



A Sky Full of Wonder and a Mosaic of Biodiversity



Photo by Artist in Residence Ethan Smith

Greetings

WELCOME TO GUADALUPE MOUNTAINS National Park. Guadalupe Mountains National Park protects one of the world's best examples of a fossil reef, diverse ecosystems, and a cultural heritage that spans thousands of years.

Our park staff are here to help make your visit a truly memorable event and will be happy to help you plan your visit in the park and surrounding areas. Guadalupe Mountains National Park has over 80 miles of hiking trails to explore, ranging from wheelchair accessible paths to strenuous mountain hikes, including an 8.4 mile roundtrip hike to Texas' highest mountain, Guadalupe Peak (8,751').

As you travel and spend time in the area please remember to keep safety in mind. Deer and other wildlife are plentiful—enjoy watching wildlife, but remember they often move across roads, especially in the evenings; be vigilant while driving during twilight hours. Hikers should be prepared for rapidly changing weather conditions. Hikers can become dehydrated in our dry climate, so carry plenty of water (one gallon per person per day is recommended). Always check with a ranger before venturing into the backcountry.

We wish you a rewarding experience in every way.

Sincerely,

Eric Brunnemann
Superintendent

By Elizabeth Jackson

GUADALUPE MOUNTAINS NATIONAL PARK is full of wonderful surprises. From the disappearing streams of McKittrick Canyon to the Sky Island coniferous forest and meadow of the Bowl trail, no matter where you hike in the park, there is always something unique to experience and learn. One area of the park that is often overlooked is the Salt Basin Dunes. Located along the western area of the park, they are tucked away, down a secluded, rugged road. This is an area where expensive cars fear to travel. The Salt Basin Dunes glisten in the sun, beckoning the adventurous to trek into its white, shifting landscape. Although these sand drifts originated in an area once covered by water 1.8 million years ago, they have no water current to change the ripples now. The wind and wildlife are tasked to paint patterns in the sand here. Created by a fault in the crustal rocks some 26 million years ago, the gypsum grains cover almost 2,000 acres on the western range of the park. This stunning, austere beauty calls the visitor who is looking to explore more remote areas.

The Salt Basin Dunes picnic area and trailhead are located 50 miles from the Pine Springs Visitor Center. Travel west

for 23 miles along Highway 62/180 and turn right on FM 1576 just before you reach the town of Salt Flat. Travel north 17 miles and then turn right on William's Road. Continue on the dirt packed road for 8.5 miles. Use caution and travel slowly. There is no water, so be sure to bring what you need.

An alternate route to the dunes incorporates a visit to Dell City first. Travel west on Highway 62/180 for 30 miles and turn right on FM 1437. Continue for 13 miles, and look on the left side for the familiar National Park Service arrowhead signaling the park contact station. Enter the parking lot into the Dell City Contact station to visit the new exhibits and listen to a brief electronic narration regarding park logistics and information on the dunes site. From the contact station, visitors can continue to the dunes by driving north through town and turning right on FM 2249 and then right on FM 1576. Then turn left on William Road (about one mile from FM2249). When visitors arrive to this day use area, they can learn more about the dunes and the western escarpment formation from the recently installed interpretive wayside exhibit that provides visitor information on the geology of the ex-

posed range. Facilities at the trailhead include accessible parking, RV/bus parking, picnic tables with shade structures, as well as pit toilets. Camping is strictly prohibited in this area.

As you begin your 1.5 mile hike to the dunes, you enter ecologically sensitive terrain. The area landscape leading to the dunes is fragile and visitors are asked to stay on the trail. A darkened cryptogamic crust can be observed on the sandy soil alongside the trail. This crust assists vegetation and allows it to take hold, while providing a thinly layered nitrogen source. This delicate layer also helps the dunes resist the strong winds and prevents erosion.

Once at the dunes, as you look over to the north end, a sixty foot high dune rises, meeting the nearby western mountain range. Smaller dunes surround the area and soft red quartz grain dunes can be seen north of the Patterson Hills area, giving the illusion of a misty pink landscape. Many will visit the Guadalupe Mountains and never venture to the Salt Basin Dunes, but these gypsum sands reflect and beckon the seasoned hiker who is seeking the road less traveled.

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The National Park Service was created in the Organic Act of 1916. The new agency's mission as managers of national parks and monuments was clearly stated.

"...to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations."

To support that mission, the collecting of natural and historic objects is prohibited.

Telephone and Web Directory

Guadalupe Mountains National Park

400 Pine Canyon Drive
Salt Flat, TX 79847
915-828-3251 ext. 2124
www.nps.gov/gumo

Facebook

www.facebook.com/Guadalupe.Mountains

Twitter

@GuadalupeMtnsNP

Instagram

[guadalupe-mountains-nps](https://www.instagram.com/guadalupe-mountains-nps)

Food, Lodging, and Camping Carlsbad Chamber of Commerce

575-887-6516
www.carlsbadchamber.com

Van Horn Texas Visitors Bureau

432-283-2682

Road Conditions

New Mexico: 800-432-4269
www.nmroads.com
Texas: 800-452-9292
drivetexas.org

Emergency: Call 911

Guadalupe Mountains NP Visitor Center (Nature Trail)

Coordinate System: Lat/Long
Datum: WGS 1984
Latitude: 31.89370° N
Longitude: 104.82214° W

Western National Parks Association

As a nonprofit education partner of the National Park Service, WNPA supports 71 national park partners across the West, developing products, services, and programs that enrich the visitor experience.

In partnership with the National Park Service since 1938, WNPA advances education, interpretation, research, and community engagement to ensure national parks are increasingly valued by all.

Parks as Neighbors

By Tyler Young,
Community Volunteer Ambassador

I OFTEN THINK THAT EVERY PERSON SHOULD HAVE a national park that they consider part of their community. A quick glance at a map, though, makes it seem like that's just not possible. Many towns and cities don't have a park nearby, and the inverse holds as well; many parks - like Guadalupe Mountains - are geographically isolated from most people. However, if we consider a community not as a boundary drawn on a map, but as a set of experiences shared with people, new opportunities are created. Likewise, we can also alter our definition of a park. It's common to think of national parks merely as lands "set aside" by Congress, as if with the stroke of a pen one could magically fence off thousands of acres and protect it from outside influence. This all-protective boundary does not exist. Rather, parks must work with people near and far to help main-

tain a balance between what happens to fall on one side of a park boundary and what remains outside of it.

This is precisely why parks must become part of communities. As the Department of the Interior puts it, parks must "be a better neighbor ... by improving dialogue and relationships with persons and entities bordering our lands." Much of this effort is focused on the "entities" in that statement: municipal governments (and their tourism boards), corporations, and social organizations. There is still plenty of room left for the "persons," however. Parks like Guadalupe Mountains are investing in volunteer events and opportunities. Whatever your skillset or interests, you are likely to find a park that fits. Whether you like photography, hiking, backpacking, citizen science, or education, there's a park looking for someone like you to volunteer on a short- or long-term basis.

It's a bold proposition, but a simple one: let's push parks beyond being a once-in-a-lifetime vacation destination. Instead,

let's develop life-long connections between the public and their parks. To do this effectively, we must identify the needs of surrounding populations. Parks can be a place for healthy recreational activities in the absence of other options. Imagine that: a doctor prescribing their patient a weekly hike! Or a counselor referring their client to an art therapy program in a nearby park. We could see on the dinner table food grown in a volunteer-tended plot at a historical farm site. On the weekend, one might attend a cultural event at their favorite park, and stay afterwards to watch a skilled volunteer share their passion for astronomy at a star viewing party. Seeing a park ranger may never be as regular as seeing your local bank teller, or grocery store clerk. There is plenty of room, though, to make parks part of people's weekly, monthly, or yearly routines. The first invitation was sent in 1872 from Yellowstone. The Guadalupe Mountains sent theirs one hundred years later. There will never be a deadline to accept.

...Ask Lupe! continued

*Lupe,
Do you allow campfires in the park? We like to roast s'mores!*
Gregg T.

Salutations Gregg!

We never allow campfires in Guadalupe Mountains National Park! It's way too dry and hot here for fires. Plus, we get pretty windy here too. Just last week, a strong gust nearly blew me out of my new favorite tree! And just a few weeks before that, a really strong gust actually blew down my old favorite tree! >:| With such high winds, and this dry desert environment, wildfires can catch and spread quickly. Luckily, the rangers that work at my park do a good job of trying to stop wildfires from spreading too much, so they don't allow campfires, but they do allow gas or propane stoves! I'd really appreciate it if you didn't use any sort of fire or charcoal grills in order to help prevent wildfires. Otherwise, I might not have any trees left to be my favorite anymore. :(Yours, eternally grateful,
Lupe

*Hi Lupe,
Whose scat is scattered all over the trails? Sometimes its red, sometimes it's a bit darker, and sometimes it has a lot of berries! We see it everywhere when we go hiking!*
Leah (Lee-ahh, not Leah)

My dearest LeeAHH (; Well, if you really must know, it's mine! Heh heh. A ringtail's gotta do, what a ringtail's gotta do! I'm just such a busy creature when I wake up at night, and I'm running to and fro, that it just kind of ends up... all over. It's not all entirely my fault though! In this desert environment, things decay and decompose a lot slower than in other environment, so my business sticks around and becomes everybody's business, teehee. Your buddy,
Lupe

Have a wild question you want answered? Ask Lupe!
Email destiny_d_gardea@nps.gov and we'll get your questions to our park's mascot asap.



Volunteerism Makes a Difference

WE WOULD LIKE TO EXTEND OUR SINCERE GRATITUDE TO THE DEDICATED effort and talent that volunteers have brought to Guadalupe Mountains National Park. Volunteers play a vital role in fulfilling our mission of preserving our natural and cultural heritage and sharing that heritage with the visiting public. Volunteers do everything from staffing the information desk, roving interpretation, patrolling trails, to trail maintenance, research, and more.

To become a Volunteer-In-Park (VIP) visit www.volunteer.gov or contact:

Guadalupe Mountains National Park

Amanda Cooper, Volunteer-In-Park Coordinator
915-828-3251 ext. 2311

Ask Lupe!



*Dear Lupe,
I love hiking! It's one of my favorite things to do! I'm so looking forward to visiting your park one day, but I've never hiked Guadalupe Peak before- do you have any advice for me?
Lots of love,
Elizabeth J.*

Hi Elizabeth!
I love hiking too! In fact, that's one of the things I love to do the most. I've hiked all up and down Guadalupe Mountains—and

I can tell you several things to prepare you for hiking up Guadalupe Peak. First things first! Bring plenty of water! I've seen so many poor humans start the hike and turn back because they ran out too fast! The best humans usually take about 6-8 water bottles with them (one gallon)—and salty snacks too! I always try and get them to share some with me, but no luck so far. I know they're just looking out for me and my best eating habits, but it sure is darn tempting! Also, bring plenty of sun protection! It's so hot here! I personally prefer hiking at night, but y'all humans sure are blind when the sun sets. When hiking during the day my fur coat helps, but you should bring plenty of sunblock and some hats that cover all your face and head. I've seen so many people change colors on the hike! They start out one color and turn red at the end! Haha! Anyway, I hope this helps, Elizabeth! And I can't wait to see you on the trails!
Lupe

Philip B. King: Geology Giant of the Guadalupe

by Boyd Kennedy

PHILIP B. KING WAS BORN IN INDIANA IN 1903 and graduated from the University of Iowa with a geology degree in 1924. He went on to obtain advanced degrees from Iowa and Yale University based on his studies of the geology of the Glass Mountains of West Texas. First as a curious college student, and later as a respected member of the U.S. Geological Survey, King combed the vast West Texas landscape by primitive automobile and on foot, examining rocks and seeking out fossils, taking copious notes and sketches, and filling the car with rocks that destroyed the upholstery and broke the car springs. There were no paved roads. On one outing the rear axle of his car sheared off, as King and his assistant jolted to a stop and watched a wheel roll off into the desert. King's unpublished autobiography, the source for much of this article, describes the people and places that he encountered in what is now Guadalupe Mountains National Park.

King first visited the Guadalupe in 1926 when he and a colleague drove west through Guadalupe Pass in King's Model T Ford. The travelers on the Butterfield Overland Mail wagon in 1858 would no doubt have recognized King's description of the route: "The roads were incredibly bad, no more than a winding rocky track, but we arrived at Guadalupe Pass, where we could look down over a great sequence of sandstone and limestone strata. We descended over an incredibly steep and winding road, which it would have been impossible for us to have ascended in our Model T."

Later that same year (1926), King heard of a novel theory circulating in geological circles, that some of the strange formations he and others had noticed in the Glass Mountains might be ancient marine reefs. King's later field work helped confirm that the Guadalupe and the Glass Mountains are in fact aboveground portions of the 400-mile long horseshoe-shaped Capitan Reef. (See Figure 1.)

After many seasons prowling the West Texas landscape, King finally got his chance in 1934 to make an extended study of the Guadalupe Mountains. Now employed by the U.S. Geological Survey, he and his wife Helen drove to Frijole Ranch and made it their base camp for almost a year. King

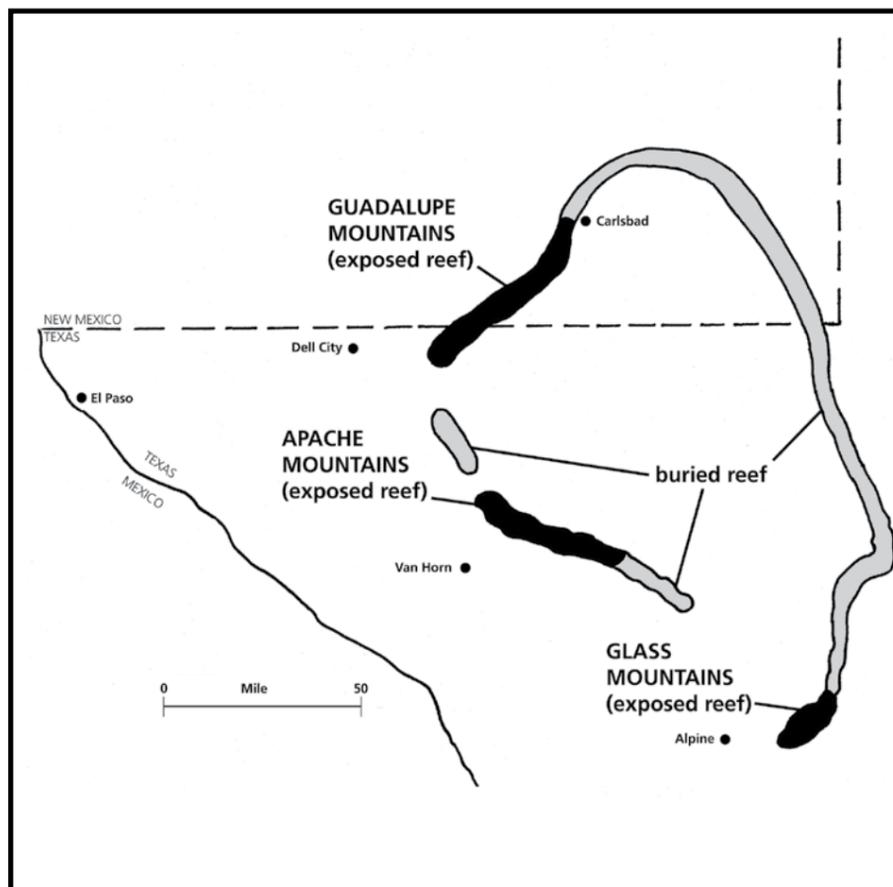


Figure 1. The Capitan Reef formed 260-270 million years ago. Much of it is buried, but faulting and uplift have exposed portions of the reef in the Guadalupe, Apache, and Glass Mountains.

described their approach as follows: "This was the "dustbowl" period, and the sky was murky with dust blown in from the Great Plains. Going north from Van Horn I couldn't show Helen much of the country until, from only a short distance, the great cliffs of El Capitan and Guadalupe Peak loomed up out of the murk." The Kings arrived at Frijole Ranch several days before the letter they had mailed from Austin! Nevertheless, they received a warm reception from the Smith family, who owned and operated Frijole. The Kings moved into one of the guest cabins and took their meals with the Smiths.

Philip and Helen found that the Smiths were very self-sufficient. The family members grazed sheep and by hard work raised almost everything they ate without electricity or refrigeration. As King put it, "Mrs. Smith canned large quantities of meats and vegetables that they had raised on their own place; when unexpected guests arrived all she had to do was open some more cans." The ranch house and the cabins were lit by an acetylene gas light system, while the hydraulic ram and storage tank in the front yard provided water from the spring. Visitors to Frijole Ranch today can see the remnants of those water and light systems, as well as a restored version of the old Smith family orchard with its spring-fed irrigation ditches.

King spent the first two months of 1934 examining the mountain range from top to bottom between McKittrick canyon and El Capitan, making detailed notes and drawings of the marine organisms that built up the reef, the talus and slide debris on the reef front, and the transition zone where reef rocks meet deep ocean deposits laid down at the base of the reef. That summer he rented a cabin near the Bowl from the Hunter-Grisham Corp. and explored the high-country area of the park, roaming as far as Dog Canyon. King then turned his attention to the western escarpment, leaving Frijole with an assistant each day before daylight, driving to Williams Ranch, and then hiking overland for an hour or more just to get to the starting place for their day's work. On payday Phillip and Helen drove to El Paso to cash his paycheck and spend the money eating and shopping in El Paso and Juarez. They would bring back a 100 pound block of ice wrapped in blankets, and for the next few days everybody at Frijole Ranch celebrated with iced tea and ice cream.

King also learned that Guadalupe Peak is a dangerous place during summer thunderstorms. On one day in September, as the Kings and another couple reached the summit, ominous clouds suddenly gathered

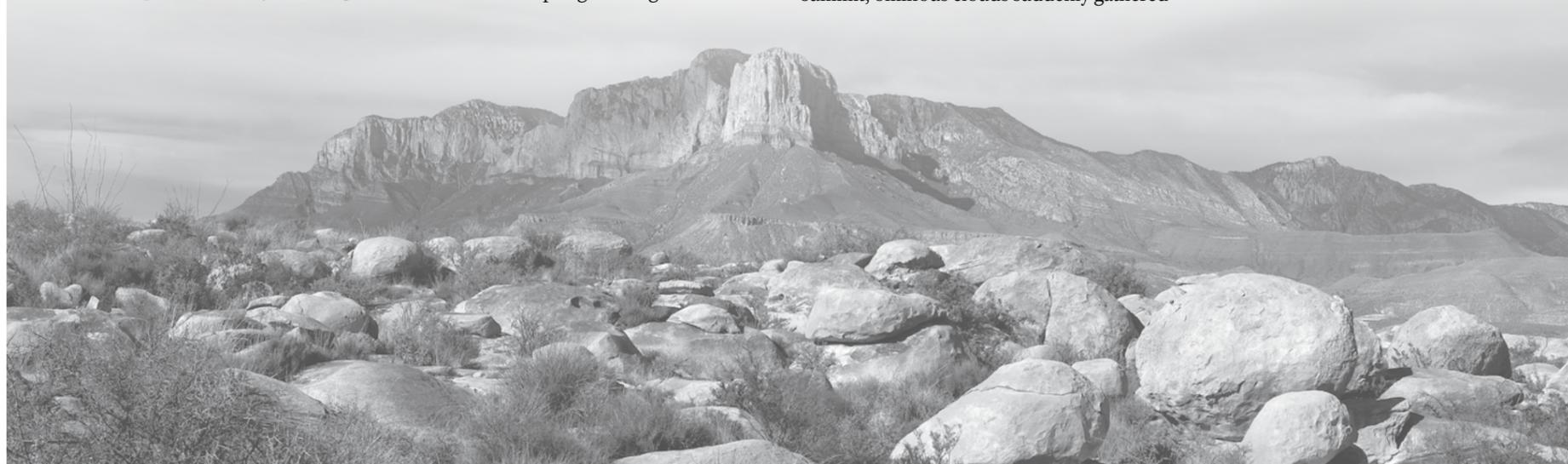
overhead, and the air became "vibrant" with electricity. Realizing they were in danger, the group fled the peak as fast as they could go. King was scared of lightning, and wrote that he considered the women's pace on the way down to be "painfully slow." He did not record whether he communicated those sentiments to Helen.

King's last official act before leaving Frijole in early 1935 was to auction off the government pickup truck he had worn out jolting over the harsh desert terrain. This proved to be a challenging assignment, considering money was scarce and the local population almost nonexistent. When the bidding stalled at \$10 King put his foot down and refused to sell until the bids improved. The Smith family finally bought the truck for \$90, and the Kings drove away to Phillip's new posting in Washington, D.C. as the first snow of the winter began to fall at Frijole Ranch.

Over the course of his long career King worked as a field geologist throughout the United States, taught at the Universities of Texas, Arizona, and California – Los Angeles, and authored fine descriptions and maps of the geology of North America. Yet he returned to the Guadalupe whenever he got a chance, visiting Wallace Pratt at his cabin in McKittrick Canyon to talk shop, and acting as host and guide for visiting geologists as late as the 1960s.

The formations in the Guadalupe Mountains first documented by King have by analogy yielded much information about similar formations found underground in the nearby Permian Basin and elsewhere in the world. More recently, NASA scientists have examined the Guadalupe Mountains to better equip themselves to decipher the sedimentary landscape of Mars. Who could have predicted that knowledge first gathered by Philip King in his Model T Ford would turn out to be useful on other planets? What will these rocks tell us next?

Philip King's superb field work during his time at Frijole Ranch was by far the most thorough and in-depth study of the Guadalupe Mountains to date. His report was a tour de force titled, simply, Geology of the Southern Guadalupe Mountains, Texas. It is available online at <https://pubs.er.usgs.gov/publication/pp215>.



Guadalupe Mountains National Park



ENTRANCE FEE
\$7.00/person (16 & older)
Free for Senior, Access,
and Annual Pass cardholders
Fee subject to change.

NPS Photo/Michael Haynie



NPS Photo/Dave Bieri



NPS Photo/Dave Bieri



NPS Photo

SERVICES

Facilities and services within and near Guadalupe Mountains National Park are extremely limited. The nearest gas stations are 43 miles west (Dell City, TX), 35 miles east (White's City, NM), or 65 miles south (Van Horn, TX). There is no campstore; bring everything you need with you.

INFORMATION & EXHIBITS

Pine Springs Visitor Center

Elevation 5,730'. On Highway 62/180, 55 miles southwest of Carlsbad, 110 miles east of El Paso, and 65 miles north of Van Horn on Highway 54 and Highway 62/180. Open every day except December 25. Open daily 8:00 a.m. to 4:30 p.m. (Mountain Time Zone). Information, natural history exhibits, introductory slide program.

Frijole Ranch History Museum

The ranch house features exhibits describing historic and current use of the Guadalupe. Grounds include a picnic area near a spring shaded by large oak trees. Open intermittently.

McKittrick Canyon

Highway entrance gate is open 8:00 a.m. to 4:30 p.m. Mountain Standard Time. During Daylight Savings Time, hours are expanded 8:00 a.m. to 6:00 p.m. Restrooms, outdoor exhibits, slide program, picnic tables.

Hike Safely...

- There is no water available along park trails, so be sure to bring plenty with you. One gallon per person per day is recommended.
- Trails are rocky—wear sturdy shoes. Trekking poles are recommended.
- Carry a trail map.
- Pack warm clothing and rain gear; sudden weather changes are common.

Protect the Park...

- Stay on trails; don't cut across switchbacks or create new trails.
- Carry out all trash, including cigarette butts.
- Report any trail hazards to the Pine Springs Visitor Center or any park staff member.
- Collecting of natural, historic or prehistoric objects is prohibited.

Weather

| | Average Temperature (° F) | | Average Rainfall |
|---|---------------------------|-----|------------------|
| | High | Low | Inches |
| Jan | 56 | 34 | 0.67 |
| Feb | 59 | 36 | 0.90 |
| Mar | 65 | 41 | 0.58 |
| Apr | 73 | 48 | 0.60 |
| May | 82 | 56 | 0.91 |
| June | 88 | 62 | 2.18 |
| July | 88 | 64 | 2.37 |
| Aug | 86 | 63 | 3.29 |
| Sep | 81 | 58 | 2.54 |
| Oct | 73 | 50 | 1.34 |
| Nov | 63 | 41 | 0.97 |
| Dec | 56 | 33 | 1.05 |
| Average annual precipitation for Pine Springs (1980-2003) | | | 17.4 |

HIKING

Pinery Trail

Distance: .67 mile
 Difficulty: Easy, wheelchair accessible, slight incline on return trip.

Discover the desert as you walk to the ruins of the Pinery, a stagecoach station on the Butterfield Overland Mail Route in 1858. Trailside exhibits. This is the only trail pets on leash are allowed.

McKittrick Canyon Trail

Distance: to Pratt Cabin 4.8 miles roundtrip, to the Grotto, 6.8 miles roundtrip
 Difficulty: Moderate, level but rocky trail, 200' elevation gain to Grotto.

Follow an intermittent stream through the desert and canyon woodlands to the historic Pratt Cabin. A guidebook is available at the trailhead. The Grotto Picnic Area and Hunter Line Cabin are one mile beyond the Pratt Cabin. Please do not drink the water or wade in the creek. To protect this fragile environment, you are required to stay on the trail.

Guadalupe Peak Trail

Distance: 8.4 miles
 Difficulty: Strenuous. Approximately 3,000' elevation gain, steep, rocky path.

Hike to the "Top of Texas" at 8,751' for spectacular views. Avoid the peak during high winds and thunderstorms. During warm temperatures, carry a gallon of water per person.

CAMPING

Water and restrooms are available, but there are no showers, RV hookups, or dump stations. The fee is \$15.00 per night, per site, \$7.50 with a Senior Pass (or existing Golden Age Passport) or Access Pass (or existing Golden Access Passport). No wood or charcoal fires are permitted; camp stoves are allowed.

Pine Springs Campground

Located near the Pine Springs Visitor Center, there are twenty tent and nineteen RV campsites (including a wheelchair accessible tent site) available on a first-come, first-served basis. Two group campsites are available for groups of 10-20 people. Reservations (for group sites only) can be made by phoning 915-828-3251 x2124 up to two months in advance. Campers planning on day hiking in McKittrick Canyon, to Guadalupe Peak or the Bowl will want to stay here.

Dog Canyon Campground

Located at the end of New Mexico Highway 137, 70 miles from Carlsbad and 110 miles from Park Headquarters, at an elevation of 6,290' in a secluded, forested canyon on the north side of the park. The campground has nine tent and four RV campsites (including a wheelchair accessible tent site). There is one group site for groups of 10-20 people. Reservations for the group site only can be made up to two months in advance by calling 915-828-3251 x2124.

BACKPACKING

Eighty-five miles of trails lead through forests, canyons, and desert to ten backcountry campgrounds. A free permit is required if you plan to spend a night in the backcountry. Permits are issued at the Pine Springs Visitor Center and the Dog Canyon Ranger Station. For those coming through Carlsbad, Dog Canyon is a great place to begin a backpacking trip because it requires less elevation gain to get into the backcountry.

Wood and charcoal fires are prohibited. Camp stoves are allowed. Pack out all your trash. Pets are not allowed on park trails.

Preparation is the key to an enjoyable backpacking trip. Be prepared for changing weather conditions. Carry plenty of water—there are no water sources in the backcountry. Topographic maps, hikers' guides, and information can be found at the Pine Springs Visitor Center and the Dog Canyon Ranger Station.

HORSEBACK RIDING

Sixty percent of the park's trails are open to stock use. A backcountry permit is required for all stock use. These free permits are issued at the Pine Springs Visitor Center and Dog Canyon Ranger Station. Stock riding is limited to day trips only.

Stock corrals are available at Dog Canyon and near Frijole Ranch. Each has four pens and will accommodate a maximum of 10 animals. Reservations may be made two months in advance by calling 915-828-3251 ext. 2124.

OTHER POPULAR HIKES...

| Trailhead | Trail | Distance Roundtrip | Description |
|-------------------|----------------------------------|--------------------|---|
| Pine Springs | Devil's Hall Trail | 4.2 miles | Moderate to Strenuous. Hike in Pine Spring Canyon to the Hikers' Staircase and Devil's Hall. After the first mile, the trail drops into the wash and becomes very rocky and uneven. Turn left and follow the canyon bottom to the Hiker's Staircase and beyond to the Devil's Hall. Area beyond Devil's Hall closed March - August due to sensitive species. |
| | The Bowl | 8.5 miles | Strenuous. The Bowl shelters a highcountry conifer forest. Recommended route: Tejas Trail, Bowl Trail, Hunter Peak, Bear Canyon Trail, Frijole Trail, Tejas Trail (.1 mile) back to campground. Trail climbs 2,500'. Bear Canyon Trail is very rocky and extremely steep. |
| | El Capitán Trail | 11.3 miles | Moderate to Strenuous. Desert lovers will appreciate the rocky arroyos and open vistas while skirting along the base of El Capitán. Recommended route: El Capitán Trail, Salt Basin Overlook, and return to Pine Springs on the El Capitán Trail. |
| Frijole Ranch | Manzanita Spring | .4 miles | Easy. Path is paved and wheelchair accessible. Hike to a small pond that serves as a desert oasis. Dragonflies, butterflies, and birds are active here in the warmer months. During winter, bluebirds frequent the area. Opportunities for chancing upon other wildlife are higher here as well. |
| | Smith Spring Trail (entire loop) | 2.3 miles | Moderate. Look for birds, deer and elk as you pass Manzanita Spring on the way to the shady oasis of Smith Spring. Trees around Smith Spring include madrones, maples, oaks, chokecherry, ponderosa pines and others. |
| McKittrick Canyon | McKittrick Nature Loop | 0.9 miles | Moderate. Climb the foothills and learn about the natural history of the Chihuahuan Desert. Trailside exhibits. |
| | Permian Reef Trail | 8.4 miles | Strenuous. For serious geology buffs, this trail has stop markers that can be used with a geology guidebook sold at the Visitor Center. There are excellent views into McKittrick Canyon from the ridgetop. Trail climbs 2,000'. |
| Dog Canyon | Indian Meadow Nature Loop | 0.6 miles | Easy. Enjoy a stroll around a meadow frequented by a variety of birds and other wildlife. Along the way you will see evidence of recent fires and regrowth. |
| | Marcus Overlook | 4.6 miles | Moderate. Follow the Bush Mountain Trail to the ridgetop for a view into West Dog Canyon. Trail climbs 800'. |
| | Lost Peak | 6.4 miles | Strenuous. Climb out of Dog Canyon on the Tejas Trail to visit the conifer forest above. Outstanding views from Lost Peak. Lost Peak is a short distance off trail to the right, before the horse hitches. Trail climbs 1,500'. |
| Salt Basin Dunes | Salt Basin Dunes (Day Use Only) | 3-4 miles | Moderate. Follow the old roadbed from the parking area, for a little over a mile, to the north end of the dune field. There is one high dune to ascend that some may find difficult. No shade. Enjoy the contrast of the pure white dunes with the sheer cliffs of the the Guadalupe as a backdrop. Great for sunrise or sunset hikes all year, and daytime hikes during the winter. |

Hiker Safety for Different Weather Conditions



Lightning



Heat

Lightning may be the most awesome hazard faced by hikers. In our area, storms are common from May through September, and usually occur in the late afternoon or early evening. You can estimate the distance of a lightning strike in miles by counting the time in seconds between flash and sound and dividing by five.

The effects of being close to a lightning strike may be minor, such as confusion, amnesia, numbness, tingling, muscle pain, temporary loss of hearing or sight, and loss of consciousness. Severe injuries include burns, paralysis, coma, and cardiac arrest. Since injuries may not be obvious initially—burns and cardiac injury may not appear until 24 hours after the lightning strike—medical observation is recommended for all lightning victims.

Decrease your risk of injury from lightning:

- Get an early start so that you can finish your hike before storms erupt.
- Be aware of current and predicted weather. Watch the sky for development of anvil-shaped cumulus clouds. If a storm is building, descend to lower elevations.
- If a storm occurs, seek shelter. A car or large building offers good protection. Tents offer no protection.
- Turn off cell phones and other electronic equipment.
- If totally in the open, avoid single trees. Stay off exposed ridges.
- When caught in heavy lightning, the best stance is to crouch with feet close together, minimizing the opportunity for ground currents to find a path through the body. Crouch on a dry sleeping pad, if available.
- Stay out of shallow caves or overhangs. Large dry caves which are deeper than their width offer some protection; but do not lean against walls. Adopt the feet-together crouch.
- Valleys and ditches offer some protection. Avoid a depression with a stream.
- In forests, seek low spots under thick growth or smaller trees.
- Avoid standing water, fences, power lines, and pipelines. Discard metal hiking sticks.
- Groups should not huddle together. Scatter so if one person is injured, the others can help—stay at least 30 feet apart.

The body balances heat loss against heat gain to keep the core body temperature within narrow limits. With strenuous exercise in hot climates, heat gain can exceed loss. Core temperatures may rise, sometimes to dangerous levels. Dehydration exacerbates heat illness.

Heat Exhaustion develops over hours due to water and electrolyte loss from sweating; it causes collapse or gradual exhaustion with an inability to continue to exercise. Symptoms include headache, dizziness, fatigue, nausea, vomiting, muscle cramps, rapid pulse, thirst and profuse sweating, gooseflesh, chills, and pale skin, and low blood pressure—the victim may faint.

Heatstroke occurs in people who undertake heavy exertion in hot climates, and results in sudden collapse with extreme elevation of body temperature, decreased mental status, and shock. It is a medical emergency that can kill; begin treatment immediately. Symptoms include headache, drowsiness, irritability, unsteadiness, confusion, convulsions, coma, a rapid pulse and low blood pressure, and either dry or sweat-moistened hot skin.

Prevention

Drink plenty of water when exercising in hot weather, before feeling thirsty and after feeling satisfied. Drink enough to produce clear urine regularly during the day. Eat high carbohydrate foods for energy. Avoid heavy exercise in high temperatures and high humidity. Wear light-colored clothes that fit loosely and cover all sun-exposed skin surface. Avoid alcohol and caffeine; both increase loss of fluid.

Treatment

- Have the victim rest in the shade.
- Remove excess clothing.
- Wet the victim to increase evaporation.
- Have the victim drink fluids; if available, add 1/4 teaspoon salt and 6 teaspoons sugar to 1 quart of water.
- In serious cases, begin immediate, rapid cooling by one of these methods:
 - a) Increase evaporation by sprinkling water on the skin and fanning vigorously.
 - b) Immerse the victim's body in cool water.
 - c) Place cold packs on the neck, abdomen, armpits, and groin.
- Stop cooling when mental status improves. Continue to monitor the victim.
- Contact a park ranger for assistance.

Cold



NPS Photo/Michael Haynie

Hypothermia is a cooling of the body core when more heat is lost than is produced, and can be life threatening. Wetness and wind are a lethal combination that chill a person more rapidly than dry cold. Hypothermia can occur in any season of the year: the hiker exposed to a sudden summer hailstorm while wearing only a T-shirt and shorts is more likely to become hypothermic than a well-dressed winter hiker. Windchill adds to the problem, but affects only the exposed parts of the body. Wearing windproof clothing reduces the effects of windchill.

Signs of mild hypothermia include progressively worsening shivering, uncharacteristic behavior, grumbling about feeling cold, inappropriate excitement or lethargy, poor judgement, confusion, and hallucinations. The victim may experience stiff muscles and cramps, uncoordinated movements, and stumbling. Skin will be cold, pale and blue-gray due to constricted blood vessels.

As hypothermia becomes severe, shivering ceases. The victim's behavior changes from erratic to apathetic to unresponsive. The pulse becomes weak, slow, and irregular. Breathing slows, pupils become dilated. Eventually the victim will slip into a coma.

Prevention

Know the weather forecast; carry appropriate extra clothing, such as a water/wind repellent shell, jacket, hat and mittens, and a space blanket or tarp for shelter. Evaporation of sweat is a major source of heat loss

during exercise; try to avoid sweating by wearing ventilated clothing. Watch for early signs of hypothermia, and act promptly to avert it. Gauge the day's activity to the party's weakest member; children are more prone to hypothermia than adults. Being exhausted, hungry, dehydrated, or demoralized prevents a proper response to cold and hastens the onset of hypothermia.

Treatment

- Do not delay.
- Find shelter out of the wind.
- Remove wet clothes and replace with dry; add layers and a wool cap to increase insulation.
- Give food and warm, sweet drinks.
- If the victim is shivering strongly, place victim inside a sleeping bag well-insulated from the ground.
- If the victim responds to rest and warmth, he may be able to continue hiking.
- For severe hypothermia, provide heat to the victim's trunk after rescue by whatever means are available—body-to-body contact, hot water bottles, chemical heating pads, hot rocks wrapped in clothing. Place the heat sources in the groin and armpits and alongside the neck. Always have clothing between a heat source and the skin to prevent burns.
- Never leave a hypothermic victim alone.
- Contact a park ranger for assistance.

Help Protect the Park and Leave Rocks Unstacked

Is this stack of stones an important hiking tool or a long-lasting disturbance of the environment?



DATING BACK TO PREHISTORIC TIMES, ROCK cairns have been used around the world to mark trails and historic moments in history. Most of our National Park sites mark trails by placing rock cairns sparingly along the paths. These cairns are placed so that from one stack, hikers can see the next cairn and navigate safely.

However, in recent years, unauthorized rock cairn building has become an epidemic!

Hikers wanting to mark their personal passage by building their own cairns, adding to an existing rock cairn, or marking alternative paths are aiding in the destruction

of our wild lands. By adding to cairns or building new ones, well-meaning hikers are altering the landscape, increasing the rate of erosion, and possibly leading people astray.

Please help keep your National Parks wild and naturally beautiful by leaving the stones where they lie.

Hiker Safety & Wildlife

Mountain Lions

With their large size and very long tails, mountain lions are unmistakable. Adult males may be more than 8 feet in length and weigh an average of 150 pounds. Adult females may be up to 7 feet long and weigh an average of 90 pounds. Their tracks show 4 toes with 3 distinct lobes present at the base of the pad, which is generally greater than 1.5 inches wide. Claw marks are usually not visible since their claws are retractable.

Mountain lions take their prey, usually deer, by ambush. After spotting prey, a lion stalks using available cover, then attacks with a rush, often from behind. They usually kill with a powerful bite below the base of the skull, breaking the neck, then drag the carcass to a sheltered spot beneath a tree or overhang to feed on it. Often they cover the carcass with dirt or leaves and may return to feed on it over the course of a few days.

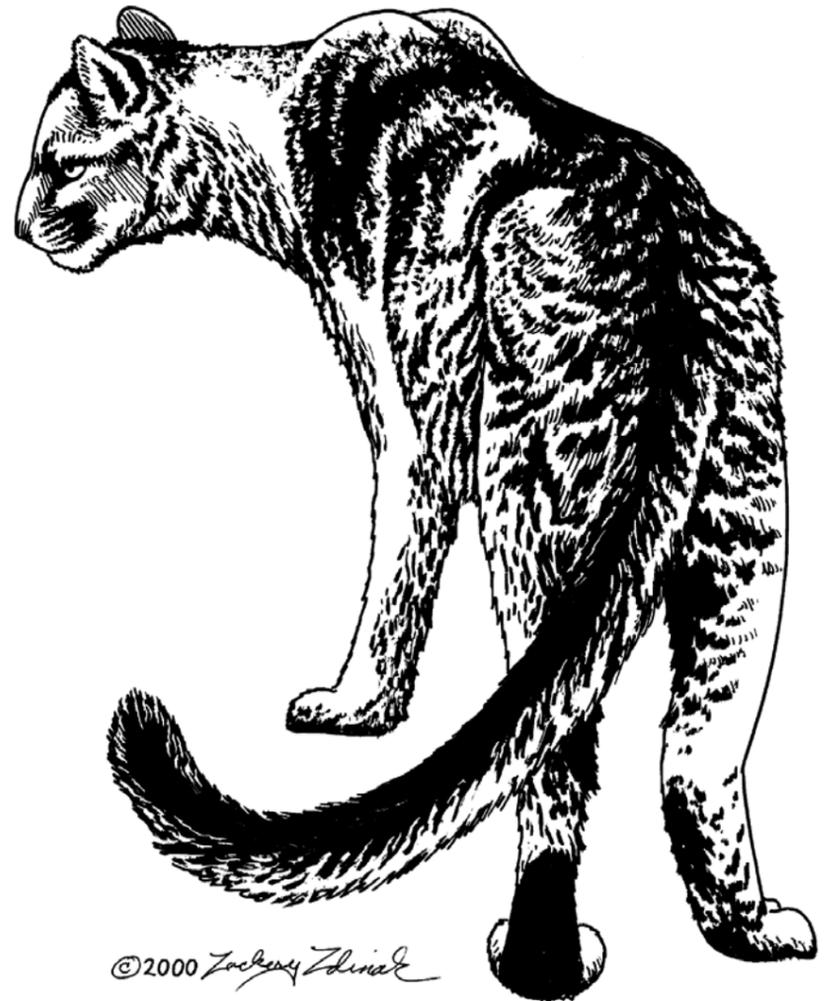
Although no one has had a physical encounter with a mountain lion at Guadalupe Mountains National Park, sightings have become more frequent in the last few years. Lions have increasingly shown more curiosity about people and less fear. Even with this increased lion activity, your chance of seeing one of these elusive creatures is extremely low. A few simple precautions may reduce the risk of a dangerous encounter.

If a lion is sighted, there are several things to remember:

- Do not approach a lion, especially one that is feeding or with kittens. Most mountain lions will try to avoid confrontation. Give them a way to escape.
- Stay calm; speak calmly yet firmly. Move slowly. Avoid prolonged direct eye contact.
- Face the lion and stand upright. Do all you can to appear larger. Raise your arms, or open your jacket.
- Protect small children by picking them up so they won't panic and run.
- Back away slowly, if you can do it safely. Do not run! Running may stimulate a lion's instinct to chase and attack.
- If the lion behaves aggressively, throw stones, branches or whatever you can get your hands on without crouching down or turning your back. Wave your arms slowly and speak firmly. What you want to do is convince the lion that you are not prey and that you may in fact be a danger to the lion.
- Fight back if a lion attacks you. People have fought back successfully with rocks, sticks, jackets, and their bare hands. Protect your head and neck with your arms. Remain standing or try to get back up.
- Please report all mountain lion sightings to a park ranger.

When you hike in mountain lion country:

Travel in groups. Lions may key in on easy prey, like small children. Make sure children are close to you and within your sight at all times—do not let children run ahead of adults! Talk with children about lions and teach them what to do if they meet one.



Rattlesnakes



Rattlesnakes are protected in National Parks; it is illegal to harm them.

Rattlesnakes are the only venomous snakes found in the Guadalupe Mountains. They are recognized by the triangular, flat head, wider than the neck; vertical, elliptical pupils, and a heat-sensitive "pit" located between the eye and the nostril. Rattles are generally present, but may be broken off.

To avoid rattlesnake bites, stay on trails where you are more easily able to see a snake. Watch where you put your hands and feet; look around before sitting down. If you see a rattlesnake, leave it alone. Alert other members of your party. Do not attempt to move it; simply walk around it and continue your hike.

Do not use these methods to treat a snakebite:

- a **tourniquet**, which causes severe damage if wound too tightly.
- cold or ice**; it does not inactivate the venom and poses a frostbite hazard.
- the "**cut-and-suck**" method; it can damage blood vessels and nerves.
- mouth suction**; your mouth is filled with bacteria, and you may infect the wound.
- electric shock**; no medical studies support this method.
- alcoholic beverages**, which dilate vessels and compound shock.
- aspirin**, which increases bleeding.

First aid for a snakebite:

- Get the victim away from the snake. Rattlesnakes strike across a distance equal to half their body length and can bite more than once. Do not attempt to capture or kill the snake.
- Remove constrictive jewelry such as rings and watches.
- Suction with a venom extractor is only minimally effective and must be started within two to three minutes. Do not attempt oral suction or incising the skin.
- Use a sling or a splint to immobilize the limb loosely; keep it below the level of the heart.
- Look for signs of envenomation: severe burning pain at the bite site; swelling starting within 5 minutes and progressing up the limb (swelling may continue to advance for several hours); discoloration and blood-filled blisters developing in 6 to 48 hours; and in severe cases, nausea, vomiting, sweating, weakness, bleeding, coma, and death. In 25% of rattlesnake bites, no venom is injected.
- If there are immediate, severe symptoms, keep the victim quiet; activity increases venom absorption. Have someone contact a ranger as soon as possible to begin evacuation.
- If there is no immediate reaction, you may choose to walk slowly with the victim to the trailhead. Begin evacuation as quickly as possible; contact a ranger for assistance. If evacuation is prolonged and there are no symptoms after six to eight hours, there has probably been no envenomation. However, all bites can cause infection and should be treated by a physician.
- Transport the victim to a medical facility where antivenin is available. The closest facility to the park is Carlsbad Medical Center, at the north end of Carlsbad, New Mexico on US 285 (2430 West Pierce); driving time is 1½ hours from Pine Springs.

To avoid rattlesnake bites, stay on trails where you are more easily able to see a snake.



Wildland Caving Opportunities on the Lincoln National Forest

By Brad Bolton

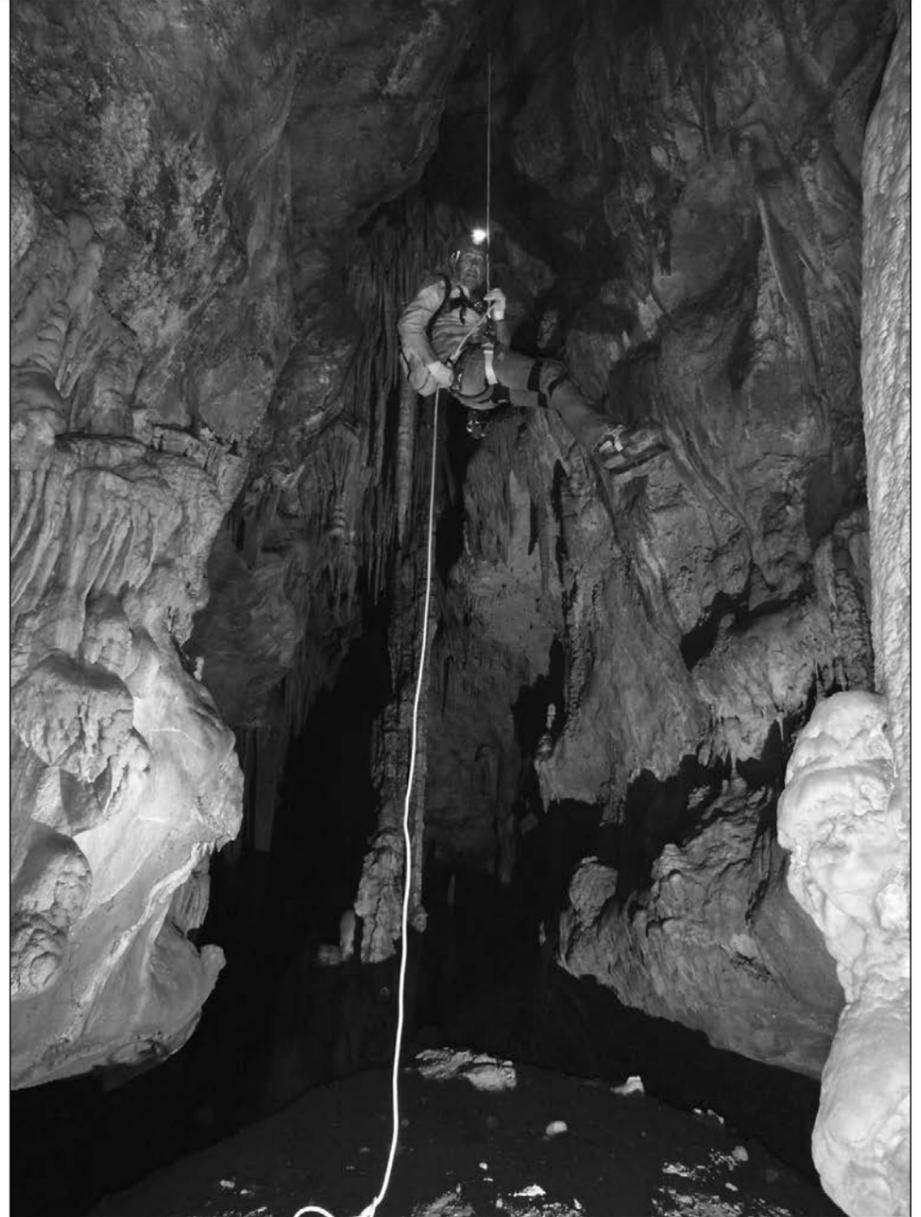
DO YOU LIKE A CHALLENGE AND TO travel where you rely on your own wits and physical strength to climb and negotiate through cave passages? For folks who really enjoy 'wild caving'-type of trips, there are many adventures to be found in nearby Lincoln National Forest.

The Lincoln National Forest manages numerous caves, many of which are in the same mountains shared with the two national parks. While nothing can compare to Carlsbad Caverns, many Forest Service caves are spectacular, unique, and world-renowned for exquisite formations. In addition, many caves have vertical entrances requiring rappelling and rope work to enter! New discoveries are made yearly as scientists come to the Lincoln to study the geology and biology of caves. The caves are in a completely natural setting nestled in the high mountains and deep canyons. Visiting caves in the Lincoln National Forest can be challenging and remote, requiring specialized equipment, weeks of planning, and extensive training.

Below ground, management of backcountry caves is very similar for the different agencies. That is because the same 1988 Cave Protection Act is the federal law that requires management of significant caves for all national parks and national forests. Lincoln National Forest promotes conservation by facilitating a backcountry cave permit system, and by coordinating volunteers from the National Speleological Society (NSS) who monitor the caves for research, wildlife conservation, and preventing misuse.

Imagine starting out on a caving trip to Lincoln National Forest; things can be very different. Like many national forests, primitive roads provide driving access into some very remote areas. These roads can be extremely rough; many folks opt to get out and hike along the beautiful ridgetops. Primitive camping is allowed almost everywhere and car camping is allowed within 300' of most roads. After finding the perfect campsite high in the Guadalupe Mountains, the next task is actually finding the caves themselves. There are no established trails that take visitors to wild caves, so finding the cave entrance can be an extensive search along the side of a steep canyon, with the added challenges of orienteering and following maps. To help groups find caves and promote conservation, Lincoln National Forest facilitates a public trip leader program. Members of the NSS with extensive cave experience lead others to find new adventures.

If 'wild caving' sounds like fun, there is an easy way to get started right where you live. There are caving clubs called "Grottos" located across the country as part of the National Speleological Society. Finding and contacting one of these Grottos is a click away at www.caves.org. There you will find a U.S. map and contact information for caving enthusiasts from across the country. The National Speleological Society is a great partner organization and NSS Grottos provide the necessary training and education needed for visiting the backcountry caves of Lincoln National Forest.



Visiting caves on the Lincoln National Forest can be challenging and remote, requiring specialized equipment, weeks of planning, and extensive training.

Sitting Bull Falls (Lincoln National Forest)

By Jerermy Evans

THE GUADALUPE RANGER DISTRICT, the southern-most district of the Lincoln National Forest, has many spectacular recreation opportunities. Remote, quiet and mysterious, the District beckons the visitor to explore this unique desert landscape. The Guadalupe Ranger District shares its southern boundary with two national parks: Guadalupe Mountains and Carlsbad Caverns. Hiking, camping, hunting, bird watching, and horseback riding are just some of the incredible activities that can be enjoyed on the district. One of the recreational highlights is Sitting Bull Falls Recreation Area. It sits at the end of a long remote canyon and has a series of waterfalls (fed from springs atop the canyon) that create a large pool of water at the base of the falls, 150 feet from top to bottom. The Sitting Bull Falls Recreation Area meets ADA guidelines for accessibility and some of the features include paved sidewalks, restrooms, picnic tables, rock cabanas, fresh water, trash containers, and a viewing deck of the waterfall.

Sitting Bull Falls and the surrounding landscape are the remnants of an ancient reef known as Capitan Reef. Approximately 260 million years ago, the area was on the edge of a huge inland sea. The predominant geology of the area is limestone and is full of fissures and caves that were slowly eroded by acidic water over long periods of time. Deep and rough canyons were carved by annual flooding and rains. Other geologic forces have created picturesque valleys teeming with wildlife and those forces, over time, helped create the underground water reservoirs and springs that feed into Sitting Bull Falls.

The Guadalupe Mountains sit on the northern edge of the Chihuahuan Desert and have a rich and diverse geologic and archaeological history. American Indians first came into the area around 10,000 years ago and the Mescalero Apache called this area their home for many, many years. Spanish explorers came to the area in the 1500s; the horses they brought proved to be very valuable to the Apache. By the mid-1800s explorers, settlers, ranchers, businessmen, cattlemen, and outlaws had migrated into the area. Because of the rough and remote terrain, the Guadalupe Mountains were settled very slowly.

In the 1930's, the Civilian Conservation Corps was assigned to the area and built impressive stone structures that still stand today as the picnic sites at Sitting Bull Falls. The 1970s ushered in a little more development: crews installed vault restrooms, added more cabanas and improved the trail to the falls. In the 1980s, a route to the top of the falls was built by the Youth Conservation Corps. Then on Easter Sunday of 2011, the Last Chance Fire burned through the area, severely damaging the picnic cabanas and destroying the trees and vegetation. Sitting Bull Falls was closed for a year while repairs were made; once reopened, the area was damaged again by a flood event in September of 2013. Another flood in 2014 delayed reconstruction efforts. Finally, by May 2015, all reconstruction and repairs were completed. A new walkway was built, which leads to a viewing deck and a bird's-eye view of the falls. The entrance road to the well-known site was reconstructed and "re-paved" the way to a whole new experience!



Come and enjoy Sitting Bull Falls and the surrounding area. Take a hike on the many trails or relax and have a picnic with your family. Whatever you decide to do, your adventure to the Guadalupe Ranger District will be memorable. Don't forget to come prepared. Bring plenty of water and pay attention! Deer, javelina, mountain lions, snakes, tarantulas, rabbits, and many other animal species call the area home. If you decide to go out and explore the backcountry, please go prepared; the weather in this area can be unpredictable and so can the wildlife!

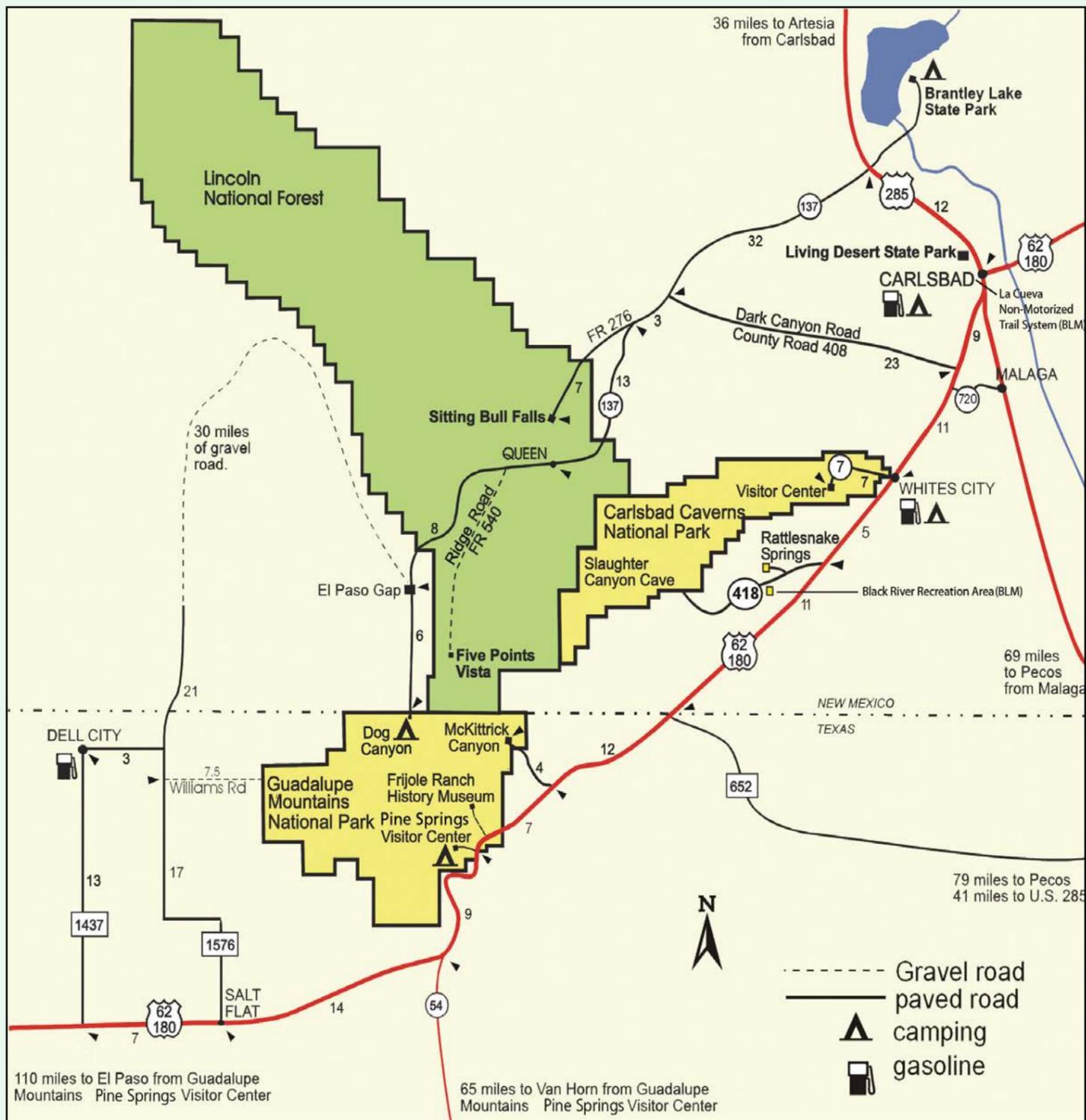
Please be safe and enjoy YOUR national forest.

It is a day-use area open from 9 - 5 daily (October to March) or 8:30 - 6 (April to September); the standard amenity fee is a bargain at \$5 per vehicle. Visitors can wade in the water below the falls, hike, or picnic. The picnic sites have tables and grills, but you'll need to bring your own charcoal and be aware of any fire danger warnings. Many of the picnic sites provide overhead shelter from the sun's rays that bear down on the area most of the day. Fresh water and restroom facilities are available. There is a paved, ADA accessible path to the falls viewing area. Camping is not allowed in the falls day use area, but is allowed almost anywhere else on the Guadalupe Ranger District.

If you have questions, please visit the Guadalupe Ranger District office at 5203 Buena Vista Drive in Carlsbad or call 575-885-4181.

Sitting Bull Falls is approximately 42 miles west of Carlsbad, New Mexico and can be reached by car via Highway 285 to Highway 137 and then Forest Road 276 / County Road 409. Pets on leashes are allowed.

Nearby Attractions



BRANTLEY LAKE STATE PARK

575-457-2384
www.emnrd.state.nm.us/SPD/brantley-lakestatepark.html
 Located 12 miles north of Carlsbad on U.S. Highway 285, the campground has 51 RV sites with water and RV electric hook-ups (a few with sewer), a dump station, playground, restroom with hot showers, shelters, tables and grills. Other facilities include picnic areas with sheltered tables and grills, playground, a fishing dock, boat ramps with docks, and a visitor center.

Open all year—24 hours/day.
 Wheelchair accessible.

Fees
 Day Use Only—\$5.00 per vehicle
 Camping—\$14.00 per night (\$10.00 for each additional vehicle driven into the same site)
 Primitive Camping Area—\$8.00 per vehicle per night.

LINCOLN NATIONAL FOREST (GUADALUPE DISTRICT)

575-885-4181
www.fs.usda.gov/lincoln/home
 The forest encompasses 1,103,441 acres for hiking, caving, camping, picnicking, horseback riding, hunting and sightseeing. Maps are available at the Guadalupe Ranger District Office located at 5203 Buena Vista Drive Carlsbad, NM 88220.

Five Points & Indian Vistas
 Eleven miles south of State Highway 137 on Forest Route 540, an improved gravel road. A panoramic view of the desert from the top of the Guadalupe Mountains. Interpretive signs explain natural features.

BUREAU OF LAND MANAGEMENT (BLM)

575-234-5972
www.blm.gov/nm/st/en/fo/Carlsbad_Field_Office
Black River Recreation Area
 This 1,200 acre oasis in the Chihuahuan Desert is home to rare species of plants, fish, and reptiles in and around the river. The most frequently visited site is the Cottonwood Day Use Area, which includes a wildlife viewing platform, picnic tables, and a toilet. Turn west onto CR418, travel two miles, and then turn left at the fork.

The trail system contains more than 15 miles of maintained trails. The non-motorized trails are used by mountain bikers, hikers, and equestrians. The trails wind through the rolling limestone foothills of the Guadalupe Mountains and the rugged Chihuahuan Desert environment.

The area is located partially within the city limits of Carlsbad, NM. From Lea Street, go west to Standpipe Rd. Turn south and travel 3 miles to the gravel access road. Turn right and travel approximately 0.3 miles to the trailhead and parking area. There are no facilities other than the parking area and trail signs.

LIVING DESERT ZOO & GARDENS STATE PARK

575-887-5516
www.emnrd.state.nm.us/SPD/livingdesert-statepark.html
 Come face to face with a mountain lion at this unique zoo and botanical garden offering an opportunity to experience the Chihuahuan Desert first-hand. See a large collection of live animals, including the rare Mexican gray wolf, and the roadrunner, the state bird of New Mexico. There is also an unusual collection of cacti and other succulents from around the world.

Open daily except December 25.
 Wheelchair accessible.

Summer Hours (Memorial Day to Labor Day)
 8:00 a.m. to 5:00 p.m.
 Last tour entry—3:30 p.m.

Winter Hours (after Labor Day)
 9:00 a.m. to 5:00 p.m.
 Last tour entry—3:30 p.m.

Fees

| | |
|---------------------------------|--------|
| Ages 13 and up | \$5.00 |
| Children 7 - 12 | \$3.00 |
| Children 6 and under | free |
| Group (20+) discount available. | |

CARLSBAD CAVERNS NATIONAL PARK

575-785-2232
www.nps.gov/cave
 Visitor Center
 727 Carlsbad Caverns Highway
 Carlsbad, NM 88220

Carlsbad Caverns National Park features a immense cave system of highly decorated chambers, and from mid-May to mid-October, a spectacular batflight each evening. Visit the website for the latest information on hours of operation.