Craters of the Moon

National Monument
Idaho

National Park Service
U.S. Department of the Interior

Bureau of Land Management
U.S. Department of the Interior

Big Craters, Craters of the Moon National Monument

"The strangest 75 square miles on the North American continent," one early traveler dubbed the Craters of the Moon landscape. Others deemed it "a weird lunar landscape," "an outdoor museum of volcanism," and "a desolate and awful waste." Virtually unknown until 1921, the area became a national monument in 1924 and, in 2000, expanded to encompass the entire Great Rift Zone, an area more than 50 miles long. The monument protects an entire ecosystem and is managed cooperatively by the National Park Service and the Bureau of Land Management. This expanded area protects and preserves this outstanding landscape for you and for future generations. Help us safeguard this special place by treating it with care.

In the past, the extensive lava flows affected all visitors to southern Idaho. The combination of jagged rock and the extreme hot and cold climate of the high desert influenced travel and use of the area. Shoshone Indians never inhabited the area in large numbers, but they hunted here. Emigrants in covered wagons skirted the lava flows. Later, ranchers grazed their cattle and sheep on vegetated areas, as they still do today. Visitors to this odd landscape see an example of our Earth's awesome forces.

Surface patterns and formations found here are typical of basaltic lava associated with volcanism throughout the world. "Where is the volcano?" you might ask. There is not just one, for here the Earth opened a great fissure and lava spewed out. These fissure vents, volcanic cones, and lava flows of the Great Rift Zone began erupting about 15,000 years ago and ceased only 2,000 years ago. Geologists predict that the landscape will erupt once again, but don't worry—it will give us ample warning.

Clockwise from top: 'a'ā lava, pāhoehoe lava, lava bomb

A Moon-like Landscape Comes to Life

Garnering livelihoods from this alien, moon-like landscape are some 2,000 insect, 169 bird, 48 mammal, eight reptile species, and a lone amphibian, the western toad. Mule deer are sometimes seen near Paisley, Inferno, and Broken Top cones *(see map)*. Secretive predators, bobcats and great horned owls, hunt here. Prairie falcons prey on other birds and small mammals with lightning-fast dives. In campgrounds look for chipmunks and golden-mantled ground squirrels.

More than 375 species of plants are found in this apparently desolate landscape. Big sagebrush, antelope bitterbush, and rubber rabbitbrush are established on the older lava flows. On younger flows, mockorange and tansybush may fill deeper crevices where soil and organic matter have accumulated.

Wildflowers carpet Craters of the Moon from early May until late August. The more delicate annuals bloom during late May and early June when snowmelt and occasional rains provide fair amounts of moisture. With summer's dryness the more drought resistant plants continue to grow and bloom.

Silent Evidence of a Powerful Past

Basalt lava flows are grouped by appearance *(see three photos above)*. Most common here are 'a'ā and pāhoehoe, pronounced AH-ah and pa-HOY-hoy. These Hawaiian terms, one explorer noted, mean "unfriendly" and "friendly" respectively! 'A'ā can cut hands and boots. Pāhoehoe is relatively smooth. 'A'ā actually means "hard on the feet." Pāhoehoe means "ropy."

'A'ā lava was more viscous on emerging. 'A'ā's highly irregular surface consists of rubble encrusted with stubbly spines, making it impassable to foot travelers.

Pāhoehoe lava was more fluid upon emerging, and it hardened in pleats like hot fudge poured from a pan. Pāhoehoe contains more dissolved gas than 'a'ā and is more frequently associated with impressive lava fountains.

A third lava flow form, block lava, is less common at Craters of the Moon National Monument. This type forms angular blocks that may be almost three feet wide.

There are three classes of lava bombs: spindle, ribbon, and breadcrust. Lava bombs—ranging in length from ½ inch to three feet—form as airborne blobs of molten lava cool and harden as they fall to Earth.

Arrow-leaved balsamroot

Marmot

Rime-covered trees

Indian Tunnel lava tube

Broken cinder cone

How Did Lava Tubes Form?

When the fluid, molten lava flowed out of the ground it behaved like a stream of water working its way downhill. But soon the "stream" surface cooled and hardened. This crust insulated the molten lava inside, enabling it to keep flowing. The lava inside the crust eventually flowed out leaving the crust as the walls of a lava tube or cave *(see far left)*.

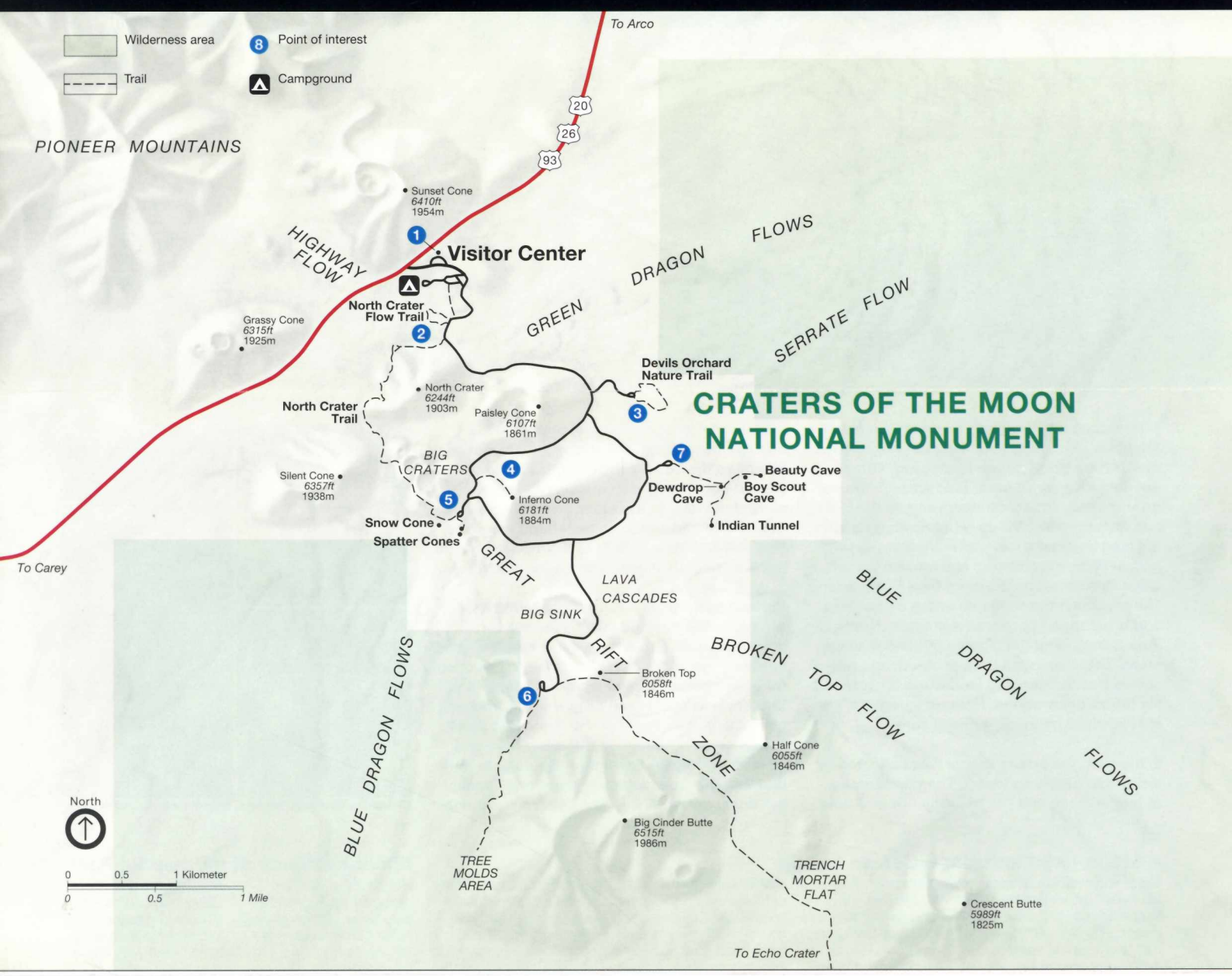
You can explore some of these fascinating caves. Some contain stalactites that were created by the dripping of molten lava before cooling. Others contain ice year-round. Some are inhabited by blind insects. In summer, swallows, ravens, and great horned owls nest near cave openings.

This cinder crag *(see immediate left)* is part of a cinder cone that broke off and floated away on a lava flow.

Safety and Regulations Watch those rocks! Lava surfaces are sharp. Stay on trails and wear sturdy footgear. Never climb on spatter cones or monoliths. •Be careful in caves. Carry a strong flashlight and extra batteries. •Do not enter caves that are marked as closed. •The climate is dry. Carry water and drink extra liquids to avoid dehydration. •Leashed pets are welcome in the campground and on roads in the developed area. Pets are not permitted on trails or in the wilderness. •Wood fires are not permitted. •Rocks, plants, and natural features are protected by federal law. Collecting is prohibited. A day-use permit is required for hiking or biking in the area north of U.S. 20/26/93. Regulations may differ between NPS and BLM portions of the monument. Ask for details.

Seasons The best season to visit here depends on your interests. The visitor center is open year-round except for holidays in winter. The loop road is open from late April to mid-November. Snow closes the road in winter. The campground is open from May to October. In winter the loop road makes an excellent trail for skiers and snowshoers. Call ahead for a skiing report and information.

Visiting Craters of the Moon



Exploring Craters of the Moon by the Loop Road

Craters of the Moon National Monument encompasses more than 750,000 acres. What at first appears monotonous is really a landscape full of detail and surprises. This guide to selected features helps you see the monument at your own pace. The larger story unfolds as you tour the loop road.

1 Visitor Center Begin at the visitor center. Here you will find publications, maps, and a bookstore. Check activity schedules for ranger-led walks and evening programs. Rangers can answer questions and help you plan your visit.

The seven-mile loop road takes you deeper into Craters of the Moon's scenic attractions. Side trips lead to points two through seven. Most of the drive is one way. Spur roads and trailheads help you explore the monument even further. The trails invite foot travel. You can make the drive, including several short walks, in about two hours.

2 North Crater Flow At this stop a short trail crosses the flow to a group of monoliths or crater wall fragments transported by lava flows. This flow is one of the youngest and here the Triple Twist Tree suggests, because of its 1,350 growth rings, that these eruptions ceased only 2,000 years ago. You will see fine examples of ropy pāhoehoe lava and block lava on North Crater Flow. Up the road is North Crater Trail. Take this longer, steep trail to peer into the vent of a volcano.

3 Devils Orchard On the east side, after the road skirts Paisley Cone, is Devils Orchard. This group of lava fragments stands like islands in a sea of cinders. A short spur road leads to a self-guiding trail through these weird features. As you walk this ½-mile trail, you will see how people have had an impact on this lava landscape and how it is being protected today. This barrier-free trail is designed to be accessible to all people.

4 Inferno Cone Viewpoint A volcanic landscape of cinder cones spreads before you to the distant mountain ranges. Cool moist north slopes of the cones have noticeably more vegetation than the drier south slopes. From the summit of Inferno Cone—a short, steep walk—you can recognize the chain of cinder cones along the Great Rift Zone.

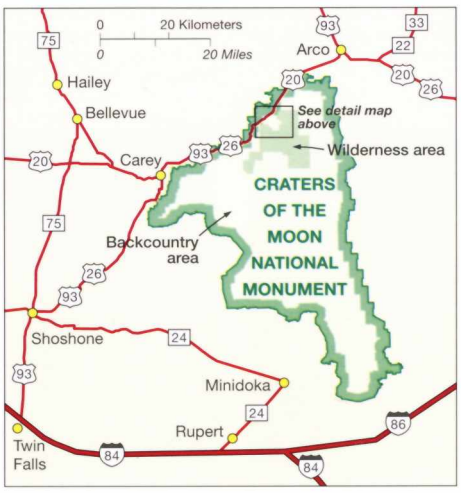
Big Cinder Butte to the south towers above the lava plain in the distance. This is one of the largest purely basaltic cinder cones in the world.

5 Big Craters and Spatter Cones Area Spatter cones formed along the Great Rift fissure where clots of pasty lava stuck together when they fell. The material and forces of these eruptions originated at depths of nearly 37 miles within the Earth. To protect these fragile volcanic features, you are required to stay on trails in this area.

6 Trails to Tree Molds and Wilderness A spur road just beyond Inferno Cone takes you to trails that lead to the Tree Molds Area, Trench Mortar Flat, and the Craters of the Moon Wilderness area. Tree molds formed where molten lava flows encased trees and then hardened. The cylindrical molds that remained after the wood rotted away range from a few inches to just under three feet in diameter.

7 Cave Area At this last stop on the loop road take a ½-mile walk to the lava tubes and see Dewdrop, Boy Scout, Beauty, and Indian Tunnel. These are natural, wild caves, and exploring them can be hazardous. There are no developed pathways or handrails. Except in Indian Tunnel, you must carry flashlights and extra batteries. The caves have low ceilings, sharp projectiles, and loose rocks. Ask a ranger about safety precautions. **Warning**—especially hazardous sections of the caves are marked with signs or barriers. For your safety, stay out of these areas.

Craters of the Moon National Monument



Developed Area *(see large map above)* The visitor center is 18 miles southwest of Arco, Idaho, on U.S. 20/26/93. The area has a campground, restrooms, self-guiding trails, and activities.

Wilderness Area The wilderness area is managed to preserve its primitive character. A special permit (free at the visitor center) is required for staying overnight.

Backcountry Area Explorers here will find conditions hot and dry in summer and cold and snowy in winter. Many roads do not have signs, and most are not maintained. Backcountry visitors must have properly equipped, high-clearance vehicles with good tires. *Passenger vehicles are not recommended.* Get safety and travel tips, detailed maps, and road conditions at NPS or BLM offices.

Visitor Center Stop at the visitor center for information and to see the film and exhibits. The film explains how lava flowed from fissures to create the cinder cones, lava flows, and other volcanic features in the monument. Exhibits tell about the wildflowers and animals you may see here. You will also gain insight into the human history of this area, hardly a hospitable environment.

Accessibility The visitor center and a trail at Devils Orchard are accessible to visitors with disabilities. Please ask for details—the staff is here to help you.

Camping, Water, and Restrooms Camping in the 52-site campground is available on a first-come, first-served basis; no reservations are accepted. Water, restrooms, charcoal grills, and picnic tables are provided. There are no hookups. From October through May, water and other services are limited or unavailable. Water and restrooms are provided at the visitor center. Water is not available elsewhere in the monument. Waterless restrooms are at parking lots at Devils Orchard, Tree Molds Area, and Caves Area *(see 3, 6, and 7 on large map above)*.

For More Information

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