

Mear entrance of the Cavern. Photograph ca. 1930s. (National Park Service Historic Photograph Collection)

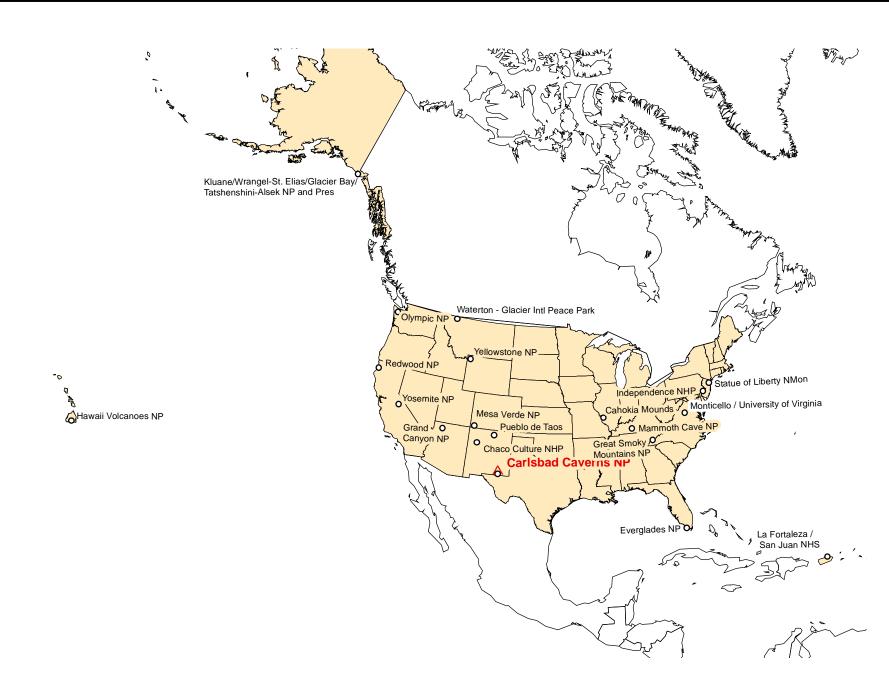
Carlsbad Caverns National park contains the deepest limestone cave in the United States, and the largest cave room in North America. It also has some of the most highly decorated caves in the world. In all, it has 81 separate known caves. Its caves have formed differently than 90 percent of the world's other caves in that sulfuric acid had a major role in their creation rather than erosion or carbonic acid solution. Hydrogen sulfide gas from underlying oil and gas deposits seeped upward and mixed with the fresh water of the Capitan Reef to form the sulfuric acid which hollowed out the limestone cavities.

The limestone in which the caves formed is part of a 350 mile long fossil reef surrounding the Delaware Basin of western Texas and southeastern New Mexico. The Capitan Reef was formed during the Permian period and attracts geologists from throughout the world for research and study. Deep, scenic canyons in the park have eroded through the reef leaving exposed cross sections which provide windows to this geologic era.

The newest notable cave discovery in the park has gained international fame as possibly the "most beautiful cave in the world." This cave, Lechuguilla Cave, as of July 1994, is the fourth longest in the United States and the seventh longest in the world, and has been advancing steadily on these two lists. It is over 77 miles long (125 kilometers), nearly 1,606 feet (490 meters) deep and provides the only known transversable cross-section through the world's largest exhumed fossil reef, the Capitan barrier complex and its back reef equivalent beds comprised of the Seven Rivers and Lower Yates formations. This remarkable cross section provides unique views for geologists of rock structures never seen before except through limited core samples. In addition to containing more elemental sulfur than all limestone caves in the world combined, this cave also has an extensive variety of gypsum and calcite formations that make it unique. Some of the gypsum chandelier formations are over 20 feet long. Rare, sub-aqueous helictites which are still forming underwater have also been found in this cave, but have never been documented from any other cave in the world. Other finds in this cave are the discovery of unusual bacteria in delicate, ceiling bound rock corrosion residues. Without the aid of light, some of these microbes possibly derive their energy from reduced iron, manganese, and sulfur in the limestone walls, or from the chemically - unusual hydroaerosols in the cave air. A unique ecosystem has been formed by the association of these suspected autotrophs with known heterotrophic bacteria and fungi.



The Giant Dome largest stalagmite thus far discovered. It's 16 feet in diameter and estimated to be 60 million years old. Hall of the Giants, Big Room Photograph ca. 1934. (National Park Service Historic Photograph Collection)



Carlsbad Caverns National Park: Longitude 104°22'51 W / Latitude 32°10'13 N



An infra-red aerial photograph of Rattlesnake Canyon on the surface in Carlsbad Caverns. Rugged and beautiful, the Canyon is far from roadways and is therefore inaccessable to the visitor. Photographer: Jack E. Boucher ca. 1959. (National Park Service Historic Photograph Collection)

Exploration, mapping, and scientific studies are continuing and it is expected that the cave's known length will increase considerably along with its scientific importance.

The park's most famous cave, Carlsbad Cavern, is over 1,000 feet deep and currently has 30 miles of mapped passages. Recent discoveries have opened up new leads which will likely result in still more. An assessment by the U.S. Geological Survey and National Geographic Society geologist in 1924 described this cave as "King of its Kind." The combination of its huge volume and scenic decorations make this statement as true today as when first written 70 years ago. This cave's "Big Room" is a "T" shaped room over 1,800 feet (549 meters) long and 1100 feet (335 meters) wide at the top, and contains nearly 13 acres of floor space. The highest point in its ceiling is over 255 feet (78 meters) above the floor. Massive stalagmites, stalactites, columns, flowstone, travertine and cave "popcorn" or corralloid formations decorate the room.

Other notable caves in the park are Ogle Cave which has one of the world's tallest columns measuring over 106 feet (32 meters) high, and Slaughter Canyon Cave with its deep rock art left by Native Americans. Both of these caves also have historic guano mining remains.

ext extracted from the World Heritage Nomination for Carlsbad Caverns NP. Map compiled by Cultural Resources GIS Facility, Historic American Landscapes Survey, Heritage Documentation Program. January 2006

