



# Spring Guide



Brittlebush blooms on rocky slopes near Cottonwood Springs Oasis. NPS/Brad Sutton

## The Desert Unsung

IT'S BEEN THIRTY YEARS SINCE THE BAND U2 RELEASED *THE JOSHUA TREE* in March 1987. It was this album that catapulted the four Irishmen to international stardom; it was this album that drew the curious eyes of a generation to the otherworldly landscapes of the Southern California desert. The iconic back cover photo by Anton Corbijn, showing the band standing near a lone Joshua tree, cemented the association between the park and the album—even though the picture was taken off Highway 190 near Death Valley, about 200 miles north of here.

Many of the 2 million people who come to Joshua Tree National Park each year are specifically looking for Joshua trees. Something about the bizarre forms of these branching yuccas captures the imagination. There's no denying the plants are charismatic and a highlight of a trip to the park.

They aren't the only highlight, though. Visitors who travel through only the northwestern part of the park, where Joshua trees grow, are missing out: our namesake plants are found only in the Mojave

Desert, and roughly half of the park's 792,510 acres lie in the hotter, drier, and lower-elevation Colorado Desert—a subsection of the Sonoran Desert.

One great way to round out your park visit is to make sure you spend time in both the Mojave and the Colorado Deserts. Even if you have only a short time in the park, head for the Pinto Basin and stop at one of the pullouts along the road. Step out of your car. Soak in the silence and admire the immensity of the vista before you.

From the Turkey Flats backcountry board, for example, you can look across vast sweeps of undeveloped wilderness to the Coxcomb Mountains, 25 miles distant. Creosote bush and white bursage are the dominant shrubs growing in this huge basin. There isn't a single Joshua tree in sight, but the Colorado Desert you're standing in has charismatic trees of its own.

Dry washes are a great place to look for trees like ironwood, smoketree, and blue palo verde. Their seeds sprout after being tumbled and bounced with

...continued on p. 10



### Welcome to your park.

I just wanted to take a moment and welcome you to Southern California's national park. Joshua Tree is the iconic symbol of the Mojave Desert. This year you are joining millions of people from around the globe who will experience the diverse, inspiring scenery that stretches across the park.

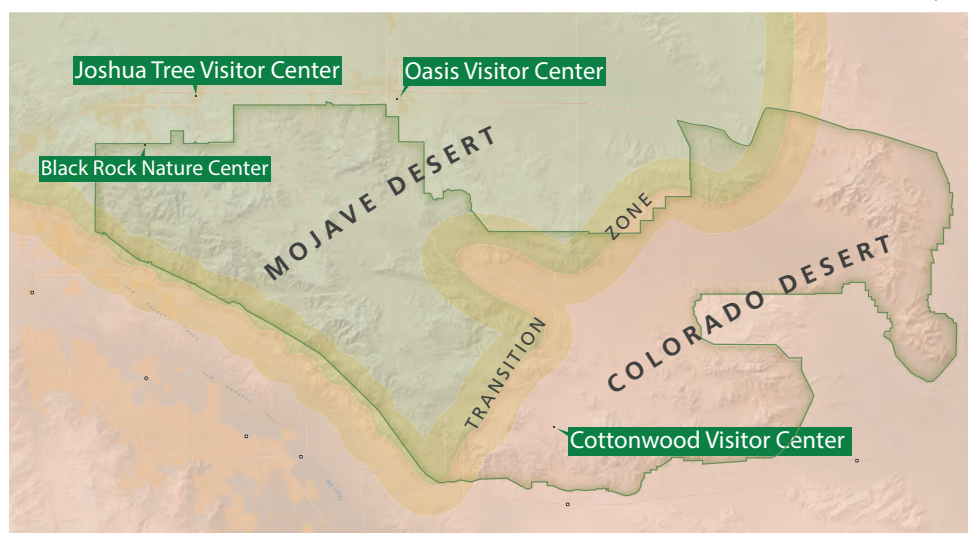
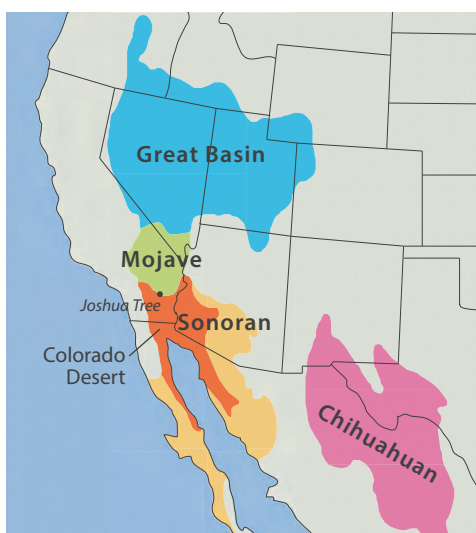
As you discover the desert, I would encourage you to also explore the neighboring landscapes that are preserved for your enjoyment and that of generations to come. In addition to our northern sister parks at Mojave National Preserve and Death Valley National Park, please take some time to visit the millions of acres of public lands managed by the Bureau of Land Management and the US Forest Service. Our newest neighbor to the east—Sand to Snow National Monument—links Joshua Tree to the wild slopes of Mt. San Geronio. To the north, Mojave Trails National Monument interprets prehistoric cultures as well as Route 66.

Living in the west, we are truly lucky to have so many wonderful natural and cultural treasures to enjoy. Take advantage of these opportunities and relish the chance to see something new on your public lands.

Sincerely,

*David Smith*

David Smith  
Superintendent



The Colorado Desert is a subsection of the larger Sonoran Desert (left). The transition zone between the Colorado and Mojave Deserts hosts a wealth of biological diversity and is home to species characteristic of both deserts (right).

### Visiting on the Wing

Springtime brings visitors of all types to Joshua Tree, including not just humans but also our feathered friends. Find out why birds not typically found in the desert show up here every spring. Get tips on where to spot commonly (and not so commonly) seen species. Whether you're completely new to birdwatching or are an advanced birder, the park's birds are sure to catch your eye, as Park Ranger Beth Hudick explains on **p. 8**.

### Fragments of the Past

How can the fossilized bones of extinct animals and artifacts left by past people help us understand how climate change may affect Joshua Tree's future? Take a look at how scientists use fossils to reconstruct past environments, learn about the creatures who once roamed this landscape, and discover how the environment shapes plants, animals, and humans. Brad Sutton digs into what we have discovered about Joshua Tree's past on **p. 8**.

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National Park Service  
U.S. Department of the Interior

**Joshua Tree National Park** preserves and protects the scenic, natural, and cultural resources representative of the Colorado and Mojave Deserts' rich biological and geological diversity, cultural history, wilderness, recreational values, and outstanding opportunities for education and scientific study.

**Superintendent**  
David Smith

**Park Information**  
760-367-5500

**Emergency**  
Dial **909-383-5651** or 911

**Mailing Address**  
74485 National Park Drive  
Twentynine Palms, CA 92277

**Website**  
www.nps.gov/jotr

**Social Media**  
[instagram.com/JoshuaTreeNPS](https://www.instagram.com/JoshuaTreeNPS)  
[twitter.com/JoshuaTreeNPS](https://twitter.com/JoshuaTreeNPS)  
[facebook.com/JoshuaTreeNPS](https://www.facebook.com/JoshuaTreeNPS)  
[flickr.com/JoshuaTreeNP](https://www.flickr.com/photos/JoshuaTreeNP/)  
[youtube.com/JoshuaTreeNPS](https://www.youtube.com/JoshuaTreeNPS)

**Email**  
jotr\_info@nps.gov

**Lost & Found**  
Report lost items on the park website at [nps.gov/jotr/planyourvisit/lostandfound.htm](https://www.nps.gov/jotr/planyourvisit/lostandfound.htm) or email [jotr\\_lost\\_and\\_found@nps.gov](mailto:jotr_lost_and_found@nps.gov)

**Please email comments or corrections:**  
[jotr\\_info@nps.gov](mailto:jotr_info@nps.gov)

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# Safety: What You Need to Know

We want your trip to Joshua Tree to be safe and enjoyable. Ultimately, your safety is your responsibility. This information will help you prepare.



**BRING WATER WITH YOU**  
Water is available at only a few locations around the edges of the park:

- Oasis Visitor Center in Twentynine Palms
- Black Rock Campground
- Cottonwood Campground
- West Entrance (no RV water access)
- Indian Cove Ranger Station (no RV water access)

## STAY HYDRATED & EAT SALTY SNACKS

We recommend drinking a minimum of one gallon (about 4 liters) of water per person, per day. You will need more fluids if you are active: vigorous hiking, cycling, or climbing can cause you to lose water and salts at a rate of 1 ½ quarts per hour. Replace these fluids and electrolytes by drinking water or sports drinks and consuming salty foods.

## PREPARE FOR CHANGING WEATHER

Prepare for temperature extremes by dressing in layers. Highs in May might reach 100°F (38°C), while winter lows can plunge into the teens (-10°C). Hypothermia is a hazard even when the air temperature is above freezing. Always have extra layers with you.



These rock climbers carry extra layers of clothing that allow for comfort and safety.



**CELL PHONES ARE UNRELIABLE**  
Most of Joshua Tree National Park is remote wilderness and there is *no cell coverage*. Do not count on your phone for navigation or in case of emergency.

## IN CASE OF EMERGENCY

Emergency phones are found at two locations:

- Indian Cove Ranger Station
- Intersection Rock parking area near Hidden Valley Campground

If you are in an area with cell service and you have an emergency, dial **909-383-5651** or 911 for assistance.

## PREVENT BITES & STINGS

Joshua Tree is home to seven species of rattlesnakes, as well as venomous scorpions and spiders. These animals are less active in winter, but may still be present on a warm day. You can avoid problems by paying attention to your surroundings. Never step or reach into places you cannot see. Use a flashlight or headlamp at night. Campers, check your shoes and bedding for critters before use.

In hot weather, thirsty bees congregate around any source of moisture they can find, including human perspiration and car AC systems. Stay calm around bees and do not swat at them. Keep drinks and food inside your vehicle.



Never put your hands or feet into rock crevices or onto ledges where you can't see.



**GIVE WILDLIFE A BRAKE**  
Park roads are narrow and winding, and some areas are often congested. Obey posted speed limits. The maximum speed in the park is 45 mph (73 kph), and in many locations the speed limit is lower. Driving slowly and cautiously helps protect park wildlife. If you want to stop to view animals or scenery, please use a pullout and get completely out of the travel lanes to prevent accidents.

**DON'T TRUST GPS FOR DRIVING DIRECTIONS**  
In the desert, some GPS units or navigation apps may try to direct you to roads that are unsafe for your vehicle. For safety, refer to the park map for navigation, or check with a ranger.

**TURN AROUND, DON'T DROWN**  
Flash floods occur when monsoon thunderstorms pour large amounts of rain in a short time. Avoid canyons and washes during rainstorms and be prepared to move to higher ground. While driving, be alert for water running across the road. Wait for floodwaters to subside rather than trying to drive through.

**STAY OUT, STAY ALIVE**  
Many old mine sites exist within the park. If you choose to visit them, use extreme caution, appreciating them from a safe distance. Never enter old mine tunnels, shafts, or fenced areas.



Many historic mine sites exist within Joshua Tree National Park. Admire, but do not enter.

## Rules and Regulations



### Watch wildlife respectfully

We recommend staying at least 25 yards (23 m) from wildlife. If an animal reacts to your presence by changing its behavior, you are too close—even if you are more than 25 yards from it. Move quietly away to give the animal space. Remember, the park is home for wild animals. We are just visitors here.



### Never feed any wild animals

Consuming human food is unhealthy for wildlife and may encourage aggressive behavior. Coyotes, squirrels, ravens, and other animals should be left alone to rely on natural sources of food. All food, trash, scented products, and cooking tools must be stored securely in a vehicle or hard-sided container.



### Travel responsibly with your pet

Pets are allowed in the park, but their activities are restricted. Pets must be on a leash at all times. They cannot go more than 100 feet (30 m) from a road, picnic area, or campground. *Pets are not allowed on hiking trails.* Owners must never leave a pet unattended or tied to an object. Bag and dispose of pet waste.



### No drones or remote controlled vehicles

Remote controlled vehicles, including aircraft and rockcrawlers, are prohibited in Joshua Tree National Park. Drones and other remotely-operated craft can disturb wildlife and disrupt the visitor experience.



### Campfires

Campfires are allowed only in designated fire rings or grills that are found in park campgrounds and picnic areas. Campfires are not allowed in the backcountry. Bring your own firewood and extra water to douse your campfire. Do not use park vegetation, living or dead, for fuel.



### No collecting park resources, including living or dead vegetation

It is the mission of the National Park Service to preserve all natural and cultural resources unimpaired for future generations. Please leave everything in the park as it is for others to enjoy. Do not destroy, deface, dig, collect, or otherwise disturb any park resources including plants or animals (whether they are dead or alive), rocks, fossils, or artifacts.



### Rock climbing

Climbers may replace existing bolts if they are unsafe. New bolts may be placed in non-wilderness areas if in accordance with the bolting checklist, available on the park website. Bolting in wilderness requires a permit. Hand drills only.



### All motor vehicles and bicycles must stay on roads

The desert environment is more fragile than it may look. The ruts and scars left by vehicles and bicycles illegally taken off-road can last for years or even decades. Red and green sticker dirt bikes, ATVs, and UTVs are prohibited in the park.



### Watch for tortoises

The desert tortoise is a threatened species that often dies from being hit by cars. Drive carefully in the park: small tortoises on the road look a lot like rocks. Though tortoises typically stay underground during the winter months, fall visitors should still take care. Tortoises may drink from puddles on the roads after rains or take shelter from the hot sun under vehicles. Leave tortoises undisturbed.



### Firearms and weapons

Firearms may be possessed in accordance with California state and federal laws. However, they may not be discharged in the park. Fireworks, traps, bows, BB guns, paintball guns, and slingshots are not allowed in the park.

# What to See and Do



**Birding** is a popular activity in the springtime when many different species may be visible on their seasonal migration through the region. Read more on p. 8.

THE DESERT IS AT ITS BEST WHEN viewed up close and at a slow pace. From a whizzing car, the landscape may at first appear bleak or drab. Closer examination, though, reveals a fascinating variety of plants and animals. Rocks sculpted by weather and time contrast with the brilliant blue of the desert sky.

Joshua Tree National Park has endless opportunities for exploration and discovery. Begin your trip at a park visitor center, where a ranger will be happy to answer your questions and get you oriented. The two northern visitor centers are outside the park, in the communities of Twentynine Palms and Joshua Tree. See p. 7 for hours.

#### IF YOU HAVE A FEW HOURS IN THE PARK:

- Drive between the West Entrance and North Entrance to see our famous Joshua trees and boulder fields.
- Drive to Keys View for a lovely vista of the Coachella Valley. On days with little air pollution, you may be able to see beyond the shining Salton Sea to Signal Mountain in Mexico.
- Enjoy a short walk on one or two of the park's nature trails (p. 4) to get an up-close look at desert scenery and plants.
- Kids of all ages are invited to participate in our Junior Ranger program (p. 11).
- Take a short side trip into the Pinto Basin to visit the Cholla Cactus Garden and Ocotillo Patch.

#### IF YOU HAVE AN ENTIRE DAY:

- Drive through both the Mojave Desert and the Colorado Desert by going from the West Entrance to the South Entrance. See where Joshua trees grow in the Mojave, in the western half of the park, and observe the different vegetation of the Colorado in the lower elevations of the Pinto Basin and Cottonwood areas.
- Attend a ranger-led activity like a patio talk, guided walk, or evening program (p. 12). If you'll be visiting Thursday, Friday, or Saturday, consider joining a ranger-led Keys Ranch tour (fee).
- Hike one or two of the park's longer trails (p. 4).
- Pleasant spring temperatures bring rock climbers to Joshua Tree from all over the world. Not a climber yourself? You may still enjoy watching climbers in action around Hidden Valley Campground and Intersection Rock.

#### IF YOU HAVE MORE THAN ONE DAY:

- Spend the night in one of our campgrounds (p. 5). Or, if you have the right gear, experience, and fitness level, consider an overnight backcountry trip.
- Explore the longer hiking trails around Black Rock or Cottonwood (p. 4).
- If you have a mountain bike or high-clearance vehicle, consider exploring a backcountry road (descriptions at right) to experience parts of the park that most visitors never see. The Geology Tour Road is often a great choice. Ask a ranger for advice before leaving the pavement.



# Backcountry Roads



JOSHUA TREE'S BACKCOUNTRY roads allow properly equipped visitors to explore remote areas of the park, but preparedness is crucial. Errors in judgment can be deadly. Always ask a ranger for current information about road conditions before venturing out.

For your own safety and the protection of natural features, all wheeled vehicles (including bicycles) must remain on designated roads. Off road driving and riding are prohibited.

#### GEOLOGY TOUR ROAD 18 mi (29 km) loop

This route starts 2 mi (3.2 km) west of Jumbo Rocks. Pick up an interpretive guide from the brochure box at the start. A round trip takes about two hours. The first few miles of the road are open to most vehicles, with four-wheel drive needed after marker 9.

#### QUEEN VALLEY ROADS 13.4 mi (21.7 km) total

Usually passable to all vehicles, this network of dirt roads crisscrosses a valley of boulder piles and Joshua trees. The Queen Valley dirt roads are popular with cyclists and dog walkers.

#### COVINGTON FLATS ROADS 9 mi (21.7 km) total

Covington Flats is home to some of the park's largest Joshua trees, junipers, and pinyon pines. You can drive all the way to the summit of Eureka Peak (5,518 ft/ 1,682 m) for panoramic views from Palm Springs to the Morongo Basin. High clearance recommended.

#### BERDOO CANYON ROAD

**11.5 mi (18.4 km) within the park**  
Connecting the south end of Geology Tour Rd. with Dillon Rd. in the Coachella Valley, this challenging road requires a high level of driver skill as well as high clearance and four-wheel drive; narrow wheel-base suggested.

#### PINKHAM CANYON ROAD 20 mi (32.4 km) one way

This challenging road begins at Cottonwood Visitor Center, travels along Smoke Tree Wash, and then turns south down Pinkham Canyon. Sections of the road run through soft sand and rocky plains. High clearance and four-wheel drive are required; narrow wheel-base suggested.

#### BLACK EAGLE MINE ROAD 9 mi (14.5 km) within the park

This dead-end dirt road begins 6.5 mi (10.5 km) north of the Cottonwood Visitor Center. It runs along the southern edge of Pinto Basin, crossing several dry washes before reaching the park boundary. Beyond that is BLM land. High clearance and four-wheel drive required.

#### OLD DALE MINE ROAD

**12.3 mi (19.8 km) within the park**  
Starts at the same point as Black Eagle Mine Rd., but heads north across sandy Pinto Basin, a dry lake bed. It then climbs steeply to the park boundary. About 11 miles (17.7 k) north of the park, it connects with Hwy 62. High clearance and four-wheel drive required; narrow wheel-base suggested.

# Leave No Trace

LEAVE JOSHUA TREE PRISTINE FOR those who visit the park after you. Learn and practice the seven Leave No Trace principles.

#### PLAN AHEAD & PREPARE

- Know the regulations and special concerns for the area you'll visit.
- Prepare for extreme weather, hazards, and emergencies.
- Schedule your trip to avoid times of high use.
- Visit in small groups when possible. Consider splitting larger groups into smaller groups.
- Repackage food to minimize waste.
- Use a map and compass. Do not set up rock cairns or other physical markers.

#### TRAVEL & CAMP ON DURABLE SURFACES

- Durable surfaces include established trails and campsites, rock, and gravel.
- No camping in rock shelters or caves.
- Allow wildlife free access to scarce desert water sources. Do not camp nearby.
- Good campsites are found, not made. Altering a site is not necessary.

- In popular areas, concentrate use on existing trails and campsites.
- In pristine areas, disperse use to prevent the creation of campsites and trails. Avoid places where impacts are just beginning.

#### DISPOSE OF WASTE PROPERLY

- Pack it in, pack it out. Inspect your campsite and rest areas for trash or spilled foods. Pack out all trash, leftover food and litter.
- Deposit solid human waste in catholes dug 6 to 8 inches deep, at least 200 feet from water, camp, and trails. Cover and disguise the cathole when finished.
- Pack out toilet paper and hygiene products. These items do not break down in the arid desert environment, even when buried.

#### LEAVE WHAT YOU FIND

- Preserve the past: examine, but do not touch, cultural or historic structures and artifacts.
- Leave rocks, plants and other natural objects as you find them.

- Avoid introducing or transporting non-native species.
- Do not build structures, furniture, or dig trenches.

#### MINIMIZE CAMPFIRE IMPACTS

- Campfires are allowed only in established metal fire rings in campgrounds and picnic areas with fire grates. All wood must be brought in from outside the park—no collecting.
- Keep your fire small. Put it out completely before you leave your site.
- No campfires in the backcountry. Use a lightweight stove for cooking.

#### RESPECT WILDLIFE

- Observe wildlife from a distance. Do not follow or approach animals.
- Never feed animals. Feeding wildlife damages their health, alters natural behaviors, and exposes them to danger.
- Protect wildlife and your food by storing rations and trash securely.
- Avoid wildlife during sensitive times: mating, nesting, raising young, or harsh weather conditions.

#### BE CONSIDERATE OF OTHER VISITORS

- Respect other visitors and protect the quality of their experience.
- Be courteous. Yield to other users on the trail. Hikers traveling uphill have right-of-way.
- Step to the downhill side of the trail when encountering pack stock.
- Take breaks and camp away from trails and other visitors.
- Let nature's sounds prevail. Avoid loud voices and noises. Respect campground quiet hours.



Learn more about how to minimize recreation impacts and protect Joshua Tree's wildlands for the future. Talk to a ranger or visit [www.LNT.org](http://www.LNT.org).

# Hiking



Carefully review the safety information and regulations on p. 2. There is no guarantee of safety in a national park.

Leave information about your planned route and expected return time with a friend or family member before hiking. Check in with this person when you return. In an emergency, call [909-383-5651](tel:909-383-5651) or 911.



On any desert hike, remember the Ten Essentials:

- water
- food
- layers of clothing
- sun protection
- first aid kit
- sturdy shoes
- navigation (map & compass)
- pocket knife or multitool
- flashlight or headlamp
- emergency shelter

Trail	Trailhead Location	Distance	Estimated Time	Description
<b>Short Walks and Nature Trails</b>				
<b>Bajada</b> 	South of Cottonwood Visitor Center; 0.5 mi (0.8 km) north of the South Entrance	0.25 mi (0.4 km)	15-20 minutes	Loop. Walk on a bajada and discover plants of the Colorado Desert on this easy, accessible path.
<b>Barker Dam</b>	Barker Dam parking area	1.1 mi (1.8 km)	1 hour	Loop. Explore cultural history and view a water tank built by early cattle ranchers. Watch for bighorn sheep.
<b>Cap Rock</b> 	Cap Rock parking area, at the junction of Park Blvd. and Keys View Rd.	0.4 mi (0.6 km)	30-45 minutes	Loop. View boulder piles, Joshua trees, and other desert plants on this easy, accessible path.
<b>Cholla Cactus Garden</b>	20 mi (32 km) north of Cottonwood Visitor Center	0.25 mi (0.4 km)	15-30 minutes	Loop. View thousands of densely concentrated, naturally growing cholla cactus. Stay on the trail, wear closed-toe shoes, and be aware of prickly cactus.
<b>Cottonwood Spring</b>	1 mi (1.6 km) east of Cottonwood Visitor Center	0.1 mi (0.2 km)	10 minutes	Short walk to fan palm oasis with cottonwood trees. Fantastic birding location with plentiful shade.
<b>Discovery Trail</b>	Skull Rock parking area just east of Jumbo Rocks Campground	0.7 mi (1.1 km)	30-45 minutes	Loop. Connects Skull Rock and Split Rock Loop trails at Face Rock. Easy hike through boulder piles and desert washes.
<b>Hidden Valley</b>	Hidden Valley picnic area	1 mi (1.6 km)	1 hour	Loop. Discover a rock-enclosed valley that was once rumored to have been used by cattle rustlers.
<b>Hi-View</b>	Northwest of Black Rock Campground	1.3 mi (2.1 km) from board at parking area. 3 mi (4.8 km) from visitor center.	1½ hours	Loop. Discover the world of Joshua tree forests. Hike up a ridge on the western side of the park and take in panoramic views of the area. There are some steep sections, as well as several benches to take a break and enjoy the view. Elevation change is about 400 feet.
<b>Indian Cove</b>	West end of Indian Cove Campground	0.6 mi (1 km)	30-45 minutes	Loop. Walk on a gently rolling path with a few steps. Take a closer look at desert plants and learn about their traditional uses by Native Americans.
<b>Keys View</b> 	Keys View	0.25 mi (0.4 km)	30 minutes	Accessible overlook. Short, paved loop path is steeper and may be accessible with assistance. Breathtaking views of the San Andreas Fault, Mt. San Jacinto, Mt. San Gorgonio, and the Salton Sea.
<b>Oasis of Mara</b> 	Oasis Visitor Center, Twentynine Palms	0.5 mi (0.8 km)	30-45 minutes	Loop. Explore a desert oasis on this easy, accessible walk. See how the Oasis of Mara has been used by wildlife and people throughout time.
<b>Ryan Ranch</b>	Ryan Ranch trailhead, about 0.5 mi (0.8 km) east of Ryan Campground	1 mi (1.6 km)	1 hour	Out and back. Enjoy an easy hike along an old ranch road and see a historic adobe structure.
<b>Skull Rock</b>	Skull Rock parking area just east of Jumbo Rocks Campground; also accessible from within Jumbo Rocks Campground	1.7 mi (2.7 km)	1-2 hours	Loop. Take an easy hike and explore boulder piles, desert washes, and of course the namesake Skull Rock.
<b>Moderate Hikes</b>				
<b>Fortynine Palms Oasis</b>	Fortynine Palms parking area, accessed off Hwy 62	3 mi (4.8 km)	2-3 hours	Out and back. There is a 300 ft (91 m) elevation gain in <i>both directions</i> , as you hike up and over a ridge dotted with barrel cactus. Beyond the ridge, descend to a fan palm oasis in a rocky canyon. Avoid this trail when it's hot out.
<b>Lost Horse Mine</b>	Lost Horse Mine trailhead off Keys View Rd.	4 mi (6.4 km)	2-3 hours	Out and back. Explore around one of the most successful gold mines in the park. Stay outside the fenced area to protect the millsite and mine. For a longer option, see Lost Horse Loop, under Challenging Hikes. Elevation change is 550 feet.
<b>Mastodon Peak</b>	Cottonwood Spring parking area	3 mi (4.8 km)	1½-2½ hours	Loop. An optional rock scramble takes you to the top of a craggy granite peak. The trail then loops around past an old gold mine. Elevation change is about 375 feet.
<b>Pine City</b>	Pine City trailhead at end of Desert Queen Mine Rd.	4 mi (6.4 km)	2-3 hours	Out and back. The highlight of this fairly flat trail is a dense stand of junipers and pinyon. The trail also goes to an old mining site.
<b>Split Rock Loop</b>	Split Rock picnic area	2.5 mi (4.0 km)	1½-2½ hours	Loop. Distance includes side trip to Face Rock.
<b>West Side Loop</b>	Black Rock	4.7 mi (7.6 km)	2½-4 hours	Loop. Explore the ridges and washes west of Black Rock campground.
<b>Challenging Hikes — avoid these trails when it's hot out</b>				
<b>Boy Scout Trail</b>	North end: Indian Cove backcountry board. South end: Boy Scout Trailhead.	8 mi (12.9 km)	6 hours	One way. Go deep into the Wonderland of Rocks. Stay on trail to avoid getting lost among the boulders. Most hikers prefer to start at the south trailhead, inside the West Entrance, and finish at Indian Cove. Vehicle shuttle strongly recommended for hikers interested in doing the full length of the trail.
<b>California Riding and Hiking Trail</b>	Several.	35 mi (56.3 km)	2-3 days to hike entire length	One way. Shorter hikes possible on sections of this long trail. Travel from Black Rock Canyon to the North Entrance of the park, passing through a variety of Mojave Desert landscapes.
<b>Lost Horse Loop</b>	Lost Horse Mine trailhead off Keys View Rd.	6.5 mi (10.5 km)	3-4 hours	Loop. For a shorter option, see Lost Horse Mine, under Moderate Hikes. Elevation change is about 550 feet.
<b>Lost Palms Oasis</b>	Cottonwood Spring parking area	7.5 mi (12 km)	5-6 hours	Out and back. Enjoy sandy washes and rolling terrain, then hike down into a canyon to explore a remote fan palm oasis. Climbing back out of the canyon is strenuous. Elevation change is about 500 feet.
<b>Panorama Loop</b>	Black Rock	6.6 mi (10.6 km)	3½-4½ hours	Loop. Gain about 1,100 feet (336 m) in elevation as you hike up a sandy wash, then follow the ridgeline of the Little San Bernardino Mountains. Enjoy scenic views, dense Joshua tree forest, and pinyon-juniper woodland.
<b>Ryan Mountain</b>	Parking area between Sheep Pass and Ryan Campground	3 mi (4.8 km)	1½-2½ hours	Out and back. Gain 1,000 feet in elevation as you hike to the summit of Ryan Mountain. This is one of the most popular hikes in the park.
<b>Warren Peak</b>	Black Rock	6.3 mi (10.1 km)		Out and back. Gain 1,000 ft (304 m) in elevation as you hike to the summit of Warren Peak. Enjoy panoramic views of the quiet western part of Joshua Tree.
<b>Willow Hole</b>	Boy Scout Trailhead	7.2 mi (11.5 km)	4 hours	Out and back. Mostly flat trail along the edge of the Wonderland of Rocks. Travel through Joshua tree forests, boulder landscape, and sandy washes. Trail ends at willow trees.



# Camping

Visitors staying overnight in the park must camp in a designated campground or backcountry camping area. Sleeping in your vehicle outside of a campground is prohibited, and there is no camping at roadside pullouts, trailheads, or along the side of the road.

A maximum of six people, three tents, and two cars may occupy an individual campsite, *if there is space*. Some sites only have enough parking for one vehicle.

Check in and check out are at noon. Camping fees must be paid within one hour of selecting a campsite. Quiet hours are from 10 pm–6 am. Generator use is permitted only from 7–9 am, 12–2 pm, and 5–7 pm. There is a 30-day camping limit each year. Only 14 of these nights may take place from October–May. All tents, tarps, and camping equipment must be set up within 25 ft of the picnic table or fire grate at a site. Do not set up slacklines in campgrounds.

Campground	Number of Sites	Fee	Elevation	Water	Flush Toilets	Pit Toilets	Tables	Fire Grates	Dump Station
<b>Belle</b>	18	\$15	3,800 ft	no	no	yes	yes	yes	no
<b>Black Rock</b>	99	\$20	4,000 ft	<b>yes</b>	<b>yes</b>	no	yes	yes	<b>yes</b>
<b>Cottonwood</b>	62	\$20	3,000 ft	<b>yes</b>	<b>yes</b>	no	yes	yes	<b>yes</b>
<b>Hidden Valley</b> <i>RVs and trailers may not exceed a combined maximum length of 25 ft.</i>	44	\$15	4,200 ft	no	no	yes	yes	yes	no
<b>Indian Cove</b>	101	\$20	3,200 ft	no	no	yes	yes	yes	no
<b>Jumbo Rocks</b>	124	\$15	4,400 ft	no	no	yes	yes	yes	no
<b>Ryan</b>	31	\$15	4,300 ft	no	no	yes	yes	yes	no
<b>White Tank</b> <i>RVs and trailers may not exceed a combined maximum length of 25 ft.</i>	15	\$15	3,800 ft	no	no	yes	yes	yes	no

## Group Camping

Reservations are required for group camping. Sites can accommodate groups of 10–60 people and may be reserved up to a year in advance, online at [www.recreation.gov](http://www.recreation.gov) or by phone at 1-877-444-6777.

Group camping is available at three locations in Joshua Tree National Park:

- **Cottonwood Group**, elevation 3,000 ft (914 m). 3 sites, \$35–40 depending on site capacity. Tents only. RVs and habitable trailers prohibited.
- **Indian Cove Group**, elevation 3,200 ft (975 m). 13 sites, \$35–50 depending on site capacity. Can accommodate RVs or trailers, maximum combined length 25 ft.
- **Sheep Pass Group**, elevation 4,500 ft (1372 m). 6 sites, \$35–50 depending on site capacity. Tents only. RVs and habitable trailers prohibited.

## Equestrian Use

Horseback riding is a popular way to experience the park. The Backcountry and Wilderness Management Plan provides for more than 200 miles of equestrian trails and trail corridors that traverse open lands, canyon bottoms, and dry washes. Many riding trails are already open, clearly marked, and ready to be enjoyed. Other trails are in various states of development. **Trail maps** for the West Entrance area and for the Black Rock Canyon area are available.

Stock use is limited to horses and mules and is restricted to designated equestrian trails and corridors, open dirt roads, and shoulders of paved roads. Riders should travel single file to reduce damage to soil and vegetation. Stock animals are not permitted within ¼ mile of any natural or constructed water source. Horses and other stock are not permitted on nature trails, in the Wonderland of Rocks, in campgrounds, in picnic areas, or at visitor centers. A permit is required to camp with stock in the backcountry; call 760-367-5545.

The park has two **equestrian campgrounds** available only to visitors with horses. *Reservations are required.*

- **Ryan Horse Camp**, elevation 4,300 ft (1,310 m), is open October–May. 4 sites, \$15/night. No water. For reservations, call 760-367-5545.
- **Black Rock Horse Camp**, elevation 4,000 ft (1,219 m), is open all year. 20 sites, \$20/night. For reservations, call 1-877-444-6777.

For more information, please see the park website at [go.nps.gov/horsebackriding](http://go.nps.gov/horsebackriding) or ask a ranger about horse use.

## Can't Find A Campsite?

Joshua Tree National Park has become an extremely popular destination in recent years. Due to this popularity, all park campgrounds usually fill on weekend nights during the busy season, October through May.

If you arrive too late to get a site in a designated campground, you have the following options:

- Camp on Bureau of Land Management land outside the park.
- Go to a private campground or stay in lodging in gateway communities.

Sleeping in your vehicle overnight along the roadside or at a backcountry registration board parking area is not allowed and violators may be subject to citation.

For more information, pick up an Overflow Camping brochure at any visitor center or download one online at [go.nps.gov/JTNPoverflow](http://go.nps.gov/JTNPoverflow).

## Backpacking

Covering an area of more than 792,000 acres, almost 85% of which is managed as wilderness, Joshua Tree National Park is a backpacker's dream with its mild winter climate and interesting landscape. By observing the guidelines below, your overnight venture into the backcountry should be safe and enjoyable. It is your responsibility to know and abide by park regulations and practice Leave No Trace principles (see information on p. 3).

### Register

You must self-register for a free permit at a backcountry board (for locations, see park map, pp. 6–7). Leave your vehicle parked at one of the park's backcountry boards, too.

### Bring Water

Water sources in the desert are scarce and are reserved for wildlife. You must carry with you a supply of water adequate for drinking, cooking, and hygiene. This means carrying at least two gallons (about 8 liters) of water per person per day of your trip.

### Setting Up Camp

Your backcountry camp must be located at least one mile (1.6 km) from the road and 500 ft (152 m) from any trail.

For more information, pick up a backcountry camping brochure at any visitor center or download one online at [go.nps.gov/JTNPbackcountry](http://go.nps.gov/JTNPbackcountry).

## Essential Information

**Getting Here**  
 Joshua Tree National Park is located in Southern California, about 140 miles east of Los Angeles, 175 miles northeast of San Diego, and 215 miles southwest of Las Vegas. Visitors may drive to Joshua Tree via Interstate 10 or Highway 62 (the Twentynine Palms Highway). The closest commercial airport is in Palm Springs. There is no public transportation to the park.

**Dates and Hours of Operation**  
 The park is always open; visitors may come and go at any time. However, several areas are designated for day use only.

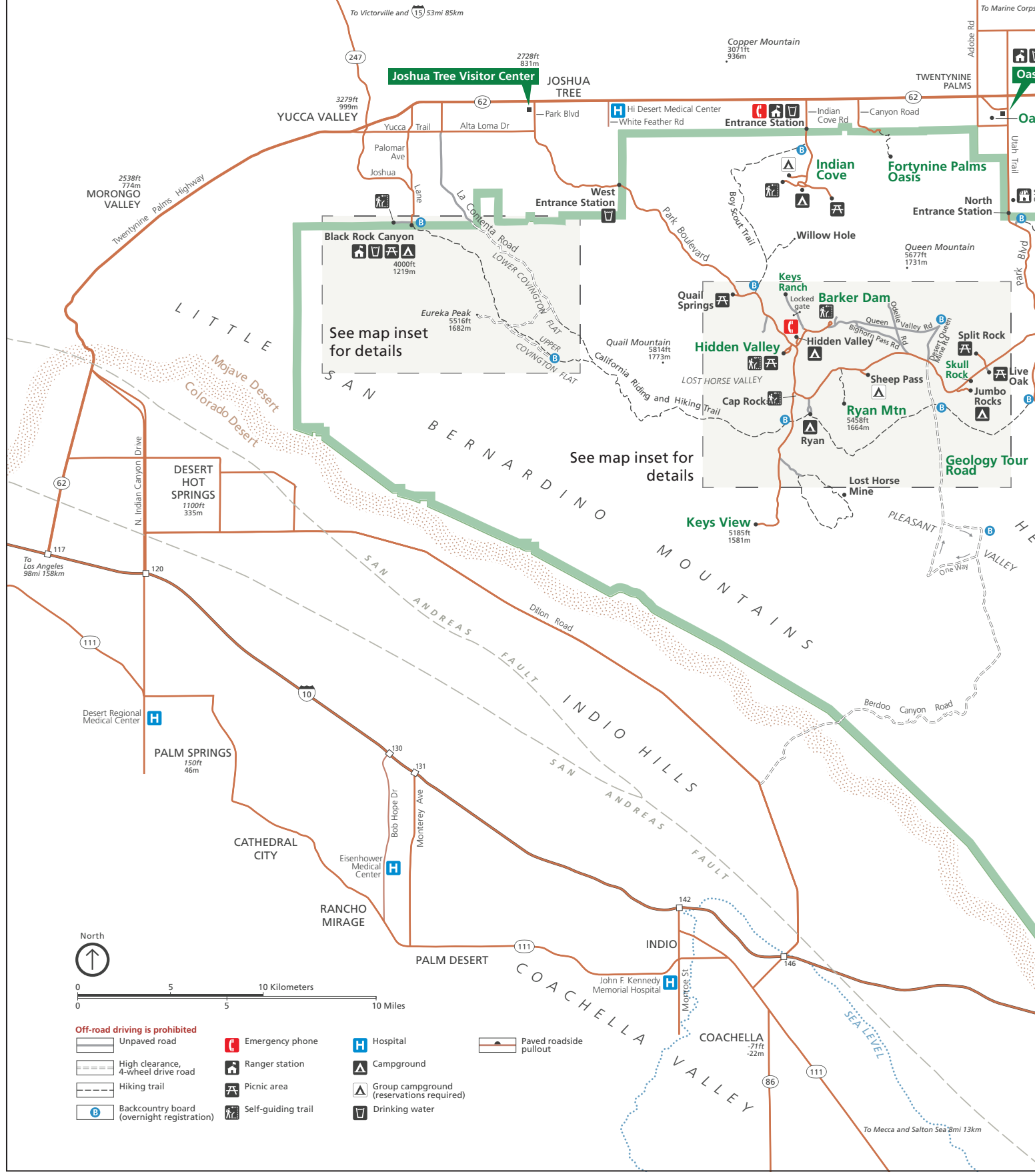
**Entrance Fees**  
**\$25** for a single, non-commercial vehicle.  
**\$12** per motorcycle.  
**\$12** per person on foot, bicycle, or horseback.

*Also available:* \$40 Joshua Tree National Park Annual Pass, \$80 Interagency Annual Pass, \$10 Interagency Senior Pass for U.S. citizens or permanent residents ages 62 and over, free Interagency Access Pass, free Interagency Military Pass. Ask at an entrance station for more details.

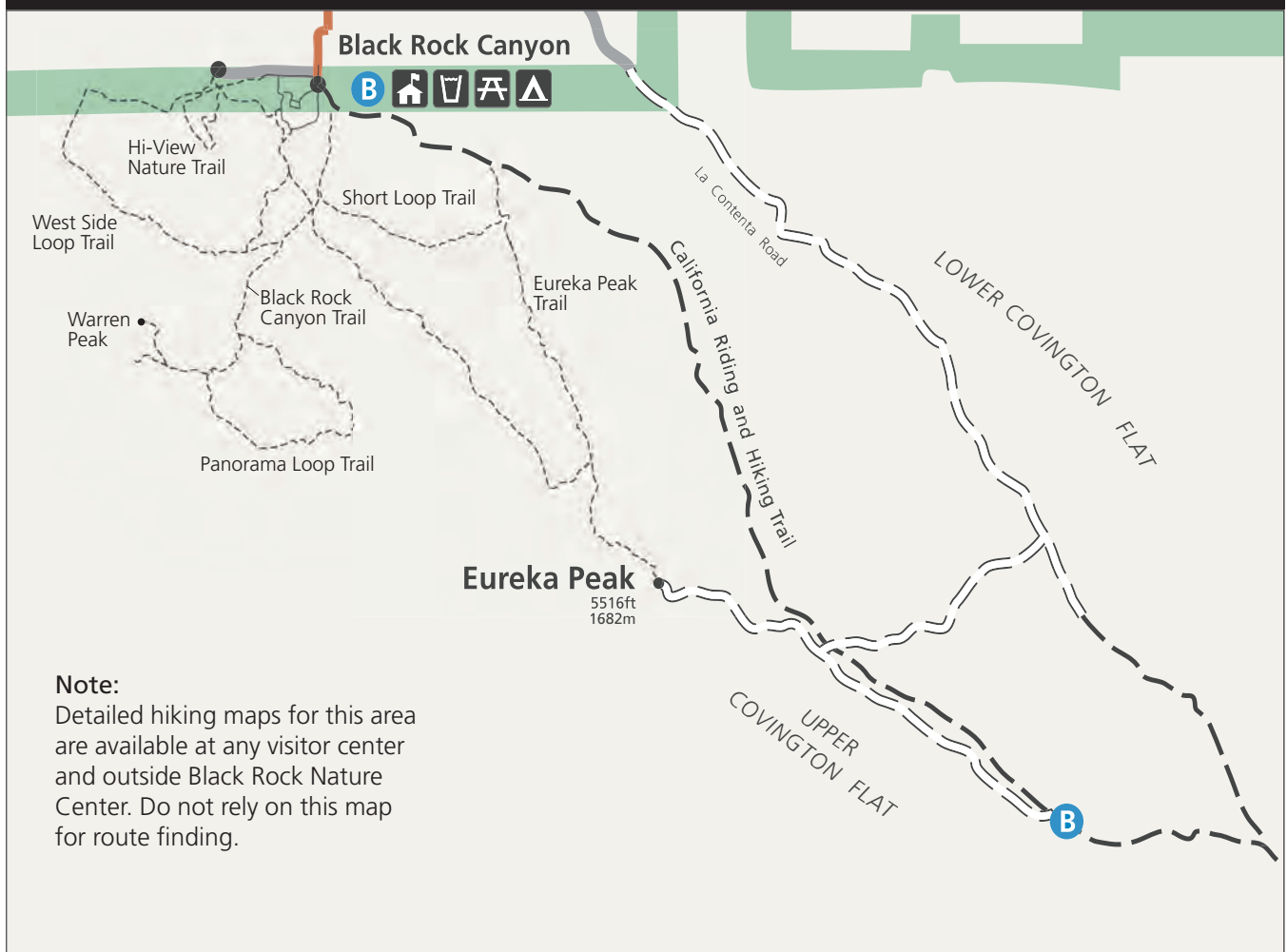
## Visitor Center Information

Visitor Center	Hours of Operation
<b>Oasis Visitor Center</b> 760-367-5500 74485 National Park Dr. Twentynine Palms, CA 92277	daily 8:30 am – 5:00 pm
<b>Joshua Tree Visitor Center</b> 6554 Park Boulevard Joshua Tree, CA 92252	daily 8:00 am – 5:00 pm
<b>Cottonwood Visitor Center</b> 6 miles (10 km) inside South Entrance; access from I-10	daily 8:30 am – 4:00 pm
<b>Black Rock Nature Center</b> open October – May 9800 Black Rock Canyon Road Yucca Valley, CA 92284	daily (except Friday) 8:00 am – 4:00 pm  Friday 8:00 am – 8:00 pm

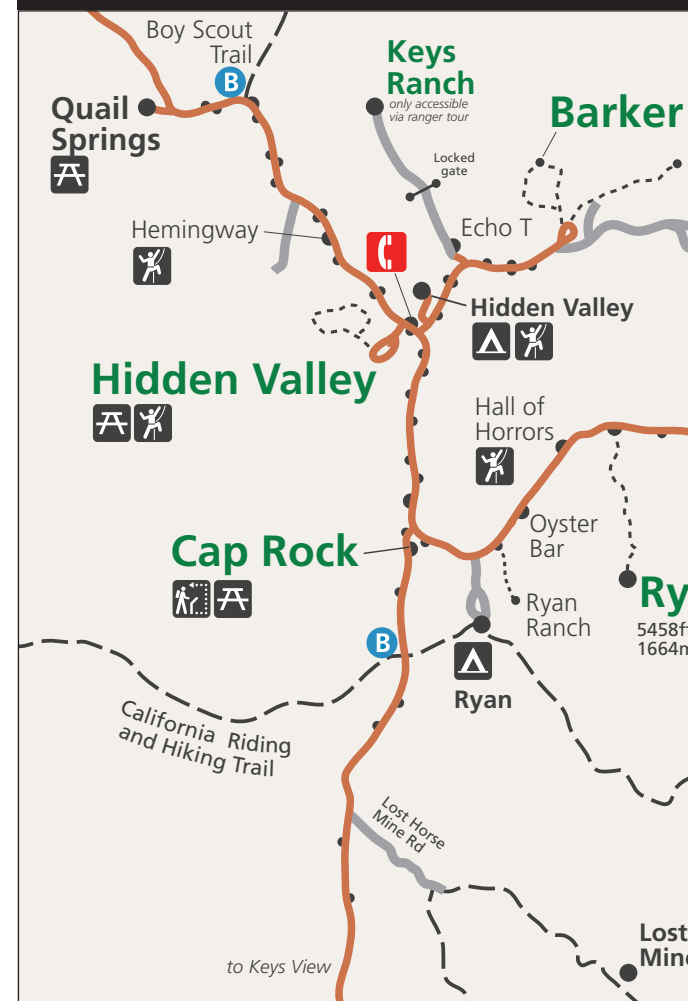
## Map of Joshua Tree National Park

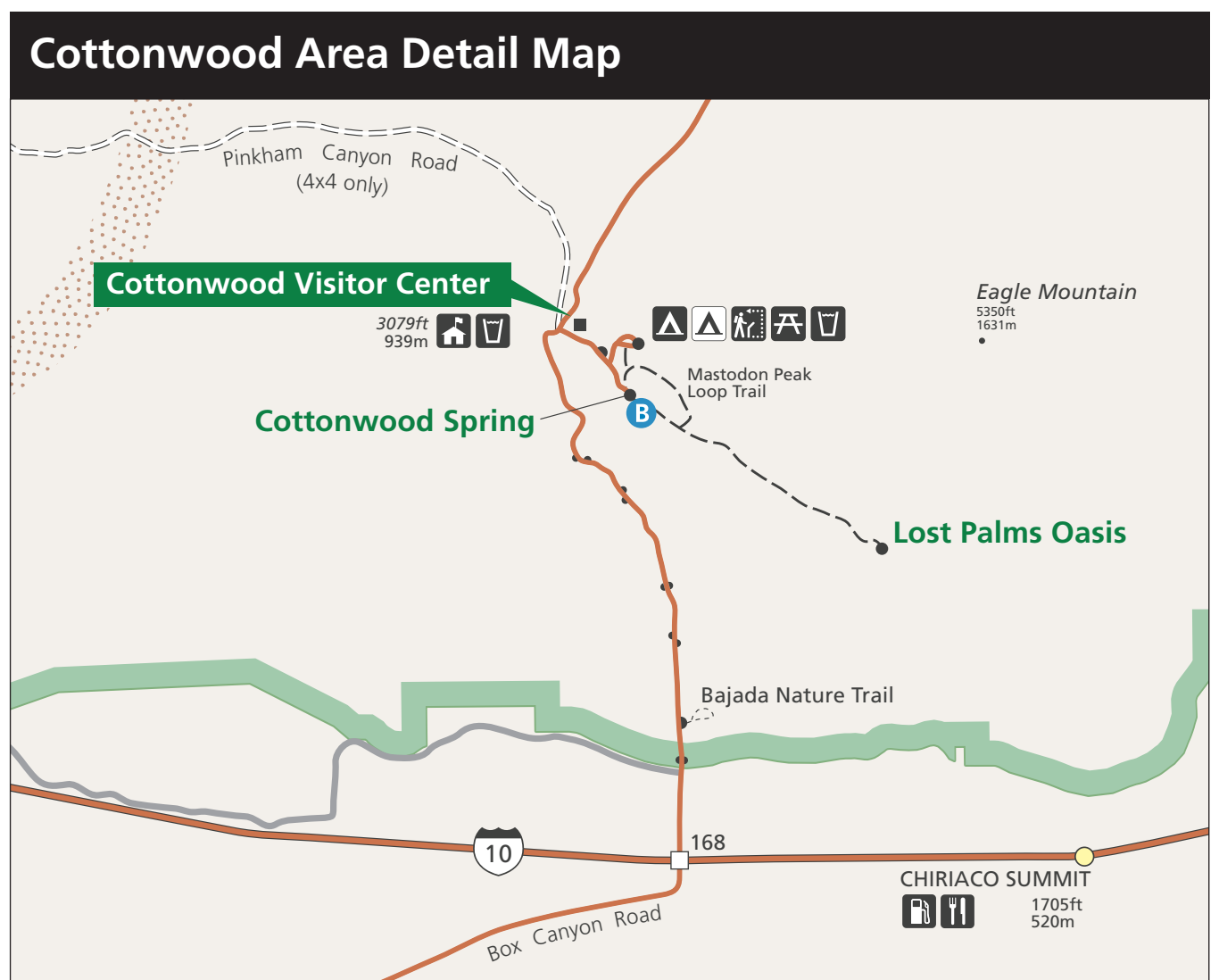
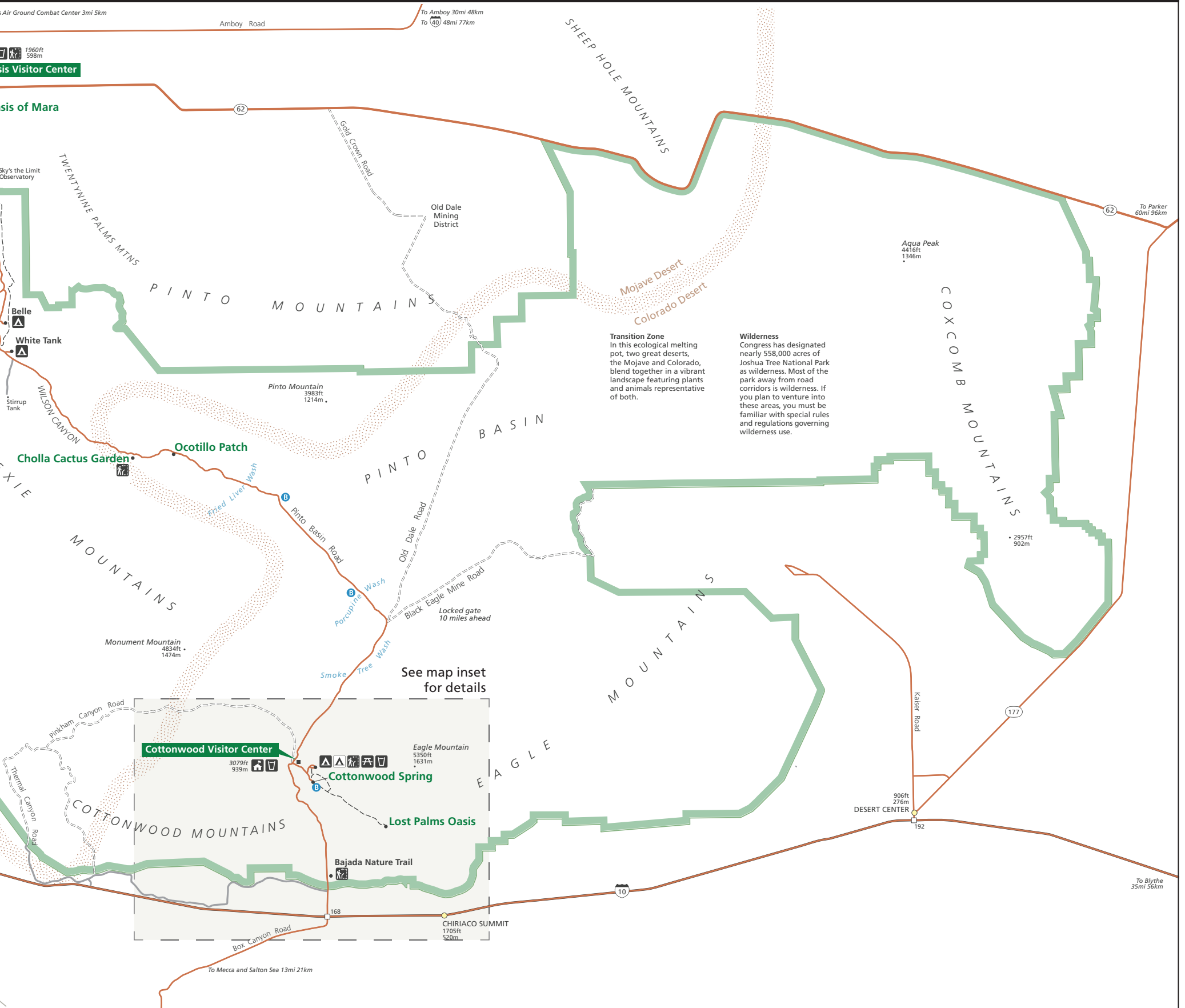


## Black Rock Area Detail Map



## Hidden Valley & Jumbo Rocks





# Visiting On the Wing



Over 250 species of birds have been identified at Joshua Tree, including these commonly-seen species. Left to right: black-throated sparrow (*Amphispiza bilineata*), turkey vulture (*Cathartes aura*), Gambel's quail (*Callipepla gambelii*), ladder-backed woodpecker (*Picoides scalaris*), greater roadrunner (*Geococcyx californianus*), cactus wren (*Campylorhynchus brunneicapillus*), loggerhead shrike (*Lanius ludovicianus*), phainopepla (*Phainopepla nitens*).

DUCKS, PELICANS, AVOCETS ... YOU don't have to be a birder to know that these are not your typical desert birds. But it's spring at Joshua Tree National Park, which means that "typical" isn't the order of the day. As the weather warms in the northern hemisphere, the birds are on the move again. With more than 250 different bird species identified in the park, Joshua Tree is a great place for beginning and advanced birders alike. The park lies along a major migration corridor, and its proximity to the Salton Sea, the Pacific Ocean, and the Gulf of California explains why you might spot a fish-eating bird like an egret by the roadside in spring.



Keep an eye out for birds not typically seen in the desert, like this great egret (*Ardea alba*).

In addition to the unexpected waterfowl and shorebirds, colorful songbirds are also passing through the park. Many varieties of warblers can be seen and heard at Cottonwood Spring in their easier-to-identify breeding plumage. You may also see the brilliant yellows and oranges of orioles as they return to the park for the summer. A flash of blue could be a western bluebird or a California scrub jay. Overhead, large black turkey vultures soar along the thermals without once flapping their wings. Hawks, falcons, and eagles will also circle high overhead, so pay particular attention to the size and the shape of the bird's wings as it flies.

When looking for birds, don't forget to look down as well as up. Two of the park's most charismatic avian residents are more often seen running than flying. Gambel's quail with their signature black plumes are often spotted in larger groups called coveys, while the speedy roadrunner is a solitary creature. Both birds

are found throughout the park.

Beautiful spring wildflowers attract birds as well as humans to the desert, and you can find several species of hummingbirds sipping the nectar of the flame-red chuparosa flower or the pale pink blossoms of the desert willow. Phainopeplas prefer berries from the less-showy desert mistletoe that grows in parasitic clumps on shrubs and trees. The phainopepla is one of the most commonly seen birds in the park this time of year and is easily recognized by the crest on its head and its silky black feathers.

Spring is also the time for a lot of birds to build their nests. If you stop in at the Cholla Garden, you may encounter a cactus wren weaving its nest among the inhospitable spines of teddy bear chollas. Loggerhead shrikes will also build their nests in thorny vegetation, using the plants' defense mechanism as protection for their own young. Shrikes will also use the thorns and spikes of yuccas to hold

lizards, tarantulas, and other small animals. Lacking the talons of a raptor, shrikes will use the sharp vegetation to spear their prey like a shish kabob.

For serious birders, no bird is more sought-after than a Le Conte's thrasher, which lives in the park year-round but is only commonly spotted in the spring as it calls out to prospective mates. Look for it near the Cottonwood Visitor Center and Black Rock Campground. Tiny verdins are another great bird you may check off your life list here. The little gray birds have a distinctive yellow face and are very gregarious, often seen flitting through the thorny trees outside the Oasis Visitor Center.

Whether you're a beginning birder or a lifelong aficionado, now is a great time to go birding in the desert. So grab your binoculars and your favorite field guide, and enjoy spring at Joshua Tree National Park.

by Park Ranger Beth Hudick

# Fragments of the Past

THE PRIMEVAL LANDSCAPE OF Joshua Tree National Park makes it easy for your imagination to run wild. Envision giant beasts lumbering across the valleys and huge predators prowling between the boulders. Even reptiles grew to outlandish proportions.

Preserved in the dusty sediments of the Pinto Basin are fossils and artifacts that tell the story of Joshua Tree's past. During the Pleistocene Epoch, from 1.6 million to 11,700 years ago, the area that is now Joshua Tree National Park was a very different place. By studying these fossils, paleontologists gain an understanding of what this area was like long ago.

During the Pleistocene, braided stream systems and isolated lakes in the Pinto Basin provided ample water for large herds of prehistoric bison, camels, llamas, and horses. Giant ground sloths, hulking mammoths,

and tortoises nearly four feet long roamed the landscape. These grazers attracted the attention of predators like dire wolves and saber-toothed cats.

Turning our attention to humans, traces of Paleoindian habitation dating to nearly 10,000 years have also been found by researchers. In the 1930s, Elizabeth Campbell, along with her husband William, began to study archeological sites they identified along an ancient, dry streambed. With no other water sources in the vicinity, Elizabeth determined that environmental factors such as water availability influenced human settlement patterns.

Today, this idea is fundamental to archeology, but in the 1930s it was revolutionary—especially coming from a woman. Archeology at that time focused mainly on artifacts and prehistoric technology; as a result, Elizabeth's conclusions were not

fully accepted until years later.

Around 10,000 years ago, as the Pleistocene ended, this region's climate began to change dramatically. Temperatures rose, precipitation patterns changed, and streams and lakes began to dry up. The plants and animals living here faced an uncertain future. Some species adapted to changing conditions while others moved to more suitable areas. Those unable to adapt or move went extinct. It is during this period that many large mammal species went extinct across the continent.

As the environment changed around them, the adaptable Paleoindians who relied on a variety of game animals, plants, seeds, and nuts began to use more diverse resources, and enlarged the range of their nomadic movements in order to survive.

We often imagine the landscape

around us to be unchanging, but the fossils and artifacts found here allow us to piece together a picture of a past that is very different from today. As the events of the past become clearer, we gain a better understanding of how environmental changes affect life and insight into what change may mean for the future.

Climate change caused by humans will undoubtedly continue to impact the plants, animals, and people of Joshua Tree National Park in the future. Which species will be able to adapt to the changes? Which will move to other areas? Which will go extinct?

Research into past events is crucial to preparing a plan for the future. If you come across a fossil or prehistoric artifact in the park, please leave it in place and report it to a ranger.

by Brad Sutton

Visit Joshua Tree Visitor Center to view the full-sized mural artwork shown here.



# Joshua Tree's Boulders

THE BOULDERS AND ROCK formations of Joshua Tree National Park define the park landscape. The rocks catch the eye of climbers, photographers, hikers, and motorists. Most everyone asks, “What are they?” “Where did they come from?” or “What’s with all the strange shapes?”

## WHAT ARE THEY?

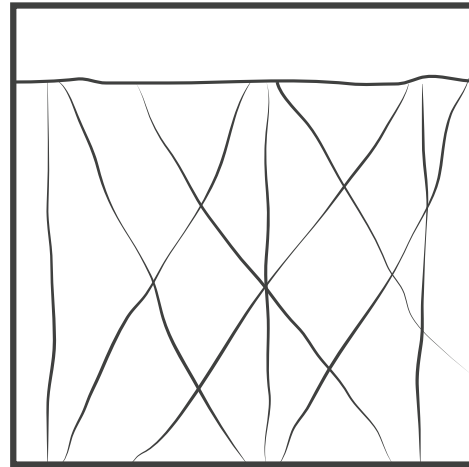
Many visitors think the rocks look like layers of sandstone, but they are actually a kind of granite, not unlike the rock commonly used for countertops. Granites are igneous in origin, meaning they formed when hot, molten fluids within the earth’s crust gradually cooled into hard rock.

Most granites in the park are a particular type called “monzogranite.” Joshua Tree’s monzogranites solidified beneath the surface of the Earth starting about 245 million years ago, with the youngest rocks formed over 100 million years ago.

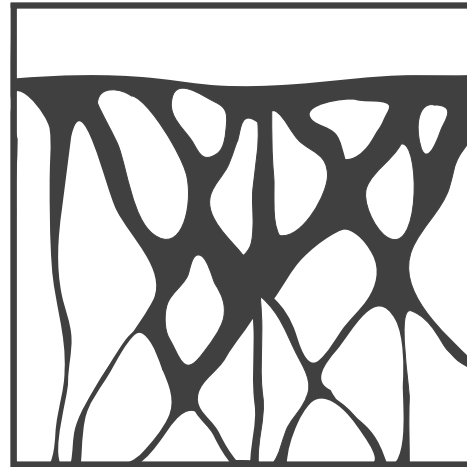
## WHERE DID THEY COME FROM?

About 250 million years ago—before the dinosaurs came to dominate the planet—the thick North American plate began riding over the thinner Pacific Plate. The water-rich oceanic plate was forced under the continent at an angle.

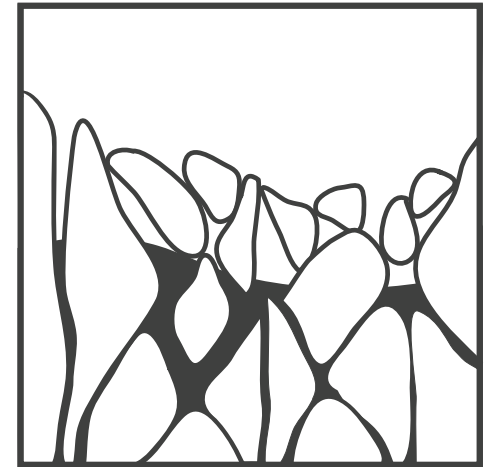
Water at depth, where temperatures are extremely hot, helped to melt the rock into granitic magma. It was hot, liquid, and lightweight, and was able to ooze upward along deep-seated cracks in the crust that had been fractured by the fierce crunching of the charging plates.



1. Parallel sets of fractures formed in the hard monzogranite while it was still underground. Water began infiltrating along the cracks.



2. The edges and corners of buried rock blocks became rounded as water broke the rock down into smaller particles.



3. Erosion carried away the small particles of broken-down rock, exposing the rounded rocks that had once been beneath the surface.

The liquid granite couldn’t force itself all the way up to the surface, so the granite stalled and formed huge, ball-shaped masses within the ancient rock. Over a long period of time, the great blobs of granite cooled and hardened.

The ancient rock, called gneiss (pronounced “nice”), began to erode. Over millions of years, the gneiss has completely vanished from the surface in most of the park. The gneiss, dark in color, does remain exposed on mountain tops. Younger and lighter-colored monzogranites are seen in the valley bottoms.

## WHAT’S WITH ALL THE STRANGE SHAPES?

In many places in the park, the boulders appear as if some gigantic child piled them up. Some boulders have carved faces, are shaped like animals, or take other fanciful forms.

*Cracks in the rocks and water* are the keys to the appearance of our rocks today.

Horizontal stresses from the collision of tectonic plates created sets of parallel, vertical fractures within the buried rock. Later, mountain building pushed the rocks upward

to form sets of X-shaped cracks standing at angles in the granite. All the fractures were avenues for rainwater to seep downward through the rocks to etch and shape and round the originally angular blocks into the varied forms seen today in the park.

During the last Ice Age, the climate was cooler and wetter; rainwater was abundant. Much of the water etching occurred then. No glaciers existed this far south at these elevations, so glaciers were not a factor in making the landscape we see today.

by Dar Spearing, Ph.D.



## Fun Facts about Joshua Trees

- Joshua Tree National Park is named after the Joshua tree, an iconic plant of the Mojave Desert.
- Joshua trees are *not* found in every part of Joshua Tree National Park, nor are they found only in the park. They grow throughout much of the Mojave Desert.
- Rangers’ favorite places for viewing Joshua trees include Black Rock and the Juniper Flats area along the road to Keys View. Our Joshua tree forest is densest in the northwestern part of the park, at elevations of about 4,000-4,200 feet (1,200-1,280 m) above sea level.
- The tallest Joshua tree in the park is called the “Barber Pole.” It stands about 43 ft (13 m) tall along the park road in Queen Valley.
- A Joshua tree has spiky, succulent leaves, but it is not a cactus. It is a member of the agave family.
- Climate change threatens Joshua trees. Less available water means fewer young Joshua trees can grow.
- The inside of a Joshua tree is fibrous and has no growth rings. That makes it hard to know how old it is! Some researchers think a typical lifespan for a Joshua tree may be 150 years.
- According to legend, Mormon pioneers considered the limbs of the Joshua trees to resemble the upstretched arms of Joshua leading them to the promised land.
- The cover photo for the 1987 U2 album *The Joshua Tree* was not taken in Joshua Tree National Park, but closer to Death Valley.

## What Makes Joshua Tree National Park Significant?

### Joshua Trees, of Course!

Joshua Tree National Park preserves a world-renowned, undisturbed population of Joshua trees (*Yucca brevifolia*), an integral component of the Mojave Desert ecosystem.

### Transition Between Two Deserts

Outstanding examples of Mojave and Colorado Desert landscapes converge at Joshua Tree National Park to create a biologically rich system of plant and animal life characterized by iconic Joshua tree woodlands, native palm oases, and vast expanses of creosote scrub that are uniquely adapted to desert conditions. The park also contributes significantly to the connectivity of large protected areas across the California desert.

### Desert Wilderness Close to Major Urban Areas

Joshua Tree National Park provides accessible and diverse opportunities in a remote desert wildland to large and burgeoning urban populations.

### History and Cultural Traditions

Joshua Tree National Park preserves a rich array of prehistoric, historic, and contemporary resources that demonstrate the integral connection between deserts, land use, and human cultures.

### Where the Pacific Plate Meets the North American Plate

Joshua Tree National Park lies along one of the world’s most active tectonic boundaries, the San Andreas Fault. Geologic processes, including tectonic activity, have played and continue to play a major role in shaping the mountains, valleys, and basins of the park.

### Scientific Study

Joshua Tree National Park offers unparalleled opportunities for research of arid land ecosystems and processes, adaptations of and to desert life, sustainability, and indications of climate change. The proximity of the park to urban regions of Southern California and Nevada enhances the value of the park for scientific research and education.

### Bouldered Landscape

Huge, eroded monzogranite boulder formations are world-renowned natural features that provide unique aesthetic, educational, and recreational opportunities for Joshua Tree National Park visitors.

### Beautiful Scenery

Geologic, climatic, and ecological processes create scenic landscapes unique to deserts and fundamental to the character of Joshua Tree National Park.

# The Desert Unsung

(continued from p. 1)

sand and gravel during flash floods. This ensures young trees get started at a time when moisture is available—a must for survival in the desert.

Ironwood is a favorite of Park Ranger Cynthia Anderson. “Ironwood is the ultimate desert tree,” she says. “It’s strong, it’s resilient, it thrives in what we think of as a harsh environment.”

Strong indeed: the wood of the ironwood tree is hard and so dense that it sinks in water. The wood also has a very fine grain, thanks to the ironwood’s slow growth rate. Though its water-sipping habits make it well-adapted for desert life, ironwood is sensitive to hard freezes, so you won’t find it in the higher-elevation Mojave Desert.

Smoketree is another beloved desert species that doesn’t care for the cold. “What I like best about it is that it actually looks like smoke,” says Patty Gerhardt, the superintendent’s secretary. “And when it blooms, it’s completely covered in flowers.”

Smoketree Wash north of the Cottonwood Visitor Center is one place to admire these multi-trunked trees. They are a pale gray-green in color, with spiny twigs and few if any leaves. In a smoketree, photosynthesis takes place mostly in the twigs—it’s chlorophyll that lends that green tinge.

You can see this adaptation even more dramatically in blue palo verde, which drops its small leaves in dry periods in order to save water. The trunk and branches of palo verde trees are bright green and can make food from sunlight using photosynthesis. “It’s a brilliant, water- and energy-saving adaptation to have your chlorophyll in your branches and trunk,” says Anderson.

She adds, “Blue palo verde is a bee wonderland! When these trees bloom, they are alive with bees. We have an estimated 550-650 species of bees in the park and they just love the yellow blossoms.”

All three of these trees are an important source of food and shelter for wildlife. They also serve as “nurse trees,” helping shade the vulnerable seedlings of other plant species until they become established.

Before Joshua Tree was established as a national monument in 1936, conservation advocate Minerva Hoyt proposed calling it Desert Plants National Park in recognition of the rich diversity of species found here. The diversity exists because of the park’s location along the transition between two ecologically distinct deserts, characterized by different plant communities.

The Colorado Desert may not have famous rock songs written about it, but park rangers love it. Visit, and perhaps you too will sing its praises.

by Cathy Bell, Editor

# Climate Change Effects on Water Resources

Park physical scientists have launched a long-term study to monitor the effects of climate change on water resources in Joshua Tree National Park. Water is a crucial desert resource that sculpts and forms the surrounding landscape and ecosystems . . . but for something so important, it can be hard to find.

Where is all the desert water? Aquifers deep beneath the surface are tapped by decades-old wells drilled by homesteaders. Canyon spring oases form when groundwater rises to the surface along geologic faults. Ephemeral creeks and washes are scoured by flash floods after rains. Small reservoirs behind old dams fluctuate and often go dry.

Data loggers have been installed in five drilled wells and at two fan palm oases to collect water level measurements over the next two and a half years. As land use and climate change exert increasing pressure on water supplies, the monitoring of water resources is key for understanding and predicting impacts on wildlife and vegetation.

by Stacy Manson, Physical Science Technician



Devices used to measure ground water levels have been installed around the park in order to better understand park water resources.

## Night Sky Almanac

Rangers regularly offer programs about night sky and our relationship with it.

Check ranger program listings on p. 12 or at any visitor center for information about upcoming programs or events.

**FEB. 11 – FULL MOON**

**FEB. 26 – NEW MOON**

With the moon dark, this is the best time of the month for viewing the Milky Way and star clusters.

**MAR. 12 – FULL MOON**

**MAR. 20 – VERNAL EQUINOX**

The first day of spring in the Northern Hemisphere. Day and night are approximately equal length.

**MAR. 28 – NEW MOON**

**APR. 1 – MERCURY AT GREATEST EASTERN ELONGATION**

Mercury reaches its highest point above the horizon in the evening sky. Look for it low in the west after sunset.

**APR. 7 – JUPITER AT OPPOSITION**

Jupiter will be at its closest approach to Earth and brighter than any other time of year. Four of Jupiter’s moons should be visible with binoculars.

**APR. 10 – FULL MOON**

**APR. 22-23 – LYRID METEOR SHOWER**

This meteor shower should produce about 20 meteors per hour. The best viewing will be after midnight.

**APR. 26 – NEW MOON**

**MAY 6-7 – ETA AQUARID METEOR SHOWER**

Earth passes through the dust of Halley’s Comet. We may see 30 meteors per hour.

**MAY 10 – FULL MOON**

**MAY 17 – MERCURY AT GREATEST WESTERN ELONGATION**

Mercury reaches its highest point above the horizon in the morning sky. Look for it low in the east just before sunrise.

**MAY 25 – NEW MOON**

## Report Damage to Park Resources



Conservators at work removing graffiti from historic Barker Dam, spring 2015. As recently as 2011, there was no graffiti on this structure; by 2014 the dam was almost completely defaced.

If you see anyone committing an illegal act like vandalism or looting:

- Do not approach them.
- Note time, location, and other details including descriptions, and license plate/vehicle information. Take pictures if possible.
- Contact park staff as soon as possible at the nearest visitor center or entrance station. You may also report vandalism by calling park dispatch toll free at 909-383-5651 or 911.

We are all stewards of this land. If we want it to be here for future generations, we must keep it safe today.

Increasing popularity brings more and more people to Joshua Tree National Park every year. Most visitors are respectful, but there are the few who decide to leave a lasting impact on the park.

In recent years, park managers have been forced to close areas due to excessive vandalism. Some resources have been damaged to the extent that they can never be fully cleaned or replaced.

Despite its apparent harshness, the desert is a land of extreme fragility. All parts of the park are protected by federal law. And remember: **graffiti in a national park is not art.**

# Joshua Tree National Park Association

Park Partner



## Be a Part of the Adventure

The Joshua Tree National Park Association has been supporting preservation, scientific research and education at Joshua Tree National Park since 1962. As the park's primary non-profit partner, we operate four visitor center bookstores that are often the first stop for visitors from around the world; offer a field institute with classes taught by experts in natural sciences, cultural history and the arts; and raise funds for the park through public events and our membership program. Join us and make the most of your Joshua Tree experience!

## Connect with Nature

Whatever your passion, you'll learn more about Joshua Tree National Park at our visitor center bookstores. Wildflower identification, climbing and hiking guides, birding, geology, stargazing, native plants, and local history are just a few of the topics included in our great selection of books. And don't forget the kids: we have games, activity books, everyone's favorite desert animals and Junior Ranger gear. Start your journey now at our online store, [www.joshuatree.org/store/](http://www.joshuatree.org/store/)

## Experience the Great Outdoors

Pick up a trail guide in the bookstore, or sign up for a Desert Institute field class and make the park your classroom. If you don't see exactly what you're looking for, a custom program will ensure a perfect fit! Classes are not offered in the summer months, but take home a schedule and plan ahead.

## Become a Member

Join the Joshua Tree National Park Association and you'll support park programs and projects while enjoying some great benefits. Our members are a committed group of supporters whose contributions each year help the park fulfill its educational, interpretive, and research plans. As a member you'll have the satisfaction of knowing that you are supporting youth programs, scientific research and the park's historical collections, and you will assist in the preservation of our fragile desert environment for generations to come.

Your annual membership includes these benefits:

- 15% discount on merchandise at Joshua Tree National Park Association bookstores, with reciprocal bookstore discounts at many other National Parks
- *Keys Views*, our JTNPA newsletter, and a monthly e-newsletter update on park events
- Invitations to special events
- \$10 discount off every Desert Institute class

Please ask for a membership brochure at one of the Joshua Tree Visitor Centers or call 760-367-5535.

[www.joshuatree.org](http://www.joshuatree.org)

# Preparing for Changing Weather

Spring visitors to Joshua Tree National Park must prepare for a wide variety of conditions. Elevations range from 506 ft (154 m) to 5,814 ft (1,772 m) above sea level. The measurements shown in the average monthly precipitation and temperature chart are based on data from Twentynine Palms, elevation 1,960 ft (597 m). **At higher elevations, expect temperatures to be 7-12°F cooler than shown.** While averages are shown, any individual day may be much hotter, much colder, or much wetter than expected based on these long-term averages.

Annual Weather Averages		
	Precipitation	Temperature
January	0.52 in. (1.3 cm)	40°-60° F (4°-15.5° C)
February	0.59 in. (1.5 cm)	42°-65° F (5.5°-18.3° C)
March	0.45 in. (1.1 cm)	46°-70° F (7.8°-21° C)
April	0.13 in. (0.3 cm)	52°-80° F (11°-26.7° C)
May	0.09 in. (0.2 cm)	48°-88° F (8.9°-31° C)
June	0.01 in. (0.03 cm)	70°-96° F (21°-35.5° C)
July	0.48 in. (1.2 cm)	75°-102° F (23.9°-38.9° C)
August	0.81 in. (2.1 cm)	72°-100° F (22.2°-37.8° C)
September	0.4 in. (1 cm)	68°-96° F (20°-35.5° C)
October	0.2 in. (0.5 cm)	55°-82° F (12.8°-27.8° C)
November	0.2 in. (0.5 cm)	45°-70° F (7.2°-21° C)
December	0.58 in. (1.5 cm)	40°-62° F (4°-16.7° C)

# Be a Junior Ranger

Kids of all ages are invited to participate in Joshua Tree National Park's Junior Ranger program.

Kids can earn a Joshua Tree Junior Ranger badge by completing the official activity book. Stop by any park visitor center or entrance station to pick one up.

In addition to completing age-appropriate activities in the booklet, kids are asked to attend a ranger-led program such as a patio talk, guided walk, or evening program (see schedule, p. 12). We even offer a

special Junior Ranger Discovery Walk on Sunday mornings at 9:30—just meet at the Skull Rock parking area.



If attending a ranger program isn't possible, kids can fulfill this requirement by learning from exhibits in a visitor center or along a trail.

The Junior Ranger program is designed for kids ages 4-14, but anyone can do it. (Older "kids" should expect to be asked to do more activities!)



# Ranger Programs

Ranger-led interpretive programs are a great way to have fun and learn about the park!

Programs start promptly at the times noted below, so arrive a few minutes early to allow time for parking. Children under age 16 must be accompanied by an adult. Ranger programs are free unless otherwise noted.

Please dress in layers to prepare for changing conditions. Wear closed-toe shoes to protect your feet. Carry plenty of water with you. For evening programs, bring extra warm layers and a flashlight.

Programs take place outdoors, but may be canceled or moved inside during inclement weather or if there is a danger of lightning.



Ranger Sarah Jane Pepper leads a tour around the Keys Ranch property.

Program	Meeting Location	Duration, Distance	Sun.	Mon.	Tue.	Wed.	Thur.	Fri.	Sat.
<b>Fossil Chat</b> <i>February 5 - April 30</i> Discover the past, present, and future of our diverse desert ecosystems.	Joshua Tree Visitor Center by the back patio mural	drop-in						9:00 am - 10:00 am	9:00 am - 10:00 am
<b>Patio Talk</b> <i>February 5 - April 30</i> Ranger's choice! Learn about one of many fascinating aspects of the park.	Joshua Tree Visitor Center	15-30 min	9:00 am	9:00 am	9:00 am	9:00 am	9:00 am		
	Oasis Visitor Center	15-30 min		10:00 am	10:00 am	10:00 am	10:00 am	10:00 am	
	Cottonwood Visitor Center	15-30 min	2:00 pm	2:00 pm	2:00 pm	2:00 pm	2:00 pm	2:00 pm	2:00 pm
<b>Artists' Tea</b> <i>February 5 - April 30 (except April 16)</i> Meet a local artist! Find inspiration and see how the artistic community can help protect and promote the beauty of Joshua Tree National Park. Bring your own mug to enjoy a free cup of tea. Participating artists vary from week to week.	Cap Rock parking area (off Keys View Rd. at Park Blvd. intersection)	drop-in	9:00 am - 11:00 am						
<b>Mastodon Peak Hike</b> <i>February 5 - April 30</i> Discover the early mining history of the park. This hike has steep grades and is strenuous.	Cottonwood Springs parking area	2-3 hours 3 mi (4.8 km)							9:00 am
<b>Cottonwood Springs Chat</b> <i>February 5 - April 30</i> Drop by for a casual conversation with a ranger. Bring your questions about Cottonwood Springs and the Colorado Desert.	Cottonwood Springs parking area	drop-in						9:00 am - 10:30 am	
<b>Joshua Tree Rocks!</b> <i>February 5 - April 30</i> Examine the geology of this remarkable area.	Skull Rock parking area	1-1.5 hours 1 mi (1.6 km)						9:30 am	
<b>Desert Reflections</b> <i>February 5 - April 30</i> Join a ranger for an interactive discussion about an issue facing the park. Check at a visitor center for topics.	Oasis Visitor Center	1-1.5 hours							10:00 am
<b>Cholla Garden Chat</b> <i>February 5 - April 30</i> Drop by for casual conversation with a ranger. Bring your questions about the Cholla Cactus Garden and the Pinto Basin.	Cholla Cactus Garden	drop-in	10:00 am - 11:30 am						
<b>Jr. Ranger Discovery Walk</b> <i>February 5 - April 30</i> Especially for families with children! This short hike will help kids on their way to earning a Jr. Ranger badge.	Skull Rock parking area	1-1.5 hours .7 mi (1.1 km)	9:30 am						
<b>"I Speak for the Trees" Walk</b> <i>February 5 - April 30</i> Take a walk with a ranger and discover the park's namesake.	Cap Rock Nature Trail (off Keys View Rd. at Park Blvd. intersection)	1 hour 0.4 mi (0.6 km)	2:00 pm						
<b>Keys Ranch Tour</b> <i>February 5 - April 30</i> <i>(ask at Oasis Visitor Center about additional dates)</i> Explore the colorful story and numerous artifacts of this premier historical site. <b>Tickets are required.</b> Tickets must be purchased in person <i>on the day of the tour</i> at the Oasis Visitor Center from 8:30 am - 12:00 noon. Adults (12 & up) \$10; Senior Pass or Access Pass holders \$5; children ages 6-11 \$5; children under 6 free.	Keys Ranch Gate tickets required	1.5 hours 0.5 mi (0.8 km)					2:00 pm	2:00 pm	2:00 pm
<b>Keys View Chat</b> <i>February 5 - April 30</i> Drop by for a casual conversation with a ranger about the San Andreas Fault and park geology.	Keys View overlook	drop-in			2:00 pm - 4:00 pm				
<b>Oasis Walk</b> <i>February 5 - April 30</i> Explore the history and ecology of a desert oasis.	Oasis of Mara Visitor Center	1-1.5 hours 0.5 mi (0.8 km)			3:00 pm				
<b>Evening Program</b> Relax beneath the stars and enjoy a presentation about the park's fascinating natural or cultural history. Check at a visitor center for topics.	Jumbo Rocks Campground Amphitheater <i>February 5 - April 30</i>	45 min						Feb. 7:00 pm; Mar.-Apr. 8:00 pm	Feb. 7:00 pm; Mar.-Apr. 8:00 pm
	Cottonwood Campground Amphitheater <i>February 5 - April 30</i>	45 min						Feb. 7:00 pm; Mar.-Apr. 8:00 pm	Feb. 7:00 pm; Mar.-Apr. 8:00 pm
<b>Full Moon Hike</b> <i>see specific dates at right</i> Explore the park after dark with a ranger.	check at a visitor center for location	1.5 hours 1 mi (1.6 km)	Mar. 12 8:00 pm	Apr. 10 8:00 pm		May 10 8:00 pm			Feb. 11 7:00 pm

**National Park Service**  
U.S. Department of the Interior

**Joshua Tree National Park**  
74485 National Park Drive  
Twentynine Palms, CA 92277

**Emergency**  
Dial **909-383-5651** or **911**

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