

Devils Postpile

NATIONAL MONUMENT • CALIFORNIA

Great Nevada and Devils Postpile National Monuments. The 500-acre monument near the resort community of Mammoth Lakes includes one dominant feature: a formation of columnar basalt known as Devils Postpile. Another important feature in the area is Rainbow Falls. Famous is the dominant rock-type encountered, but lesser, andesitic, rhyolites and granites lie just under the surface and crop out in many places. Native plants and animals are typical of subalpine pine and red fir forests. To see the features of the monument one must walk.

DEVILS POSTPILE

The 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. Recent volcanic activity of rocks brought to core with basalt in Devils Postpile suggest an age of less than 100,000 years.

Such cracks formed when tensions caused by the shrinkage of the cooling lava were greater than the strength of the lava itself. Each crack reached a certain depth and together with other cracks formed a pattern on the surface of the lava. Ideal conditions allowed surface cracks to deepen, resulting in the formation of long columns.

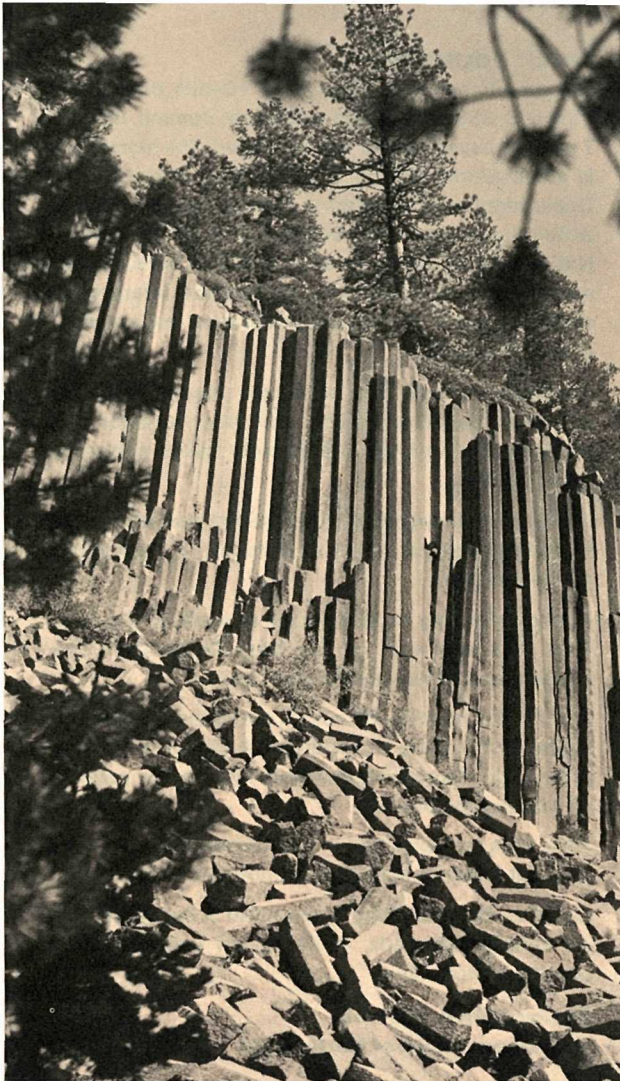
DEVILS POSTPILE NATIONAL MONUMENT

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 includes one dominant feature: a formation of columnar basalt known as Devils Postpile. Another important feature in the area is Rainbow Falls. Pumice is the dominant rock-type encountered, but basalt, andesite, rhyodacite, and granite lie just under the surface and crop out in many places. Native plants and animals are typical of lodgepole pine and red fir forests. To see the features of the monument one must walk.

DEVILS POSTPILE

The 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. Recent radiometric dating of rocks thought to correlate with basalt of Devils Postpile suggest 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 strength of the lava itself. Each crack branched when obtaining a critical length and together with other cracks formed a pattern on the surfaces of the flow. Ideal conditions allowed surface cracks to deepen, resulting in the formation of long columns.



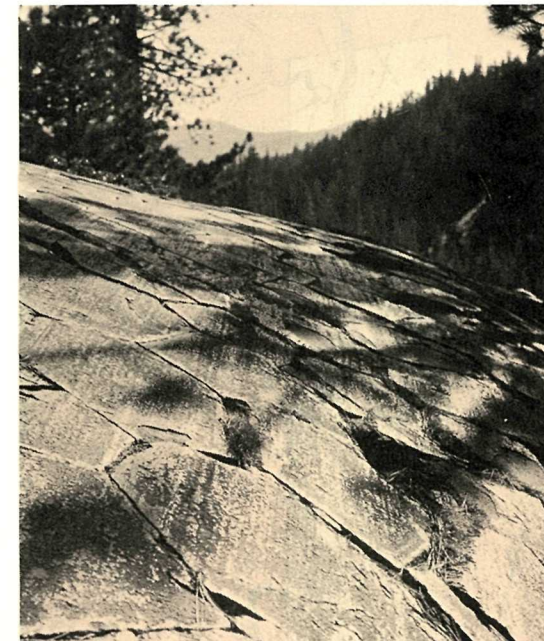
Approximately 10,000 years ago, glaciers flowed down the Middle Fork of the San Joaquin River. This moving ice easily overrode the fractured mass of lava and quarried away one side of the Postpile, exposing a sheer wall of columns 60 feet high. Many fallen columns now lie fragmented on the talus slope below.

A hike to the top of the Postpile reveals not only a cross section of the posts, but the most interesting effect of the ice—polished tops of the basalt columns. Here, the column ends are exposed like a tiled floor and exhibit parallel striations where the glacier dragged rocks across them.

Even though Devils Postpile is 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.

SODA SPRINGS

Nearby mineral springs are evidence of recent local volcanic activity. The Soda Springs lie on a gravel bar in the San Joaquin River just north of the Postpile. Here, gases driven upward from hot areas deep in the Earth combine with ground water to produce cold and highly carbonated mineralized springs. The iron present in Soda Springs water oxidizes on exposure to the atmosphere and stains river gravel a reddish brown.



SAFETY

- Remember that there are hazards in the mountains that do not exist in the city. Be careful.
- Stay on designated trails. These trails are the safest places to hike.
- Stay back from the edges of cliffs and gorges, where footing is hazardous.

WARNING: Bears inhabit the monument. Proper food storage is required by federal law.

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ABOUT YOUR VISIT

The monument is reached by a 10-mile drive west from U.S. 395 on S.R. 203 to Minaret Summit, then by 7 miles of paved narrow mountain road. The monument is administered by the National Park Service, U.S. Department of the Interior. For more information, write: Superintendent, Sequoia and Kings Canyon National Parks, Three Rivers, CA 93271. Park rangers are on duty to assist you, to conduct interpretive activities, and to enforce monument regulations. *Closed in winter.*

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

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

Hiking. Trips may be made north or south on the John Muir Trail and west on the King Creek Trail. The monument also has several short trails.

Fishing and hunting. Fishing is permitted in the monument, but hunting is prohibited. A California angling license with appropriate stamps is required for persons 16 years of age or over.

Pets. Pets are permitted in the monument only if they are kept under direct physical control at all times.

Bicycles. Bicycle riding is permitted in the monument on established roads. Bicycling on trails or cross-country is prohibited.

National Park Service
U.S. Department of the Interior



RAINBOW FALLS

At Rainbow Falls the Middle Fork of the San Joaquin River drops 101 feet over an andesite and rhyodacite cliff. 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 rhyodacite lava down 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 earlier cut. Thus Rainbow Falls was formed. A stairway and short trail lead to the bottom of the falls, where numerous flowers and grasses form an enchanting garden. Cars may be driven to within 1 mile of the falls via the road to Reds Meadow.

