



# Spring Guide



## Celebrating the Centennial of the National Park Service

IN 1914, UNITED STATES SECRETARY OF THE INTERIOR Franklin K. Lane received a letter of complaint about the national parks from his old California friend, Stephen T. Mather. Secretary Lane replied, “Dear Steve, if you don’t like the way the national parks are being run, come on down to Washington and run them yourself.”

Up to that time, there was no single agency responsible for the management of the 31 national park areas under the Department of the Interior. Mr. Mather did go to Washington, DC, to change that. His first two years were spent working the halls of Congress with his young assistant, Horace Albright, “keeping him out of jail.” Their work paid off on August 25, 1916, when Congress passed the legislation creating the National Park Service. Director Mather would serve another fourteen years before Albright took the reins as the second director of the National Park Service.

The term “national park” is attributed to artist and explorer George Catlin who in 1833 proposed in the *New York Daily Commercial Advertiser* that there be, “Preserved in their pristine beauty and wilderness, in a magnificent park, where the world could see for ages to come . . . a nation’s park, containing man and beast, in all the wild and freshness of their nature’s beauty!” It took almost forty years before the world’s first national park, Yellowstone, was established in 1872. Ironically, nowhere in Yellowstone’s legislation is the phrase “national park”. It was set aside as a “public park or pleasuring ground of the people.”

British Ambassador James Bryce said in 1912, “The national park is the best idea America ever had.” It was an idea so good that, today, 162 countries of the world have national parks.

The great thing about parks is they are timeless. Your national parks will continue for another 100 years. On this Centennial the national park system is made up of 409 units. Some are classified by the designation “National Park,” but there are also National Lakeshores, National Monuments, National Battlefields, National Scenic Trails, and more. All are here because of one phrase in that 1916 legislation: “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.” Your children’s children will see these treasures.

During your visit to Joshua Tree, you will experience one of these units. It was that legislation’s wording that allowed Joshua Tree to be set aside in 1936. The unique geology, flora, fauna, and history of Joshua Tree make this place like nowhere else in the world.

by Chief Ranger Jeff Ohlfs

*Joshua Tree has many special events planned for the Centennial year! See the listing on p. 12 to join the celebration. Share your photos and stories of Joshua Tree on social media using the hashtag #FindYourPark.*



### Welcome to your park!

A hundred years ago, our National Park System consisted of a few classic crown jewel parks like Yosemite and Yellowstone, as well as a handful of monuments and historic sites scattered like stars across the country. What a difference a century makes!

In 2016, we celebrate the 100th anniversary of the National Park Service. America’s National Park System stretches from Guam to Maine and from the southernmost Florida key to the Gates of the Arctic. National parks protect coral reefs, giant redwoods, night skies, and even the sounds of silence. They tell the stories of patriots entombed in battleships, the ancient ancestors of modern day tribes, courageous explorers, and civil rights leaders. And they do it at seashores, on battlefields, in little historic schools, and even in deserts.

These 409 park sites across the country preserve and protect America’s story. They give us a place where we can be inspired, where we can be challenged, and even a place where we can relax. This year, over two million people from around the world will come to Joshua Tree to connect with the story of the California deserts and enjoy the hiking, climbing and beauty that one presidential proclamation made possible 79 years ago.

What will the next hundred years hold in store for America’s Best Idea? As your park superintendent, my job is to ensure that Joshua Tree continues to be welcoming and relevant to all people, while protecting, and restoring what I think is one of the most amazing places on the planet Earth. Please let me know how we are doing and what we can do better to help you enjoy your park.

Sincerely,

*David Smith*

David Smith  
Superintendent

# # FINDYOURPARK

## Wildflowers Declare the Desert’s Diversity

Ah, spring! Winter rains can bring a spectacular bloom that adds to the year-round beauty of plant life at Joshua Tree National Park. Even in off years the show is dazzling ... but why is one wildflower season so different from the next? Aliya Ingersoll explains, and invites you to be a citizen scientist helping us keep track of what’s going on with our wildflowers. ... p. 8

## Women’s History Month Retrospective

Take a look back at the accomplishments of women in the National Park Service’s first century. Discover the stories of a few prominent women from Joshua Tree’s own history. Historic Structures Specialist Allison Kennedy and Museum Specialist Melanie Spoo share pictures and tales from the park collections in this special Centennial feature. ... p. 10

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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 911 or 909-383-5651

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

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

**Social Media**  
instagram.com/JoshuaTreeNPS  
twitter.com/JoshuaTreeNPS  
facebook.com/JoshuaTreeNPS  
flickr.com/JoshuaTreeNP  
youtube.com: search JoshuaTreeNPS

**E-mail**  
jotr\_info@nps.gov

**Lost & Found**  
Call Lost & Found Coordinator Jeannie Campbell at 760-367-5518. Lost property reports should include owner's name, mailing address, telephone number, a detailed description of the lost item, and the date and place where you think you lost the item.

**Newspaper Editor**  
Cathy Bell, cathy\_bell@nps.gov  
Please email with comments or corrections.

The National Park Service cares for the special places saved by the American people so that all may experience our heritage.

EXPERIENCE YOUR AMERICA™

# 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 (25¢ charge; 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. Early February may have some very chilly nights, while temperatures may hit 100°F (38°C) later in the spring. Always carry extra layers with you. Desert weather changes fast and the landscape offers little shelter.



Be generous in applying sunscreen, and reapply often. The desert sun is strong.

**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, call 911 or 909-383-5651 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 reach 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.

# What to See and Do



Wildflower viewing is a popular activity for visitors in the springtime. There's no way to know in advance if any given spring will be a great wildflower season. 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.
  - 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 on a weekend, consider calling ahead to make a reservation for a Keys Ranch tour (fee).
  - Hike one or two of the park's longer trails (p. 4).
  - Pleasant fall 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.

# 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.

# 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 km) north of the park, it connects with Hwy 62. High clearance and four-wheel drive required; narrow wheel-base suggested.

- 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).

# 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 rock crawlers, 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**  
The National Park Service does not inspect, maintain, or repair bolts and other climbing equipment anywhere in the park. Climbers should check <http://www.nps.gov/jotr/planyourvisit/climbing.htm> for bolting guidance.

**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.



# 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 911 or 909-383-5651.



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>Arch Rock</b>	White Tank Campground, opposite site 9	0.3 mi (0.5 km)	30 minutes	Loop. Explore the geology of a unique area and view a natural arch on this short walk.
<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>	Cottonwood Campground; also accessible from Cottonwood Spring parking area	1.3 mi (2.1 km)	1-1½ hours	Out and back. Take an easy stroll from Cottonwood Campground to nearby Cottonwood Spring. Or park at the Cottonwood Spring parking area, walk 50 yards (46 m) down a hill, and enjoy the shade of the palm trees at this desert oasis.
<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.	1½-2 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.
<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	Loop. Short, accessible path with breathtaking views of the San Andreas Fault, Mt. San Jacinto, Mt. San Geronio, 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 very 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.
<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 400 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 while taking in lovely views.
<b>Wall Street Mill</b>	Barker Dam parking area	2 mi (3.2 km)	1½-2½ hours	Out and back. Travel to the remains of an historic gold milling site.

<b>Challenging Hikes</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.
<b>Lost Palms Oasis</b>	Cottonwood Spring parking area	7.2 mi (11.6 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. This hike is not recommended for hot days in late spring.
<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 about 1,000 feet (300 m) 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)	3½-4½ hours	Out and back. Gain 1,000 ft (300 m) in elevation as you hike to the summit of Warren Peak. Enjoy panoramic views of the quiet western part of Joshua Tree.



# Camping

Campgrounds usually fill on weekends at this time of year. Reservations for Indian Cove and Black Rock Campgrounds are available from October through May. Go to [www.recreation.gov](http://www.recreation.gov) or call 877-444-6777 up to six months in advance of your visit to make a reservation. If you can't find a campsite, ask a ranger for a copy of the park's overflow camping handout.

**CAMPGROUND RULES** 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> - RVs and trailers may not exceed a combined maximum length of 25 ft.	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> - RVs and trailers may not exceed a combined maximum length of 25 ft.	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 <http://www.nps.gov/jotr/planyourvisit/horseback-riding.htm> or ask a ranger about horse use.

# Backcountry Camping

Joshua Tree National Park is vast, and little of it is accessible by road. An overnight trip into the backcountry is a memorable experience that allows hikers and horseback riders to experience solitude and immersion in wild nature. Adequate preparation is key to enjoying the desert safely.

**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. Minimize exertion during the heat of the day in order to help prevent dehydration.

**Register**  
To camp overnight in the backcountry, you must first self-register for a free permit at a back-country board (for locations, see park map, pp. 6-7). Leave your vehicle parked at one of the park's backcountry boards, too. An unregistered vehicle or a vehicle left overnight somewhere other than at a backcountry board brings up safety concerns. It is also subject to citation and towing.

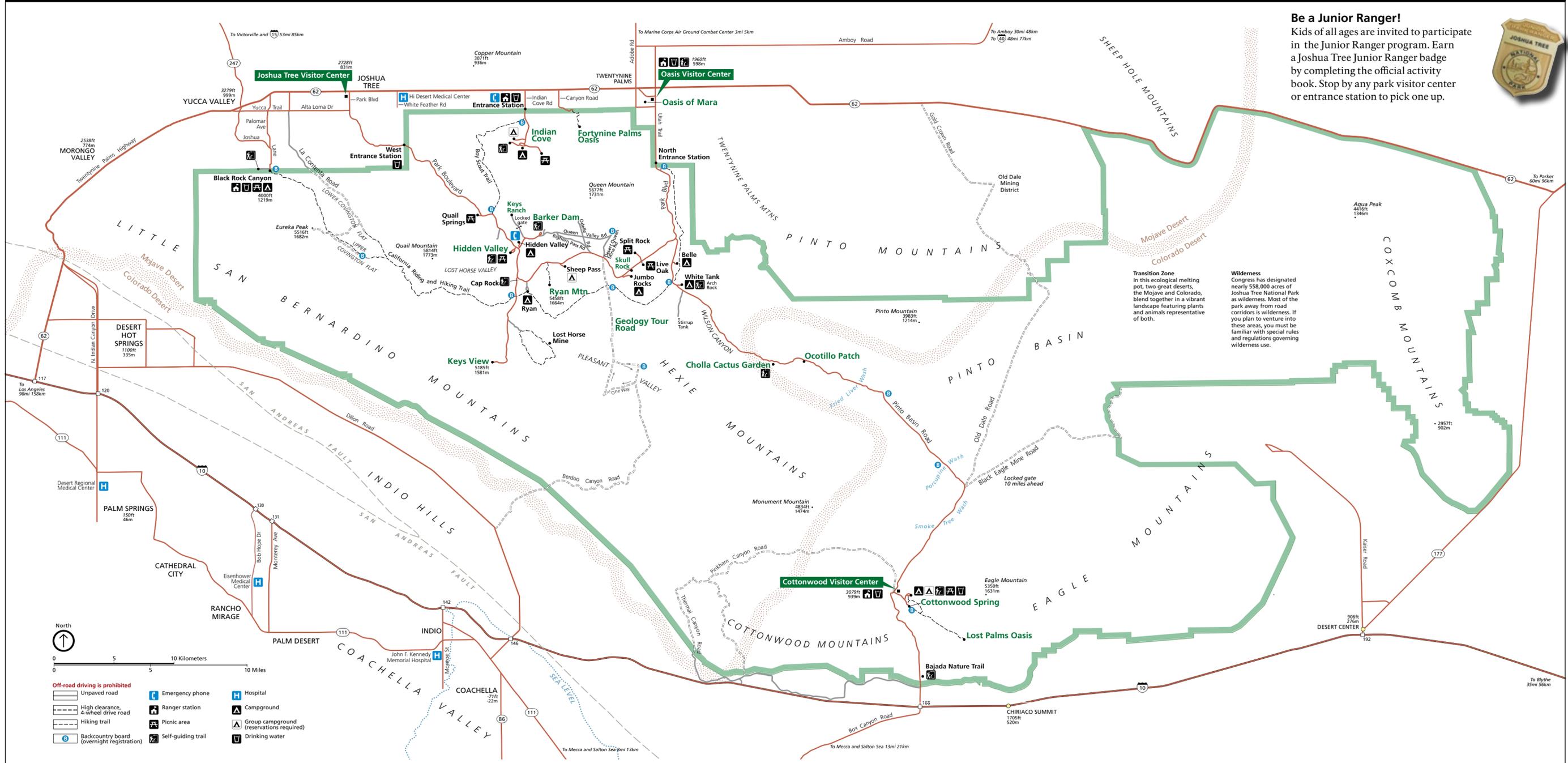
**Setting Up Camp**  
Your backcountry camp must be located at least one mile (1.6 km) from the road and 500 ft (152 m) from any trail. Avoid camping in washes: sudden storms may lead to flooding. No camping is allowed in rock shelters, caves, or day use areas. It is your responsibility to check the locations of day use areas, which are indicated on maps at the backcountry boards.

**Leave No Trace**  
If you plan to cook or heat food, bring a camp stove and fuel. No fires are allowed in the backcountry. Pack out all trash, including leftover food items like apple cores, banana peels, and orange skins. These items can take years to decay in the dry desert environment. Similarly, while solid human waste should be buried in a cat hole at least six inches (15 cm) deep, used toilet paper must be packed out with all other trash. Remember to bring zip-top bags.

**Wilderness**  
Almost 85% of Joshua Tree's 792,510 acres are managed as wilderness. The Joshua Tree Wilderness was protected by an act of Congress and is considered "an area where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain." Wilderness is the highest level of conservation protection for federally-managed public lands. No mechanized transport is allowed in wilderness.

Help us preserve the wilderness character of Joshua Tree for future generations. Review the Leave No Trace principles on p. 3 as you prepare for your trip, then put them into practice.

# Map of Joshua Tree National Park



**Be a Junior Ranger!**  
Kids of all ages are invited to participate in the Junior Ranger program. 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.



**Transition Zone**  
In this ecological melting pot, two great deserts, the Mojave and Colorado, blend together in a vibrant landscape featuring plants and animals representative of both.

**Wilderness**  
Congress has designated nearly 558,000 acres of Joshua Tree National Park as wilderness. Most of the park away from road corridors is wilderness. If you plan to venture into these areas, you must be familiar with special rules and regulations governing wilderness use.

North

**Off-road driving is prohibited**

- Unpaved road
- High clearance, 4-wheel drive road
- Hiking trail
- Backcountry board (overnight registration)

**Emergency phone**

- Ranger station
- Picnic area
- Self-guiding trail

**Hospital**

- Campground
- Group campground (reservations required)
- Drinking water

## 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.

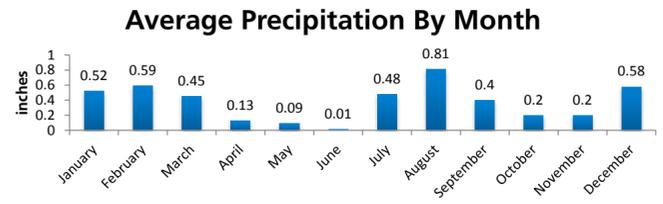
**Dates and Hours of Operation**  
The park is always open; visitors may come and go at any time. However, several areas are designated for day use only.

**Entrance Fees**  
\$20 for a single, non-commercial vehicle.  
\$10 per motorcycle.  
\$10 per person on foot, bicycle, or horseback.

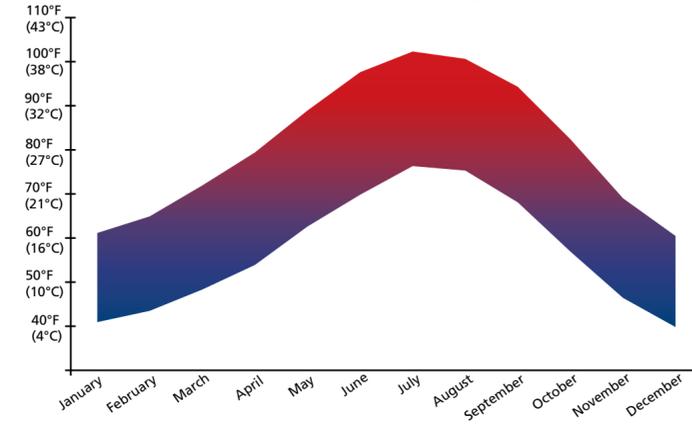
*Also available:* \$30 Joshua Tree National Park Annual Pass, \$80 Interagency Annual Pass, \$10 Interagency Senior Pass for U.S. citizens or permanent residents ages 62 and over, free Interagency Access Pass, free Interagency Military Pass. Ask at an entrance station for more details.

## Preparing for the Weather

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 graphs, below and at right, 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 here, any individual day may be much hotter, much colder, or much wetter than expected based on these long-term averages.



## Average Temperature Range By Month



## Visitor Center Hours and Locations

Visitor Center	Address	Hours of Operation
<b>Oasis Visitor Center</b> 760-367-5500	74485 National Park Drive 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

# Wildflowers: A Declaration of Desert Diversity



A plethora of flower shapes and plant families are represented by annual plants that bloom only in spring. Left to right: desert calico (*Loeseliastrum matthewsii*), Arizona lupine (*Lupinus sparsiflorus*), white-stem blazingstar (*Mentzelia albicaulis*), brown-eyed evening primrose (*Chylisma claviformis*), rosy gilia (*Gilia sinuata*), Bishop lotus (*Acemison strigosus*), lacy phacelia (*Phacelia distans*), and scale bud (*Anisocoma acaulis*).

IT'S A COMMON MISCONCEPTION that spring is the only time when the desert comes to life.

The most spectacular unfurling of plant life does indeed occur in spring, when the whole desert seems to bloom, but wildflowers can surprise visitors with splashes of color in summer and fall. Life flourishes here all year long.

Spring blooms are particularly vigorous because the park's annual plants—about half of the 730 species found here—germinate, bloom, set seed, and die, all within a few months. Spring is a barometer for the strength of the winter's rains: the wetter the winter, the greater the bloom, as seeds that have lain dormant are hydrated and germinate in the warming sun.

"The spring bloom offers the greatest potential for wildflower displays because there are over 300 annual species, represented by 36 families, that can flower in response to winter rain," explains Tasha La Doux, park botanist.

Most Mojave Desert plants have adapted to respond primarily to moisture that falls in the winter, though many plants only flower during summer or fall. These disparate and diverse blooming calendars are due in part to the park's location: Joshua Tree National Park lies at the transition between the Mojave and Colorado deserts.

In the eastern portion of the California Mojave Desert (including in Joshua Tree National Park) much of the annual rainfall arrives as summer monsoons, similar to the rainfall pattern of the Sonoran desert.

The range of elevations within the park also has an intriguing effect: plants of the same species may go to seed in March at lower elevations, while higher up they may still be blooming into May. Congruently, plants found at higher elevations are likely to have an origin in the Mojave Desert, favoring cooler temperatures; the inverse is true for plants from the Colorado Desert.

Accordingly, there is no one set time for flowers to bloom here, and no perfect way to predict it.

So how do you plan your visit if you want to see wildflowers? Take a look at the spring season Wildflower Reports posted at park visitor centers and available on the park website at [go.nps.gov/JTNP/flowers](http://go.nps.gov/JTNP/flowers). In each report, park staff highlight the most spectacular wildflower viewing areas. Visitors can use these time-sensitive reports to plan the perfect spring wildflower walk.

If you miss the spring bloom, though, there's no need to despair.

"August and September are also great times to get in the desert to botanize," points out La Doux. "Not only are there over 100 species that will only flower during the summer and fall months, it's a great time to experience the insect and reptile diversity in the park."

The diversity of plants in the park makes for a spectacular display, but identifying flowers can sometimes be daunting. To help, park rangers and botanists have partnered with iNaturalist. Using this free app, wildflower viewers may upload a photo and location of a bloom and request an ID of the flower, or simply scroll through existing photos and match to the plant in front of them.

This interactive tool allows park staff to provide plant identification for visitors, and allows visitors to point us to the most vibrant blooms. Talk about symbiosis!



We've partnered with iNaturalist to crowdsource reports of what's going on with wildflowers in the park. Check out the Joshua Tree National Park Wildflower Watch, a project that uses citizen science to collect data about flowers are blooming, where they are, and when they are seen each year. It's easy and fun to upload your observations. <http://www.inaturalist.org/projects/joshua-tree-national-park-wildflower-watch>

For a more guided experience, visitors may choose to hike with one of the park's new series of Botanical Trail Guides, available at visitor centers and on the park website. The guides include fascinating facts on the natural history of plants found along each trail, beautiful photography, and a checklist of plants found along that trail.

In the spring, visitors seeking to identify annual blooms will be delighted when pairing the checklists with a field guide to desert wildflowers.

Spring is a lovely and lively season here in Joshua Tree National Park. Enjoy the sweetly-scented, verdant abundance that is a wildflower bloom in the desert.

by Great Basin Institute Social Media Technician Aliya Ingersoll

## 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 someone damaging park resources ...

- 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 911 or park dispatch toll free at 909-383-5651.

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.

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

# 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?

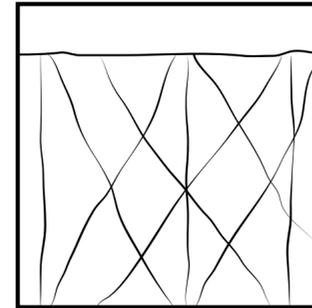
Many visitors think the rocks look like layers of sandstone, but they are actually a kind of granite, not unlike the rock commonly used for countertops. Granites are igneous in origin, meaning they formed when hot, molten fluids within the earth's crust gradually cooled into hard rock.

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.

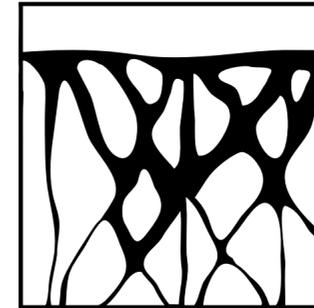
## WHERE DID THEY COME FROM?

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.

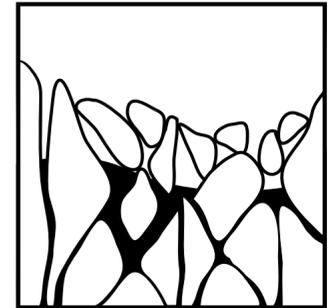
Water at depth, where temperatures are extremely hot, helped to melt the rock into granitic magma. It was hot, liquid, and lightweight, and was able to ooze upward along deep-seated cracks in the crust that had been fractured by the fierce crunching of the charging plates.



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.

# Night Sky Almanac

**FEB. 1-20 – ALL FIVE VISIBLE PLANETS ★** Mercury, Venus, Mars, Jupiter, and Saturn put on a show this month in the predawn sky. This is the first time since 2005 that all five planets visible to the naked eye can be seen at once.

**FEB. 8 – NEW MOON** This is the best time of the month for night sky photography and viewing the Milky Way and star clusters.

**FEB. 22 – FULL MOON**

**MAR. 8 – NEW MOON; JUPITER ★** Our solar system's largest planet, Jupiter, is at its brightest for the year. It will be visible all night long.

**MAR. 19 – VERNAL EQUINOX** The first day of spring in the Northern Hemisphere. Day and night are of approximately equal length. Sunrise is at 6:50 am PDT, sunset at 6:55 pm PDT.

**MAR. 23 – FULL MOON**

**APR. 7 – NEW MOON**

**APR. 21 – FULL MOON**

**APR. 21-22 – LYRID METEOR SHOWER** This meteor shower should produce about 20 meteors per hour, but the bright light of the full moon will make them hard to see.

**MAY 6 – NEW MOON; ETA AQUARID METEOR SHOWER ★** The Earth passes through the dust trail left by Halley's Comet. We may see 30 meteors per hour.

**MAY 9 – TRANSIT OF MERCURY ★** Mercury will pass directly between the Earth and the Sun today for the first time since 2006. The transit will be in progress at sunrise and will continue until about 11:40 am. Rangers may have solar telescopes set up for this rare event, so ask at a visitor center!

**MAY 21 – FULL MOON**

**MAY 22 – MARS AT OPPOSITION** Look for brilliant Mars shining steadily all night long. The red planet is at its brightest tonight.

★starred events are of special note



- ## Fun Facts about the Joshua Tree
- 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 may have 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.

## Women in the National Park Service: The First 100 Years

**1916**  
The National Park Service (NPS) is established.

**1918**  
World War I creates labor shortages that result in women being hired temporarily into positions usually occupied by young men. Such is the case for Yosemite National Park's Clare Marie Hodges, the first woman ranger in the NPS.

**1919**  
The 19th Amendment gives women the right to vote.

**1940**  
Gertrude Cooper becomes Superintendent of Vanderbilt Mansion National Historic Site. She is the first woman superintendent in the NPS.

**1964**  
Title VII is made law, prohibiting discrimination by employers on the basis of race, color, religion, sex or national origin. More NPS jobs become open to women.

**1978**  
The NPS female uniform is changed from previous versions that "did not look like a ranger," as they were usually dresses or skirts, and had smaller badges than male counterparts. To see these, visit [http://www.nps.gov/shen/learn/historyculture/women\\_and\\_nps.htm](http://www.nps.gov/shen/learn/historyculture/women_and_nps.htm)

**1990**  
Barbara Booher becomes the first Native American woman superintendent in the NPS when she takes on the leadership of Custer National Monument.

**2001**  
Fran P. Mainella is appointed as the 16th Director of the National Park Service. Her successor is Mary A. Bomar, the only other woman to hold the position to date. Also in 2001, Gale Norton is appointed as the first woman Secretary of the Interior (NPS is an agency of the Department of the Interior).

**2012**  
NPS Women's History Initiative is announced. Find out more about how the national park system seeks to tell women's stories at <http://www.nps.gov/history/heritageinitiatives/tellingthewholestory/>

**2016**  
The NPS Centennial year. Women make up about 40% of the total NPS workforce. Joshua Tree National Park has yet to be led by a female superintendent.

# Women of the West

What do you imagine when you hear of "The West" or "the American Frontier"? Is it wide open spaces? A lone cowboy? John Wayne?

Thanks to decades of western books and movies, the American West has become a place of mythological significance—a place where "Go West, young man" was advice for those seeking to find fortune and prove their bravery and independence. In other words, "going West" would show that you were a man who could live up to American values.

So where were the women? There are a few female figures that appear in this narrative, like Annie Oakley of the Buffalo Bill's Wild West show fame. At the time of westward expansion—the mid-1800s—there were fewer opportunities for women. The addition of vast areas to the United States through Louisiana Purchase and the Treaty of Guadalupe Hidalgo opened the way for settlers, who felt it was their right to claim land. Men often went in advance of their wives and families to establish a property and income. Women are commonly portrayed as having been dragged along on these adventures.

Women's historical perspectives can change this perception. Certainly there were those whose stories went like this: "Well, the wife got tired of it and walked out one night and left the country." (Such is the tale from an oral history given by one early settler of the area that is now Joshua Tree National Park.) However, other women made an empowered choice to go to, and stay in, the desert. This is demonstrated by two prominent women in the park's history: Frances Keys and Elizabeth Campbell.

Frances Mae Lawton grew up in Canada and Los Angeles before marrying Bill Keys and moving to Keys Ranch in the 1920s (part of which was a homestead originally belonging to Bill's grandmother!). One family friend recalls, "Mrs. Keys was a lady. I think she had been raised in a rather sheltered life. But she adapted herself so well to the life out there. . . ." Photos of a young Frances show a fashionably-dressed woman who was a stenographer for Western Union. She could have continued this work, but chose the no-frills life of the ranch instead. It was demanding, but must have suited her as she stayed at the ranch into advanced age. She assisted with Bill's mining, washed clothes, butchered meat, canned produce, and taught the children before a school house was built and a woman teacher hired. Those who knew her always remarked that she took great care of her complexion, wearing a bonnet outdoors. These were so popular that she eventually sold them at a small store, her own venture which she opened next to the ranch house.

Elizabeth Warder Crozer was born into a wealthy family in Pennsylvania, where she had a French tutor and attended private school. She even went to finishing school where young ladies were usually trained to enter society, while Elizabeth was prepped for college. During WWI she served as a nurse and cared for William Campbell, a soldier who had been exposed to mustard gas. Against the wishes of her family, the two married and moved to the desert for William's health. While in the Twentynine Palms area, they both became fascinated with the prehistory of the area and dedicated the rest of their lives to archeology,



Muriel, Hortense, and Frances Lawton (L-R) with Bill Keys, c. 1919.

making significant contributions to the field. Elizabeth later wrote a biography called *Desert Was Home*. She relates how she first resisted permanently relocating to the desert, but that ultimately found her vocation there.

These women were not marginalized in their own time, but have been somewhat covered up by history. The National Park Service has responded to this larger issue with a women's history initiative called "Telling the Whole Story: Women and the Making of the United States," launched in 2012. Joshua Tree National Park is also engaged with the fifteen federally-recognized tribes with cultural affiliation to these lands. Ethnographic studies and additional oral histories will help to reflect the diversity of heritage encompassed by the park.

by *Historic Structures Specialist Allison Kennedy*

## Collections Corner

This feature showcases different items from the park's museum collection. In honor of the National Park Service Centennial in 2016 and Women's History Month in March, in this issue we highlight an example of a woman's ranger uniform from the 1960s.

Today, all park rangers wear the same uniform: gray shirt, green pants, arrow-head emblem on the left sleeve. But for the first half-century of the National Park Service's existence, few women worked for the agency—and their "uniforms" weren't necessarily very uniform.

When the first female rangers started work in 1917 and 1918, there was little guidance about the uniform, for men or for women. The men's uniform, however, was quickly standardized. The women's was not.

Women working for the parks adapted their own uniforms using the materials available to them. Some looked like a modified military uniform. Most of the uniforms were difficult to wear in the field.

In the 1960s, increasing numbers of women in the NPS workforce led the agency to ask fashion designers to develop a standard uniform for women. The result was the "airline hostess" style uniform shown at left, a design based on a Delta/United Airlines pattern that had a fitted jacket and shawl collar. Women could substitute culottes or slacks made out of the same material as the skirt. Later versions were accused of looking like fast food uniforms. It wasn't until the late 1970s that a more unisex uniform style was officially adopted.



"Stewardess hat" (JOTR 16936), fitted jacket (JOTR 12928), and shawl collar shirt (JOTR 12139) from the park collection.

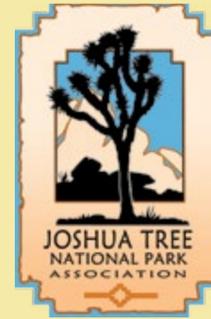
by *Museum Specialist Melanie Spoo*



Susan Luckie Reilly, seasonal ranger-naturalist at Joshua Tree in the late 1960s, led programs such as guided walks. She donated her uniform to the park museum collection (left).

# 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)

# El Niño in a Time of Historic Drought

WITH STORIES OF EL NIÑO RAIN making the headlines this winter, you may begin to wonder if the California drought is almost over. After all, heavy rains that cause flooding, close highways, and impact our outdoor activities must counteract the effects of drought, right? Well, there is more to the story.

The record drought in California over the past four years has set state water systems back much further than a single good rain season can solve, with long-lasting consequences for both people and nature. El Niño seasons come and go with each decade, but this drought is like none California has ever seen.

"While it is good news that drought improvement is predicted for California, one season of above-average rain and snow is unlikely to remove four years of drought," says Mike Halpert, deputy director of NOAA's Climate Prediction Center in *Newsweek* in October 2015.

Native lifeways acknowledged the scarcity of water, and people moved with the seasons. Later on, life for the first homesteaders in the area was difficult due to poor soil conditions, lack of natural rainfall, extreme winds, heat, and cold. While many gave up and left, some stayed, and the desert communities eventually grew beyond their natural means. Humans developed systems to change the landscape, and our ways of using it, for our benefit.

Since the early 1950s, the local water table in Joshua Tree has dropped an average of one foot each year. This is caused by taking out more than goes in. Water conservation efforts are meant to reduce this "over-drafting" of our water table as we deal with less and less water replenishing the aquifer during drought. Recognizing this problem, the state of California has extended water conservation requirements even in the face of a

potential small, immediate windfall of rain. California has a long way to go to recover from the drought and from the prior years of water use.

It is also important to remember that a lot of rain all at once—the kind of rain that El Niño can often produce—does not mean immediate replenishment of the aquifer. Hard-packed or water-saturated ground will cause falling rain to run off rather than soaking into the parched soil. The resulting flash floods impact our human infrastructure, but their water will not necessarily make it back into the aquifer, as it travels quickly along the path of least resistance and away from the region.

Deserts, by definition, get scant rainfall. Desert residents and visitors must adjust their lifestyles to accept that rain is rare, and yet be prepared for it when it does come, as every drop counts!

by *Sarah Bone*

## Tips for Saving Water

The National Park Service encourages you to do your part to conserve water while you visit Joshua Tree and the surrounding area. Here are a few simple things you can do to make a difference:

- When dining out, only order water if you plan to drink it.
- Reuse linens and towels during your stay as a guest.
- Take short showers (3-5 minutes) instead of lingering under the spray or taking a bath.
- Swamp coolers use lots of water. Please turn them off when you're not in the room.
- While visiting, if you see what you think is a water leak or a wet area where none should be, contact the local Water District.

Thank you for helping us protect our precious water resources.



# Ranger Programs

Discover Joshua Tree with free guided walks, talks, and evening programs given by park rangers and volunteers. Learn how humans, wildlife, and vegetation have adapted to survive in the desert, and how geologic forces have shaped this arid land.

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.

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

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.

## Special for the Centennial!

Celebrate the 100th birthday of the National Park Service with us in 2016:

- **Centennial Hiking Challenge.** Pick up a booklet to track the miles you hike in the park in 2016. Earn stickers as you rack up the miles.
- **Every Kid in a Park.** Did you know 4th graders can get a free pass for access to all national park sites through the end of the school year? Find out how at [www.everykidinapark.gov](http://www.everykidinapark.gov)

- **Hike with the Superintendent.** Once a month, Supt. David Smith will lead a strenuous hike to a summit such as Monument Mountain, Eagle Peak, Queen Mountain, or Quail Mountain. Call 760-367-5522 or ask a ranger at a visitor center for details.
- **Grubstakes Day Parade.** This annual celebration takes place in the town of Yucca Valley on Memorial Day, May 30. Park Superintendent David Smith will be the parade's Grand Marshal.

Program	Meeting Location	Duration, Distance	Sun.	Mon.	Tue.	Wed.	Thur.	Fri.	Sat.
<b>Footsteps of the Past</b> <i>February 1 - May 15</i> Explore how humans have learned to live in harmony with the desert.	Barker Dam parking area	1.5 hours 1 mi (1.6 km)					9:30 am		
<b>Joshua Tree Rocks!</b> <i>February 1 - May 15</i> Examine the geology of this remarkable area.	Skull Rock parking area	1-1.5 hours 1 mi (1.6 km)		9:30 am				9:30 am	
<b>Mastodon Peak Hike</b> <i>February 1 - May 15</i> Discover the early mining history of the park.	Cottonwood Springs parking lot	2 hours 3 mi (4.8 km)							9:00 am
<b>Cottonwood Canyon Walk</b> <i>February 1 - May 15</i> Explore Cottonwood Canyon on a nature walk.	Mile Marker 33, south of the Cottonwood Visitor Center; park in roadside pullouts	45 minutes 1 mile (1.6 km)	9:00 am						
<b>Cholla Garden Chat</b> <i>February 1 - May 15</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	9:00 am - 10:30 am					9:00 am - 10:30 am	
<b>"I Speak for the Trees" Walk</b> <i>February 1 - May 15</i> Take a walk with a ranger and discover the park's namesake.	Cap Rock Nature Trail	45 minutes 0.4 mi (0.6 km)	2:00 pm						9:30 am
<b>Patio Talk</b> <i>February 1 - May 15</i> Ranger's choice! Learn about one of many fascinating aspects of the park.	Oasis Visitor Center	15-30 min	10:00 am	10:00 am	10:00 am	10:00 am	10:00 am	10:00 am	10:00 am
	Joshua Tree Visitor Center	15-30 min	10:00 am	10:00 am	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>Desert Reflections</b> <i>February 1 - May 15</i> Join a ranger for an interactive discussion about an issue facing the park.	Oasis Visitor Center	1 hour				11:00 am		11:00 am	2:00 pm
<b>Oasis Walk</b> <i>February 1 - May 15</i> Explore the history and ecology of a desert oasis.	Oasis Visitor Center	1-1.5 hours 0.5 mi (0.8 km)			3:00 pm				
<b>Jr. Ranger Discovery Walk</b> <i>February 1 - May 15</i> Especially for families with children! This short hike will help kids on their way to earning a Jr. Ranger badge.	Oasis Visitor Center	1-1.5 hours 0.5 mi (0.8 km)	11:00 am						
<b>Keys Ranch Tour</b> <i>February 1 - May 15</i> Explore the colorful story and numerous artifacts of this premier historical site. <b>Reservations are required.</b> Tickets must be purchased at least 24 hours in advance. You may purchase tickets by phone at 760-367-5522, or in person at the Joshua Tree and Oasis Visitor Centers. Adults (12 & up) \$10; Senior Pass or Access Pass holders \$5; children ages 6-11 \$5; children under 6 free.	Keys Ranch Gate	1.5 hours 0.5 mi (0.8 km)	10:00 am			2:00 pm		2:00 pm	2:00 pm
	Jumbo Rocks Campground Amphitheater <i>February 1 - May 15</i>	45 min					Feb.-April 8:00 pm	Feb.-Apr. 8:00 pm; May 9:00 pm	Feb.-Apr. 8:00 pm; May 9:00 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.	Cottonwood Campground Amphitheater <i>February 1 - May 15</i>	45 min						Feb.-Apr. 8:00 pm; May 9:00 pm	Feb.-Apr. 8:00 pm; May 9:00 pm
	Black Rock Canyon Nature Center <i>February 1 - May 15</i>	45 min						Feb.-Apr. 8:00 pm; May 9:00 pm	Feb.-Apr. 8:00 pm; May 9:00 pm
	Meeting time and location will be disclosed when you make your reservation.	1.5 hours 1 mi (1.6 km)		Feb. 22		Mar. 23		Apr. 22	May 21



National Park Service  
U.S. Department of the Interior

Joshua Tree National Park  
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**Emergency**  
Dial 911 or 909-383-5651



The National Park Service turns 100 on August 25, 2016, and you're invited to take part in the celebration! The centennial kicks off a second century of stewardship of America's national parks and engaging communities through recreation, conservation, and historic preservation programs. Learn more at [www.findyourpark.com](http://www.findyourpark.com).

Front cover photo: NPS/Stacy Manson