

The
Guide To
Southwestern
National Monuments



Southwestern Monuments Association

Popular Series, Number One

Coolidge, Arizona

December

1938

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Guide To Southwestern National Monuments

SOUTHWESTERN MONUMENTS ASSOCIATION, POPULAR SERIES, NO. 1

December 15, 1938

Department of the Interior
National Park Service

Southwestern Monuments Office
Coolidge, Arizona

This booklet is published by the Southwestern Monuments Association in keeping with one of its policies, namely: to provide accurate information to the general traveling public concerning the Southwest.

It is planned that other informational booklets about various features of the Southwest will follow this one. In addition, a Technical Series will acquaint scientists with results of research accomplished by the staff and friends of the Southwestern Monuments.

Notification of the publication of papers by the Association will be given, upon date of release, to such persons or institutions as submit their names to the Executive Secretary for this purpose.

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What is a National Monument?

A national monument is an area proclaimed under the law by the President, the area containing a natural exhibit of nationwide historic, prehistoric, or scientific value. Theoretically, the monument is reserved primarily for its educational worth but has secondary recreational and inspirational values.

The National Monument Act was passed in order to speed up the reservation of such areas which might have to hang in the balance for years while Congress was deciding their fate. By placing decision in the hands of the President, months and even years of waiting could be eliminated.

Technically, a national park is anything which is so declared by Congress. Theoretically, a national park is a surpassingly scenic area, reserved primarily for its inspirational aspects but with high secondary significance for educational and recreational purposes.

The whole national park idea has expanded faster than Congress could follow and the result has been a rather chaotic ideal on the part of the public as to the difference between parks, monuments, historic parks, parkways, and military parks. Further complications have been introduced by the desperate need for the reservation of some surpassing scenic area before destruction took place; the Presidential proclamation has been used to protect some such areas until Congress, with its slower motion, could get around to making a park. This happened with Grand Canyon, Zion, Bryce, Carlsbad Caverns, and several other national parks. It results in a widely held idea on the part of the public that almost anything is taken into the monument class and then the monuments are picked over, the best of them promoted to the park class, and the left-over material makes up the national monuments. Of course, no such thing is true. Monuments and parks can, and should be, kept as distinct as rare books and jewels.

Because a monument is basically educational whereas a park is basically inspirational the administration of the two areas must be different. The visitor to the park wants to get the great inspirational views and then he may, or he may not, want to know how it all happened. That same visitor, who wants to be let alone to enjoy his fine view by himself in the park, will begin clamoring for a guide as soon as he gets out of his car at a historic or prehistoric monument. He knows there is a story behind what his eyes can see at the monument and he wants that story. A short investigation will prove the need of at least double the personnel per thousand visitors at a monument over a park because of this intensive personal service which is demanded.

Construction needs will be different in the two areas. The monument, on the average, will need less roads and trails and more museum and exhibit space. The monument will need less utility operators' buildings and equipment and more personnel per thousand visitors.

For all these reasons, and several others, it has been found poor practice to attach monuments to nearby parks for administration. Park superintendents too often look upon monuments as parks and difficulties arise from such misconceptions.

Stephen T. Mather, first director of the National Park Service, as an experiment started the group of Southwestern Monuments several years ago. The years prove that a group of monuments can be dealt with better from the Washington Office as such a unit than as a detached series of individuals. The method of grouping monuments and handling them through a group head has recently been extended to the eastern and southeastern parts of the United States.

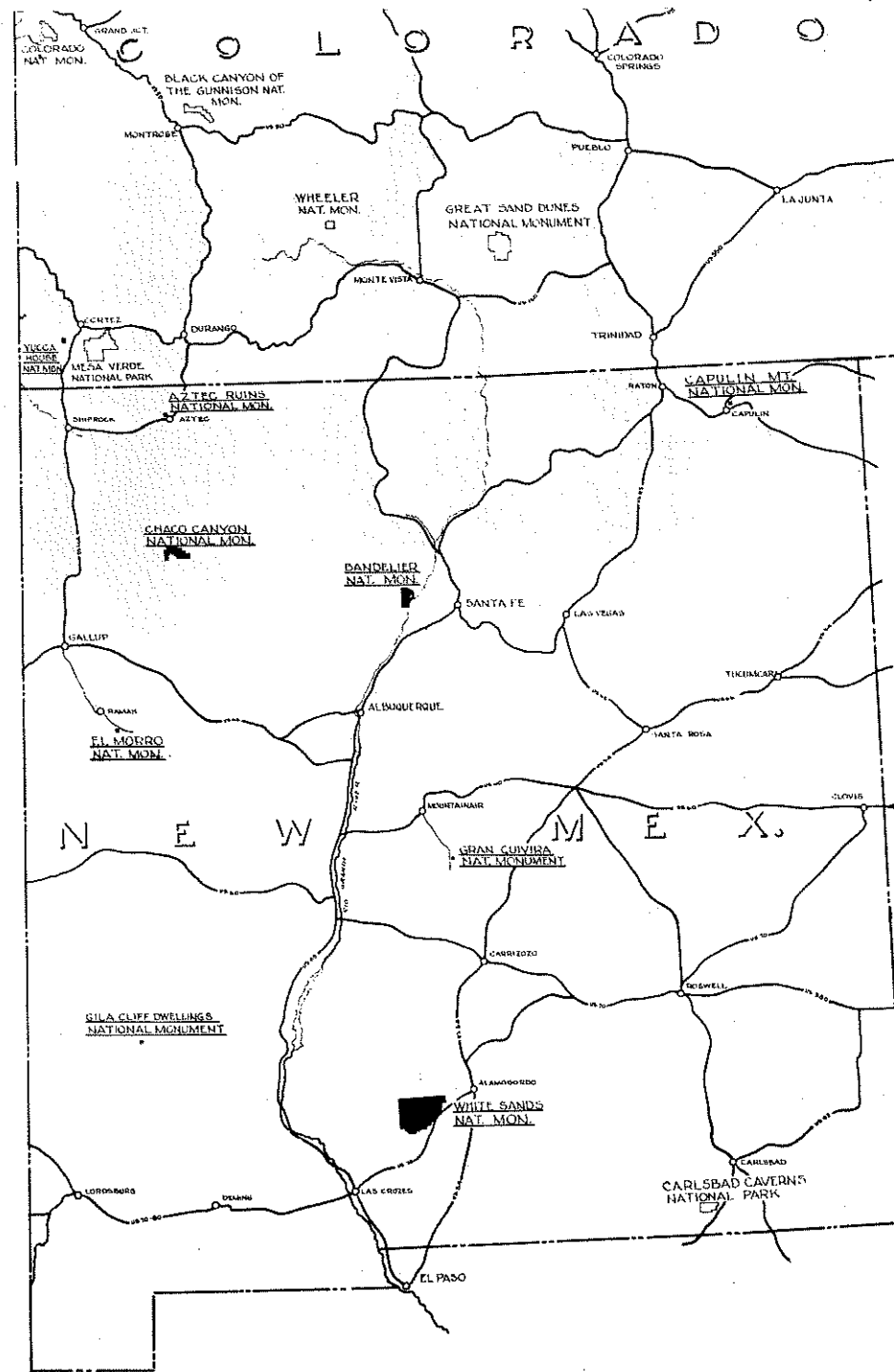
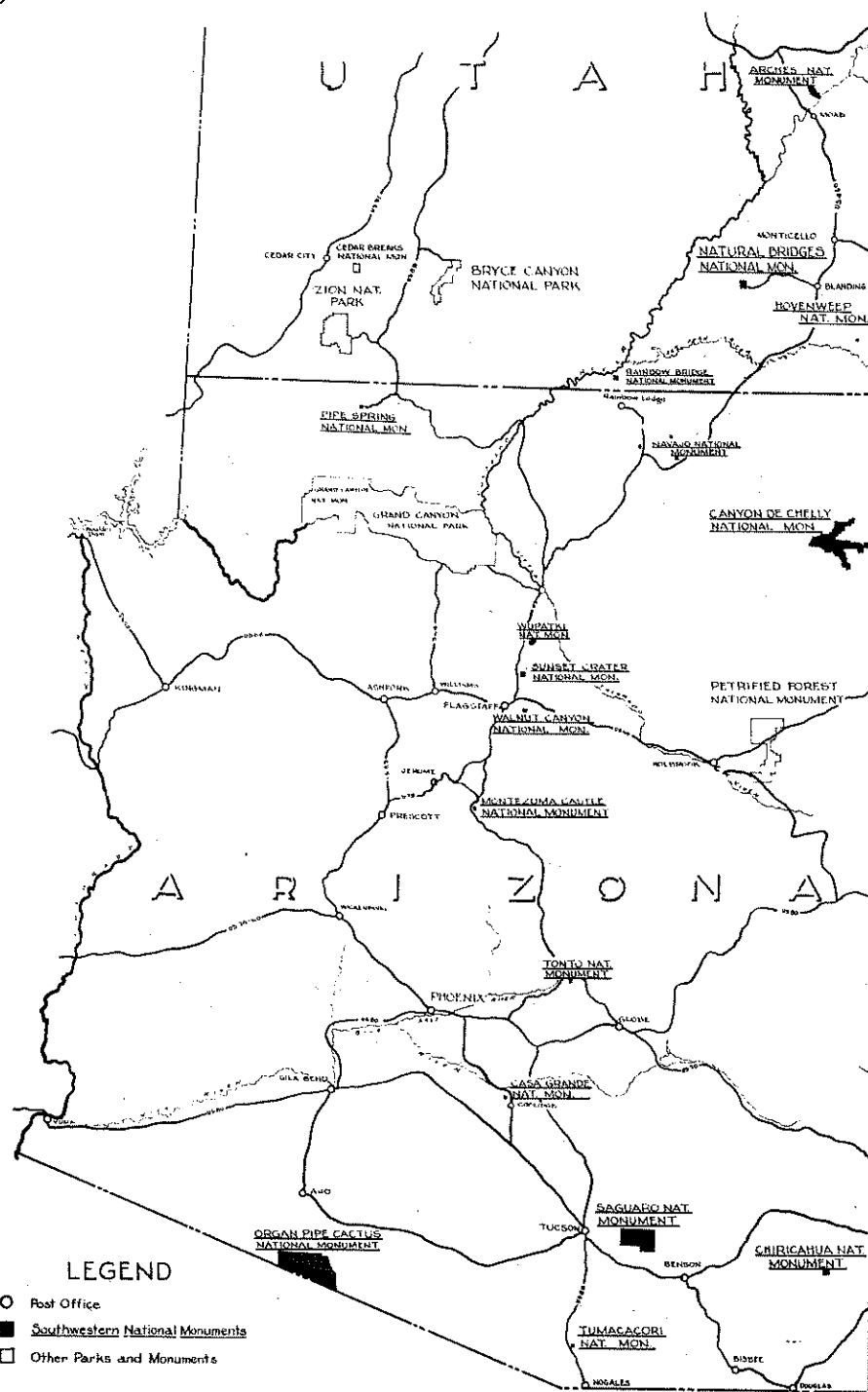
At the present writing the 26 national monuments in the southwestern group have a total area of 731,747.46 acres, or 1,143.35 square miles. This would make a sizable park if it were put together in one place for administration, but it becomes rather a hectic problem when you break your park into 26 pieces, scatter them over four states, and then administer them as a unit.

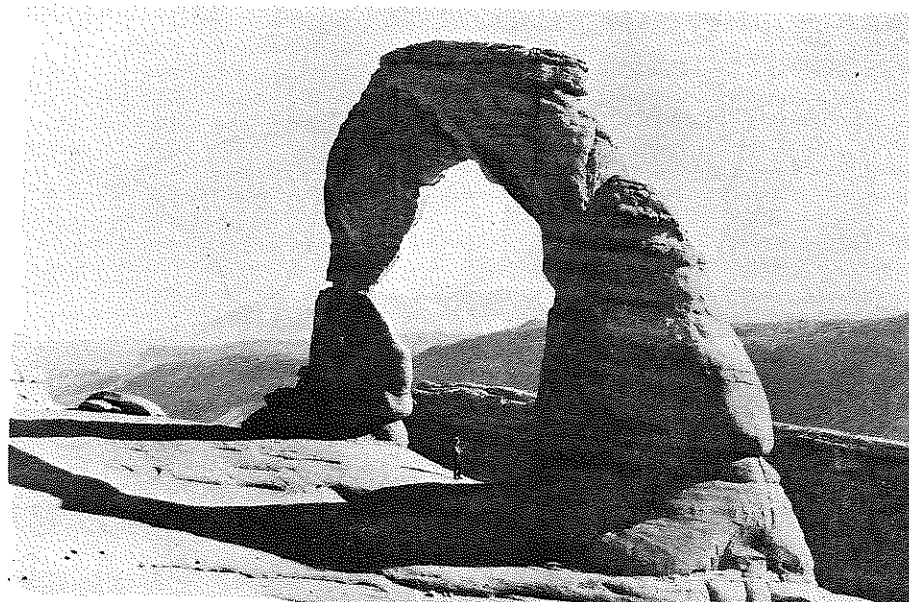
Visitors to the number of 319,164 came to see us last year and we are expecting many more during the present year. We hope that you will be among them and that you will thoroughly enjoy your visit.

Cordially,

Frank Pinkley
Frank Pinkley, Superintendent,
Southwestern Monument Office,
National Park Service,
Coolidge, Arizona.

December 15, 1938.





Delicate Arch in the northern portion of Arches National Monument.
Harry Reed photo

Arches National Monument

Grand County, Utah

Personnel: Custodian Harry Reed (part time), Moab, Utah.

Elevation: Slightly over 5,000 feet. Area: 4,520 acres.

Established: As National Monument by presidential proclamation April 12, 1929.

Approaches: Railway---Denver and Rio Grande Western Railroad to Thompsons, Utah, 30 miles from monument.

Highway---Automobiles can reach the southeastern or "Windows" section by ten-mile side trip from U. S. 160. Devil's Garden section reached by horseback or three-mile hike from Salt Valley.

Season: Open all year but preferably April through November, inclusive.

Facilities: Temporary ranger June through August only. No water or developed camping areas on monument. At the present time the monument may be reached over a temporary unimproved road only.

Arches which make this monument famous were sculptured by wind erosion of red sandstone which forms cap rocks of a massive plateau. In addition to more than 40 arches which have been counted are numerous fantastic balanced rocks, spires, and caves, plus magnificent vistas of Colorado River and the La Sal Mountains. The "Windows" section may be reached by careful driving over a slow but safe desert road which is kept in fair condition at all times. Special balloon-tired cars are available at Moab for trips to other sections of the monument.



Looking northeast across the plaza of Aztec Ruin. In the foreground is the Great Kiva before reconstruction; in the middle ground a smaller kiva with reconstructed roof. The background shows a portion of the building's east wing.
USNPS, Grant photo

Aztec Ruins National Monument

San Juan County, New Mexico

Personnel: Custodian T. C. Miller, Aztec, New Mexico, and one ranger.

Location: Approximately Lat. 36°50' N.; Long. 108° W. Sec. 4, T.30N., R.11W., New Mexico Principal Meridian.

Elevation: 5,610 to 5,640 feet above sea level. Area: 25.88 acres.

Established: Jan. 24, 1923, by presidential proclamation, made possible by gift of land by the American Museum of Natural History.

Approaches: Railway---D&RGW RR to Aztec, N. Mex., 1½ miles from monument.

Highway---US 550 runs within half mile of entrance gates.

Air-----Second-class landing field 2 miles from monument.

Season: Open all year. Heaviest travel May through October.

Facilities: Free guide service provided from 8 a. m. to 5 p. m. daily.

Parking area; museum; comfort stations. No camping.

Hotels and camps at Aztec (1½ mile) and Farmington (15 miles).

First white settlers moved into the Animas Valley in 1876. Probably some old-timer had heard of an "Aztec" Indian and applied the name to the ruins. Later a town was built and took its name from the ruins. The first written record of the Aztec Ruins was made by Captain J. S. Newbury, geologist, in August, 1859, followed by Morgan in July, 1878, who published a good description and a fairly accurate ground plan of the village.

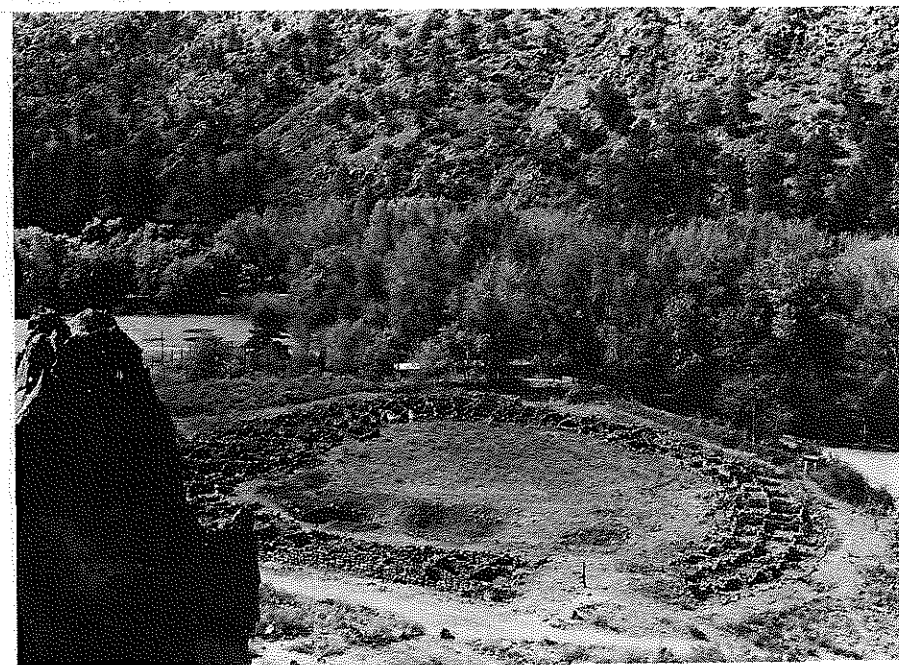
The ruins were not explored to any great extent until 1916 when a five-year program of scientific excavation was started by the American Museum of Natural History of New York under the leadership of Earl H. Morris, well known archeologist. All but about 150 of the 500 rooms of the great "E"-shaped pueblo were excavated. No important studies have been made since that time.

In addition to the large pueblo, there exist on the monument another unexcavated pueblo, almost as large, and several smaller mounds covering ruins of outlying dwellings.

"Aztec" is a misnomer, for these villagers had no connection with the Aztecs of the Valley of Mexico; but the ruin is remarkable because it shows the occupation and re-occupation by two distinct Indian groups,---the Chaco Canyon, and the Mesa Verde, respectively. Indians of Chaco Canyon (about 54 miles south) type built the main structure more than 800 years ago and lived in it possibly for a century or more. Fertile lands and abundant water from the Animas River enabled them by irrigation to raise crops of maize, beans, and pumpkins. Game was fairly plentiful; edible pinon seeds and other fruits were gathered for food. Ledges supplied building sandstone; native mud served as mortar. Timbers cut with stone axes formed floor, ceiling, and roof vigas (rafters). Timbers examined thus far were cut between the years of 1110 and 1121 A.D. This has been determined by the tree ring methods of dating ruins developed by Dr. A. E. Douglass.

Then the Chaquenos departed--whether because of enemy raids, drought, or other circumstances we may never know. At any rate, after a time of abandonment the ruin was re-occupied by migrating cliff dweller Pueblo peoples from the Mesa Verde region. Trash in mounds and rooms show this clearly. For example, in one room Mr. Morris found two levels of occupation, the basal fill consisting of about three feet of Chaco Canyon refuse. Overlying this deposit was a thin adobe floor; the masonry bore marks of having been altered. On the secondary floor lay Mesa Verde type potsherds and a ladder. In time the Mesa Verde people moved on, leaving the village to be reduced by the elements to mounds.

This 500-room pueblo with its 52 kivas or ceremonial chambers could easily have accommodated 1,000 to 1,500 people. The first story of the building is standing and in 24 of the rooms original ceilings are intact. The walls of many of the second-story rooms are in good condition and in some cases also parts of third-story rooms. An interesting museum exhibits a scientifically valuable collection of pottery, tools, weapons, and handicraft from the Aztec region. Graphic displays show various phases of prehistoric pueblo life and methods by which they have been interpreted by archeologists.



USNPS, Grant, photo
Tiyuonyi, large prehistoric pueblo on the floor of Frijoles Canyon, northernmost canyon of the main section of Bandelier National Monument.

Bandelier National Monument

(Ban-duh-leer') Sandoval County, New Mexico

Personnel: Custodian C.G. Harkins, Bandelier National Monument, Box 669, Santa Fe, New Mexico; one permanent maintenance man; three temporary rangers in summer months.

Location: Approximately Lat. 35°47'N.; Long. 106°20'W. In Twp. 16, 17, 18 N., Ranges 6, 7 E., New Mexico Principal Meridian.

Elevation: 5,400 to 7,100 feet above sea level. **Area:** 26,026.20 acres.

Established: By presidential proclamation February 11, 1916.

Approaches: Railway---AT&SF or D&RGW RRs. to Santa Fe, N.M., 46 mi. from monument. Chartered automobile tours available in Santa Fe.
Highway---Graveled New Mexico State Highway No. 4 enters monument.
Air-----Landing field at Santa Fe.

Season: Open all year. Heaviest travel May through October, but canyon bottom location of monument headquarters makes winters generally pleasant.

Facilities: Free guide service provided from 8 a.m. to 5 p.m., daily.
Parking area; museum; comfort stations; campgrounds with shade, water, fireplaces, tables and benches, laundry tubs, shower baths.
Frijoles Canyon Lodge, operator under permit from National Park Service, furnishes meals and lodging.
Trout fishing; 40 miles of hiking and horseback trails.

The monument was named in honor of Adolph F. Bandelier, distinguished Swiss ethnologist and writer, who carried on an extensive survey of prehistoric ruins in the region and studied among the Pueblo Indians around Santa Fe between the years 1880 and 1886. Part of this time was spent in Frijoles Canyon, where he gathered part of the material for the famous ethno-historical novel, "The Delight Makers", which has as its setting Frijoles Canyon and the Tyuonyi ruins.

Bandelier lies in two sections containing typical areas of the interesting Pajarito Plateau. This volcanic basalt and tuff tableland lies at the eastern base of the great Jemez Crater, largest known crater in the world. On the plateau and in water-cut canyons occur thousands of ruins of prehistoric pueblos.

Visitors from Santa Fe first traverse the Otowi Section, a beautiful area of salmon pink cliffs and canyons, including the huge ruins of Otowi and Tsankawi and hundreds of smaller dwellings built on the pifion and juniper-clad mesas or excavated by stone axe work into the soft tufa (wind-blown ash) cliffs.

The main section of the monument comprises Frijoles, Alamo, and other canyons. The National Park Service highway and developments open up only about 300 acres in Frijoles Canyon on the edge of the area in order to make accessible famous 200-room Tyuonyi and other representative ruins. Hardy hikers or riders who seek the primeval can wander through some 25,000 acres of untouched wilderness and canyon country, seeing isolated Yapashi and other ruins, the Painted Cave, the Stone Lions, etc.

After the great pueblos and cliff dwellings of northwestern New Mexico, northeastern Arizona, and southwestern Colorado had been abandoned about 1300 A.D., there was ushered in what archeologists call the Regressive Pueblo period. Driven by drought or enemies, the centers of population shifted to the Rio Grande, Little Colorado, and other drainages. Most of Bandelier's ruins belong to this period, although a few small ruins date back to about 1200 A.D. Tyuonyi and Tsankawi probably flourished until about 1600 A.D. or thereabouts, a theory strengthened by the discovery in 1938 of a Spanish pottery vessel on the floor of a ruin in the Tyuonyi group.

For some unknown reason, possibly attacks by enemies, the Pajaritan peoples then abandoned their beautiful plateau homes and probably joined their neighbors on the Rio Grande where their descendants live today in the various Rio Grande pueblos.



USNPS, Grant, photo
Of the 300 or more cliff dwellings tucked away in various crannies in the stupendous red walls of Canyons de Chelly and del Muerto, perhaps the most famous is the White House, shown here in the middle foreground.

Canyon de Chelly National Monument

(Can'-yun day Shay') Apache County, Arizona

Personnel: Custodian Theodore Gronyn, Canyon de Chelly National Monument, Chin Lee, Arizona, and two temporary rangers in summer.

Location: Approximately Lat. 36°11' N.; Long. 109°33' W. In Twps. 3, 4, 5, 6, and 7 N., Ranges 6, 7, 8, 9, and 10 W., Navajo Meridian.

Elevation: 5,580 to 6,680 feet above sea level. **Area:** About 83,840 acres.

Established: By presidential proclamation February 14, 1931.

Approaches: Railway--Santa Fe system to Gallup, N.M., 95 miles from Chin Lee. Chartered automobiles available in Gallup.

Highway--Graded Indian Service road, good in dry weather but sometimes impassable in wet weather, leads to canyon mouth.

Air-----Landing field at Gallup, New Mexico.

Seasons: Open all year, but heaviest travel usually is from May through October. A rough 5.6-mile rim drive affording views of the canyon and the White House open all year except after snows or rains. Visitors can hike down to the White House over a steep 4,085-foot horse trail.

Facilities: Free guide service provided from 8 a.m. to 5 p.m. daily.

No developed campground.

Thunderbird Ranch, operator under permit of National Park Service, provides meals and lodging. Open cars with special tires and driver for rent at \$10 for a 30-mile trip, \$12.50 for a 50-mile trip. Prices are for the car and not per person. Special trips may be arranged.

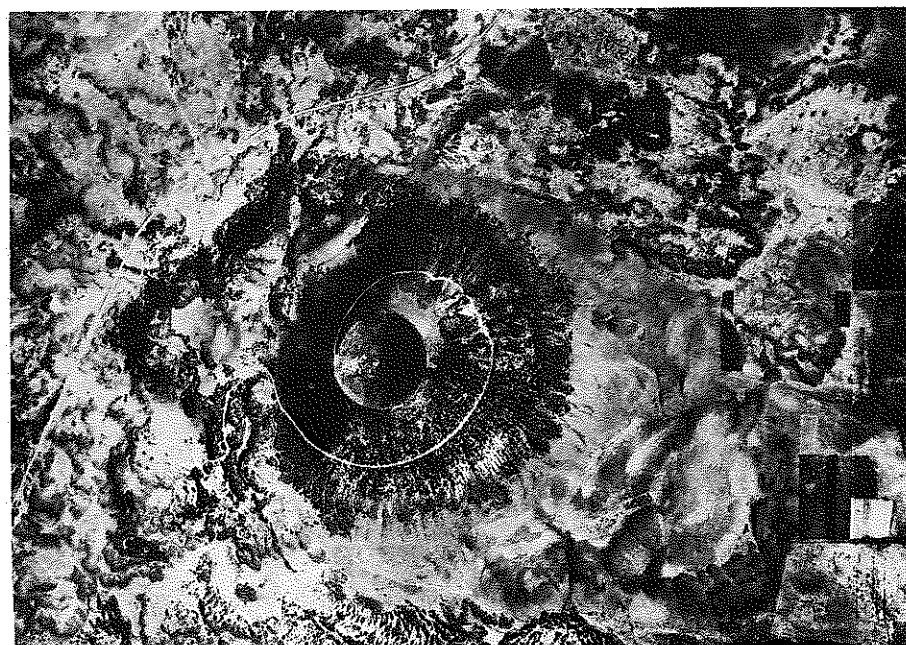
Let no prospective visitor to Canyon de Chelly think he will find a prime little garden spot with graveled walks bordered by mignonette and forget-me-nots. No! Canyon de Chelly is tough. If a visitor bucks his way 95 miles over a none too dependable road, hits the weather right and makes the risky trip up the canyon successfully, he will cherish a never-to-be-forgotten memory. But those who have a distaste for journey desert roads, sand in their teeth, and general wear and tear on their constitutions, had better confine their driving to transcontinental highways and leave de Chelly to the Navajos.

Canyon de Chelly is peculiarly unsuited to heavy sight-seer traffic. In the first place, it is isolated from main travel arteries. Second, its floor, which forms the only possible roadbed, constantly flows water during six months of the year, unpredictably discharges freshets during the other six. Third, it is chuck-full of rich prehistoric ruins, but they mostly perch high in relatively inaccessible caves and the centuries have weakened masonry and loosened rocks to the point of danger for scrambling sight-seers. Fourth, it is the hereditary stronghold of some 500 of the Navajo Indians who pre-empted the canyon sometime after Pueblos abandoned it in the fourteenth century, and who have no active desire for their home life to be subjected to the curious gaze of outsiders.

Motorists on a short, rough rim drive can get glimpses of the sheer, breath-taking canyon walls, the tiny Navajo farms beneath, and some cliff dwellings, but travel on the canyon floor is a different story and never should be attempted in a private car unless especially equipped with oversize tires and piloted by a veteran of the Southwest. One well-informed writer said, "The floor of the canyon is never twice the same. Treacherous quicksand without bottom, seas of dry sand which are equally bottomless, sudden roaring torrents which reach from wall to wall---the price of safety and continued locomotion is eternal vigilance."

Within boundaries of the monument lie more than a hundred miles of canyons of de Chelly and its two tributaries, Monument and del Muerto (Canyon of Death). "Sheer, brilliantly red walls, hundreds of feet in height, twist tortuously as a serpent toward the distant mountains. The narrow coiling strip of canyon floor is rarely more than a quarter of a mile wide and often measures less than a hundred yards....The hedged-in feeling is accentuated by the manner the cliffs have of closing in as if to cut off retreat, while other turns shut off from view the trend of the way ahead."

In shallow open-faced caves are found habitations ranging in time from a Basket Maker storage cist, whose roof beams dated 348 A.D., (the earliest accurately dated timber in the Southwest) to cliff dwellings abandoned in the thirteenth century.



Science Service photo

From Capulin's lofty summit travelers see into five states. At the foot of the mountain is a lava flow, three miles long, like spilled molasses.

Capulin Mountain National Monument

Union County, New Mexico

Personnel: Custodian Homer Farr (part time), Capulin, New Mexico.

Location: Approximately Lat. 36°48'N.; Long. 103°58'W., Tps. 29 and 30 N., R. 28 E., New Mexico Principal Meridian.

Elevation: From 7,423 to 8,215 feet above sea level. Area: 680.37 acres.

Established: by presidential proclamation, August 9, 1916.

Approaches: Railway---Colorado and Southern RR to Folsom, 7 mi. from Capulin.

Highway---US Highways 64 and 87 pass through Capulin, three miles from monument. Autos can be driven from the base of the volcano to the rim of the crater over a well-packed cinder road, two mi. long, 6% grade.

Air-----Landing field at Raton, N. Mex., 28 mi., on Hwys. 87, 85.

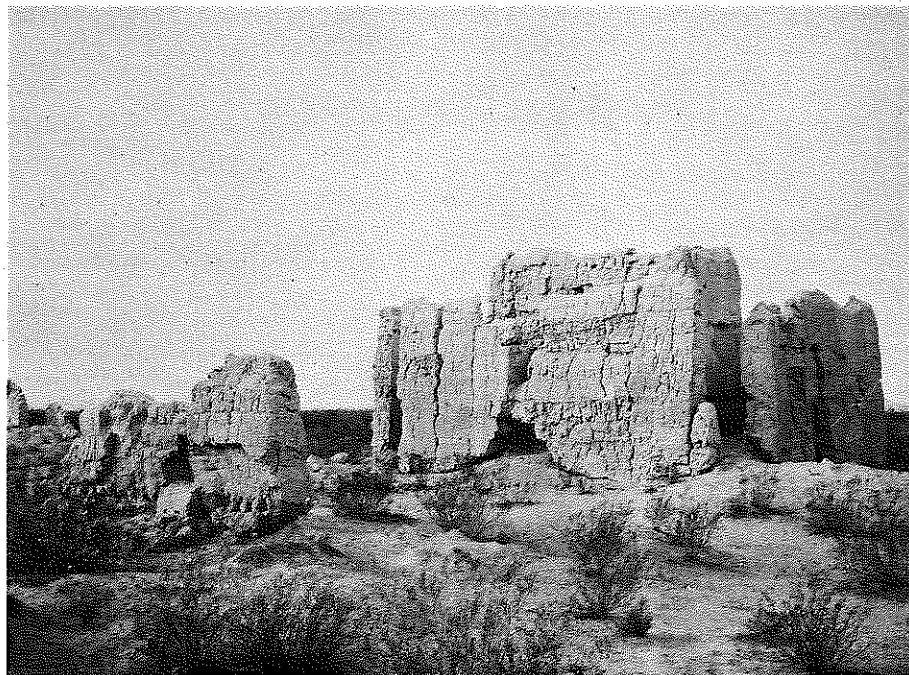
Season: Open all year except when temporarily blocked by snow in winter.

Heaviest travel May through October.

Facilities: None on monument except comfort stations. No water, no camping.

Hotel and camp accommodations at Capulin, Folsom, and Raton.

Recently extinct, this magnificent cinder cone overlooks an interesting region which bears manifestations of tremendous volcanic activity. The cone rears up 1,500 feet from a base about 1½ miles in diameter. The crater diameter is about 1,450 feet and its bottom is 275 feet below the lowest part of the rim and 415 feet lower than the highest point. From the top one can see Kansas, Oklahoma, Colorado, Texas, New Mexico, and sometimes Pikes Peak,---200 miles away.



USNPS, Fewkes, photo
The Casa Grande as seen from the northeast before excavation in 1906-1907. Washed and blown earth covered almost six feet of the lower part of the building. The lower wall, left foreground, is Font's Room, another structure in the same ruined village as the Casa Grande.

Casa Grande National Monument

(Kah'-sah Grahn'-day) Pinal County, Arizona

Personnel: Custodian A. T. Bicknell, Casa Grande National Monument, Coolidge, Arizona, and one ranger in summer, two in winter.
Location: Approximately Lat. 32°54' N., Long. 110°30' W. Section 16, Township 6 South, Range 8 East, Gila and Salt River Principal Meridian.
Elevation: 1,413 to 1,430 feet above sea level. Area: 472.5 acres.
Established: As Ruin Reservation, June 22, 1892; as National Monument, August 3, 1918. First resident custodian, Frank Pinkley, December 22, 1901.
Approaches: Railway---Southern Pacific RR to Coolidge, Arizona, 2½ miles from monument.
Highway---Paved State Route 87, a major artery of southern Arizona, runs past entrance gates.
Season: Open all year. Ideal climate usually from October 15 to May 15. Summers very warm; maximum temperature ordinarily more than 110 degrees F.
Facilities: Free guide service provided from 8 a.m. to 5 p.m. daily.
Parking area; museum; comfort stations; picnic area with shade, water, fireplaces, tables and benches. No camping.
Hotels and camps in and near Coolidge offer varied accommodations.

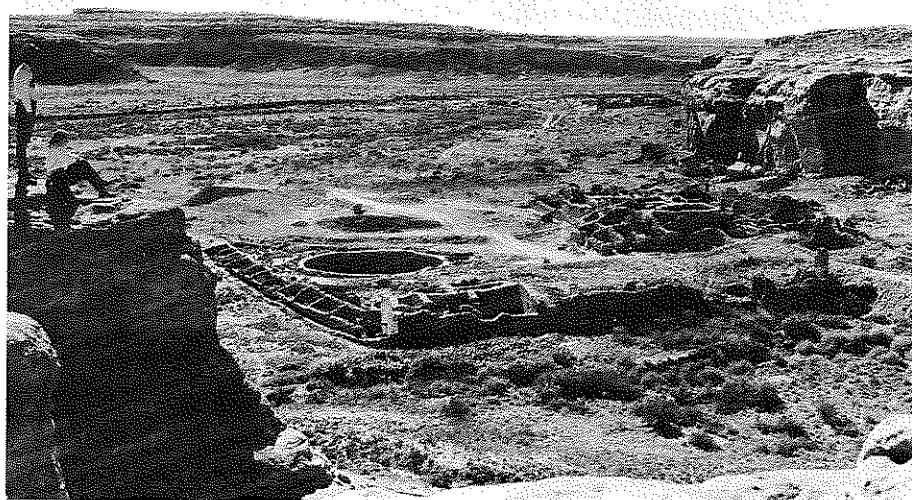
This monument is small but its less than a square mile of typical Sonoran desert preserves famous old Casa Grande Ruin and more than 100 mounds---most of them "middens", or "city dumps". At least six of them contain ruins of village or town buildings.

Towns (archeologists call them "compounds") were walled for protection against human enemies, probably hunting Indians who, hoping to secure supplies of food and plunder, occasionally attacked the farming Indians who inhabited the flat Gila Valley. Scientists call the farmer Indians the "Salado People" and think they moved into the Gila-Salt River valleys because of (1) pressure from enemies, and (2) a great drought which generally disrupted southwestern Indian life in the thirteenth century A.D.

But the Salado People did not move into an unoccupied valley, for another group of farmers, the Hohokam People, had lived there probably since about 400 A.D., according to conservative estimates. They built fairly simple one-story houses of brush and mud but were highly skilled in constructing irrigation canals, making pottery, carving stone and shell, and raising crops of corn, cotton, gourds, and other produce. The Hohokam cremated their dead, while the Salado (who were akin to Pueblo Indians) buried theirs. There is evidence that both peoples lived in the Gila-Salt River valleys contemporaneously from about 1300 to 1450 A.D.

The Casa Grande ("Great House" in Spanish) towers up four stories out of Compound A, the largest of the six villages, to form by far the best preserved and most imposing ruin in the southern or Desert Province of the Southwest. The great mission founder, Padre Eusebio Francisco Kino, named it in 1694 when he became the first white man to see it, and it has been a landmark to Spaniards, Mexicans, American explorers, and others ever since. Built of hard caliche clay with walls four feet thick at the base, it was a watchtower-apartment house, for from its relatively great height its dwellers could watch for enemies. Studies of pottery from the trash mounds have convinced students that the Casa Grande and at least a portion of the rest of Compound A were erected some time between 1300 and 1350 A.D., abandoned between 1400 and 1450 A.D. Increasing inroads by enemy Indians, and water-logging of land due to intensive irrigation may have been factors which contributed to the collapse of the Hohokam-Salado culture.

Visitors take guided trips through the Casa Grande and Compound A, the museum, can see Compound P and a prehistoric "ball court" on an interesting Desert Walk in which are explained many interesting features of botany, archeology, geology, etc.



USNPS, Grant, photo
Looking down from the north rim of Chaco Canyon into partially excavated Chetro Kettle, one of the major ruins in this famous monument. Chetro Kettle is noted for its complicated plan. It was once four stories high.

Chaco Canyon National Monument

(Chah'-ko Can'-yun) San Juan and McKinley Counties, New Mexico

Personnel: Custodian Lewis T. McKinney, Chaco Canyon National Monument, Chaco Canyon, New Mexico, and one temporary ranger in summer.

Location: Approximately Lat. 36° 2' N.; Long. 108° W., Tps. 17, 20, and 21 N., Rgs. 8, 10, 12 W., New Mexico Principal Meridian.

Elevation: 6,070 to 6,525 feet above sea level. Area: 21,512.37 acres.

Established: by presidential proclamation, March 11, 1907.

Approaches: Railway---Santa Fe system to Thoreau, N. Mex., 64 mi. from monument. Denver and Rio Grande Western RR to Aztec, N. Mex., 64 mi. from monument.

Highway---Unsurfaced New Mexico Highway No. 35 bisects monument.

Season: Open all year, but maximum travel April through October. Inquire at Gallup or Thoreau concerning road conditions.

Facilities: Free guide service through Pueblo Bonito on schedule from 8 a.m. to 5 p.m.

Small museum; comfort stations; picnic area with shade, water, fireplaces, tables, benches.

Trading post under permit of National Park Service offers meals and limited accommodations.

Eighteen major and literally thousands of minor ruins has Chaco Canyon, among them some of the largest and most important prehistoric sites of America north of Mexico. Pueblo Bonito, near which the monument headquarters is lo-

cated, is one of the most imposing and best known ruins in the Southwest. Built more than 1,000 years ago, this five-story 800-room village was constructed in the shape of a great capital "D" at the base of a cliff. A half mile walk to the top of the cliff, in the course of which one climbs the route of stone steps cut by prehistoric Indians, is rewarded by an excellent view of Bonito and of several other ruins up and down the canyon.

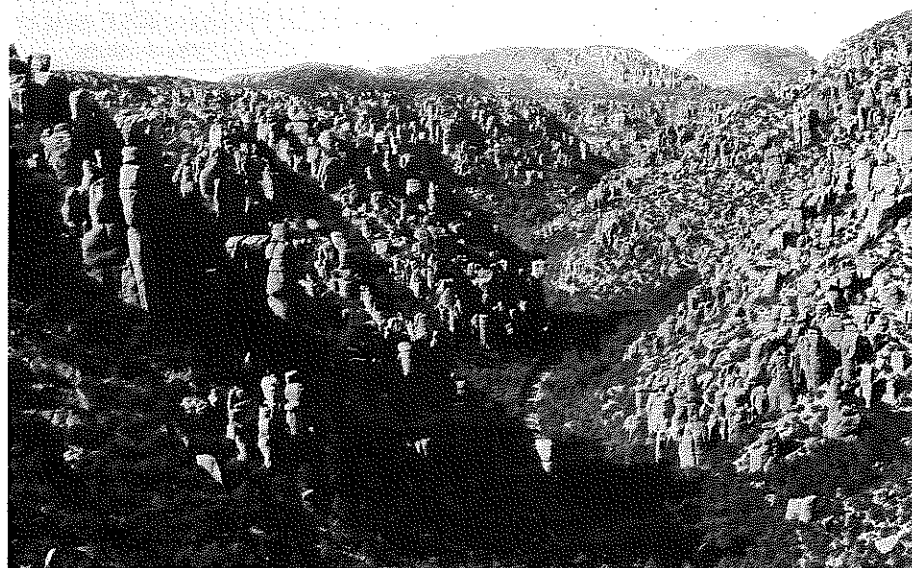
It is difficult to omit superlatives when describing the ruins of Chaco Canyon. Not only are the pueblos among the largest in the Southwest, but masonry of the walls is superior to that of any other district. In many respects the Chaco can be said to have been the cultural center of the prehistoric Southwest.

Archeologists once thought the large Chacoan towns were not occupied contemporaneously, but tree ring dating now proves many were. The very large population is believed to have brought on soil erosion by deforestation, necessitating a relatively early abandonment of the region. The Chaco lay in ruins shortly after 1200 A.D., and its peoples are supposed to have migrated south to the Little Colorado drainage and other regions.

A small exhibit of prehistoric artifacts is on display at the custodian's office and summer visitors may watch actual archaeological excavations by the University of New Mexico during August.

The boy is examining one of the wall niches of the Pueblo Bonito Great Kiva or ceremonial chamber. Walls of living rooms in the background. The kivas at both Chetro Kettle and Casa Rinconada are larger. USNPS, Grant, photo





Ball photo
Wierdly eroded volcanic formations form a Wonderland of Rocks high atop the beautifully forested Chiricahua Mountains which jut up from the desert lands of southern Arizona.

Chiricahua National Monument

(Cheer-ih-kah'-wah) Cochise County, Arizona

Personnel: Custodian Frank L. Fish, Chiricahua National Monument, Douglas, Arizona, and one ranger in summer.

Location: Approximately Lat. 31° 57'N.; Long. 109° 12'W., Tps. 16 and 17 S., Rgs. 29, 29½, and 30 E., Gila and Salt River Meridian.

Elevation: 5,320 to 7,308 feet above sea level. Area: 10,694 acres.

Established: by presidential proclamation, April 18, 1924.

Approaches: Railway---Southern Pacific RR to Wilcox, 36 miles from monument.

Highway---A short spur road from Arizona State Highway 181 leads to the monument headquarters and continues scenically for five miles to high Massai Point.

Air-----Class A landing field, Douglas, Arizona.

Season: Open all year, but most visitors prefer April through October when vegetation is more attractive. Delightfully cool in summer.

Facilities: Free guide service provided from 8 a.m. to 5 p.m., daily.

Small museum; comfort stations; campgrounds with shade, water, fireplaces, tables and benches, laundry tubs, and showers.

Twelve miles of excellent horse trails bring hikers and riders within reach of major groups of formations.

Nearby lodge of guest-ranch type furnishes meals and accommodations.

Some millions of years ago in Tertiary times there occurred what must have been a relatively quick succession of rhyolite and dacite lava flows, piling one on top of the other at what is now the Chiricahua Mountains. As the hot masses cooled, they developed a complex system of vertical, horizontal, and angular fractures.

Then the water, frost, and wind started to work on these fissure lines, where the going was easiest, and sculptured out in the course of milleniums the thousands of strange formations that now delight visitors to this beautiful monument. Balanced rocks by the dozens, sheer towering pinnacles, spires and minarets, ---Chiricahua has many of them.

The Chiricahuas lift their cool, forested heads high above the flat San Simon Valley to the east, the equally level Sulphur Springs Valley to the west, and it is this peculiar circumstance ---high mountains in low, hot surroundings---that gives them much of their charm. At the mountains' foot grow plants which love the blazing sun of the Mexican deserts; at their top flourish trees and shrubs similar to those of the cold, moist Canadian forests.

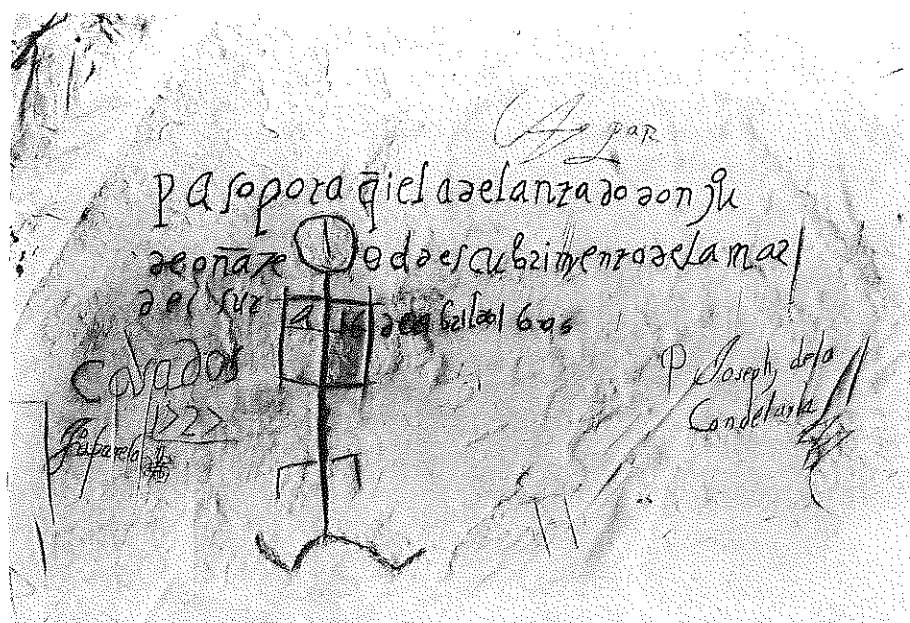
Here the Alligator Juniper with its strange, platey bark reaches huge proportions. Here the amateur botanist stumbles on the Arizona Madrona, the Apache and Chihuahua Pines, the Hypoleuca Oak, the Standley Ash, and many other plants with strange-sounding names. Several students have stated that, for its size, Chiricahua contains a larger botanical assemblage than most other areas in the United States.

Long the hunting ground of the Chiricahua Apaches (Geronimo, Cochise, and others were members of this fierce division of a warlike tribe) the region possesses interesting animal life, also. Flocks of noisy Thick-billed Parrots occasionally come from Mexico to gobble rich crops of acorns. In 1912 a jaguar, that leopard-like Mexican mammal, was killed near the monument. Visitors rarely drive a half day in the mountains without seeing several Arizona White-tailed Deer.

Many noted biologists have used the Chiricahuas as a favorite collecting ground and have pursued important studies there.

Chiricahua has been set aside to preserve its scenery and natural features unspoiled for the benefit of present and future generations. Visitors are asked to camp at designated places only, to be careful with fire, to keep the grounds and trails free from rubbish.

Trails are safe and lead from one spectacular view point to the next. Hiking shoes are recommended.



USNPS, Grant, photo
 "Passed by here the Governor Don Juan de Oñate from the discovery of the Sea of the South on the 16th of April of 1605." (Paso por aqui el adelantado don Juan de Oñate del descubrimiento de la mar del sur a 16 de Abril de 1605.)

El Morro National Monument

Valencia County, New Mexico

Personnel: Custodian Robert R. Budlong, El Morro National Monument, Ramah, New Mexico.
 Location: Approximately Lat. 35° 2' N.; Long. 108° 18' W. Sec. 6, T. 9 N., R. 14 W., New Mexico Meridian.
 Elevation: 7,200 feet above sea level. Area: 240 acres.
 Established: by presidential proclamation, December 8, 1906.
 Approaches: Railway---Santa Fe system to Gallup or Grants, N. Mex.
 Highway---Dirt road, impassable in wet weather, runs past north boundary of monument. Visitors should make inquiry concerning road conditions at Gallup or Grants.
 Season: Custodian resident all year, but road frequently closed after winter snows, summer rains. Most travel May through October, inclusive.
 Facilities: Free guide service provided from 8 a.m. to 5 p.m.
 Nearest accommodations; Ramah, Grants, and Gallup. No developed camping area on monument.
 Excellent trail leads past inscriptions and also up to ruins on top of the rock.

As its name might indicate, the great buff promontory, rising 200 feet above the surrounding lava-strewn valley, has been carved and worn by erosion until it resembles a huge castle or fortress. Intrepid Spaniards, who ventured into the Southwest long before colonists arrived on the eastern shores of North

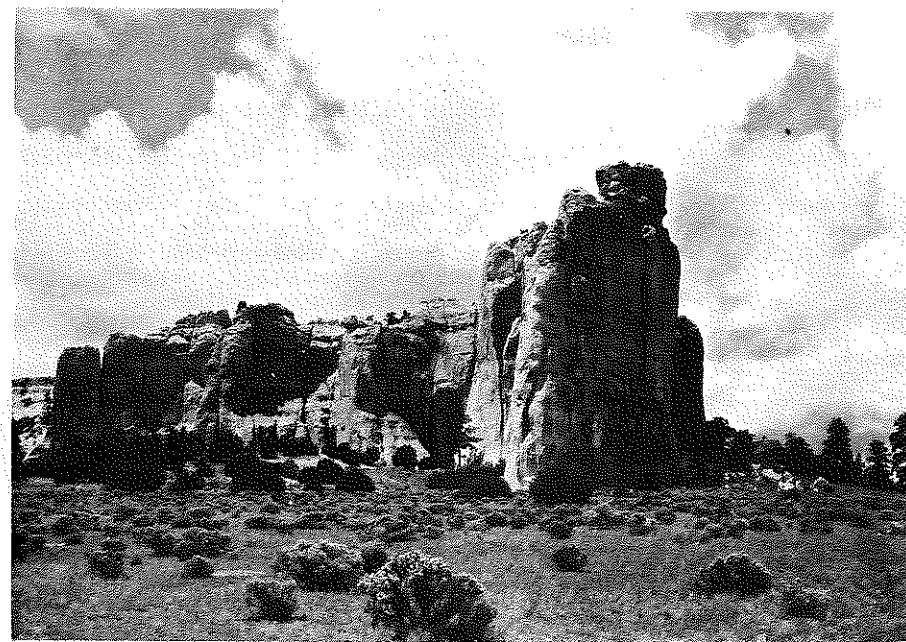
America, named it, and on it they left over 50 inscriptions, the earliest, 1605 (or 1606), and the latest, 1774. Hundreds of other almost equally interesting carvings commemorate visits of explorers, emigrants, and other historical figures.

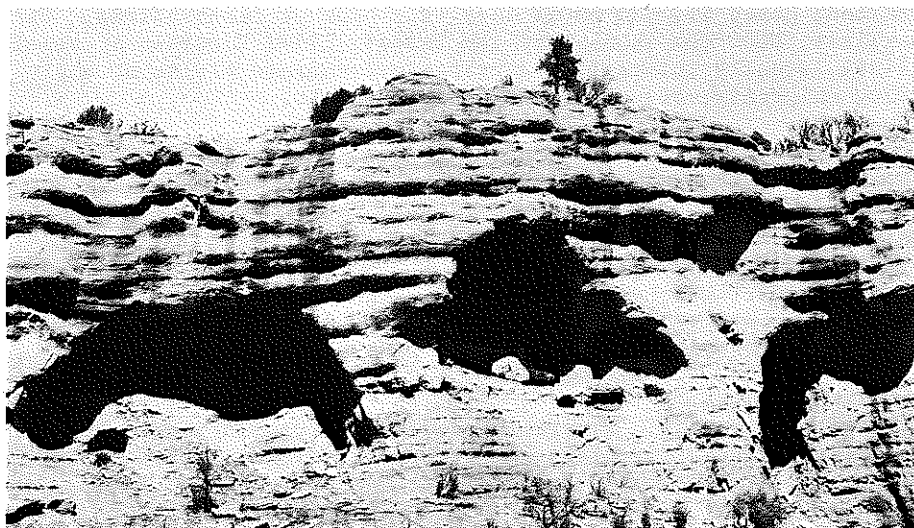
A real goal El Morro was to the conquistadores of the 17th and 18th centuries, who found in a cove on its east side space enough to shelter a whole company and a pool of cool, refreshing water. It was a haven in a dry, inhospitable land. But Spaniards were not the first to find it, for high on the easily fortified mesa top are large ruins of pueblos which were built during Pueblo IV, the Regressive Pueblo Period, in the neighborhood of 1400 A.D. These peoples engraved undecipherable symbols on the rock, so El Morro's records cover more than 500 years. That the old Spanish and early Indian inscriptions may be preserved, carving of names and initials by visitors is strictly prohibited, with a heavy fine and imprisonment imposed by law for violation.

Twenty miles east of El Morro lies the Perpetual Ice Cave. Zuni, largest Indian pueblo, is 36 miles to the west of the monument. Visitors who are not afraid of occasional rough driving often include these three points of interest on a loop detour from US Highway 66. They view fine scenery and experience the thrill of re-tracing one of the most romantic travel routes in the west.

El Morro as viewed from the east. Most of the inscriptions are located around the base of the tallest part of the headland.

USNPS, Grant, photo





USNPS, Southwestern Monuments, photo
Tucked back in the dark recesses of four caves in the wild Upper Gila country are rarely visited cliff dwellings which lure those who are really interested in "roughing it".

Gila Cliff Dwellings National Monument

(Heel'-ah) Catron County, New Mexico

Personnel: None. Address communications to Superintendent Frank Pinkley, National Park Service, Coolidge, Arizona.

Location: Approximately Lat. $33^{\circ} 13' N.$; Long. $108^{\circ} 18' W.$, Sec. 27, T. 12 S., R. 14 W., New Mexico Principal Meridian.

Elevation: Approximately 6,000 feet above sea level. Area: 160 acres.

Approaches: Railway---Santa Fe system, via Pinos Altos, to Silver City, N. M. Highway---None. Only approach is by horse and pack train, which may be arranged at Silver City.

Season: May through October.

Facilities: none.

Smoke-blackened roofs and holes chopped in the rock to hold rafters tell the story that at one time cliff dwellings occupied seven caves in a box canyon of the Mogollon Mountains, but walls have fallen and no buildings are to be seen in three recesses at the present time.

In the other four stand some 35 rooms, most of which probably were two stories high. Roofs were burned out in some ancient fire, but the burned ends still rest in their sockets. Masonry is good, and there is one fine example of a "T"-shaped doorway.

Remote and little visited, this monument attracts wilderness lovers. Visitors who deface walls or carry away souvenirs are liable to heavy penalties.



USNPS, Grant, photo
The great gray-blue mission of Gran Quivira commands a wide expanse of territory in all directions. This "new" church is the second built at the site and was constructed about 1649.

Gran Quivira National Monument

(Grahn Kee-veer'-ah) Socorro County, New Mexico

Personnel: Custodian George Boundey, Gran Quivira National Monument, Gran Quivira, New Mexico.

Location: Approximately Lat. $34^{\circ} 15' N.$; Long. $106^{\circ} 1' W.$, Tps. 1 N. and 1 S., R. 8 E., New Mexico Principal Meridian.

Elevation: 6,585 to 6,671 feet above sea level. Area: 610.94 acres.

Established: by presidential proclamation, November 11, 1909.

Approaches: Railway---Santa Fe system to Mountainair, N. Mex., 26 miles from monument.

Highway---New Mexico State No. 15, a good road in dry weather, connects Gran Quivira with Mountainair.

Season: Custodian resident all year, but heaviest travel May through October.

Facilities: Free guide service provided from 8 a.m. to 5 p.m., daily.

No camping.

Nearest hotel and camp accommodations at Mountainair, N. Mex.

About the time the Pilgrims were landing at Plymouth Rock, Spanish padres in the Southwest were constructing Gran Quivira Mission to serve a great pueblo of the Piro Indians, a tribe now extinct. This small older church is now in very ruinous condition, but the "new" church, begun in 1649 and never completely finished, still lifts its massive walls to a 40-foot height in places.

Under direction of the padres, the local limestone was laid in mud mortar by Piro Indian workers,---legends say women and children, although it is certain men did the heaviest labor. The main church is cross-shaped, with the short arms forming the side chapels. Built to endure, the walls are from four to six feet thick. On the south side of the church were extensive arcaded monasteries whose ruined walls are still imposing.

Ten mounds of earth and stone which once were the terraced house blocks of the Piro pueblo almost surround the missions and provide another interesting angle for study. Some research in these structures has been done by the School of American Research and by the National Park Service, but most of the pueblo remains unexcavated because of the difficulty of stabilizing walls built of irregular angular stone.

Historians have called Gran Quivira "The City That Died of Fear", and this statement is essentially correct. The pueblo lay near the eastern extremity of the territory of the peaceful, farming Pueblos. About 1670, attacks by the fiercer plains and nomadic tribes became so severe that priests were forced to leave Gran Quivira, never to return. Continually harried by these enemies, this and other Piro towns shifted, decreased in population, and became virtually extinct, the last survivors living with the related Isleta Pueblo until recent years.

The limestone which caps the eminence on which Gran Quivira stands is cracked and fissured in many places and this fact has given rise to many legends of buried treasure. These accumulate inevitably around any old mission, but the presence of actual fissures or caves under the church and pueblo long has intrigued treasure hunters. One excavator actually sunk a 60-foot shaft vertically through the floor of the sanctuary of the older church. He found a narrow cave-like passage, it is true, and swore he was almost within grasp of the padres' gold, but most observers agreed the passage was natural and probably never before visited by man. The ruins are now protected by the Federal government, and such damaging operations are, of course, unlawful.

On warm days a draught of air rises so forcefully from one of the fissures that it will lift a hat placed over the opening.

In addition to Gran Quivira, the ruins of Quarai and Abo, neighboring mission churches, may be reached from Mountainair. Quarai, the largest, and Abo, the mother church, built of native red sandstone, present picturesque scenes among the cedar-clad hills.



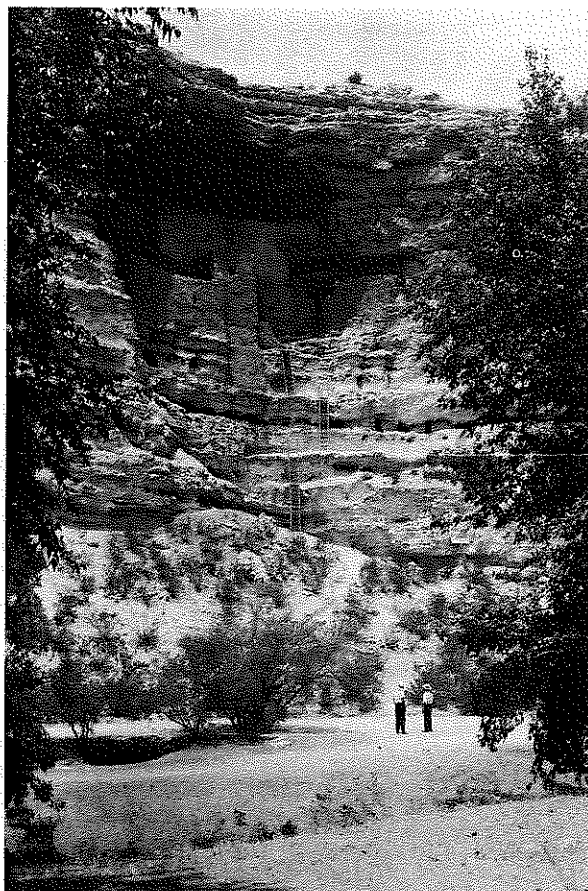
Mrs. John Ismay photo
Four groups of remarkable prehistoric towers, pueblos, and cliff dwellings cluster around the heads of small box canyons on the Utah-Colorado line. Uniquely constructed, these buildings have never been satisfactorily explained by archeologists.

Hovenweep National Monument

San Juan County, Utah; Montezuma County, Colorado

Personnel: temporary ranger in summer; frequent inspections in other months.
Location: Approximately Lat. 37° 23' N.; Long. 109° 3' W., Utah portion: Tps. 39 and 40 S., Rgs. 25 and 26 E. Colorado portion: T. 36 N., R. 20 W.
Elevation: Approximately 5,000 feet above sea level. Area: 285.80 acres.
Established: By presidential proclamation, March 2, 1923.
Approaches: Railway---Denver & Rio Grande Western to Mancos, Colorado.
Highway---A back-country road, passable in dry weather only, may be taken from Cortez, Colorado. Motorists should make local inquiry.
Season: Open all year, but most travel May through October when weather is warm. Also, a ranger is then present to guide visitors to these scattered and well-hidden ruins.
Facilities: None. Visitors must bring own food, shelter, water.

Even after centuries of exposure to the elements the fine masonry and peculiar, specialized construction of the Hovenweep ruins make them among the most interesting of Southwestern sights. Outstanding are the towers, never completely explained, unless it can be believed they were to protect water supplies which usually are situated at the heads of box canyons. Many of the towers are built in the canyons themselves and command no extensive view. Hovenweep means "hidden valley".



USNPS, Grant, photo
Montezuma Castle, the best-preserved cliff dwelling in the Southwest.

Montezuma Castle National Monument

Yavapai County, Arizona

Montezuma Castle is the best-preserved cliff dwelling in the United States and also is one of the most spectacular of its type, having its foundation built high in a vertical cliff, 46 feet above the talus slope.

The building is five stories high and contains 20 rooms within the walls proper. The total of rooms would be increased to 29 if dwelling and storage rooms on ledges below the principal structure were included. It shows about five different periods

Personnel: Custodian Earl Jackson, Montezuma Castle National Monument, Camp Verde, Ariz., and one permanent ranger.

Location: Approximately Lat. 36° 30' N.; Long. 111° 50' W., Secs. 8, 16, and 17, T.14N., R.5 E., Gila and Salt River Meridian.

Elevation: 3,150 to 3,350 feet above sea level.

Area: 520 acres.

Established: By presidential proclamation, Dec. 8, 1906.

Approaches:

Railway---Santa Fe system to Clarkdale.

Highway---Good five-mile road leaves the state highway at Camp Verde. Good approach roads from Highway 89 via Beaver Creek from Sedona and via Cornville.

Season: Climate pleasant all year but heaviest travel April through October.

Facilities: Free guide service provided from 8 a.m. to 5 p.m., daily. Parking area; small museum in room provided by operator until Government building is constructed; comfort stations; no camping. Operator offers Indian art and handicraft.

of construction.

This little jewel of a cliff dwelling labors under a serious misnomer. Montezuma, leader of the Aztec nation, most certainly never dreamed of the existence of the people who built it, nor did they have any cognizance of him. The name seems to have been bestowed by early white visitors.

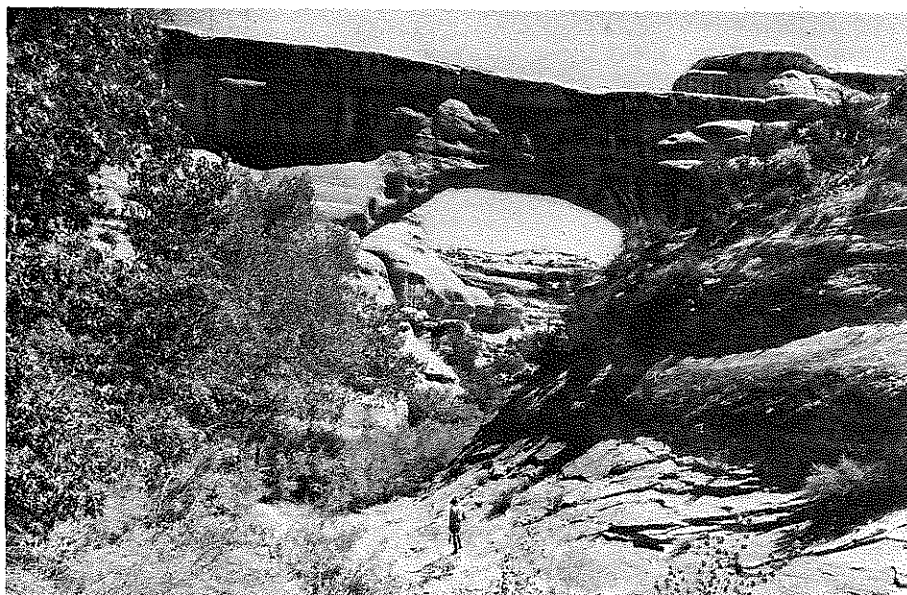
The Castle (really an apartment house) could have harbored 100 or more people. However, it is situated in a bend of Beaver Creek which at one time might have been the home of 400 to 500 persons, for in addition to the Castle there are other ruins. At the base of the white limestone cliff slightly to the east is a very large cave. To the west on a rocky point are ruins of 12 or 15 rooms. And just west of this point in a third cliff recess is a ruin of a cliff dwelling which at one time boasted six stories and at least 45 rooms. A number of cave rooms extend to the west along a ledge trail.

It is probable that at one time most of these cliff dwellings were connected by a ledge trail. Three-fourths of this trail still exist, and a quarter of a mile east of the Castle it tops out at the ruin of an old lookout house on the rim.

Montezuma Castle probably was built during Pueblo III times (the period of greatest Pueblo advancement), and was occupied into the Regressive Period (Pueblo IV) after the great northern Pueblo centers were abandoned. It may have been constructed in part as early as 1100 A.D. and probably was deserted by 1425 A.D. Here in the Verde drainage, of which Beaver Creek is a part, is the only place in the Southwest where we believe the culture of southern Hohokam really fused with that of the northern Pueblos. Architecture in the vicinity of the Castle shows some of the results of that fusion.

The Castle was obviously built for defense as were many other less noted ruins along the Verde River. Reasons may have been (a) friction between the Pueblos themselves; (b) pressure from invading tribes such as the semi-nomadic Yavapai; or, more logically, (c) both factors combined.

Why did they leave? Archeologists postulate (1) warfare with invaders, (2) disease because of poor sanitary conditions in the relatively newly adopted communal style of life, or (3) a combination of oppression from enemies and continual struggles with disease conditions. Whatever the reason, the Verde Valley peoples gave up their beautiful province, and scientists are still not certain where the majority of their numbers went, although some very likely drifted north to the Hopi villages, where their blood may still endure.



USNPS, Grant, photo

The Sipapu Natural Bridge, "The Portal of Life", has been so carved and smoothed and is so beautifully proportioned that it is difficult to realize its great size. A 20-story building could be set under the arch with room to spare. Its span is 261 feet, it is 35 feet wide, and rises 222 feet above the stream bed. Its narrowest part is 65 feet thick.

Natural Bridges National Monument

San Juan County, Utah

Personnel: Custodian Zeke Johnson, Blanding, Utah.

Location: Approximately Lat. 37° 25' N.; Long. 109° 45' W., Tps. 36, 37, 39, and 40 S., Rgs. 17, 19, and 20 E., Salt Lake Meridian.

Elevation: Approximately 6,023 feet above sea level. Area: 2,740 acres.

Established: By presidential proclamation, April 16, 1908.

Approaches: Railway---Denver & Rio Grande Western to Thompson, Utah, or Mancos, Colorado, and then by stage to Blanding, Utah, from where the edge of the monument is reached by automobile.

Highway--State Route 85 leads to within sight of Owachomo Bridge. Nine mile hike to other two bridges.

Season: May through October.

Facilities: Free guide service in summer months. No other facilities.

Three stupendous natural sandstone bridges, each a world wonder in its own right, make up this remarkable monument in the wild canyon country of southeastern Utah. Two large caves and numerous cliff dwellings are also included. Sipapu (after the Hopi term for the ceremonial entrance to the underworld) is the largest; Kachina (Hopi ancestral clan spirit) the most massive; and Owachomo (Rock Mound) the most delicate.



USNPS, Grant, photo

Keet Seel (Broken Pottery) cliff dwelling completely filled a cave 350 feet long and 50 feet deep and included more than 250 rooms. The three great cave pueblos of this monument are noted for their matchless settings, remarkable state of preservation, and spectacular size.

Navajo National Monument

(Nah'-veh-ho) Navajo and Coconino Counties, Arizona

Personnel: Custodian John Wetherill (part time), Kayenta, Arizona, and ranger (full time) in residence at monument.

Location: Approximately Lat. 36° 40' N.; Long. 110° 35' W.

Elevation: Approximately 6,500 feet above sea level. Area: 360 acres.

Established: By presidential proclamation, March 20, 1909.

Approaches: Railway---Santa Fe system to Flagstaff, Arizona.

Highway---BETATAKIN---From Shonto, Arizona, 12 mi. over fair dirt road (impassable in wet weather) to head of trail, then one mile walk to ruin. From Cow Springs-Marsh Pass road, 16 mi. over same type road, then one mile walk. From Marsh Pass, eight mi. by horse or foot up Teegi and Betatakin Canyons.

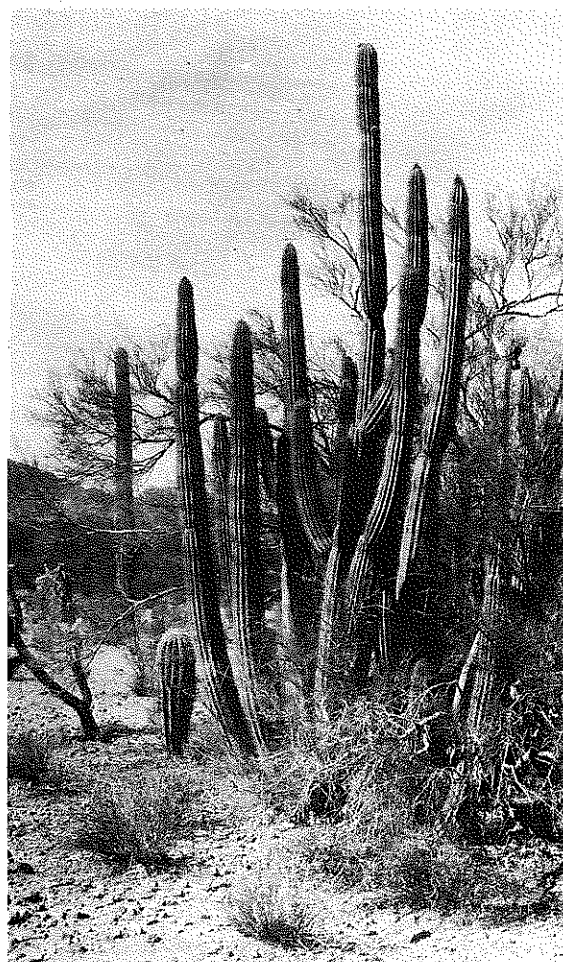
KEET SEEL---Nine mi. rough trail from Betatakin.

INSCRIPTION HOUSE---Cars can be driven to within three and one half miles of this ruin, then trip by horse or foot.

Season: Ranger resident all year, but weather good only May through October.

Facilities: none.

Seeing these three wonderful cliff dwellings in their indescribably colorful and wild surroundings constitutes one of the Southwest's greatest thrills, but it is a thrill not often experienced by "sissies". Roads are too bad, hiking or riding to strenuous for most persons. Betatakin is almost as big as Keet Seel; Inscription House is somewhat smaller.



Organ Pipe Cactus National Monument

Pima County, Arizona

Almost all of the stands of Organ Pipe cactus (*Lemaireocereus thurberi*) in the United States are contained in this huge area. So named because its upright, cylindrical stems (sometimes more than 20 feet high) often grow to resemble the pipes of an organ, the cactus really attains the center of its range 100 miles south of the international boundary, but its northern outposts occupy this waterless, formidable portion of the Arizona desert. Many other interesting plants, such as the Saguaro cactus, the ocotillo, the mesquite, and ironwood grow here also. Winter climate is excellent, but summer travelers are warned to check supplies of water, gasoline, and food before entering the area.

Personnel: none. Communication should be addressed to Superintendent Frank Pinkley, National Park Service, Coolidge, Arizona.

Location: Approximately 1,000 to 1,500 ft. above sea level.

Area: 330,690 acres.

Established: by presidential proclamation, April 13, 1937.

Approaches:

Railway: Southern Pacific to Ajo, Arizona.

Highway: Fair graded road from Ajo, Arizona, to Sonoyta, Sonora, Mex., passes through area.

Season: open all year but summer months extremely hot. Ideal climate Nov. through Apr.

Facilities: this newly-created monument is as yet completely undeveloped.

"Borderland between the habitable world and the uninhabitable" is one of the descriptions of the Organ Pipe Cactus National Monument area. Travelers under scorching summer suns are inclined toward the latter opinion, but winter visitors find an unusual wonderland.



In the heart of the desert, Pipe Spring, with its wonderful spring of cold, pure water flowing at the rate of over 65,000 gallons per day, its great cotton woods affording abundant shade, is a refreshing oasis.

Pipe Spring National Monument

Mojave County, Arizona

Personnel: Acting Custodian Leonard Heaton, Pipe Spring National Monument, Moccasin, Arizona.

Location: Approximately Lat. 36° 50' N.; Long. 112° 43' W. Sec. 17, T.40N., R.4W., Gila and Salt River Base and Meridian.

Elevation: 4,896 to 5,103 feet above sea level. Area: 40 acres.

Established: By presidential proclamation, May 31, 1923.

Approaches: Railway---Union Pacific RR to Cedar City, Utah.

Highway---Fair graded road from Fredonia, Ariz., 15 miles away, passes through the monument.

Season: Custodian present all year, but heaviest travel May through October when weather is fine.

Facilities: Parking area, comfort stations, picnic ground. No camping.

First white men came to Pipe Spring in 1856, having been sent out by President Brigham Young of the Mormon Church to explore and report on the Colorado River country and, if possible, make a treaty of peace with Navajo Indians living on the south side of the river.

Jacob Hamblin was captain of the party and among the members were William Hamblin, sometimes called Gunlock Bill, one of the best rifle men in a country where expert shots were common, Amon

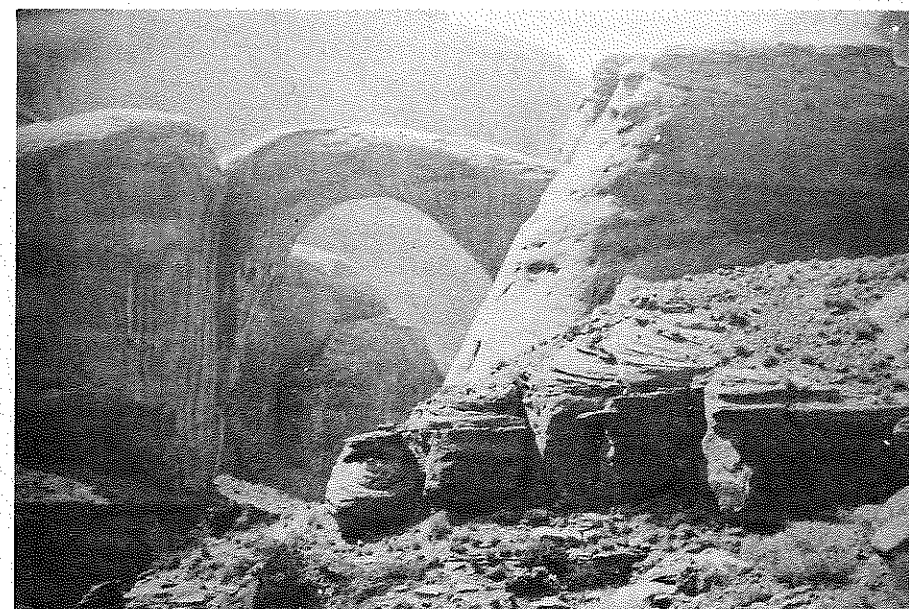
Tenny, and Dudley Levett. While camping at the then nameless spring, some of the men played a joke on William Hamblin by telling him he could not shoot through a silk handkerchief hung at a distance of 50 steps. Hamblin accepted the challenge but failed to puncture the silk cloth, not because he could not hit it, but because the silk, hung by the upper edge only, yielded before the bullet. Hamblin, somewhat vexed, turned to one of the party and dared him to put his pipe on a rock near the spring, which was at some distance, so that the mouth of the bowl faced directly toward the party, Hamblin wagering he could shoot the bottom out of the bowl without touching the rim. The wager was accepted, and Gunlock Bill promptly and neatly performed the feat. Whence the party gave the spring the name it bears to this day.

First settlers Dr. James M. Whitmore and Robert McIntyre in 1863 built a dugout of earth and juniper logs as headquarters of a cattle ranch. In the winter of 1865-66 Navajo and Piute Indians stole some cattle and sheep from a nearby pasture, and the two men set out to the southeast on the trail. Four miles from the fort they were killed and stripped by the Indians.

That night the Indians returned and raided the place but did not go into the dugout where Whitmore's eight-year-old boy was hiding. Knowing his father and uncle were killed, he spent the night in terror, and next morning started on foot for St. George, 96 miles away, to report the killings. Ten miles away at noon he met some men who relayed the information to the settlements. State militia several days later discovered the bodies, as well as some Indians wearing the murdered men's clothes. When the six Indians failed to talk except to deny the killings, they were executed, but it was later learned that they were peaceful Piutes who had merely obtained the clothing by trade. Real culprits, mostly Navajos and a few Piutes, went scot-free.

Mormon Bishop Anson P. Winsor, under the direction of Brigham Young, came in 1869 to build a fort, improve the spring, and take care of the tithing cattle for the Church. By 1870 he had finished the fort, consisting of two two-story red sandstone buildings facing each other across a courtyard, closed at the end with heavy gates. The north building was erected directly over the spring, water flowing through the south building so inhabitants were assured of a plentiful supply of fine water at all times. Bishop Winsor left the Spring about 1875 and the place was sold to private interests for a cattle ranch. For years it was an important cattle buying and shipping point, where drives were started for the railroad.

The old fort and auxiliary buildings have been repaired and eventually will be fitted with tools and furnishings of the period, it is hoped.



USNPS photo
Truly one of the world's wonders, Rainbow Bridge not only is the greatest of known natural bridges but is unique in that it has a symmetrical arch below and a curved surface above, thus roughly imitating a rainbow shape.

Rainbow Bridge National Monument

San Juan County, Utah

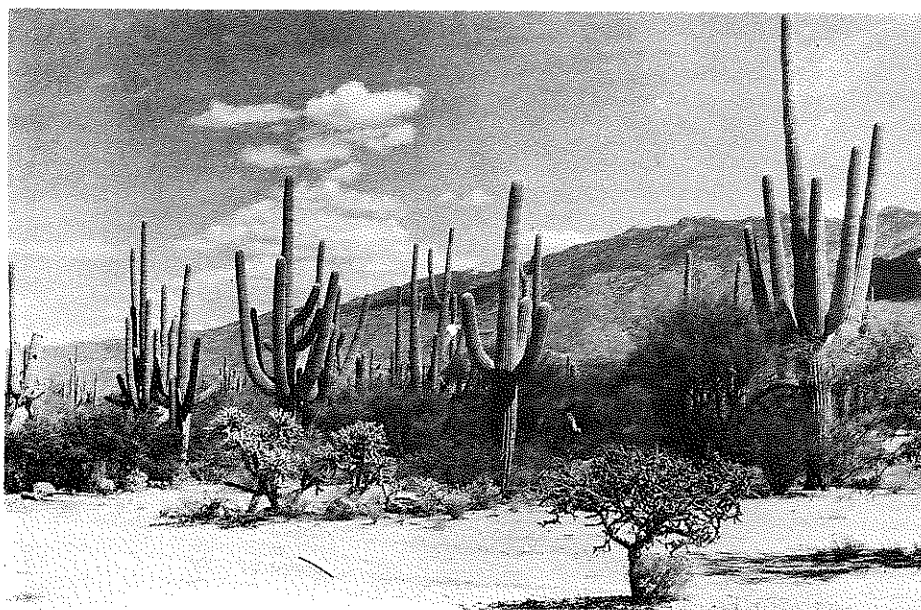
Personnel: none. Communications should be addressed to Superintendent Frank Pinkley, Southwestern Monuments, National Park Service, Coolidge., Ariz.
Location: Approximately Lat. 37° 5' N.; Long. 111° W.
Elevation: Approximately 4,500 feet above sea level. Area: 160 acres.
Established: By presidential proclamation, May 30, 1910.
Approaches: Railway---Santa Fe system to Flagstaff, Arizona.

Highway---Via Tuba City, Arizona, 74 mi. to Rainbow Lodge. First 50 miles graded, last 24 rough and impassable in wet weather. Via Kayenta, 56 mi. over back country roads. From Rainbow Lodge to Bridge is 14-mile horse or foot trip. If pack outfit is rented from Lodge, trip is at least two, preferably three, days.

Season: May through October.

Facilities: Hubert Richardson, operator of Rainbow Lodge, furnishes cabins, meals, and stock. Will meet train passengers in Flagstaff by arrangement.

Discovered August 14, 1909, as a result of descriptions by Piute Indians, Rainbow Bridge stands lonely in some of the most wild and scenic country in the United States. Of salmon-pink sandstone, its proportions are so nearly perfect it dwarfs all human architecture of the sort. If it could be arched over the Dome of the Capitol at Washington, there would still be room to spare.



USNPS, Grant, photo

A moonlit evening spent in a great saguaro forest brings an eerie feeling of unreality. The monument embraces the finest known stand of these great cacti, which, like many other plants, reach their finest growth near the northern limits of their distribution.

Saguaro National Monument

(Sah-wah'-ro) Pima County, Arizona

Personnel: Temporary ranger during winter months.
 Location: Approximately Lat. $32^{\circ} 12' N.$; Long. $110^{\circ} 32' W.$ Tps. 14 and 15 S., Rgs. 16, 17, and 18 E., Gila and Salt River Meridian.
 Elevation: 3,400 to 8,465 feet above sea level. Area: 63,284 acres.
 Established: By presidential proclamation, March 1, 1933.
 Approaches: Railway---Southern Pacific RR to Tucson, 19 mi. from monument.
 Highway---Graded road leads to monument boundary.
 Season: Open all year, but main travel Oct. 15 through May 15. Winter months have ideal climate; summer months hot.
 Facilities: none.

Lower Sonoran desert conditions at their best are exemplified in this spectacular grove of tall cacti on the western slope of the Tanque Verde Mountains near Tucson. Many visitors expect "deserts" to be barren sand dunes, but the Sonoran desert might be called arboreal. Its sandy soil is covered with a dense growth of mesquite, ironwood and palo verde trees, saguaro, barrel and cholla (cho'-yah) cacti, Night-blooming Cereus, ocotillo (o-ko-tee'-yo), and other forms. Visitors also see unique animal life: Roadrunners, Cactus Wrens, Phainopeplas; many small harmless lizards; Gambel quail; and, rarely, peccaries.



USNPS, Grant, photo

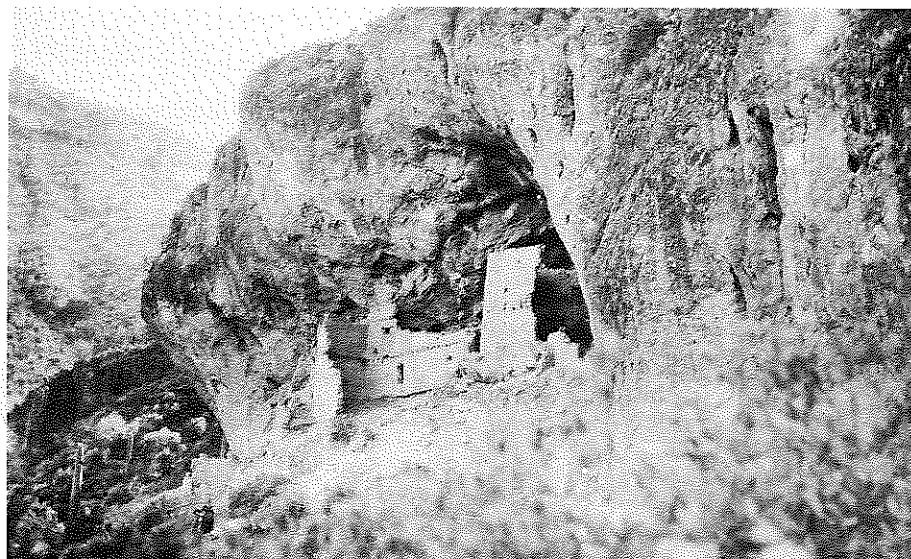
Sunset Crater erupted between 860 and 910 A.D., probably in 885 A.D., as shown by archeological studies. This only dated prehistoric eruption known to science enormously affected primitive Indian farmers living nearby.

Sunset Crater National Monument

Coconino County, Arizona

Personnel: none. Communications should be addressed to Ranger David J. Jones, Wupatki National Monument, Flagstaff, Arizona.
 Location: Approximately Lat. $35^{\circ} 22' N.$; Long. $111^{\circ} 30' W.$ T.23N., R.8E., Gila and Salt River Meridian.
 Elevation: 6,980 to 7,500 feet above sea level. Area: 2,040 acres.
 Established: By presidential proclamation, May 26, 1930.
 Approaches: Railway---Santa Fe system to Flagstaff, 16 mi. from monument.
 Highway---Unimproved rough road, four miles long, connects US 89 to monument.
 Season: Open all year unless road blocked by winter snows. Heaviest travel May through October.
 Facilities: None. Visitors should carry food and water.

Most recent cone among the 400 others of the San Francisco volcanic field, Sunset Crater rises 1,000 feet above its base in a lava flow which exhibits many types of volcanic phenomena, some quite unique. The basalt of its rim has been altered by hot gases and incrustated with hot spring minerals, crystallized from the steam which, for years, must have escaped as the volcano died. This action tinted the rim orange-red, and it appears as if the last rays of a setting sun were striking it, hence the name. Black ash spewed from the cone once covered 1,000 square miles and formed a mulch for prehistoric Indian farming.



The several surface houses and four cliff dwellings were built high in volcanic hills which overlook the artificial Roosevelt Lake at the scenic confluence of the Tonto and Salt Rivers.

Tonto National Monument

Gila County, Arizona

Personnel: Ranger-in-charge or caretaker in residence all year.
 Location: Approximately Lat. 33° 39'N.; Long. 111° 7'W. Sec. 34, T.4N., R.12E., Gila and Salt River Meridian.
 Elevation: 2,520 to 4,090 feet above sea level. Area: 1,120 acres.
 Established: By presidential proclamation, December 19, 1907.
 Approaches: Railway---Southern Pacific RR to Globe, 32 miles from monument.
 Highway---The Apache Trail, Arizona 88, leads past boundary.
 Season: Open all year, but ideal climate October 15 through May 15.
 Facilities: Parking area; small museum; water for picnicking, but no camping facilities. Hotel and camp accommodations in Roosevelt, four miles away.
 Free guide service provided from 8 a.m. to 5 p.m. daily.

Lower Tonto Cliff Dwelling is situated in a cliff recess more than 300 feet above the headquarters area and is reached by a half mile trail up the slope which has a number of switch-backs to reduce steepness of the climb.

The Upper Dwelling, second major cliff ruin on the monument, is located 300 feet above the Lower Dwelling and can be attained by a second half mile trail leading over the crest of a projecting mountain spur. This second major ruin is not in sight from either the headquarters area or the Lower Dwelling. Comparatively few visitors walk the Upper Ruin trail because of its roughness.

In the 13th and 14th centuries A.D. there lived in the Tonto

and Salt River basins a group of Pueblo Indians called by archeologists "Salado" people. Later on at least part of these peoples are thought to have migrated to the lower Salt and Gila River valleys and to have joined the different Hohokam Indians living there, but it is the Tonto Basin phase of their culture which the Tonto National Monument preserves.

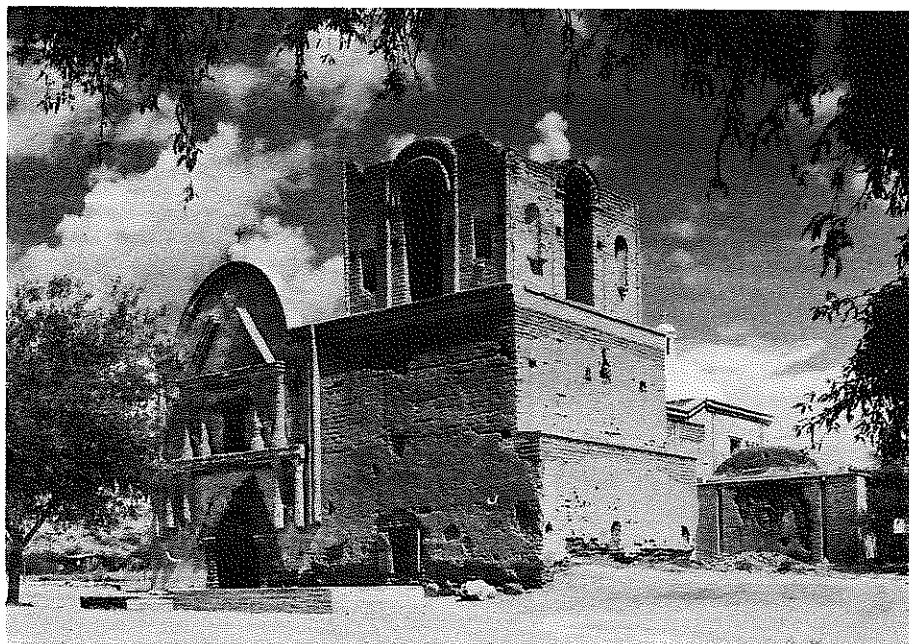
They were farmers who sought homes in easily fortified positions along stream courses--there are many prehistoric sites of this period situated in sheltered clefts of mountains bordering the fertile river valleys. These dwellings are well protected from the elements, hence walls are still intact and materials normally regarded as perishable are found well preserved. Exposed surface dwellings have crumbled or disintegrated until now only low mounds and outlines of walls remain.

The Salado People raised their maize, beans, pumpkins, and cotton in the rich valley soil. It is believed diversion dams, probably of poles, brush, and earth, were constructed across the streams and canals dug to deflect water to fields. Until Roosevelt Reservoir was created by waters impounded behind Roosevelt Dam, many of these canals were still visible in the valley. To augment their agricultural food supply, the Indians gathered nuts, cactus fruits, and seeds in season, and hunted game animals. Principal native vegetable foods were pifion, walnut, and jojoba nuts; mesquite pods; elderberries; and "Indian Wheat", a grass-like plant bearing seed about the size of millet.

Their food supply could easily have been conserved in the combined cliff dwelling-granaries. The irregular back wall itself was utilized for back and side walls, and a solid wall was constructed across the mouth of the shelter, usually with only a single entrance.

The Lower Dwelling is an excellent example of this type of construction. The two-story house of 29 rooms had a solid front masonry wall with the exception of several portholes for defense. The single entrance could be reached only by a vertical climb of 20 feet.

The larger Upper Dwelling, which in its heyday stood three stories high and contained 60 to 70 rooms, is much more irregular in construction. No plan was followed and the dwelling is a rather hit-and-miss affair insofar as shape and form are concerned. Outer walls have deteriorated so that entrances are not now discernible, although originally it very likely had more than one. Three major building periods can be distinguished by architectural studies. It has never been excavated.



USNPS, Grant, photo
Massive, designed by Spanish architects and laboriously erected by Indian workmen, the mission San Jose de Tumacacori stands as a worthy example of the little-publicized but very interesting Sonora-Arizona chain of churches founded by Padre Kino in the last years of the 17th century.

Tumacacori National Monument

(Too-mah-kahk'-o-ree) Santa Cruz County, Arizona

Personnel: Custodian Louis R. Caywood (mail address Box 797, Nogales, Arizona) and a ranger resident at all times.

Location: Approximately Lat. 31° 35' N.; Long. 111° 3' W. Sec. 30, T.21S., R.13E., Gila and Salt River Meridian.

Elevation: 3,247 to 3,265 feet above sea level. Area: 10 acres.

Established: By presidential proclamation, September 15, 1908.

Approaches: Railway---Southern Pacific RR to Tubac, Ariz., four miles away.
Highway---Paved US 89 runs past entrance gates.

Season: Open all year, but heaviest travel October through May.

Facilities: Parking area; comfort stations; museum. Hotel and cottage camp accommodations at Nogales, 19 miles from monument.

Free guide service provided from 8 a.m. to 5 p.m. daily.

Skillful handling of large masses of wall area and unbroken lines give a general architectural impression of solidity and strength to San Jose de Tumacacori, the fine old mission ruin in the Santa Cruz Valley of southern Arizona.

The historian Bancroft found mention of two Italian brothers by the name of Gaona, architects, who probably planned San Xavier and Tumacacori missions. Historians do not completely agree on

the age of the present structure, but most reliable information has it that the present church was built by the Franciscan Order, probably begun in the late 1700's and finished in 1822.

Its roots penetrate more deeply than that, however, for Padre Eusebio Francisco Kino had founded it as early as 1691, and records would indicate a church structure there as early as 1757 or 1772, although these early churches probably were some little distance on the other side of the river from the present site.

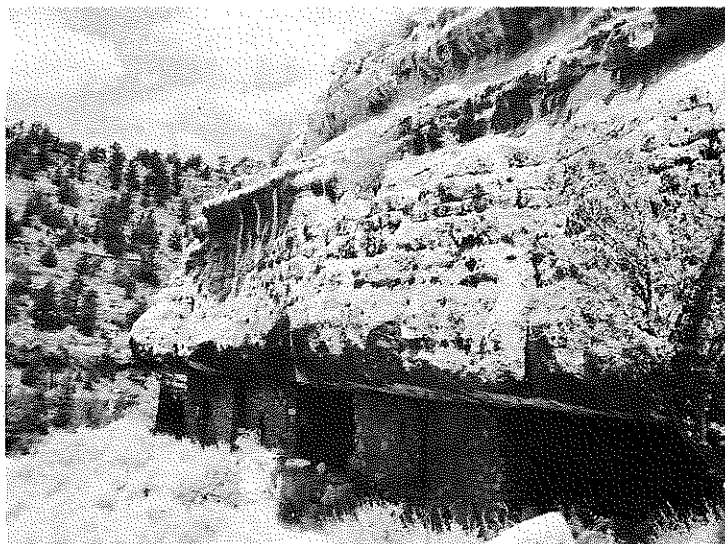
Kino, after work in Lower California, arrived in Pimeria Alta (now northern Sonora and southern Arizona) in March, 1687, founding the mother mission, Dolores. By 1695 he had established a chain of missions up and down the valleys of the Altar and Magdalena Rivers, and another chain northeast of Dolores. An amazing combination of humble priest, tireless explorer, and successful ranchman, Kino opened up this vast domain---with Indian labor, almost without the aid of a single white man. His name must always rank with those of the great pioneers of the world.

The ruins of Tumacacori as they stand consist of the mission church proper, a mortuary chamber within the cemetery walls, and the mounded heaps of walls marking the location of auxiliary building quadrangles. These were outlined by FERA excavations in 1934, and proved to be priests' and neophytes' quarters, kitchens, granaries, and the like.

The walls of the church are six feet thick, built of adobe and plastered both inside and out with lime mortar. The domes over the sanctuary, the sacristy roof, and belfry tower are constructed of burned brick, this being one of the characteristics of the Sonora-Arizona chain. Inside dimensions of the church are 18 feet wide by 75 feet long. Repairs to preserve the building for the future have been accomplished by the National Park Service and local agencies.

During the winter of 1937-1938 a museum and administration building was constructed with Public Works funds. Fashioned after the style of the Sonora missions, it re-creates for visitors the actual appearance of the old mission establishments in their prime. Native materials were employed in the characteristic manner---sun-dried adobe brick walls, burned brick cornices, and stuccoed exterior walls. Details and even colors were copied from Tumacacori's sister missions: the main entrance motif is that of Cocospera; carved entrance doors duplicate those of San Ignacio; arcades reproduce the ones at Caborca; et cetera.

Museum exhibits trace the Sonora mission development, portray historical events, and present graphically a general picture of Spanish times.



USNPS, Beaubien, photo

Three hundred little one-story houses tucked in shallow limestone caves and defensive forts built on precipitous promontories make the Walnut Canyon cliff dwellings an out-of-the-ordinary group of prehistoric Indian structures.

Walnut Canyon National Monument

Coconino County, Arizona

Personnel: Junior Park Archeologist Paul Beaubien, Walnut Canyon National Monument, Flagstaff, Arizona.

Location: Approximately Lat. 35° 10' N.; Long. 111° 31' W. Secs. 25, 26, 35, 36, T. 21 N., R. 8 E., Gila and Salt River Meridian.

Elevation: 6,300 to 6,760 feet above sea level. Area: 1,873 acres.

Established: By presidential proclamation, November 30, 1915.

Approaches: Railway---Santa Fe system to Flagstaff, Arizona, 11 mi. from monument.

Highway---Good graded loop road from US 66 passes through monument. West entrance road is seven miles long; east entrance road is six miles long.

Season: Archeologist in residence all year, but roads sometimes blocked by snow in winter. Heaviest travel May through October.

Facilities: Free guide service provided from 8 a.m. to 5 p.m. daily.

Picnic tables, benches and fireplaces. Visitors must bring own water. Pleasant camping in pine forest but no developed campground.

Twenty miles long and some 400 feet deep, Walnut Canyon was produced by the same geological forces that caused the Grand Canyon; namely, the region gradually uplifted and the stream was able to maintain its course. This additional power enabled the stream to carve out the gorge that we now see.

It cut through the various beds of the Kaibab Limestone, a shallow-water limestone deposited in the sea and containing many remains of marine fossils, into the Coconino Sandstone, a wind-blown dune deposit containing footprints and trails of land animals. The creek, working through zones of weakness along minor faults which cross the canyon, developed many meanders or "goose-necks," and when later these were carved through, cut-offs forming "islands" remained. As ages passed, weather scooped shallow caves out of the softer beds along the canyon's sides, and developed a series of recesses and ledges.

Here was an ideal situation for the home of primitive man who desired an easily defended location. Pueblo Indians utilized it to the utmost from about 900 to 1200 A. D., tree ring dating reveals, building about 300 cliff dwellings in the recesses between the ledges. Caves were small enough so that roofs and backs could be utilized as parts of the houses, which were necessarily only one story high. The inhabitants preferred the sunny south exposures of the canyon.

They planted their maize, squash and beans in little open glades in the pine forest on the rim, where their broken stone hoes occasionally are still picked up. Water had to be carried up from the stream bed, but its supply probably was fairly constant before a modern dam stopped the flow. Game and wild plant food was abundant.

James Stevenson of the Smithsonian Institution in 1883 stated: "Articles of wood, corn-cobs, and even the perfect grains of corn; walnuts, bones of elk, antelope, and wolf; portions of wearing material of a fabric resembling the mummy cloth of Egypt, but made from material unfamiliar to the explorers, and other perishable articles, were found in abundance buried in the piles of debris which partially fill these deserted homes, and would, at first thought, seem to indicate somewhat recent inhabitancy. On the other hand, however, the preservative qualities of the atmosphere of this region are remarkable, and it is the belief that centuries have elapsed since the last of the departed race or races occupied these old cities and villages as homes." During the interval from the time of Stevenson's visit and the taking over of the area by the Forest Service there was much vandalism. Practically all objects left by the Pueblos were removed, and the search for those materials broke down and destroyed many of the dwellings.

Scientists of the Museum of Northern Arizona at Flagstaff, who have done much research in the area, consider the Walnut Canyon people ancestral to those who built Elden Pueblo and other sites nearby,--possibly akin to the forebears of the modern Hopi.



USNPS, Grant, photo
Glistening white gypsum sand dunes, ten to sixty feet high, cover 500 square miles of the Tularosa Basin in southern New Mexico. About 40 percent of this area is within monument boundaries.

White Sands National Monument

Doña Ana and Otero Counties, New Mexico

Personnel: Custodian Tom Charles (part time), Alamogordo, New Mexico, and a full-time ranger in residence at the monument.

Location: approximately Lat. 32° 48' N.; Long. 106° 10' W. Tps. 17, 18, and 19 S., Rgs. 5, 6, 7, and 8 E., New Mexico Principal Meridian.

Elevation: approximately 4,000 feet above sea level. Area: 143,145.91 acres.

Established: by presidential proclamation January 18, 1935.

Approaches: Railway-Southern Pacific RR to Alamogordo, 17 miles from monument. Highway-US 70 passes through monument.

Season: open all year. Visitors appreciate the warmth of the sands in day-time in winter, their coolness in night-time in summer.

Facilities: parking area, comfort stations, museum. Hotel accommodations in Alamogordo; cottage camps nearby and in Alamogordo.

Gilbert Grosvenor, editor of the National Geographic magazine, stated during his visit to the White Sands that he had observed three of the natural wonders of the world in three days; namely, Grand Canyon, Carlsbad Caverns, and the White Sands.

Nor was he overstating the case, for the White Sands is an amazing and almost unique phenomenon. There are many other sand

dune regions in the world, but there is only one other composed of gleaming gypsum, and it is tiny when compared with the 176,000 acre expanse of White Sands.

There are several geological theories as to the origin of the Sands, but there seems to be some agreement that the material was derived from great gypsum beds which mountain-making movements elevated above the margins of the Tularosa Basin. Weathering and erosion carried the gypsum into the broad land-locked lake west of the Sands, where re-crystallization took place. Then the prevailing southwesterly winds blew it into dunes, and the process still continues.

The Sands are extremely interesting to students of animal and plant life. Plants can grow in the damp flats between the dunes, but only those which can keep their heads above encroaching sands by elongating themselves can survive in the dunes themselves. Yucca specimens have been found with roots 40 feet long; sumac with roots of 50 feet. Apparently as a protective measure, some of the animal life has adapted its color toward the whitish. In the Sands certain mice are white or whitish; in the brown desert nearby they are gray or brown; in the black lava beds to the north they are sooty to black. White lizards dart here and there and many insects are light in hue.

The monument embraces only about one-third of the area of the Sands. It is estimated that enough gypsum is contained in the area outside the monument to supply the needs of the United States for more than 1,000 years.

USNPS, Grant, photo





USNPS photo
Red-walled Wupatki (Hopi for Tall Houses), the largest ruin on this monument, has long been famous for the great amount of timber and other perishable material which fortunately was preserved there. Dr. Douglass was aided greatly in his tree ring studies by wood specimens from Wupatki.

Wupatki National Monument

(Woo-pah't'-kee) Coconino County, Arizona

Personnel: Ranger-in-charge David J. Jones in residence except December through March, when a caretaker guards the monument.

Location: approximately Lat. 35° 32' N.; Long. 111° 21' W. Rgs. 8, 9, 10 E., Tps. 25, 26 N., Gila and Salt River Principal Meridian.

Elevation: 4,898 to 5,460 feet above sea level. Area: 35,865.30 acres.

Established: by presidential proclamation, December 9, 1924.

Approaches: Railway---Santa Fe system to Flagstaff, 49 miles from monument.

Highway---All-weather U.S. 89 passes within five miles of the Citadel group of ruins. This five mile road is rough and a similarly rough road leads nine miles farther to the monument headquarters at Wupatki Ruin.

Season: open all year, but heaviest travel April through October.

Facilities: free guide service provided from 8 a.m. to 5 p.m. from April through November. No developed camping facilities. Hotel and camp accommodations in and near Flagstaff. Visitors should bring own food, water to monument.

Red sandstone prehistoric pueblos of Wupatki, backgrounded by black basaltic cliffs and facing a view of the Painted Desert, represent an extremely interesting epoch of Southwestern prehistory. Several thousand habitation sites have been discovered on the monument, ranging from the pits of ancient earth lodges

to pueblos three stories in height, most of which were occupied between the eleventh and twelfth centuries A.D. It was one of the most densely populated portions of northern Arizona in its heyday--a veritable garden to Indian farmers.

Research indicates that occupation of Wupatki and vicinity was made possible by eruption of Sunset Crater about 885 A.D. When a mulch of black cinders had been spread over the entire area conserving what little moisture fell in this arid land, Indian farmers discovered the value of the new fields. The news brought Pueblo people not only from surrounding regions but from as far south as the Hohokam province in southern Arizona. Here truly was a melting pot of different peoples and customs.

Wupatki Ruin proper was built on a small red sandstone finger at the base of a huge basaltic cliff. It consists of more than 100 rooms, some of which have been excavated, a few restored. At the base of the ruin on one side is a unique circular masonry structure which probably served as an open-air ceremonial chamber or dance plaza. On the other side of the ruin is an unexcavated oval depression which is apparently a ball court analogous to those recently described from southern Arizona. Not only is Wupatki the best preserved ruin on the monument, but it was the last to be abandoned.

The Citadel or Tawalanki (Fortified House) stands on a small roughly circular mesa in the northern part of the monument. From the ruin one can cast a stone into a curious and spectacular sink-hole, 100 yards across and 160 feet deep. Around two of these limestone sinks the Pueblos clustered dwellings. Probably water was once available there. The Citadel, not yet studied, probably has about 50 rooms, and has some unusual architectural features, such as terraces and detached habitation rooms. At the foot of the Citadel mesa is Nalakihi (House Standing Alone) a small pueblo, partly restored by a CWA project.

Wukoki is perhaps the most spectacular ruin on the monument. It perilously perches its three-story height on an isolated red sandstone monolith in the canyon-cut plain.

Crack-in-the-Rock is at the northern tip of the monument and very difficult of access. It occupies a narrow precipitous rock which has broken off the main mesa, and must have been built with defense as the main objective. Rooms built at the cliff base guard one entrance which leads up a crack in the rock into the upper dwelling. A loop-holed wall guarded the only other means of approach: (1) a flight of steps in another crack; and (2) a talus slope.



Just piles of earth and rocks to most visitors, the mounds at Yucca House cover one of the Southwest's finest ruins, which, when excavated, will undoubtedly prove of archeological interest and educational value.

Yucca House National Monument

(Yuh'-kuh) Montezuma County, Colorado

Personnel: none. Communications should be addressed to Superintendent Frank Pinkley, Southwestern Monuments, National Park Service, Coolidge, Ariz.

Location: Sec. 35, T. 35 N., R. 17 W., New Mexico Principal Meridian.

Area: 9.6 acres.

Established: by presidential proclamation, December 19, 1919.

Approaches: Railway---The monument is about 15 miles south of Cortez, Colo., about one mile north of the well traveled road from Cortez to Shiprock, N.M. In wet weather it is difficult or impossible to drive the one mile, however, for it is necessary to negotiate muddy country lanes.

Season: summer months, May through October.

Facilities: none.

Known for many years, these ruins were first described by Prof. William H. Holmes in 1877, the two most conspicuous mounds being designated "Lower House," and "Upper House," the latter the most prominent and rising to a height of from 15 to 20 feet above its foundation and dominating the many smaller mounds by which it is surrounded. Fossiliferous limestone from some distance away was one of the most-used construction materials. Dakota Sandstone and diorite porphyry were also utilized. The village was occupied in the Classic Period.

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