



Flying from the caverns each evening from about April through October, bats in incredible numbers spiral out of the natural entrance. They fly southward over the rim of the escarpment to feed in the valleys of the Black and Pecos Rivers below, and may range as far as 50 miles.

Size and density of the flight varies according to the availability of food. When night-flying beetles and moths are abundant, more than a million bats may fly out. In winter, when no insects are available, most of the bats migrate to warmer regions.

The bats return from their nocturnal feeding just before dawn, diving swiftly from high altitude into the entrance. Flying directly to the Bat Cave, they spend the day hanging head downward in dense clusters from the walls and ceilings.

Probably because they are nocturnal and prefer dark, sometimes damp, places, bats have been maligned as evil creatures. The species of Carlsbad Caverns are harmless, however, and are actually beneficial to man because they feed on destructive insects.

A park naturalist explains the bat flight and discusses the bats in detail at the entrance to the caverns each summer evening, just before the flight begins.

Other Animals and Plants

The shape of the land—valleys and plains, ridgetops and canyon bottoms—creates differing conditions of temperature, soil,

sunlight, and moisture. It is the sum of these conditions that governs the kinds of plants and animals that make up a community of living things.

As you drive the Walnut Canyon road to the visitor center, careful observation will show you three such communities:

The desert shrub community dominates the flatlands of the Black and Pecos River valleys at the base of the Guadalupe Mountains. Creosotebush and other drought-resistant shrubs, kangaroo rats, pronghorns, coyotes, and jackrabbits are typical.

Next comes the **canyon bottom community**. Texas black walnut, netleaf hackberry, and narrowleaf sotol are the characteristic plants. The most conspicuous animals are raccoons, gray foxes, mule deer, skunks, and ringtails—especially at night.

The third, the **Chihuahuan** (Chee-wah'-wan) **Desert community**, covers canyon sides and ridges. It contains few cactus; plants with fleshy leaves dominate—lechuguilla, Parry agave (century plant), and Torre yucca are examples. Narrowleaf sotol, showy annuals, and desert grasses also grow in the rocky limestone soil. Mule deer, raccoons, porcupines, and rock squirrels are common. You may notice burrows of desert mice and pocket gophers along the trails, but you probably will not see the inhabitants.

Both plants and animals are well adapted to this land of infrequent rainfall. Sensitive to heat, most animals avoid activity during daylight hours, and thus are nocturnal. Many plants conserve moisture by means of small, thick, fleshy, waxy, or leathery leaves. Leaves modified into spines or thorns are an adaptation of others, only a few of which are cactuses.

The Seasons

Spring is the time when color comes to the desert. By the end of May, the red blossoms of claretcup and the yellow of pricklypear are everywhere. Brilliant yellow bladderpod and evening-primrose blend with purple verbena and whitish pepperweed, while phlox and mallow bring forth delicate shades of pink and orange. The thorny whiplike stems of the ocotillo are trimmed in red; the yuccas are crowned with white.

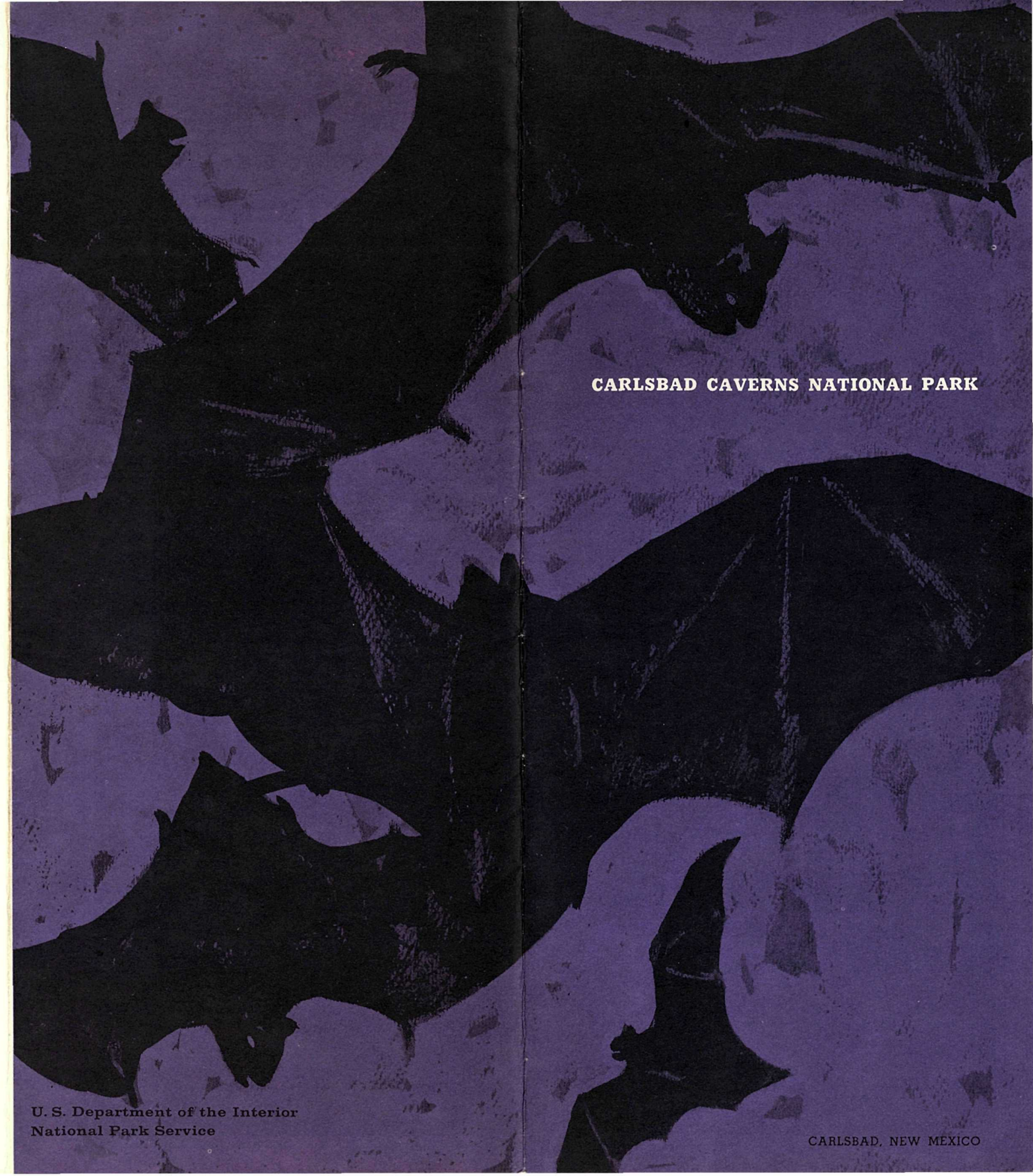
The bats' return is heralded by their foraging flights each evening at sunset; and the phoebes build their nests along a ceiling ledge high inside the cavern's entrance.

In summer, the yellow blossoms of the century plant burst forth. Bees, wasps, and hornets buzz about the desert plants, and black-chinned hummingbirds hover and sip the nectar from the flowers. In August, the colorful fruit of the pricklypear is ripe.

Daytime temperatures in summer can be high, but you can get relief in the constant coolness of the caverns and in the visitor center, conditioned with air from the caverns. During the cool evenings, you'll probably feel comfortable in a sweater. (Bring one to the bat-flight program.)

As summer wanes, the hillsides lose their color, taking on a drab greenish-brown appearance. Squirrels fatten on fruits and seeds, and reptiles go into hibernation beneath the rocks.

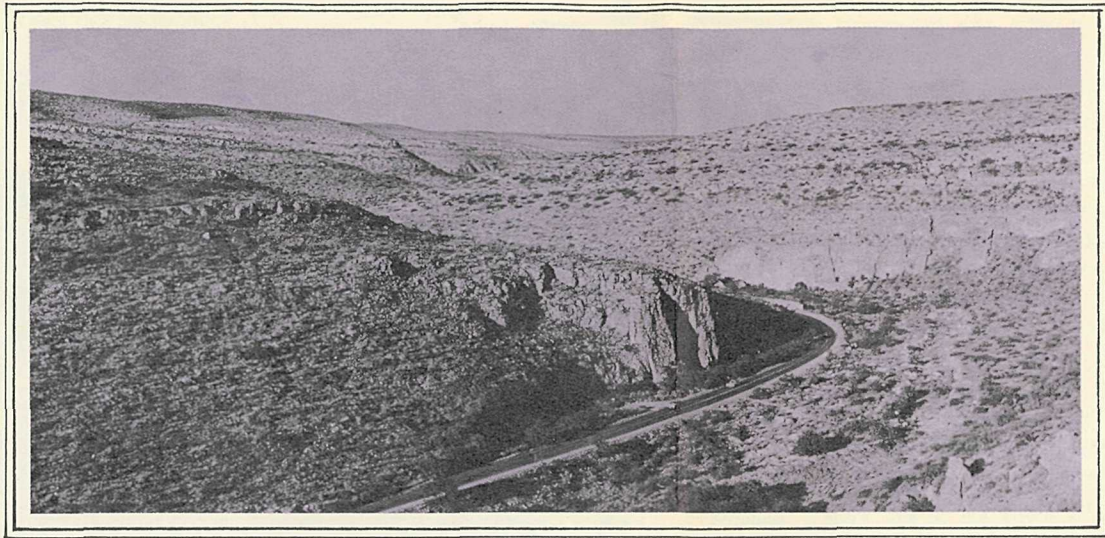
In winter, the temperatures are rather mild; snow and ice are rare. Then you may see deer along the roadsides and near the entrance to the caverns. Juncos, towhees, and pyrrhuloxias become the most conspicuous birds.



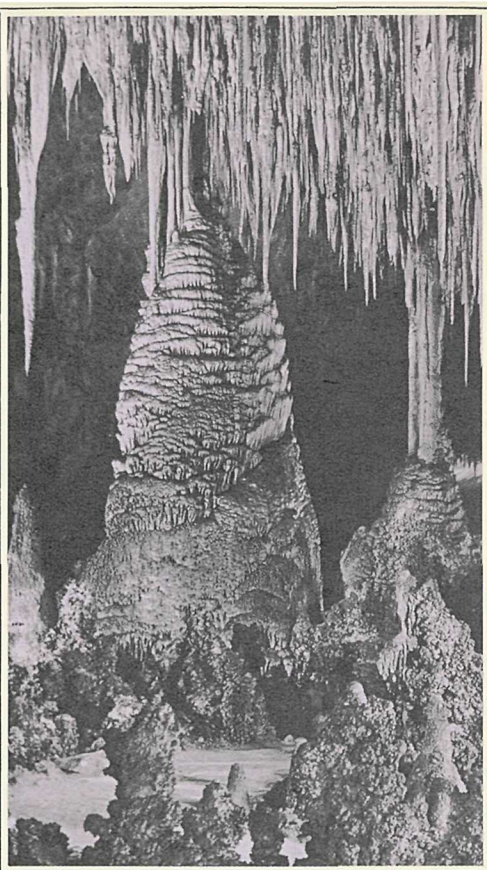
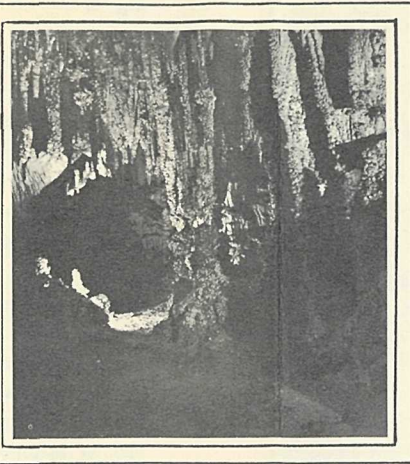
CARLSBAD CAVERNS NATIONAL PARK

U. S. Department of the Interior
National Park Service

CARLSBAD, NEW MEXICO



Road through Walnut Canyon.

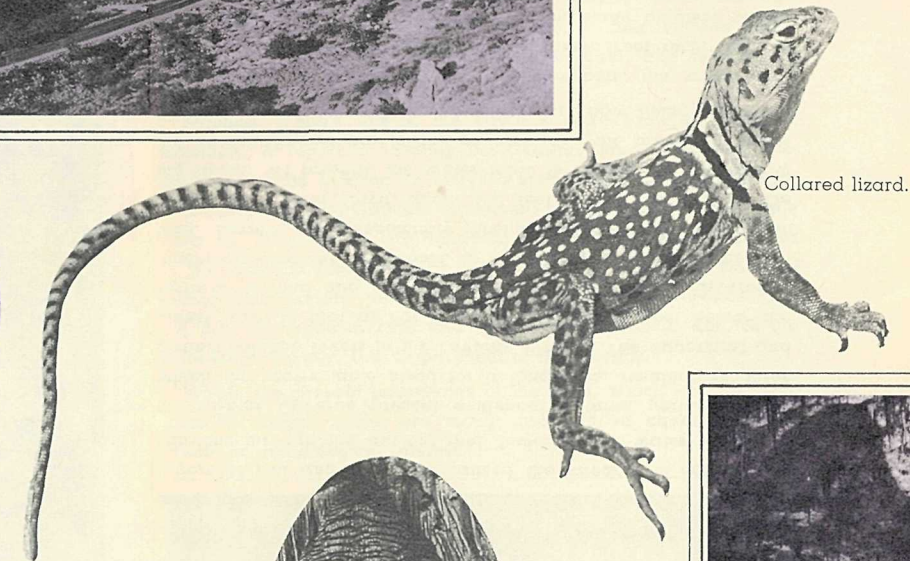
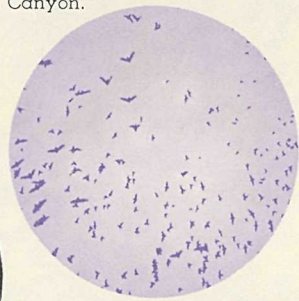


Temple of the Sun.

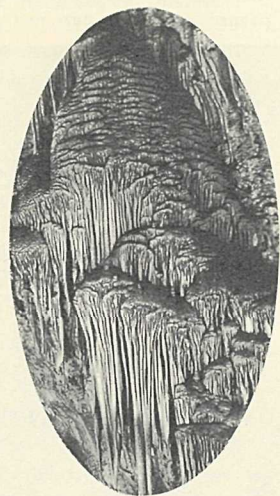
Stalagmites.



Bat flight.



Collared lizard.



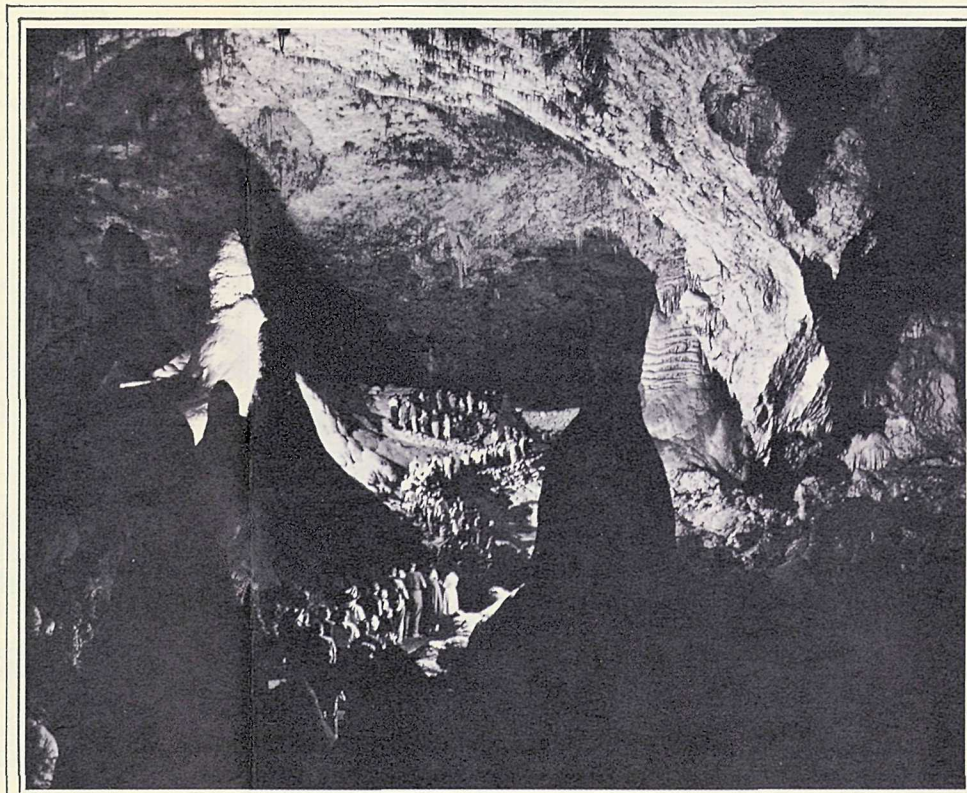
Niagara Falls.



Stalactite.



Prickly pear.



Big Room tour.

Carlsbad Caverns are renowned throughout the world for their magnificence, their spaciousness, and the number, dimensions, and variety of their stalactites and stalagmites. One room within the caverns has a floor as expansive as 14 football fields and a ceiling as high as a 22-story building.

Although there are many miles of passages, development of the caverns has been restricted to the largest and most easily accessible parts of the 750- and 829-foot levels. You can reach these by a natural entrance or by elevator. The deepest known part, 1,013 feet, is in an undeveloped passage that extends eastward from the lunchroom.

In the visitor center a series of exhibits show how the caverns were formed, why and how stalactites and stalagmites grow, and the record of man in the caverns from the time of prehistoric Indians. There are also exhibits that describe the plants and animals above and below ground, and a scale model of the caverns.

The Underground Trips

Every day from morning through early afternoon, members of the park's uniformed staff conduct trips into the caverns. Tickets can be purchased in the lobby of the visitor center.

The Big Room tour begins and ends in the visitor center. You descend by elevator from the lobby to the underground lunchroom, and from here step directly into the Big Room itself, the most majestic of the cavern's many chambers. The trail around its perimeter is 1¼ miles long and encompasses 14 acres. At one point the ceiling arches 255 feet above the trail.

The walk-in tour begins at the natural entrance, and ends at the visitor center. It takes about 3½ hours and is a more strenuous trip. The trail, 3 miles long, makes a descent of 829 feet and an ascent of 80 feet, all within the first 1¼ miles. In addition to the Big Room—the last half of the tour—you visit the Green Lake Room, King's Palace, Queen's Chamber, and the Papoose Room (the four "scenic rooms.") At the end of the tour you return by elevator to the lobby.

How to reach the park

The town of Carlsbad, N. Mex., about 27 miles north of the park, and El Paso, Tex., about 150 miles to the west, are served by bus, plane, and train. There is bus service to the park from both cities.

If you travel by automobile, take U.S. 62-180 from Carlsbad and El Paso.

Accommodations

There are no overnight accommodations within the park, but there are motels, hotels, and trailer courts in nearby towns along the approach highways.

The nearest public campground is at the city of Carlsbad, 27 miles from the park. There is a small trailer court at White's City, adjacent to the park entrance.

Adjoining the park visitor center are a restaurant, curio shop, nursery, and kennel. Moderately priced lunches may be purchased in the caverns' lunchroom.

How You Can Help Protect Your Park

Park regulations are designed to protect the scenic and historic objects, the plant and animal life, and to provide for your safety, comfort, and convenience.

Uniformed employees of the National Park Service are here to help and advise you. Call on them if you need information or have any difficulty.

Natural features are protected by law and must not be disturbed, injured, or destroyed. Walls and formations within the caverns must not be handled in any manner or defaced by writing or carving. Canes, umbrellas, tripods, and sticks may be taken into the caverns only with permission of the superintendent or one of his representatives. Tossing or throwing rocks or other material is not allowed.

Camping and campfires are not permitted within the park. All trash must be placed in cans provided for the purpose.

Fires. Special care must be taken not to dispose of lighted matches, cigars, cigarettes, or pipe ashes in vegetation or other flammable materials.

Hunting, killing, wounding, frightening, capturing, or attempting capture of any wild animal is prohibited. The park is sanctuary for wildlife.

Pets are not allowed within the caverns or public buildings. In other areas, they must be physically restrained at all times. During warm weather, it is advisable not to leave pets inside closed automobiles. Kennel service is available.

Photography. Visitors may use still cameras on regular tours, but time exposures and flash pictures may be taken only on special photographic tours, details of which may be obtained from uniformed personnel. Ask for booklet. Professional photographers must obtain permits from the superintendent when special equipment is required.

Prospecting and the location of mining claims are prohibited on all lands within the park.

Firearms. The use or display of firearms is not allowed.

Traffic. The speed limit is 35 miles per hour, unless otherwise posted. Park rangers, who enforce this and other regulations, are in charge of traffic control and investigate all accidents.

Exploring. Entrance into other caves within the park is allowed only with permission from the superintendent.

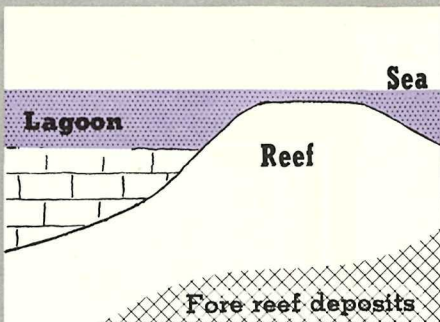
ADMINISTRATION

Carlsbad Caverns National Park is administered by the National Park Service, U.S. Department of the Interior.

A superintendent, whose address is Box 1598, Carlsbad, N. Mex. 88220, is in immediate charge of the park.

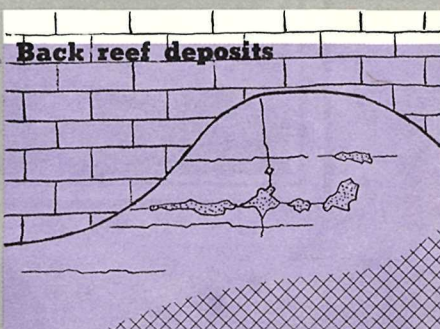
THE DEPARTMENT OF THE INTERIOR—the Nation's principal natural resource agency—has a special obligation to assure that our expendable resources are conserved, that our renewable resources are managed to produce optimum benefits, and that all resources contribute to the progress and prosperity of the United States, now and in the future.

200 million years ago



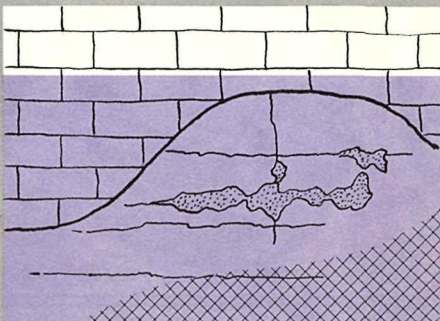
Water table

60 million years ago

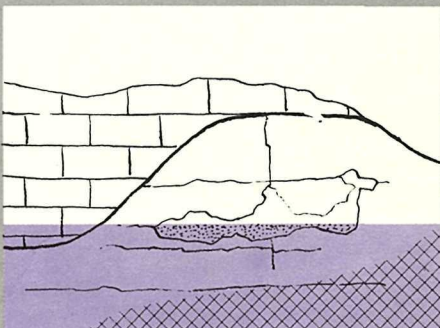


3 million years ago

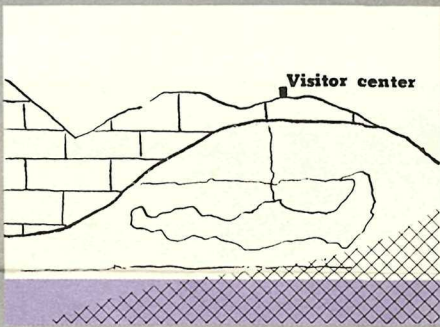
Saturation zone



1 million years ago



Recent



Formation of the caverns:geologic sequence

The rock of the Carlsbad Caverns is limestone. It began as a massive barrier reef, almost enclosing a 10,000-square-mile inland arm of the sea, about 250 million years ago during the Permian period. During subsequent periods, additional layered sediments completely buried the fossil reef. Several stages of uplift ultimately raised the ancient rock more than 8,000 feet above sea level. The reef fractured under the terrific pressure; and a network of hairline cracks was created that formed the blueprint for the cavern formation to follow.

Rain and snow soaked into the mantle of soil, where it absorbed carbon dioxide to become a weak solution of carbonic acid, capable of dissolving limestone. Here, the water met the limestone bedrock, moved readily along the fractures, and widened these fractures by dissolving away the rock surfaces. As the solution process continued, crevices became irregular cavities of ever increasing size. Many of these cavities then joined as limestone partitions between them were etched away. The huge rooms that you see today were probably formed within the last 1 to 5 million years.

The elevated and eastward-tilted rock of the Guadalupe Mountains hastened the pace of surface erosion, which planed off layers of soil and rock and caused the streams to carve deep canyons through the ancient reef, lowering the water table.

Carlsbad Caverns present evidence of three periods during which the water table stood for a long time, resulting in three distinct solution levels in the caverns system. The uppermost and oldest level is that of Bat Cave, less than 200 feet below the surface. Second and most extensive is that of the underground luncheon and the Big Room, at about 750 feet below the surface. Lowest, and presumably most recent, is that of the scenic rooms and Lower Cave, about 100 feet below the level of the Big Room. At present, the water table is almost 600 feet below the deepest known part of the caverns, and the possibility exists that yet more recent solution chambers are now being formed.

In addition to dissolving the vast chambers, the water supported loose or weakened sections of cavern roof rock. As the water drained to lower and lower levels, many of these weakened parts collapsed, thus adding to the great size of the solution chambers. An outstanding example of a collapse is the Iceberg in the lower end of the main corridor. This massive rock is estimated to weigh some 200,000 tons. Elsewhere, the extent of this breakdown is obvious in the rubble of large and small blocks littering the floor, in places forming great piles. No appreciable rockfall has occurred within the caverns for several thousand years.

Before collapsing ended, another phase of cavern development had already begun. Rainwater and snowmelt slowly seeped into the caverns. Droplets of water, each holding a minute quantity of dissolved limestone, appeared upon the ceilings, evaporated, and deposited their mineral content as calcite and aragonite—crystalline forms of limestone. Over centuries, this process has built myriads of stalactites of all shapes and sizes, stained all shades of brown, red, and yellow from small amounts of iron oxide and other minerals. Water that dripped to the floor deposited the calcite and aragonite to build stalagmites. These, too, are of varied shapes and sizes. When joined together, stalactites and stalagmites become columns, or pillars. In the scenic rooms, you will also see helictites, twisting formations that seem to defy gravity in their growth.

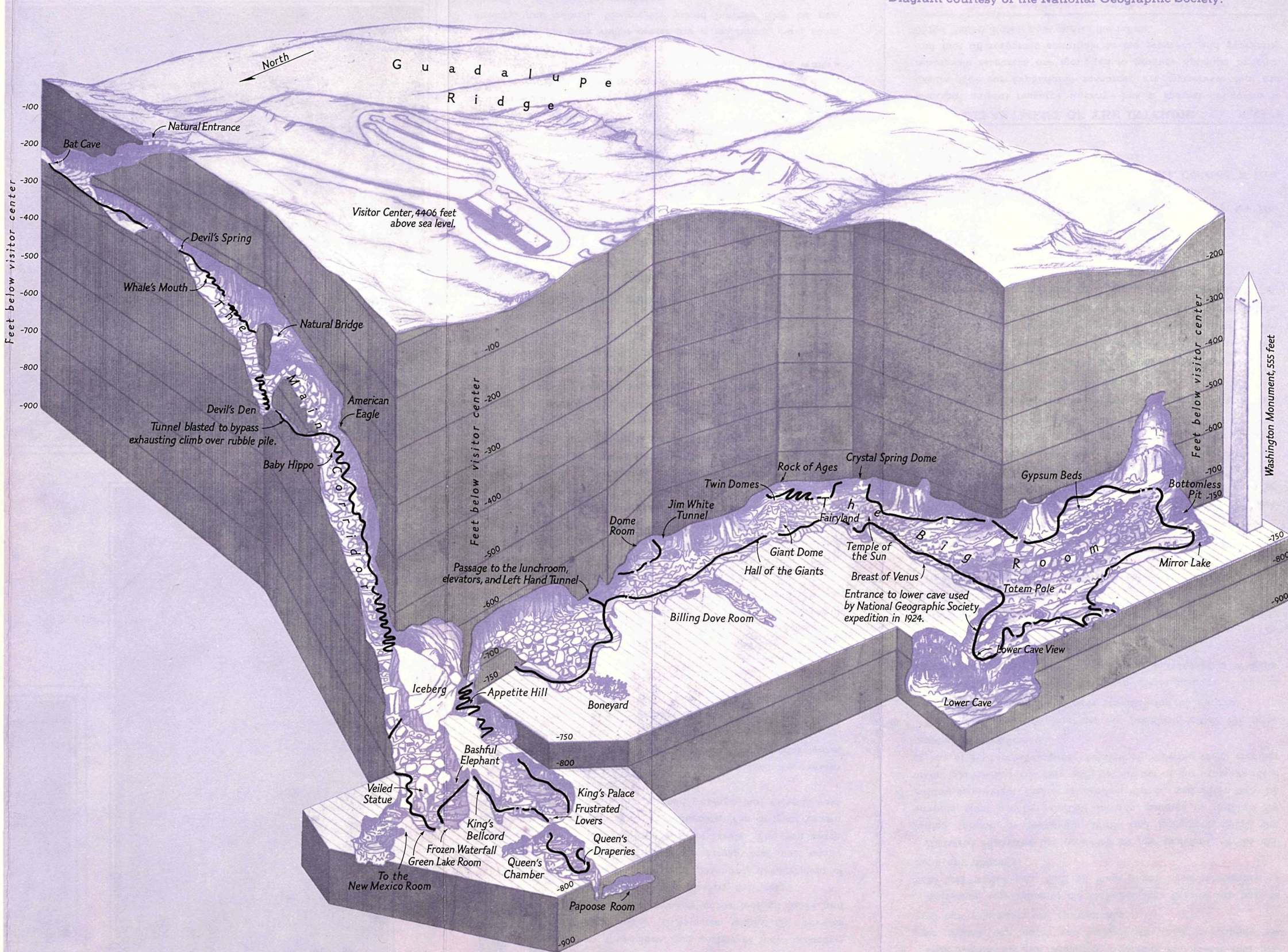
Bones of an extinct giant ground sloth and of an ancestral jaguar that were found in the caverns indicate that an opening existed at least 10,000 to 15,000 years ago. Evidence of man in the area at that time has been suggested by studies in other nearby parts of the Guadalupe Mountains.

A primitive group of Indians roamed the heights and valleys of the area more than 1,000 years ago. Cooking pits above the entrance and pictographs on the south wall show that they knew of the cave. It is doubtful, however, that these early people ventured in the dark recesses. Settlers, who referred to the caverns as the Bat Cave, might have explored parts of the passages.

Near the turn of the century, valuable deposits of nitrate-rich bat guano were discovered and mined. Among the miners was a local youth, James Larkin White. He became curious about what might lie beyond his lantern's dim light, and took every opportunity to explore the caverns.

Through White's efforts, the caverns were brought to public attention. A report in 1923 by the General Land Office, U.S. Department of the Interior, so stressed their beauty and significance that Carlsbad Cave National Monument was established that same year by Presidential proclamation. The public learned further of the size and magnificence of the caverns when the National Geographic Society published findings of the society-sponsored explorations made in 1923 and 1924 by Dr. Willis T. Lee, of the Geological Survey, U.S. Department of the Interior.

Within the present boundaries of the park, which enclose more than 73 square miles, are many undeveloped caves of either scenic or archeological interest.



This block diagram gives you the scale of the principle chambers of Carlsbad Caverns, their position in the Guadalupe Ridge, and the 3 miles of trail descending 829 feet into the mountain. As you tour the caverns, compare the diagram with the map below—drawn to approximately the same scale—to find your position.

