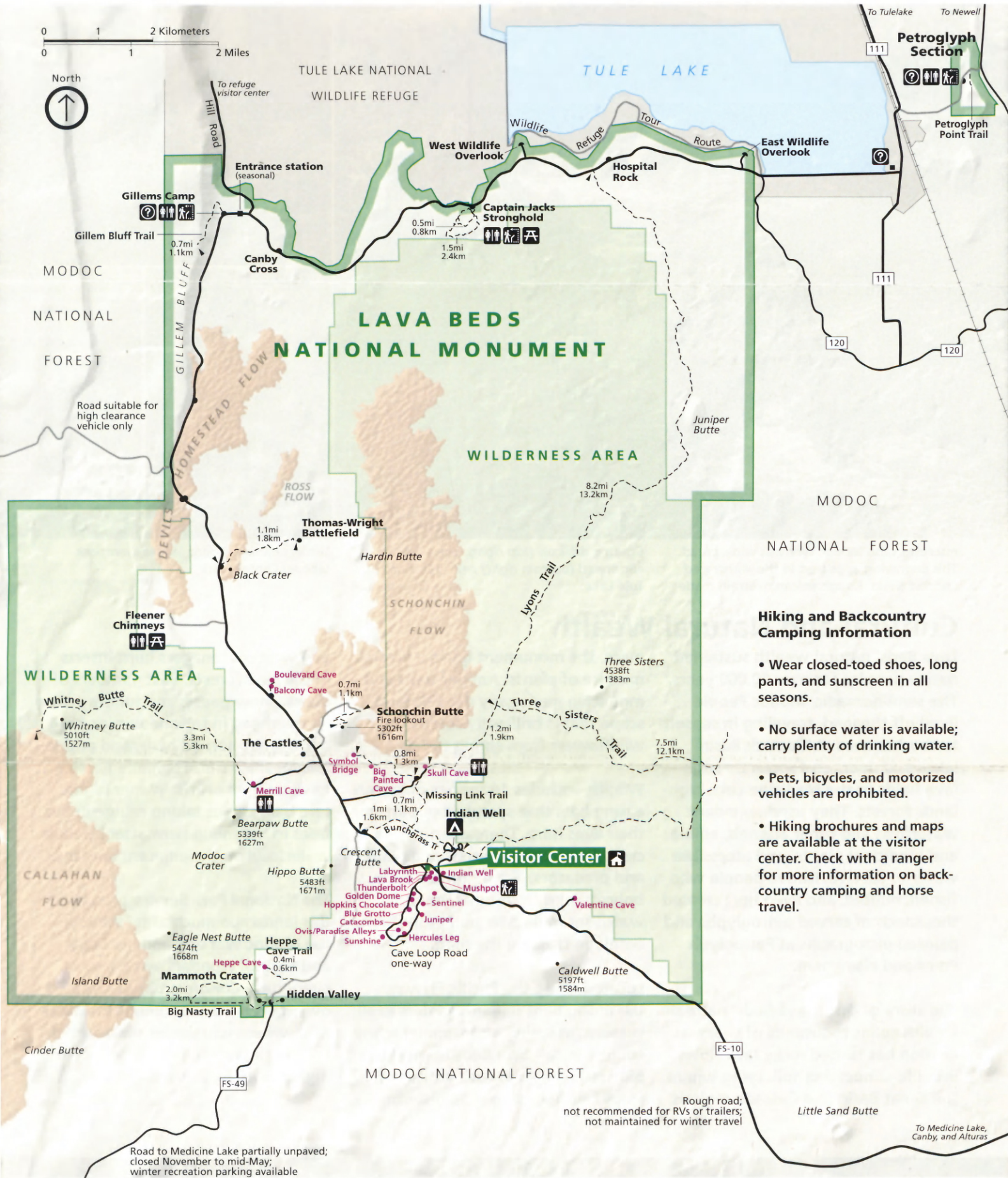
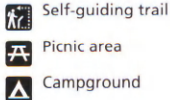
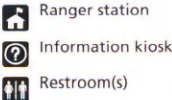
caves. In winter, caves are refuges for hibernating bats. Even when it is 100° Fahrenheit outside, some deep caves trap air that stays below freezing, with ice formations all year. Much about cave ecology awaits discovery. Lava Beds National Monument will give scientists and students a living laboratory for decades.

Cave environments are fragile. Stay on trails where they exist, and do not touch formations or the bacteria, as explained to you in the visitor center. Do not use caves as restrooms. No food, tobacco products, or pets are permitted in caves. If you encounter bats, leave quietly and tell a ranger.

Before entering any cave go to the visitor center for information and to be screened for white-nose syndrome, a disease killing bats.



Lava flow



Hiking and Backcountry Camping Information

- Wear closed-toed shoes, long pants, and sunscreen in all seasons.
- No surface water is available; carry plenty of drinking water.
- Pets, bicycles, and motorized vehicles are prohibited.
- Hiking brochures and maps are available at the visitor center. Check with a ranger for more information on back-country camping and horse travel.

Make the Most of Your Visit

Find food, lodging, and automobile service in Tulelake and Alturas, CA and Merrill and Klamath Falls, OR. Open all year, Indian Well campground accommodates tents, RVs, and trailers up to 35 feet long. No hook-ups. Water and flush toilets are available.

In summer, rangers conduct talks, walks, cave tours, and campfire programs. For schedules check bulletin boards or the visitor center. Elevations range from 4,000 to 5,700 feet, so cold weather—and even snow—can occur in any month.

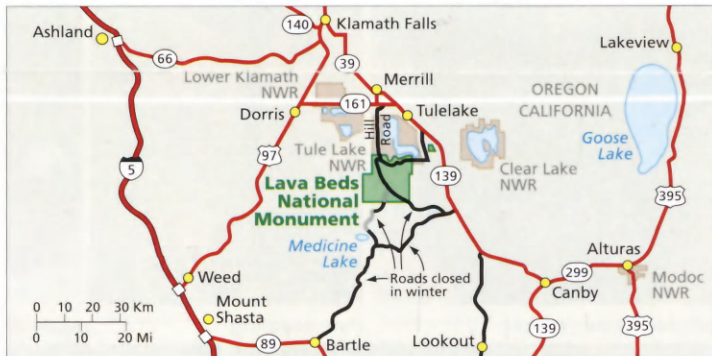
Before entering any cave go to the visitor center for information and to be screened for white-nose syndrome, a disease killing bats.

- Use restroom; none is provided in caves.
- Wear cave safety gear: helmet (bicycle, construction or other helmet), long pants, knee pads, closed-toe shoes, and gloves.
- Wear warm clothing, caves range from near freezing to 55° Fahrenheit.
- Each person needs at least one flashlight and extra batteries, but we recommend three sources of light.
- Don't go alone.
- Be observant and know your route. Look back at junctions

and landmarks to see what to look for as you go out of a cave.

While exploring: When driving watch for deer, jackrabbits, and kangaroo rats on roads, especially from dusk to dawn.

- Carry plenty of water.
- Protect yourself: Wear long pants, shoes with closed toes, and sunscreen in all seasons.
- Do not collect or move cultural artifacts or items of antiquity.
- Be on the lookout any time of year for hazards like rattlesnakes, mountain lions, and lightning, and for snow and ice in the winter.
- Pets are only allowed in



developed areas and must be on a leash at all times. Pets are not permitted in caves, buildings, or on trails.

For firearms regulations go to the visitor center or ask a ranger.

Accessibility: We strive to make facilities and programs accessible to all. Please call, ask at

the visitor center, or go to our website for more information.

This is one of over 400 parks in the National Park System. To learn more about parks and National Park Service programs in America's communities visit www.nps.gov.

More Information
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