# Devils Postpile

National Monument
California

National Park Service
U.S. Department of the Interior

## Official Map and Guide



Larry Ulrich

## A Formation of Columnar Basalt



**As basalt lava erupts from volcanic vents and cools, it shrinks and cracks. Sometimes vertical columns form. The photo at left shows well developed columns that resulted from homogenous lava cooling at a uniform rate. At Devils Postpile the rock columns have from 3 to 7 sides. The photo at right was taken atop the postpile and shows the columns' geometry and the polishing and scratch marks of glacial ice. The postpile's sheer wall face (cover photo) is 60 feet high.**



Dennis Flaherty

Along the picturesque Middle Fork of the San Joaquin River at 7,600 feet on the western slopes of the Sierra Nevada lies Devils Postpile National Monument. The 800-acre monument near the resort community of Mammoth Lakes was established in 1911 to preserve two natural features, the formation of columnar basalt known as Devils Postpile and 101-foot Rainbow Falls. To see these features one must walk. Although pumice is the dominant rock-type encountered, basalt, andesite, rhyodacite, and granite crop out in many places. Native plants and animals are typical of lodgepole pine and red fir forests.

While Devils Postpile ranks among the world's finest examples of columnar-jointed basalt, it is not unique. Giant's Causeway in Ireland and Fingal's Cave in Scotland are similar formations.

## How It Happened

**A volcanic event.** Formation of Devils Postpile began when basalt lava erupted in the valley of the Middle Fork of the San Joaquin River. As lava flowed from the vent, it filled the valley near the postpile to a depth of 400 feet. Radiometric dating of rocks thought to correlate with this basalt—a dark gray, fine-grained rock with feldspar crystals—suggests an age of less than 100,000 years.

Surface cracks formed when tensions caused by the shrinkage of the cooling lava were greater than the lava's strength. Each crack branched when it reached a critical length. Together with other cracks it formed a pattern on the surfaces of the flow. Ideal conditions allowed surface cracks to deepen and form long post-like columns.

**A glacial event.** Some 10,000 years ago a glacier flowed down the Middle Fork of the San Joaquin River and overrode the fractured mass of lava. The moving ice quarried away one side of the postpile, exposing a sheer wall of columns 60 feet high. Many fallen columns lie fragmented on the talus slope below.

A hike to the top of the postpile reveals a cross section of the columns. The glacially polished column tops, looking like floor tiles, show parallel striations where rocks frozen into glacial ice scraped across them.

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## Rainbow Falls

At Rainbow Falls the Middle Fork of the San Joaquin River drops 101 feet over a cliff of the volcanic lavas andesite and rhyodacite. It is thought that after the last glacier melted, the river flowed downstream from Devils Postpile in channels about 1,500 feet west of its present course. Flowing in these older channels, it cut through the lava to granite, leaving a cliff of rhyodacite for its eastern bank. Then, some distance upstream, the waters were diverted eastward. The river left its bed to follow its present path until it returned to the old channel, by cascading down the cliff it had cut earlier. Thus Rainbow Falls was formed. A stairway and short trail lead to the bottom of the falls.

**Soda Springs.** Nearby mineral springs are evidence of recent local volcanic activity. The Soda Springs lie on a San Joaquin River gravel bar north of the postpile. Gases driven upward from hot areas deep in the Earth combine with groundwater to produce cold and highly carbonated mineralized springs. Iron in the water oxidizes on exposure to air and stains gravel a reddish brown.



Rainbow Falls

Photos by Dennis Flaherty



Belding ground squirrel



Shooting star

## Visiting the Monument

To reach the monument drive 10 miles west from U.S. 395 on S.R. 203 to Minaret Summit and then 7 miles on paved narrow mountain road. It is closed in winter. For information write: Superintendent, Devils Postpile National Monument, P.O. Box 501, Mammoth Lakes, CA 93546. Park rangers assist visitors, conduct interpretive programs, and enforce regulations.

**Shuttle bus.** From late June to early September, day-use visitors to the Devils Postpile-Reds Meadow area must ride the shuttle bus between 7:30 a.m. and 5:30 p.m. Buy tickets and board buses at Mammoth Mountain Inn.

**Accommodations and services.** Meals, lodging, groceries, gasoline, horses, and other facilities and services are available at Mammoth Lakes or nearby Reds Meadow.

**Camping.** A 21-site campground is maintained near the ranger station from about July 1 to October 15, depending on the weather.

**Hiking.** There is hiking south on the Rainbow Falls Trail and west on King Creek Trail. Trips may be made north or south on the John Muir and Pacific Crest trails. The monument has several short loop trails.

**John Muir Trail.** Named for conservationist John Muir, this 211-mile trail links Yosemite National Park with Sequoia and Kings Canyon National Parks. It crosses Devils Postpile National Monument with access at Rainbow Falls Trailhead and the ranger station.

**Fishing and Hunting.** Fishing is permitted in the monument with a California angling license for persons 16 years of age or older. Hunting is prohibited.

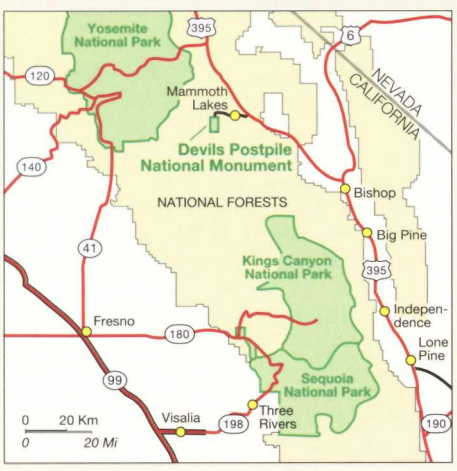
**Pets.** Pets are permitted only if kept under direct physical control **at all times.**

**Bicycles.** Bicycle riding is permitted on roads but prohibited on trails or crosscountry.

**Safety.** Hazards exist in mountains that do not exist in cities. Be careful. Stay on designated trails; they are the safest places to hike. Stay back from edges of cliffs and gorges, where footing is hazardous.

**Warning. Bears inhabit the monument. Federal law requires proper food storage.**

**Devils Postpile National Monument** is a unit of the National Park System, which consists of more than 350 parks representing important examples of our country's natural and cultural inheritance.




John Muir and Pacific Crest Trails

Other hiking trails

Ranger station

Campground

