



# Fall Guide



NPS / LIAN LAW

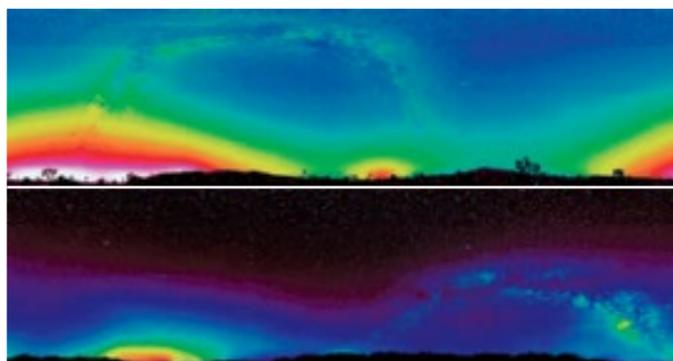
## Half the Park Is After Dark

THE NIGHT SKY IS A GLITTERING DOME PEPPERED with stars, planets, and passing meteors—but most people no longer get to see it. In urban and suburban settings, artificial lighting and atmospheric pollutants wash out the light of the stars. This is a serious loss. For millennia, our ancestors experienced a dark night sky. Cultures around the world told stories about the constellations and used the stars as a calendar. Only for the past few generations have humans been denied the chance to stand in awe of the heavens. Boasting some of the darkest nights in Southern California, Joshua Tree National Park offers many visitors the chance to admire the Milky Way for the first time in their lives.

In *The Deserts of the Southwest*, Peggy and Lane Larson describe how the desert environment naturally provides for exceptional views: “Sky contributes to the desert expanse. Little obstructs the extensive view of the sky dome, which in the clear, arid atmosphere appears bluer by day and more brightly star-studded by night than do the skies over many moister regions.”

Increases in both light and air pollution pose a threat to night sky viewing in Joshua Tree National Park. Data collected by the Earth Observation Group and NOAA National Geophysical Data Center document medium to high levels of light pollution that infringe on the night skies of Joshua Tree National Park. Most of the light pollution comes from poorly regulated artificial lighting in Los Angeles, Las Vegas, and the Coachella Valley. Luke Sabala, Chief Physical Scientist at Joshua Tree National Park, and Stacy Manson, Physical Science Technician, have been collecting data to document light pollution within the park.

“Collecting information on light pollution is important because stargazing is such a popular visitor activity. Joshua Tree is in the process of applying to become recognized as an International Dark Sky Place, and a measurement of sky quality is crucial in receiving designation,” says Manson. Ongoing research also provides the information needed to educate the community on the dramatic amounts of light pollution within the Southern California region. Joshua Tree National Park is committed to the protection and preservation of the desert ecosystem, and a dark night sky is a core part of the desert experience.



Two false color images from the park's light pollution study. Top: large light domes from nearby cities impair views of the night sky from Keys View. Bottom: Pinto Wells, in the remote eastern part of the park, is far less impacted by light pollution.

Night sky preservation is unique in that the resource cannot be lost permanently. Even in the face of new development approaching the park boundary, the loss of night sky views is both reversible and preventable. An obscured night sky is only temporary. Communities and concerned citizens can prevent and even reverse light pollution by insisting on night-sky friendly light fixtures.

Experience the dark night sky firsthand to gain an understanding of what so many of our forebears cherished. See the Night Sky Almanac on p. 10 for ideas.

by GeoCorps Astronomy Intern Caila Campbell



### Welcome to your park!

The fall is my favorite time to get out and explore Joshua Tree. The temperatures are ideal for hiking, the animals are visible in daylight hours, and the nighttime temperatures are perfect for camping. As the nights start to get longer, it's also a great time for some night sky viewing.

Joshua Tree is home to some of the darkest skies in the United States and is one of the best locations in the southland to see the Milky Way. On October 16-18, join us for the Joshua Tree National Park Night Sky Festival, where we dedicate three whole days to the magic of the night skies. Or join a ranger for a scheduled full moon hike. Stop by a visitor center to learn more.

Cooler temperatures and seasonal rains are also responsible for a sudden onslaught of wildflowers. Take time for a hike down a desert wash and look for blooming desert willow or smoke tree. You are also likely to see yellow bladderpod and the white, trumpet-shaped flowers of sacred datura.

On behalf of all your park staff, let me thank you for the opportunity to help you explore your parks. Please don't hesitate to reach out to any one of us to let us know if there is something we can do to help better protect Joshua Tree for future visitors.

Sincerely,

*David Smith*

David Smith  
Superintendent



### Historic Preservation at Mastodon Mine

Ever wondered what historic preservation professionals do, and why their work is important? The National Park Service applies four distinct approaches to the treatment of historic properties: reconstruction, rehabilitation, restoration, and preservation. Park Ranger Lacy Ditto reports from the field about the preservation aspect on **p. 8**.

### Save Water: Live Like a Desert Native

Did you know California is going through a period of historic drought? There is no life without water, but desert plants are adapted to its scarcity. Native plants can teach all of us about being water-wise. Kathleen Radnich of the Joshua Basin Water District offers some helpful suggestions on how you, as park visitors, can help conserve water. See **p. 11**.

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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.

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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 (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. Highs in early October may hit 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, call 911 or 909-383-5651 for assistance.

**WINTER DAYS ARE SHORT**  
Planning a hike? Be sure you give yourself plenty of time to get back to the trailhead before dark. In December, sunset can be as early as 4:30 pm. Plan to be back at your vehicle no later than 4:00 pm to give yourself enough time.

**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.



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



Snowfall is a rare treat in Joshua Tree National Park. This beautiful scene greeted visitors on New Year's Eve last winter.

**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 visitors 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. 10).
  - 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.



**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.

**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.

**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**  
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.

# 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.



# 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>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.
<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 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 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.
<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>Eureka Peak Loop</b>	Black Rock	10.5 mi (16.9 km)	5-6 hours	Loop. Hike to the top of Eureka Peak for a 360 degree view of the area, including Palm Springs. Return on the California Riding and Hiking Trail to make a loop.
<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>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.



# 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 <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 backcountry 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.

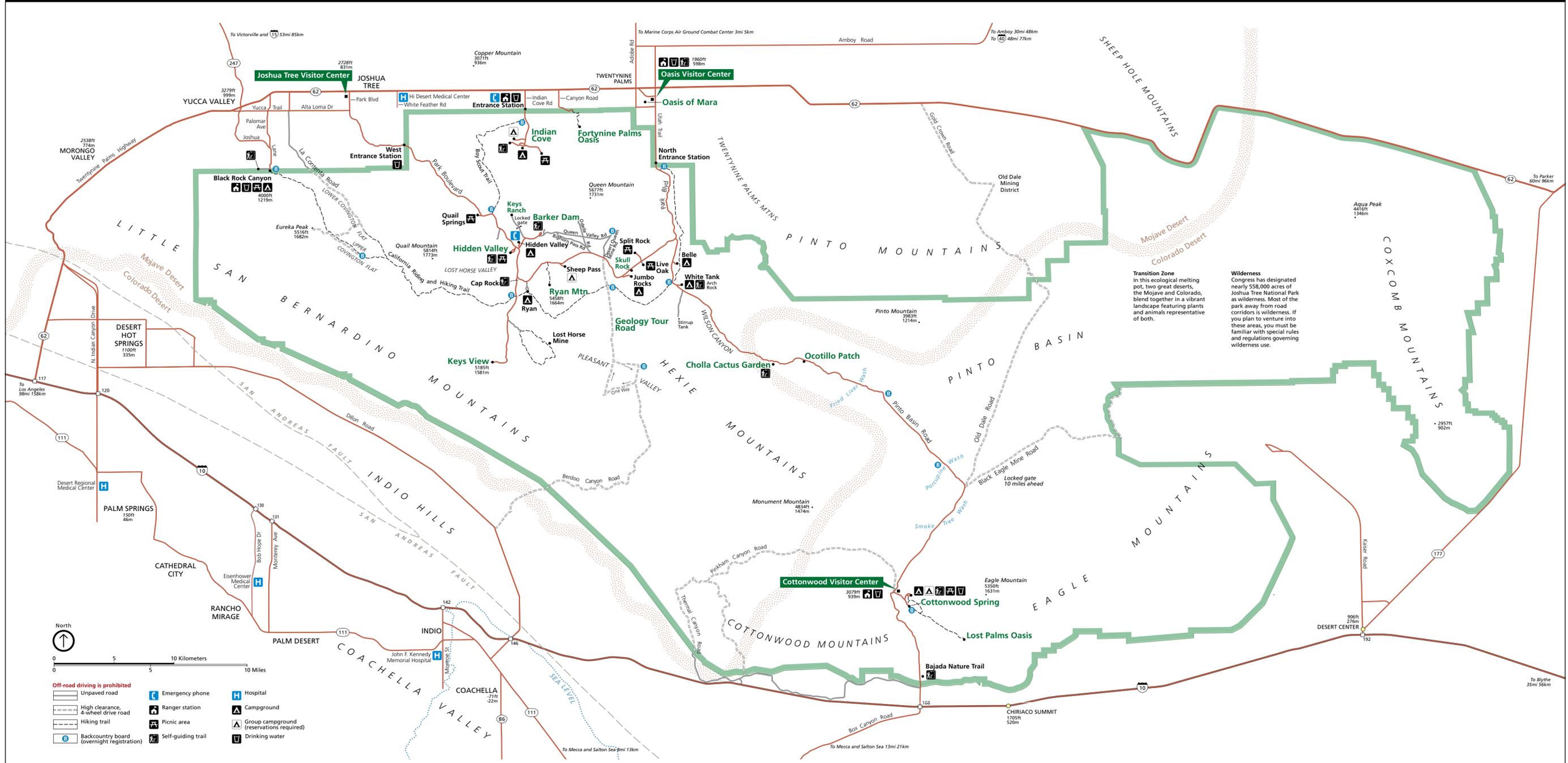
**Setting Up Camp**  
Your backcountry camp must be located at least one mile (1.6 km) from the road and 500 ft (152 m) from any trail. Avoid camping in washes: sudden storms may lead to flooding. No camping is allowed in rock shelters, caves, or day use areas. It is your responsibility to check the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



**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

0 5 10 Kilometers  
0 5 10 Miles

**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.

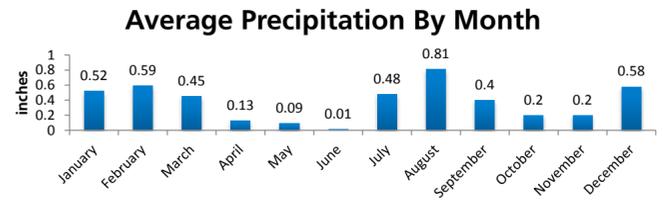
**Dates and Hours of Operation**  
The park is always open; visitors may come and go at any time. However, several areas are designated for day use only.

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

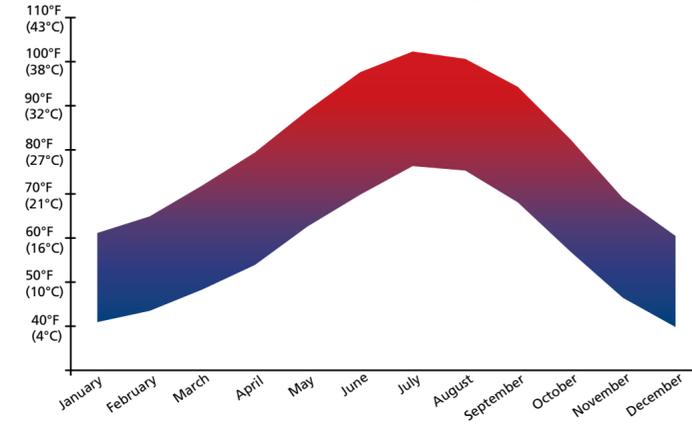
*Also available:* \$30 Joshua Tree National Park Annual Pass, \$80 Interagency Annual Pass, \$10 Interagency Senior Pass for U.S. citizens or permanent residents ages 62 and over, free Interagency Access Pass, free Interagency Military Pass. Ask at an entrance station for more details.

## Preparing for the Weather

Fall and winter 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, 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

# Historic Preservation at Mastodon Mine

THAT'S ME WITH THE PICKAXE, hard hat, and dust mask, and no, that's not what I usually look like. As an interpretive ranger, I spend most of my time working in the visitor center, roving trails, or giving talks. But in spring 2015, I was asked to help with a historic structure restoration project at the Mastodon Gold Mine in the southern part of Joshua Tree National Park.

structure back to life. With the help of the park trails crew and volunteers, the team packed tools, wood planks, extra water, and supplies up the steep, 1.5 mile trail that leads to Mastodon Peak. Isolated from electricity, the team used hand tools and basic carpentry techniques to stabilize the structure with minimal use of new materials.

My main job on the project was to answer questions for visitors passing by the work site on the Mastodon Peak Trail. After some training, I was given a stiff paintbrush and tasked with excavating the few inches of sediment covering the floor underneath the ore bin. The experts in historic preservation worked on the structures, piecing together a puzzle of shattered

*We are all caretakers of our collective past. Please do your part to preserve it for the future.*

The Mastodon mining site, located not far from the Cottonwood Visitor Center, comprises 8 identified historic features including a collapsed office building, mine adit, and the only standing feature: the ore bin. Park cultural resource managers worked with Cornerstones Community Partnerships, a non-profit historic preservation organization, to preserve the historic structures at Mastodon Mine and help future generations of visitors appreciate this decaying mining site.

wooden boards, while I brushed years of sand away from the base of the ore bin. Gradually a floor and walls of solid granite were revealed. This rock nook was hand-carved by gold miners in the 1930s to cradle the weight of the massive wooden ore bin that teetered precariously on the edge of the hillside. You can see the scars of their tools, chiseled linear patterns, chipped right into the face of the rock.

We were standing where these men once stood, sweating where they once sweated, working to preserve the structure they designed and operated to sustain their family. As I gazed towards the distant Salton Sea, under the heat of an unrelenting sun, surrounded by the sounds of humans echoing among the boulders, I felt a kinship with these men, with the humans who had come here before us. Cultural resource specialists serve as caretakers of the remains of our past, and follow strict standards for the treatment of historic properties.

The goals of the project were preservation of the ore bin, the replacement of the ore-crushing ball mill to its historic location, and the stabilization of a retaining wall. Presently, little information exists about this moderately successful gold mine that was operated by the Hulsey family between 1934 and 1970. With several historic photos of the Mastodon Mine to guide them, the crew worked for one week to bring a wooden



Every piece of splintered wood and each rusty artifact found near the site is carefully catalogued and meticulously reassembled to maintain the historical integrity of the site.

To preserve a historic structure is to preserve the cultural heritage and values of the people who built it. Preserving a cultural resource for future generations helps us maintain a stronger connection with our shared heritage. If you visit the Mastodon Mine site, please enjoy, but stay

back. The current preservation effort still has one more phase of work to go. You will see some temporary wooden braces and protection on this structure until the final phase of historic preservation in fall 2015. Maintaining these mining structures in a state of "arrested decay" means that stabilization and preservation efforts are never complete, but are part of the ongoing management of cultural heritage resources in the park.

by Park Ranger Lacy Ditto

## 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.

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.**

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

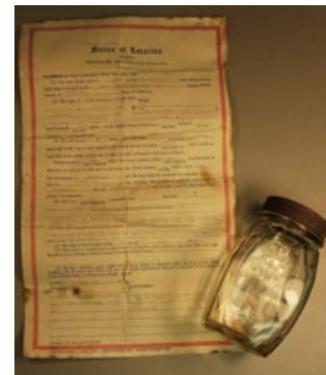
container, which is then tucked into the center of a stack of stone markers. The discovery marker and location notice—along with the associated stacked stone corner markers—delineate the miner's claim. Years later, they often represent the only information available about the area and are extremely valuable to document the region's history, making them important historically.

Like many of the desert's stories, the tales of the beginnings of Desert Queen Mine are conflicting and colorful. A man named James is said to have explored the area around 1892 or '93. According to a newspaper account the claim was "jumped" and James was murdered. Other accounts credit a Native American sharing the location with local cowboys. The Desert Queen Mine operated from 1895 to 1961 and was one of the more productive gold mines in the park.

by Museum Specialist Melanie Spoo

# Collections Corner

A location notice legally describes the boundaries of a mining claim. The one shown below is for one of Joshua Tree's most well-known historic mines, the Desert Queen Mine. Location notices are generally folded and placed in a



Catalog numbers JOTR 29981, JOTR 29982 Location notice from the discovery marker for the Desert Queen Mine

# Joshua Tree's Boulders

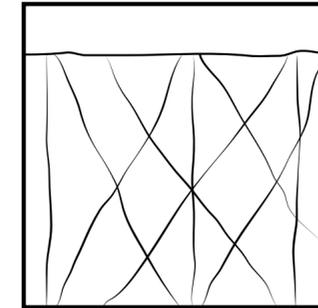
THE BOULDERS AND ROCK formations of Joshua Tree National Park define the park landscape. The rocks catch the eye of climbers, photographers, hikers, and motorists. Most everyone asks, "What are they?" "Where did they come from?" or "What's with all the strange shapes?"

**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.

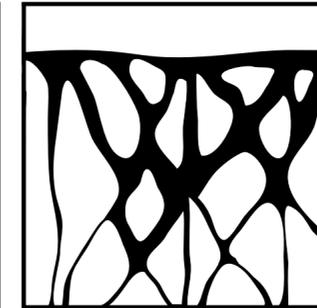
Most granites in the park are a particular type called "monzogranite." Joshua Tree's monzogranites solidified beneath the surface of the Earth starting about 245 million years ago, with the youngest rocks formed over 100 million years ago.

**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.

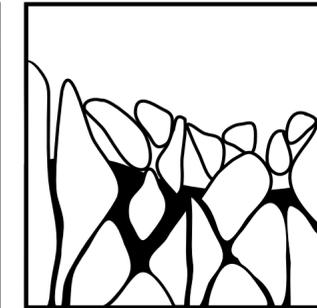
Water at depth, where temperatures are extremely hot, helped to melt the rock into granitic magma. It was hot, liquid, and lightweight, and was able to ooze upward along deep-seated cracks in the crust that had been fractured by the fierce crunching of the charging plates.



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.



## JOSHUA TREE NATIONAL PARK ART EXPOSITION

*Friday*  
**November 13th**  
*Evening Gala and Awards*

.....

*Saturday and Sunday*  
**November 14th-15th**

• Artist Booths • Food  
• Classes • Music • Exhibitions



"To foster the spirit of artistic expression inspired by the park, celebrate the park's majestic landscape and precious wildlife, preserve the park's cultural history, and support the preservation, enhancement, and sustainability of the entire California Deserts Region."

For details go to:  
[www.jtnparts.org](http://www.jtnparts.org)



## 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.

# 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. 7). We even offer a special

“Story Time with a Ranger” program at Joshua Tree Visitor Center on Saturday afternoons at 2:00.

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!)



# Citizen Science at Work

Joshua trees are icons of the Mojave Desert. These unusual-looking plants are true survivors, living for hundreds of years in one of the most extreme environments in the United States. Like other desert flora and fauna, though, the well-adapted Joshua tree now faces a new threat: climate change.

Joshua Tree National Park has teamed up with the University of California, Riverside, and the Earthwatch Institute to study how climate change impacts desert species. Earthwatch enlists citizen scientists to help collect long-term data

alongside professional researchers. As volunteers, citizen scientists assist with tasks like monitoring vegetation transects and checking pitfall traps for reptiles and small mammals.

Data will contribute to scientists' models of how climate change is playing out locally, and will better inform our understanding of how sensitive species will respond. This information will ultimately be used to direct park management decisions and help us protect the species that are most threatened by climate change.

by *Wildlife Biologist Kristen Lalumiere*



# Night Sky Almanac

**OCT. 8 – DRACONID METEOR SHOWER**  
Best viewing in the early evening. Expect about 10 meteors per hour.

**OCT. 11 – URANUS AT OPPOSITION**  
Uranus will be closer to Earth than any other time of the year and will be illuminated by the Sun, appearing as a tiny blue-green dot.

**OCT. 13 – NEW MOON**  
Best time of the month for viewing the Milky Way and star clusters.

**OCT. 16 – MERCURY**  
Visible before sunrise, just above the horizon in the eastern sky.

**OCT. 21-22 – ORIONID METEOR SHOWER**  
Best viewing of these meteors—dust grains left behind by Halley's Comet—will be after midnight. Expect about 20 meteors per hour.

**OCT. 27 – FULL MOON**

★ **OCT. 28 – VENUS, MARS & JUPITER**  
Don't miss this rare conjunction! Look to the eastern sky before sunrise. Bright Venus, Mars, and Jupiter will form a triangle, with the planets just 1 degree apart.

**NOV. 5 – TAURID METEOR SHOWER**  
Expect about 10 meteors per hour.

**NOV. 11 – NEW MOON**

**NOV. 17-18 – LEONID METEOR SHOWER**  
Best viewing will be after midnight and into the early morning, with about 15 meteors per hour.

**NOV. 25 – FULL MOON**

★ **DEC. 7 – MOON & VENUS**  
The waning crescent moon will appear within 2 degrees of bright Venus in the eastern sky just before sunrise.

**DEC. 11 – NEW MOON**

★ **DEC. 13-14 – GEMINID METEOR SHOWER**  
This shower should be spectacular, producing an expected 120 multicolored meteors per hour at its peak after midnight.

**DEC. 21-22 – URSID METEOR SHOWER**  
This minor meteor shower is expected to produce about 5-10 meteors per hour.

**DEC. 22 – SOLSTICE**  
The South Pole of the earth will be tilted towards the Sun, making this the shortest day of the year in the Northern Hemisphere (and the first day of winter).

**DEC. 25 – FULL MOON**

**DEC. 29 – MERCURY**  
Look towards the western sky, low on the horizon, just after sunset.

**2016**

**JAN. 3-4 – QUADRANTID METEOR SHOWER**  
Expect about 40 meteors per hour.

**JAN. 10 – NEW MOON**

**JAN. 24 – FULL MOON**

★ *starred events are of special note*

# Just Looking for Love



## Tarantula Facts

The park is home to three tarantula species, including the Joshua Tree tarantula (*Aphonopelma joshua*). This small species is only about an inch across and lives only in and around Joshua Tree National Park.

Tarantulas live a long time! Females may live for 25-30 years. Males often don't make it past age 10 or 12.

A male tarantula can travel up to 50 miles while seeking a female.

Tarantulas have eight eyes, but don't rely on them while hunting. Instead, tarantulas sense prey using the vibration-detecting hairs (called *setae*) that cover their bodies.

The tarantula hawk is a parasitic wasp that paralyzes tarantulas with a sting. The female wasp lays an egg on it. When the wasp larva emerges, it burrows into the tarantula and consumes the abdominal organs and fluids. In other words: it eats the tarantula alive.

Ahead of you, you're startled to see something that looks almost like a little hand in the middle of the road. The “fingers” wave as it glides slowly across the pavement. You stop, not wanting to run it over. Only then do you realize you've spotted a tarantula.

Tarantulas are a common sight in October, when the males venture out of their burrows in search of mates. A male may travel a surprisingly long way as he tries to catch the scent of a female. Once he does, he'll drum the ground by her burrow to see if she's interested in mating.

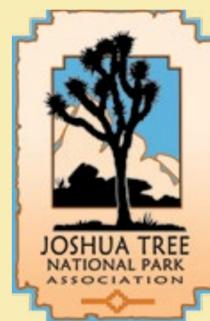
Tarantulas spend most of their time underground, emerging at night to hunt insects and other small animals. The fall mating season is a special time because we get a chance to see these usually shy and solitary creatures.

If you're lucky enough to spot a tarantula on your visit, enjoy it without getting too close. A frightened tarantula may rear up on its hind legs and flick barbed hairs from its belly at its attacker. The hairs can cause skin irritation. Tarantulas can bite, but it's usually no worse than a bee sting for a human. Just give the spider space, and you'll both walk away happy.

Please drive carefully to avoid squishing our tarantulas. These big spiders are part of the desert wildlife community that makes Joshua Tree National Park so special—and, like all animals in the park, they are protected by law.

# 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 JTNP 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)

# Save Water: Live Like a Desert Native

WATER CONSERVATION IS ALWAYS important in the desert, but saving water is even more critical during the current period of historic drought in the state of California. We can learn about how to be water-wise by looking to the example of desert native species, which have evolved to cope with rains that are not only scarce but unpredictable. Native plants know how to hunker down and conserve water during tough times—and that's a valuable lesson for all of us who live in or visit the desert.

When gazing out over vast expanses of desert terrain, the untrained eye may skip over what appear to be dead shrubs. But a landscape that often gets dismissed as drab and barren is in fact full of thriving life. Desert native plants are no strangers to scant precipitation, and have adapted to the harsh uncertainty of water availability by developing a cyclical defense mechanism: plants spend much of the year dormant, growing and flowering mainly when water is available.

The desert looks most glorious in the spring season, and is at its best in years when late winter and early spring bring abundant rain. The extensive root systems of “dead-looking” plants respond to limited seasonal water as if it were a gift, absorbing as much as possible and then producing showy greenery and floral palettes in gratitude. The plants take advantage of the wet season as an opportunity to grow and reproduce.

When extreme summer heat arrives, the same plants withdraw their outward displays of spring's promise and splendor, pulling back into life-support mode. Though they may seem unsightly, these plants are not only alive, but continuing to contribute to the wellbeing of other desert species. Many desert plants go to seed in the summer, providing much-appreciated sustenance for birds and small animals. With the monsoon rains of late summer, fallen seeds sprout and establish roots in preparation for the cold winter ahead.

From a desert plant's perspective, both summer and winter can be hostile seasons that require a serious investment in water efficiency. Plants focus their energy on growing deep or spreading roots. A well-developed root system then allows them to soak up the occasional rain. Plants also cut back on moisture loss with adaptations like small, waxy, or drought-deciduous leaves. Plants may hope for rain, but they prepare for drought.

Humans in the desert need to do the same. Residents of Joshua Tree National Park's gateway communities are all working to save water. “Save water: live like a desert native” is more than a motto. It's a mindset to use water wisely. Be conscious of every precious drop. After all, water is life to all of us.

by *Kathleen Radnich of the Joshua Basin Water District, a park partner*

## 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 eating 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.





National Park Service  
U.S. Department of the Interior

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

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 will kick 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).

# 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.



## Flintknapping Demonstrations

Join Cultural Resources Branch Chief Jay Theuer to learn about the traditional craft of flintknapping: working stone to create tools.

Public flintknapping demos will be held on the patio outside the Oasis Visitor Center in Twentynine Palms from **8:30 am - 12:30 pm on Saturday, October 24** and **Saturday, October 31**. Come with your questions or just drop by to watch! Stay as long as you wish.

Program	Meeting Location	Duration, Distance	Sun.	Mon.	Tue.	Wed.	Thur.	Fri.	Sat.
<b>Footsteps of the Past</b> <i>November 1 - January 24</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)					9:00 am		
<b>Joshua Tree Rocks!</b> <i>November 1 - January 24</i> Examine the geology of this remarkable area.	Skull Rock parking area	1-1.5 hours 1 mi (1.6 km)						9:00 am	
<b>Mastodon Peak Hike</b> <i>November 1 - January 24</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>November 1 - January 24</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>November 1 - January 24</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
<b>"I Speak for the Trees" Walk</b> <i>November 1 - January 24</i> Take a walk with a ranger and discover the park's namesake.	Cap Rock Nature Trail	1 hour 0.4 mi (0.6 km)	2:00 pm						9:00 am
<b>Patio Talk</b> <i>November 1 - January 24</i> Ranger's choice! Learn about one of many fascinating aspects of the park.	Oasis Visitor Center	15-30 min	10:00 am						
	Joshua Tree Visitor Center	15-30 min	10:00 am						
	Cottonwood Visitor Center	15-30 min	2:00 pm						
<b>Conversation with a Ranger</b> <i>November 1 - January 24</i> Join a ranger for an interactive discussion about an issue facing the park.	Oasis of Mara Visitor Center	1 hour						2:00 pm	2:00 pm
<b>Oasis Walk</b> <i>November 1 - January 24</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>Story Time with a Ranger</b> <i>November 1 - January 24</i> Especially for families with young children! Join a ranger for a read-aloud story about an aspect of the desert.	Joshua Tree Visitor Center	30 min							3:00 pm
<b>Keys Ranch Tour</b> <i>October 11 - January 31</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
<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>October 1 - January 31</i>	45 min						7:00 pm	7:00 pm
	Cottonwood Campground Amphitheater <i>October 1 - January 31</i>	45 min						7:00 pm	7:00 pm
	Black Rock Canyon Nature Center <i>November 1 - December 31</i>	45 min						7:00 pm	7:00 pm
<b>Full Moon Hike</b> <i>see specific dates at right</i> Explore the park after dark with a ranger. <b>Reservations are required.</b> Space is limited based on number of vehicles; carpooling is strongly encouraged. Make reservations by calling 760-367-5522.	Meeting time and location will be disclosed when you make your reservation.	1.5 hours 1 mi (1.6 km)	Dec. 27	Oct. 26	Nov. 24	Nov. 25			Dec. 26