## **Death Valley National Park**





Happy Birthday National Park Service! During 2016, the entire country has been commemorating the Centennial of the National Park Service, which was established in 1916 to protect America's national treasures unimpaired for future generations to enjoy. Here in Death Valley, 2016 was one for the record books. Devastating flash floods, the famous #Superbloom, as well as record-shattering visitation have put Death Valley in the spotlight and piqued the interest of travelers worldwide.

As the mild weather rolls in, hikers, campers, birders, and explorers from around the world are returning to this winter paradise. Whether you're a seasoned "desert rat" or a first timer drawn here by the stories, scenery, or the mystery, we welcome you to ......

# **# FINDYOURPARK**

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## **Support Your Park**



Obey the speed limits and other rules of the road. Do not stop in traffic lanes, instead pull over and park safely off of the road. Keep your car on established roads. Unsightly tire tracks scar the fragile desert landscape for decades.



Camp only in established campgrounds or in a permitted backcountry area. Check at a ranger station or visitor center for backcountry camping information.



Campfires are allowed in established firepits only. Wood is scarce here, gathering firewood is prohibited.



Put garbage where it belongs. Litter in the desert spoils the landscape for each person that follows behind you.



Please recycle plastics #'s 1 and 2, glass, and cardboard in the provided receptacles. Propane cylinder recycle bins are located in most campgrounds where you can leave both empty and full canisters.

Pass ..... \$50

Pass..... \$80 Pass..... free

### **Entrance Fees**

Please support your park by paying the park entrance fee at a park visitor center or at one of the automated fee machines placed throughout the park. Already have one of the passes listed below? Enjoy your park!

	7-day Passes	Annual Passes
	Vehicle and passengers \$25	Death Valley Annual Pass \$50
	Motorcyles \$20	Interagency Annual Pass \$80
l k	Individual entering on	Interagency Military Pass fre
	bicycle or foot\$12	(for active duty and dependents)
	Lifetime Passes	Other passes honored
	Interagency Senior Pass \$10 (for U.S. citizens 62+)	4th Grade (Every Kid in a Park), Volunteer, Golden Age, and
	Interagency Access Pass free (for U.S. citizens with disability)	Golden Access Passes.

You may have noticed that Death Valley and many other national parks have recently raised entrance and camping fees. The increased revenue will help address a large maintenance backlog and allow the National Park Service to continue the mission of environmental stewardship and conservation.

Recent projects funded by fee revenue include upgrades at Zabriskie Point, Badwater, Stovepipe Wells and Father Crowley Point, campground improvements, park brochures, ranger-led programs, and special events. In the next few years, park fees will help fund emergency services, campground custodial work, and educational programs. However most of the funds will go toward restoring Scotty's Castle from damage caused by a massive flash flood in October 2015. The Federal Lands Recreation Enhancement Act enables national parks not only to charge fees, but to retain eighty cents of every dollar collected. The remaining 20 percent goes into a general fund to support larger agency projects as wells as parks that do not collect fees. All fee revenue must go toward projects, activities and infrastructure that increase visitor use and enjoyment. Death Valley has been granted special approval to keep 100% of the fee revenue collected for the upcoming year to assist with repairs to Scotty's Castle. Thank you for your visit and your continued support for your national parks!



Pets are permitted on roads and developed areas, but prohibited in wilderness, on trails, and in buildings. Hundreds of miles of dirt roads are great places for walking pets. Keep pets on leash no longer than 6 feet in length. Owners are responsible for cleanup.



It is illegal to discharge a firearm anywhere in Death Valley or to bring one into a federal building. Hunting is illegal within the park.



Stay out of closed areas. Mines, service roads, and other areas are closed for your safety or the protection of features therein.



Let wild animals find their own food. They're good at it and feeding them is against the law.



Rocks, plants, animals, and historic objects in Death Valley are protected just like in a museum. Vandalism and theft are prohibited.



The use of drones is prohibited.

Badwater (Dan Mottaz)

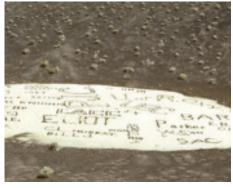
### Leave No Trace

With over a million people visiting Death Valley each year, every little action is multiplied. If each visitor does a seemingly harmless thing like stacking stones, scratching their name in the mud, picking a wildflower, collecting a rock, or feeding a coyote, the cumulative effect can be devastating. Please help protect America's national parks by leaving everything in its place. Other park visitors and future generations will thank you.



**Ephemeral Vandalism** 

Cairns are stacks of rocks often used to mark hiking routes in the desert, but in the narrows of Golden Canyon, cairns are not necessary to find your way. These visitor-built cairns were assembled one at a time over a single week, by dozens of visitors. Most likely, they were built as monuments to their visit...and because someone else had already built one.



Here today, gone...in a decade

Names scraped into the dried mud on this little playa near Ubehebe Crater will eventually dissolve when rainstorms flood the surface, but it may take years before that happens. This is vandalism even if it isn't permanent.

#### Did you know?

Bob Eichbaum started the first resort in Death Valley at Stovepipe Wells. His toll road was completed in 1926, seven years before the designation of Death Valley National Monument. Toll rates were \$2 for each auto or motorcycle; 50¢ for each occupant of a truck, trailer, wagon, auto, or motorcycle, plus \$1 per head for each animal. Today's rates with inflation would be \$27 for each auto or motorcycle; \$7 for each occupant of a truck, trailer, wagon, auto, or motorcycle, plus \$14 per head for each animal.

### Wildlife Sightings

Around the world, visitors to remote locations are providing important data to researchers by their observations. Your personal observations of wildlife can be very valuable. Death Valley National Park is compiling a database to allow us to develop distribution maps of wildlife throughout the park.

Two species of special interest are the Nelson's bighorn sheep and desert tortoise, but other wildlife species observations are also welcome. Please be as accurate as possible and include your contact information. Photos provide great information and are always appreciated. Please fill out a wildlife sighting form available at the visitor center.



## ▲ Safety



Rangers rescue offtrail hiker near Golden Canyon (NPS - Dan Kish)

Average Temps	Maximum	Minimum
January	67° F (19° C)	40° F (4° C)
February	73° F (23° C)	46° F (8° C)
March	82° F (27° C)	55° F (13° C)
April	90° F (32° C)	62° F (17° C)
May	100° F (38° C)	73° F (23° C)
June	110° F (43° C)	81° F (27° C)
July	116° F (47° C)	88° F (31° C)
August	115° F (46° C)	86° F (30° C)
September	106° F (41° C)	76° F (24° C)
October	93° F (34° C)	61° F (16° C)
November	77° F (25° C)	48° F (9° C)
December	65° F (18° C)	38° F (3° C)

#### Hottest, Driest, Lowest & WILDEST!

**In Case of Emergency Dial 911:** Cell phones will not work in most parts of the park, so don't depend on them.

**Plan Ahead:** Know road and weather conditions. Take a good map everywhere you go. When traveling off paved roads or into the backcountry, call someone at home and tell them specifically where you are going. Have them call dispatch at 1-888-233-6518 if you do not return when expected. Free backcountry permits are available, but not required at the visitor center. We can find you faster if we know where to look and what we're looking for.

**Evaluate Your Gear:** Do you have the appropriate vehicle, tires, tools, maps, and skills for your route? Bring food, water and other essentials for several days, even if you're planning a much shorter visit. Carry at least one gallon (4 liters) of water per person per day, and carry extra water in your car. Your vehicle or fellow travelers may need it even if you don't.

**Technology:** Smartphones and GPS devices are great tools to have, but they can be deadly to rely upon. Vehicle GPS devices frequently tell visitors to turn off well traveled roads, and take "shortcuts" onto unmaintained or even closed roads. Hiking apps for tablets and smartphones work fairly well, but the battery life may be drained quickly even in airplane mode. Use maps, a compass, and common sense as your primary navigational tools, and use the technology as a backup.

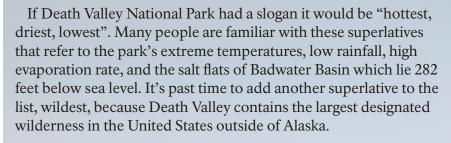
**Mine Hazards:** Do not enter mine tunnels or shafts. They may be unstable, have hidden shafts, pockets of poisonous gases, or be home to wildlife. Stay Out Stay Alive! **Prepare for Breakdowns:** In case of vehicle trouble, stay with your vehicle. You'll have shade and be easier to find. If you're headed onto dirt roads, plan on changing a flat tire at least once. Beware that most rental agreements do not cover unpaved roads, resulting in hefty towing fees. Rentals cars often lack the proper tire changing tools, so it's worth checking before venturing into remote areas.

Flash Floods: Rain is scarce here, but when it comes, it often leads to dangerous flash floods. During rain, avoid hiking in canyons and be prepared to move to higher ground. While driving, be alert for water running across roadways. Stop and look before attempting to cross. Flood waters damage the roadway and carry rocks and debris just below the clouded surface. Flash floods generally subside in a few hours. When in doubt, wait it out!

Heat & Dehydration: If you feel dizzy, nauseous or get a headache, get out of the sun and to a cool place immediately. Drink plenty of water, and dampen clothing to lower your body temperature.

Wildlife: Many visitors may be worried about large animals such as mountain lions, and although they may secretly roam the shadows, they avoid humans and are rarely seen. A more realistic danger is placing your hands or feet where you can't see. Snakes, scorpions, spiders, or other wildlife may be sheltered there. Some species may be venomous, but the relatively safe tarantula gets a bad rap, and is actually a delight to see.

Tarantula (Bob Grate)



What is designated wilderness? While many areas are wild and remote, it literally takes an act of Congress to make those areas designated wilderness. For example, in 1994 Congress passed and President Bill Clinton signed the California Desert Protection Act which expanded the size of Death Valley, converted it from a national monument to a national park, and established 3.1 million acres, or 92% of the park as designated wilderness. The authority for Congress to do so comes from the 1964 Wilderness Act. During this time American citizens were becoming aware that the country was developing at an unprecedented pace due to expanded settlement and growing mechanization. The people wanted a way to protect some of our national treasures and unique landscapes from ever being inhabited and built upon. Thus the Wilderness Act was born.

Given these limitations on wilderness use, it is important to note that it's not off limits to people. One of the criteria for designated wilderness is that the area must have outstanding opportunities for solitude and primitive unconfined recreation. These lands are yours to hike, climb, backpack, horseback ride, camp, take in the views, photograph, experience what it's like to be alone, hear deafening silence, and see the glitter of the night sky. Thanks to protection from development, these lands will be here so that you and generations to come can enjoy the benefits they provide, not only to the natural world, but to our personal well being. Know your limits, travel safely, and tread lightly.

Wilderness is the highest level of conservation protection afforded to public lands. It prohibits the use of mechanical devices including bicycles to wheel barrows, for without mechanization it is hard to develop much at all. It also forbids commercial enterprises, permanent roads (many of Death Valley's roads are surrounded by wilderness as specified in the California Desert Protection Act), structures, and installations from being established within wilderness boundaries, all with the overarching goal of leaving some places natural and undeveloped. - Ranger Leah Hurley

"Wilderness is not a luxury but a necessity of the human spirit" - Edward Abbey

Photos: TomTrujillo/Scott J Landstad

## Sightseeing



### Few Hours / Half Day Must see places for first time visitors.

• Furnace Creek: Stop by the visitor center to learn about the park. See the 20 minute long film (8:30 am - 4:00 pm daily), explore the museum exhibits, and ask about seasonal ranger programs.

• Devil's Golf Course: An immense area of rock salt eroded by wind and rain into jagged spires. So incredibly serrated that "only the devil could play golf on such rough links".

• Badwater Basin: The lowest point in North America, Badwater Basin is a surreal landscape of vast salt flats. A temporary lake may form here after heavy rainstorms. Do not walk on the salt flats in hot weather. Wheelchair accessible.

• Artist's Drive: Scenic loop drive through vibrantly colored hills will be closed from Nov-14 through late March for much needed improvements. Crews removed over 8,000 pounds of flood debris from the roadway, however pavement and shoulder repairs are now necessary for visitor safety. • Dante's View: The most breathtaking viewpoint in the park, this mountain-top overlook is more than 5000 ft (1,500 m) above the floor of Death Valley. The paved access road is open to all vehicles less than 25 ft (7.6 m) in total length.

• Mesquite Flat Sand Dunes: Tawny dunes smoothly rise nearly 100 ft (30 m) from Mesquite Flat. Late afternoon light accentuates the ripples and patterns, while morning is a good time to view tracks of nocturnal wildlife. Moonlight walks can be magical.

• Harmony Borax Works: Follow an easy 1/4 mi (0.4 km) walking trail to learn about this important site in Death Valley's history. The operation became famous through the use of 20 Mule Teams. When you're done, take the scenic gravel exit drive through Mustard Canyon back out to Highway 190. Mesquite Flat Sand Dunes (Adriann Van't Riet)

### Full Day

Add these to the list and make it an all day adventure!

• Twenty Mule Team Canyon: Winding through otherworldly badlands, this 2.7 mi (4.3 km), one-way loop drive is unpaved, but accessible to vehicles other than buses, RV's, and trailers. Great for bike riding or for hiking with dogs.

• Salt Creek: This stream of salty water is the only home to a rare pupfish, *Cyprinodon salinus salinus*. Spawing season, during springtime is best for viewing pupfish. The boardwalk loops ½ mi (0.8 km) through stands of pickle-weed and past pools reflecting badland hills. ADA accessible. Please stay on the boardwalk.



• Ubehebe Crater: Hundreds of years ago, a massive volcanic explosion caused by magma mixing with an underground spring, shattered the silence of northern Death Valley. When the cinders and dust settled, this 600 ft (183 m) deep crater remained.

• Wildrose Charcoal Kilns: These ten beehive-shaped structures are among the best preserved in the west. Built in 1876 to provide fuel to process silver/ lead ore, they still smell of smoke today. The final 2 mi (3.2 km) of gravel road to the kilns are passable to most vehicles.

> Father Crowley Vista: A landscape of dark lava flows and volcanic cinders abruptly gives way to the gash of Rainbow Canyon below this viewpoint. Walk the dirt track east of the parking lot for a grand overlook of the northern Panamint Valley. ADA accessible.

Desert Bighorn Sheep (NPS - Stacy Holt)

### Remote Backcountry Drives

Not suitable for a normal car, 4x4 and high clearance may be required. Ask rangers about road conditions and safety precautions.



• Eureka Dunes: At nearly 700 ft (213 m), these are the highest dunes in California. Isolated from other dunes, they are an evolutionary island home to rare and endangered species. The dunes are off limits to vehicles, sandboarding, and horseback riding. The rough drive requires a • Aguereberry Point: This spectacular viewpoint gives a perspective over Death Valley from the west from 6433 ft (1961 m) above sea level. Along the gravel road are the remains of Pete Aguereberry's camp and his Eureka Mine. The last climb to the point requires a high-clearance

• The Racetrack: Rocks mysteriously slide across the dry lakebed of the Racetrack, leaving behind long tracks for visitors to ponder. A high-clearance vehicle with heavy-duty tires is needed to traverse the 27 mi (43 km)of rough dirt road; ask a ranger for current road conditions. Once you leave pavement at Ubehebe Crater the drive takes 2-1/2 hours each way. • **Titus Canyon**: The largest and most diverse canyon in the park. Within its towering walls, visitors can find volcanic deposits, a ghost town, petroglyphs, bighorn sheep, and deep, winding narrows. Titus Canyon is accessible to highclearance vehicles via a 26 mi (42 km), one-way dirt road beginning outside the park. The trip takes 3 hours from pavement to pavement. high clearance vehicle and will take 2.5 hours from pavement off of Scotty's Castle Road.

vehicle. From pavement to view point the 6 mi (10 km) drive is 30 minutes each way.



## **⅍**/ Hiking

• Before starting a hike ask about the current road and weather conditions.

• Always carry water. Two liters per person for a short winter day hike, and four liters or more in the summer or for longer hikes.

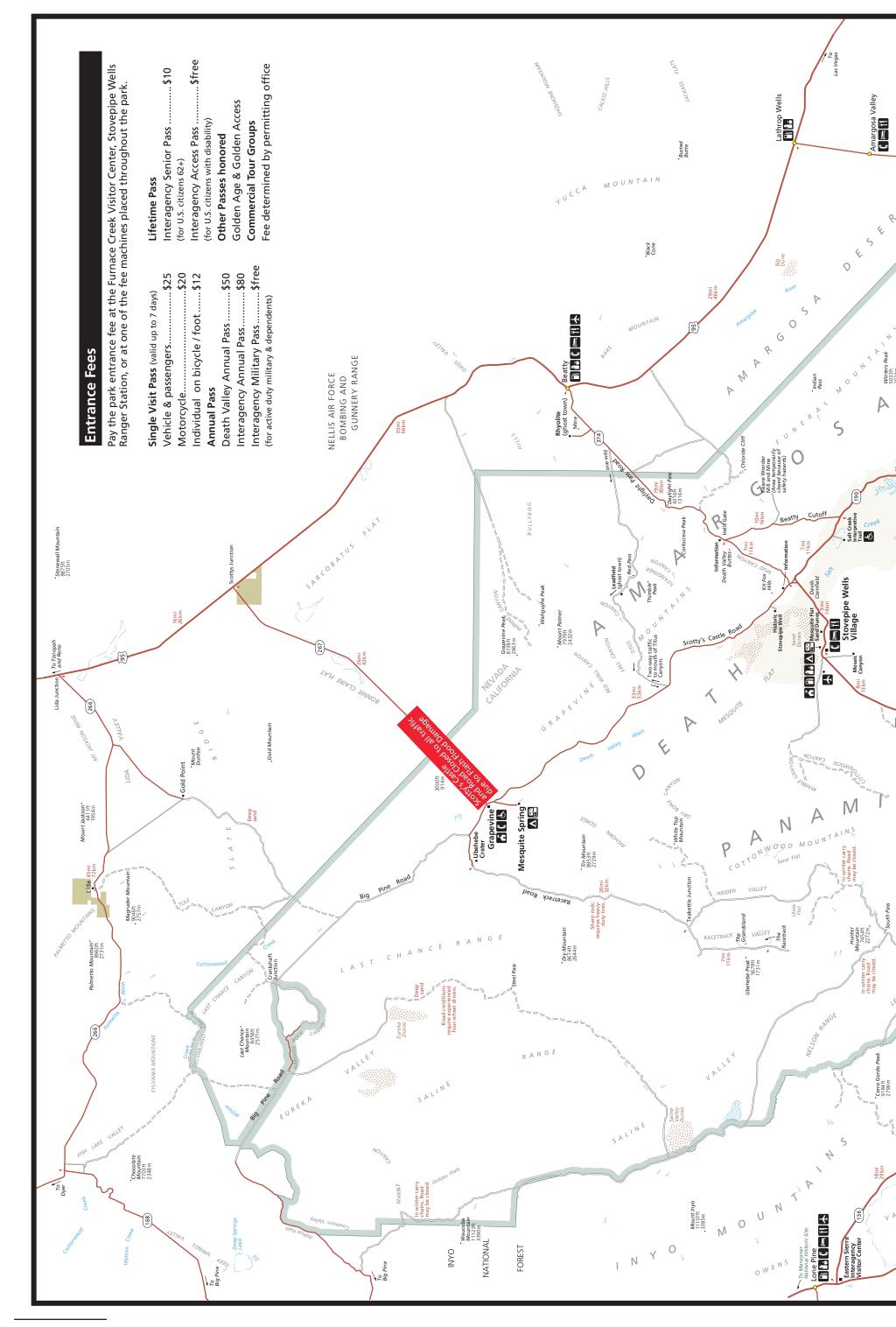
• **Dogs and bicycles** are not allowed on trails or off roads, but hundreds of miles of dirt roads offer unforgetable adventures.

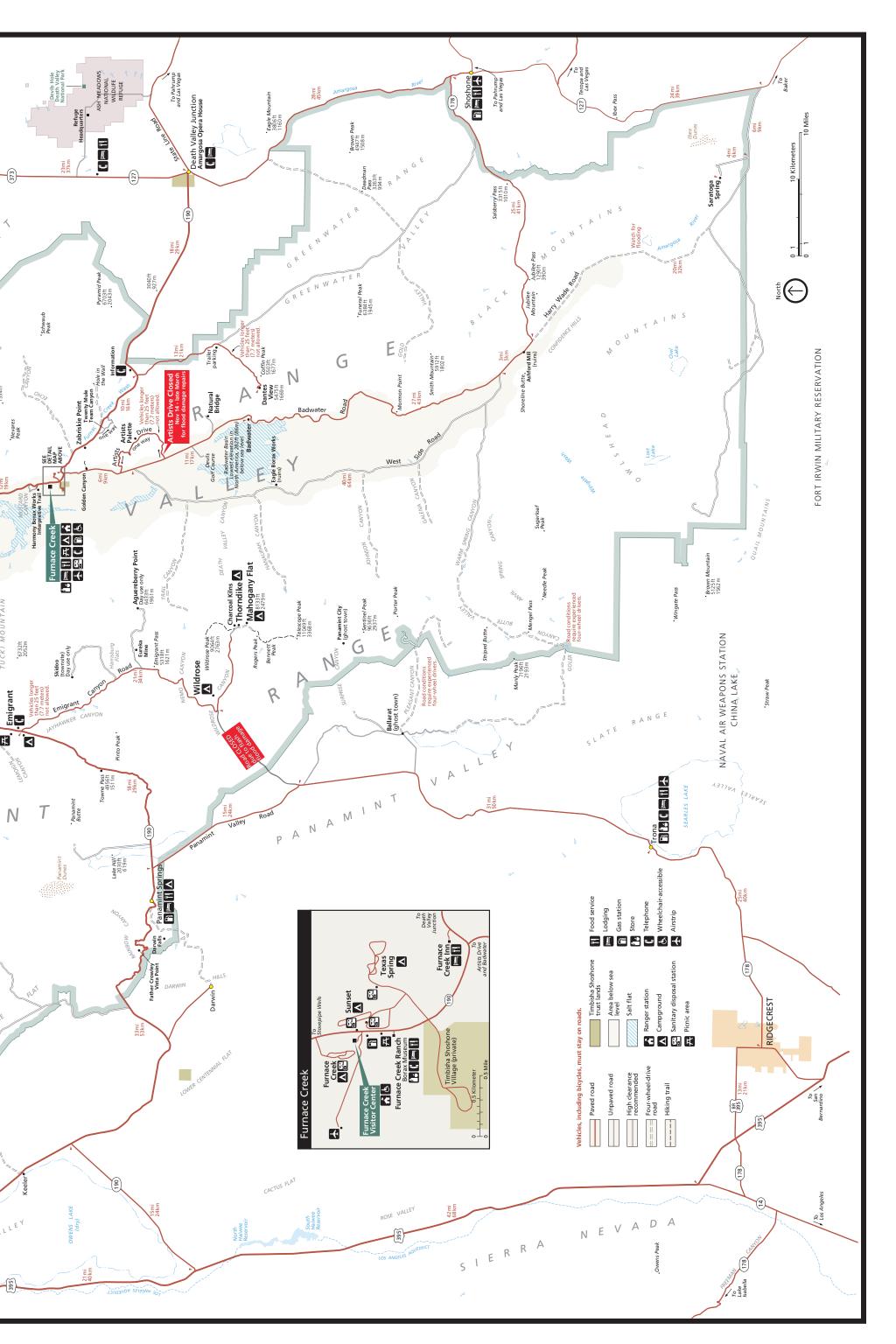
• **Constructed trails are rare in this park.** Trails are provided in places that are heavily used and sensitive to damage. If a trail is there, please use it. Most hiking routes in the park are cross-country, up canyons, or along ridges. Footing can be rough and rocky.

• Hiking in low elevations can be dangerous when it is hot. The high peaks can be covered with snow in winter and spring. The best time to hike in the park is October to April.

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Easy Hikes	Round Trip	Elevation Gain	Description
Harmony Borax Works	0.4 mi (0.6 km)	50 ft (15 m)	ADA accessible loop around historic mining site where the famous 20-Mule Team wagons began their grueling 165 mile journey south to the Mojave railroad depot.
Salt Creek Interpretive Trail	0.5 mi (0.8 km)	flat	ADA accessible loop. Wooden boardwalk through salt marsh and rare pupfish habitat. Great for birding. Gravel road is typically passable in a sedan.
Badwater Salt Flat	1 mi (1.6 km)	flat	ADA Accessible out and back. Scenic walk out to edge of salt flat and the lowest point in North America. Explore the flats on a cool day to search for salt formations.
Natural Bridge	1 mi (1.6 km)	86 ft (26 m)	Out and back hike up dramatic canyon to natural bridge formation. Gravel access road is typically passable in a sedan.
Mesquite Flat Sand Dunes	2 mi (3.2 km)	185 ft (65 m)	Hike through the largest dune field in the park to summit the high dune in the dis- tance. Go during sunrise, sunset, or full moon lighting for unforgetable experiences.
Moderate Hikes			
Ubehebe Crater	1.5 mi (2.4 km)	500 ft (152 m)	Loop hike around the rim of a 600 ft (183 m) deep maar volcano. Head around the loop counterclockwise to see Little Ubehebe Crater too.
Darwin Falls	2 mi (3.2 km)	450 ft (137 m)	Out and back canyon hike to desert waterfall. Minor rock scrambling required. No swimming. Unmarked gravel access road just west of Panamint Springs may require a high clearance vehicle to make the 2.4 mile (3.8 km) trip to the parking area.
Badlands Loop	2.7 mi (4.3 km)	535 ft (163 m)	Loop hike starting at Zabriskie Point winds through a labrynth of golden colored bad- lands. Add Golden Canyon or Gower Gulch for a longer hike.
Golden Canyon - Red Cathedral	3 mi (4.8 km)	577 ft (176 m)	Out and back. The most popular hike in the park. Narrow passageway beneath high colorful hills ends at sculpted canyon headwall. Some easy rock scrambling required.
Desolation Canyon	3.6 mi (5.8 km)	600 ft (183 m)	Out and back hike through canyon narrows made of colorful badlands formations similar to those found at Artist's Palette. Some rock scrambling required. No signs, follow the canyon. The unsigned gravel access road 4 miles south of CA 190 on Badwater Road is typically passable in a sedan.
Mosaic Canyon	4 mi (6.4 km)	1,200 ft (366 m)	Out and back hike within polished marble narrows filled with uniquely color patterns. Use caution on the slick rock surfaces. The gravel road is typically passable in a sedan.
Willow Canyon	4.2 mi (6.8 km)	776 ft (237 m)	Out and back cross country hike into deep and narrow canyon to seasonal waterfall. The short unmarked, gravel access road is typically passable in a sedan, and is located 31.5 miles south of CA 190 on Badwater Road. No trail signage.
Gower Gulch Loop	4.3 mi (6.9 km)	850 ft (259 m)	Loop hike from Golden Canyon to Gower Gulch. Add a side trip to Red Cathredral or Zabriskie Point to do a longer hike.
Sidewinder Canyon	5 mi (8.4 km)	1,580 ft (482 m)	Out and back into dark slot canyons hidden within a labyrinth of drainages. Scrambling up and down dryfalls required. No signs, some navigation required. The short but unmarked gravel access road located 31.5 miles south down Badwater Road from CA 190 is typically passable in a sedan.
Fall Canyon	6 mi (9.6 km)	2,460 ft (752 m)	Out and back. This deep canyon with towering walls is a great place to look for bighorn sheep. From the exit of Titus Canyon, hike north on the informal trail near restroom for 1 mile (1.6 km) before dropping into the wash at the canyon mouth. The gravel access road (Titus Canyon two-way section) is typically passable in a sedan.
Dante's Ridge	8 mi (13km)	1,200 ft (366 m)	This out and back informal path from Dante's View heads north along the ridge to- ward Mt. Perry. Unobstructed views begin immediately and only get better. No signs.
Difficult Hikes			
Panamint Dunes	7 mi (11.3 km)	1,028 ft (313 m)	Out and back crosscountry hike north up Panamint Valley from Lake Hill Road. The pristine dunes are visible in the distance from the bend in the road, but there is no signage. The gravel road is not marked and requires a high clearance vehicle.
Little Bridge Canyon	7 mi (11.2 km)	1,900 ft (590 m)	Out and back crosscountry hike into a colorful canyon with unique geologic forma- tions. Start from mile marker 89 on CA 190 (eastbound). No signs. Park off highway.
Corkscrew Peak	8 mi (12.9 km)	3,300 ft (1,005 m)	Out and back cross country adventure to rugged peak. Park off the road near Corkscrew Peak highway sign on the Daylight Pass Road. No signage.
Wildrose Peak	<mark>8.4 mi</mark> (13.5 km)	2,200 ft (671 m)	Out and back trail through pinyon-juniper woodlands to 9,064 ft (2,763 m) peak. The final two miles of access road is gravel, but typically passable in a sedan.
Telescope Peak	14 mi (22.5 km)	3,000 ft (914 m)	Out and back hike to 11,049 ft (3,368 m) - the highest peak in Death Valley. The trail starts in the pinyon and juniper woodlands at Mahogany Flat Campground. The final 5 miles (8 km) of the access road is gravel and may require high clearance.
Backpacking			
Indian Pass	8 mi (12.9 km) to seasonal spring	3,000 ft (914 m)	Out and back crosscountry trip up the large alluvial fan to a remote deep canyon in the Funeral Mountains. Seasonal water source 4 miles (6.4 km)in. Park safely off the road at mile marker 104 on CA 190. No signage. Get a free voluntary backcountry permit from the Furnace Creek Visitor Center.
Surprise Canyon - Panamint City	10 mi (16 km)	3,700 ft (1,128 m)	Out and back to a remote ghost town with multiple water sources along the route. Start outside the park at the end of Surprise Canyon Road. The gravel access road may require a high clearance vehicle. Some scrambling required. No signage. Get a free voluntary backcountry permit from Furnace Creek Visitor Center.
Cottonwood & Marble Canyons	26 mi (42 km) from Cottonwood- Marble Junction	3,882 ft (1,183 m)	Loop hike for experienced crosscountry hikers only. Ask rangers about water sources and road conditions. Road conditions may require a longer hike. No signage. From Stovepipe Wells the 10 mile Cottonwood/Marble Road may require 4x4 to the junc- tion. Get a free voluntary backcountry permit from Furnace Creek Visitor Center.
			Mesquite Flat Sand Dunes (Mark Comon)

Mesquite Flat Sand Dunes (Mark Comon)





## Floods to...

"The dry wash was transformed into floodwaters 100 feet wide with 20-foot waves. The air was filled with the sounds of massive boulders grinding against each other as they rolled down the canyon." Paul Forward, Ranger

## Park Rebuilds after Devastating Flood at Scotty's Castle

In October 2015, a devastating flood ripped through Grapevine Canyon, destroying the road and utilities, and flooding Scotty's Castle Visitor Center and offices. Tours of Scotty's Castle have been a popular Death Valley tradition for decades. Prospector "Death Valley Scotty" claimed that this elaborate Spanishstyle mansion was built with proceeds from his fictitious gold mine. In reality, it was the 1920s vacation home of his wealthy benefactors, Albert and Bessie Johnson. During the tours, rangers dressed in the style of the 1930s and told stories of the Castle's heyday while guiding visitors through its richly furnished interior. The area is closed and tours have been suspended as work proceeds.

### Sunday, October 18, 2015

From almost 60 miles away, a large storm could be seen building over the Scotty's Castle area. A call came out over the park's emergency radio system reporting people stranded at Ubehebe Crater due to flooding. Three Rangers headed north to help. They evacuated Mesquite Spring Campground, but the massive flood from Grapevine Canyon blocked Ubehebe Crater Road. The three rangers and 17 visitors hunkered down to spend the night and wait for relief from the storm.

When morning broke, a pathway was cleared on the damaged road to allow the visitors to evacuate. With the road destroyed by the floodwaters, rangers hiked three miles to Scotty's Castle to assess the damage. They walked past pavement jumbled with huge boulders, splintered and downed powerlines and poles, and the dumpsters they had watched roll through on the floodwaters the night before. Upon arriving at Scotty's Castle, they found several buildings, as well as the unfinished swimming pool, filled with mud, water, and debris. The flood was so powerful that it destroyed the water pipeline and spring house and scoured the canyon of much of its vegetation.

Ninety miles south of Scotty's Castle, another storm devastated Badwater Road around Jubilee Pass.

### Assessment and Cleanup

In the wake of the flooding, park employees immediately began clearing the roads of debris. Over 250 National Park Service employees from all over the country arrived to assist. Over 500 miles of paved and unpaved roads were closed after the storm. Road crews cleared debris off of roads, while fire crews from other park units removed by hand more than 98,000 cubic feet of mud and debris from inside and around the historic buildings.

The National Weather Service provided detailed data on the storm. Over a year's worth of rain fell in the Grapevine Canyon area—2.7 inches in only 5 hours. The flood was so



powerful that it changed the shape of the canyon, which hydrologists believe will likely alter how water flows through it in the future.

## Getting to Work

A monumental amount of work has already been done at Scotty's Castle, from replacing the 28 damaged or missing power poles to moving about 100,000 museum items and archives away from the area to a secure, climate controlled storage. Currently, plans are underway to replace 4,000 feet of destroyed water line and rebuild the road in Grapevine Canyon. The inside of the visitor center and office space has been completely gutted and will be rebuilt. Experts in historic structures are advising planners to ensure that the work will retain as much of the historic fabric, look, and feel as possible. The bulk of the funding will come from park entrance fees.

## Plans for Reopening

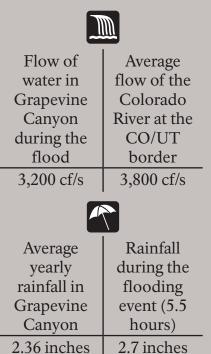
Park staff is working toward the goal of reopening Scotty's Castle in 2019. At that time, visitors can expect to see a remodeled visitor center. Other changes, though, may not be so detectable. A new water system and leach field will deliver water to the grounds, and a new heating and cooling system will provide efficient climate control for both people and the historic furnishings and artifacts that make Scotty's Castle come alive. By The Numbers



Mud and debris flowed over many

roads during the flooding. (NPS Photo - Frank Lambert)

Roads initially closed for flood damage 500 miles





### Why do flash floods occur in the desert?

The evidence of flash flooding is all around in Death Valley. From the piled alluvial fans to the towering canyon walls, water is the ultimate sculptor. Titus Canyon's smoothed limestone, the arch of Natural Bridge, down to the polygons of salt crystals on the floor of Badwater Basin, are all dependent on the ephemeral floods that come through the landscape. These places do not often see water, but when they do, the dry earth and rocks cannot always handle the amount they receive. The water is not able to readily soak into the ground, and instead flows. Bounded by tall, rocky canyons, these floodwaters can reach great power in small amounts of time and space, moving large boulders, massive amounts of debris, and even our man-made structures.

Watch for evidence of water flows as you travel through the park. Can you spot any signs of the most recent flooding?

Estimated cost to repair the Scotty's Castle area (as of August 2016) \$28 million



Views of Death Valley's flood video (online) 956,205



## ...Flowers!

"I greeted every rain shower that winter with anticipation of what was to come. The super bloom propelled us through colors and patterns rarely seen together, purple offset the yellow-orange, on the ground yellow and pink decorated the bare hillsides." Lucy Ellis, Ranger

#### **#Superbloom**

During both the flood and the superbloom, media sources pulled pictures, quotes, and videos from Death Valley's Facebook, Instagram and Twitter feeds, which were seen by people all over the country and around the world. Social media pulled in more visitors to the park who generated an even greater web presence. These contributed to visitation that was much higher than during superblooms of 1998 or 2005.

All of this attention brought a different feel to Death Valley. Cars lined the highways, parking lots were packed, and campgrounds filled. Although this spring's bloom is unlikely to match the superbloom of 2016, visitors may encounter a more relaxing and less crowded park this winter season.

Want to share with us on social media? Death Valley regularly uses these platforms:



Facebook facebook.com/ deathvalleynp



Instagram @deathvalleynps

## Superbloom of 2016 was a once-in-a-decade event

Death Valley's record-setting flooding led to another record; a massive quantity of wildflowers, and with it, visitors!

The above-average rainfall was the key that wildflowers had been waiting for. Desert annual plants are prolific seed producers, but in years of average rainfall, only a small quantity sprout and survive to produce blooms. October 2015's rain caused millions of dormant seeds to spring to life beginning in December, culminating in a brilliant sea of desert gold, a sunflower that carpeted the valley through late winter and spring 2016.

Blooms of this magnitude have occurred nearly once a decade due to frequent or heavy rainfalls during winter months, with the last memorable blooms occurring in 2005 and 1998. While 250 species of annual plants occur in the Mojave Desert, it was the desert gold that carpeted the landscape. Alluvial fans were obscured by the blanket of gold, and the air was heavy with the smell of blossoms.

Death Valley typically sees just over a million visitors a year, and March can be the busiest month with an average of 95,000 visitors. March of 2016 broke all previous visitation records for the park, bringing in over 213,000 visitors! Warm Springs Canyon, a remote backcountry area that relatively few visit, bustled with activity this year, and drew photographers and botanical enthusiasts to see fields of desert five-spot.

"This is the first time in eight years I've seen this park so busy," said Ranger Carrie Hearn. "The superbloom was overwhelming for us, but fantastic to experience."



Brown-Eyed Evening Primrose Camissonia claviformis White flowers open in the evening, fade to pink next day.

Desert gold. (NPS - KurtMoses

Notch-Leaf Phacelia Phacelia crenulata Do not touch phacelias, they cause a skin rash.

Gravel Ghost Atrichoseris platyphylla White flowers more noticeable than large, low leaves.

Golden Evening Primrose Camissonia brevipes Most abundant yellow flower in mid-elevations.



Desert Five-Spot Eremalche rotundifolia Globe-shaped flowers and round leaves.

## nd verbena (NPS - KurtMoses)



Twitter @deathvalleynps

and the second



Views of Death Valley's superbloom video (online) 1,145,744





## Programs & Events

## Ranger Talks & Guided Hikes

Meet with a park ranger to explore the geology of a remote canyon, view the stars and planets of the night sky, learn about prospectors, or discover the amazing adaptations of desert life. A variety of programs are offered from November through March that will help you experience your park in different ways.

Pick up a ranger program schedule at a visitor center. Program schedules are also posted throughout the park and on the website, nps.gov/deva.

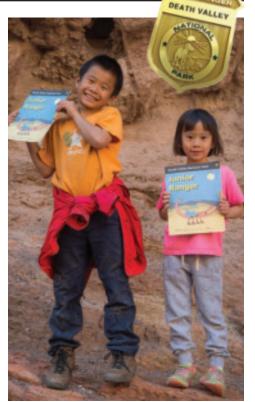


Ranger Mike leads a hike at Salt Creek (NPS - Kurt Moses)

## Explore, Learn, Protect!

#### Become an Official Death Valley Junior Ranger

- Pick up a free Junior Ranger booklet at a visitor center.
- Learn about Death Valley by completing fun activities based on your age.
- Turn in your completed work to a park ranger at a visitor center.
- Take the pledge to receive your badge and certificate. Special patches are available for sale at the visitor center bookstore, (only available to official Death Valley Junior Rangers).



Junior Rangers (NPS - Kurt Moses)

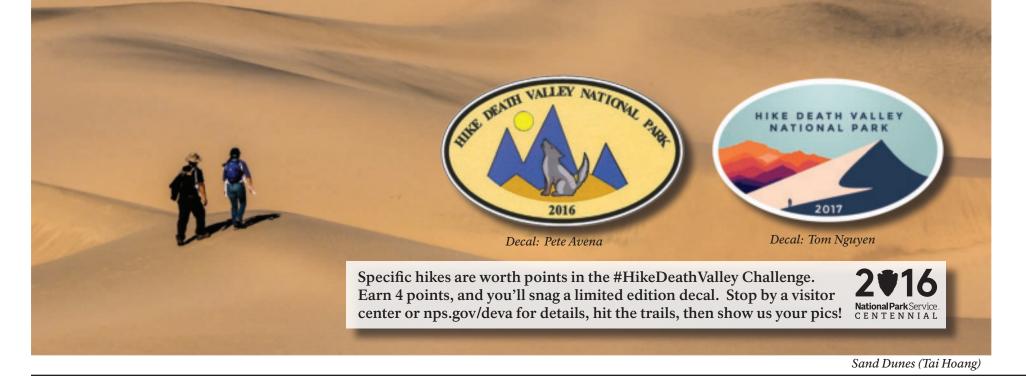
## Every Kid in a Park: 4th Grade Pass



You and your family get free access to hundreds of parks, lands, and waters for an entire year. Speak to a ranger or visit everykidinapark.gov for program details.

4th Grader with Pass (NPS - Kurt Moses)

# Hike Death Valley Earn the Decal! Share the Experience!



## 🛣 Nightlife



Death Valley Night Sky (J Scott Crist)

## One of the Largest Dark Sky Parks

As you explore Death Valley National Park, you may think – "What could be more amazing than the diversity, colors, extremes and geology of this place?" Whether you go on a ranger-led program or hike down Mosaic Canyon, there is always something new to see. Well, half the park is after dark! If you go out at night, you will be amazed at the numerous stars in the sky, the bright planets Jupiter and Venus, and the fact that you can see the Andromeda Galaxy (2.5 million light years away) with the naked eye. If there is a full moon, seeing the stars can be more challenging, but you can still get an other-worldly experience from a moonlight hike at the Mesquite Sand Dunes or at Badwater Basin.

Death Valley's dark sky has been enhanced in recent years as both the National Park Service and the Furnace Creek Resort reduced unnecessary lighting, changed out light fixtures to point needed lighting down, and installed yellow lights in place of bright white lights. In February 2013, Death Valley's night sky was formally recognized when it was designated as the third and largest International Dark Sky Park.

Dark skies provoke us to wonder about our place in the universe! Like the rocks, Death Valley's amazing dark skies have a story to tell. If you hike into the park during the day, don't forget to go out again at night and gaze up at the Milky Way. You will be looking back into our past, into the present and on into the future.

While the modern world is losing darkness, Death Valley still offers amazing night sky views. Ask a ranger at the Furnace Creek Visitor Center for more information on ranger-led Night Sky Programs and Star Party telescope viewings.

## **Creatures of the Night**

Death Valley is home to 51 species of native mammals, 307 species of birds, 36 species of reptiles, three species of amphibians, and six species of fish. With so much wildlife, you might expect sightings to be an everyday occurance. Outside of the usual covotes, roadrunners and lizards though, much of Death Valley's wildlife appear to be hidden because they primarily come out at night.

## Night Sky Almanac

#### **OCTOBER 2016**

#### **Planets Visible**

- ★ Mars: South after sunset
- ★ Venus: Low SW after sunset
- ★ Jupiter: SW after sunset
- The Moon
- ★ Full Moon: Oct 16, New Moon: Oct 30

#### **Draconids Meteor Shower**

- ★ Farly evening Oct 7 (Quarter moon will make viewing difficult)
- **Orionids Meteor Shower**
- ★ Midnight to dawn morn of Oct 22 (Quarter moon will make viewing difficult)

#### **NOVEMBER 2016**

#### **Planets Visible**

- ★ Mars: South after sunset
- ★ Venus: SW after sunset
- ★ Jupiter: East before dawn
- ★ Saturn: Early Nov, low in west

#### The Moon

★ Full Moon: Nov 14, New Moon: Nov 29

#### **Taurids Meteor Shower**

★ Midnight to dawn morn of Nov 5 (No moon will make viewing excellent)

#### Leonids Meteor Shower

★ Midnight to dawn morn of Nov 18 (Bright moon will make viewing difficult)

#### **DECEMBER 2016**

#### Planets Visible

- ★ Mars & Venus: SW after sunset
- ★ Jupiter: SE before dawn
- ★ Mercury: Dec 11, low in west The Moon

Kit Fox (Chet Steele)

★ Full Moon: Dec 13, New Moon: Dec 28

#### Winter Solstice ★ December 21

Geminid Meteor Shower

#### **JANUARY 2017**

#### **Planets Visible**

- ★ Mars: SW after sunset
- ★ Venus: SW after sunset
- ★ Jupiter: South before dawn
- ★ Saturn: SE before dawn
- ★ Mercury: Mid Jan, low in east (dawn)

#### The Moon

★ Full Moon: Jan 12, New Moon: Jan 27

#### **Ouadrantids Meteor Shower**

★ Midnight to dawn Jan (No moon makes excellent viewing)

### **FEBRUARY 2017**

#### **Planets Visible**

- ★ Mars: West after sunset
- ★ Venus: West after sunset
- ★ Jupiter: South before dawn
- ★ Saturn: SE before dawn

#### The Moon

★ Full Moon: Feb 10, New Moon: Feb 26

### **MARCH 2017**

- **Planets Visible**
- ★ Mars: West after sunset
- ★ Venus: West after sunset (early March)
- ★ Jupiter: SW before dawn ★ Saturn: South before dawn
- ★ Mercury: Low in west (late March)

#### The Moon

- ★ Full Moon: Mar 12, New Moon: Mar 27
- **Spring Equinox**
- ★ March 20

### **APRIL 2017**

- **Planets Visible** 
  - ★ Mars: Low in west after sunset

★ Saturn: South before dawn

Lyrids Meteor Shower

★ Venus: Low in east before dawn

★ Mercury: Early Apr, low in west

 $\star$  lupiter. SE sunset, west before dawn

★ Full Moon: Apr 10, New Moon: Apr 26

Wildlife most active at night are categorized as nocturnal. They have developed special adaptations to help them survive, some of which are comparable to real life "superpowers" such as keen evesight and hearing. Some adaptations are behavioral such as the kangaroo rat and the elusive desert banded gecko coming out at night to to avoid predation, while others such as owls and bobcats come out to hunt.

Although seeing wildife at night is difficult, finding signs of their travel can be easy and fun in places like the Mesquite Flat Sand Dunes. Look for tracks of kangaroo rats, desert sidewinders, and kit fox just to name a few. As you venture out into the dark desert night, your eyes will slowly adjust to reveal the depth of the star-filled sky. Keep your ears open as the creatures of the night slowly awake to fill the desert with new sounds, hopefully sights, and definitely mystery.

\* Midnight to dawn morn of Dec 14 (Bright moon will make viewing difficult)

#### **Ursids Meteor Shower**

★ Midnight to dawn morn of Dec 22 (Quarter Moon will make

viewing difficult)

★ Midnight to dawn Apr 23 (Small moon means excellent viewing)

#### **MAY 2017**

The Moon

#### **Planets Visible**

- ★ Mars: Very low in west after sunset
- ★ Jupiter: South after sunset
- ★ Venus: Very low in east before dawn
- ★ Saturn: South before dawn

#### The Moon

★ Full Moon: May 10, New Moon: May 25

#### **Eta Aquarids Meteor Shower**

★ Midnight to dawn May 7 (Bright moon will make viewing difficult)

## Visitor Services

## **Furnace Creek**

**Furnace Creek Visitor Center:** 8am-5pm daily 760-786-3200 - nps.gov/deva Entrance passes, exhibits, park film, bookstore, ranger talks, drinking water and restrooms.

**Post Office:** Lobby open 24 hours Monday - Friday 8am-4pm Closed for lunch from 1pm-1:30pm

**Farabees Jeep Rentals and Tours:** 760-786-9872 - deathvalleyjeeprentals.com

**Furnace Creek Resort: Lodging & Camping** 760-786-2345 - furnacecreekresort.com

**General Store:** 7am-10pm daily Grab-and-go sandwiches, salads & produce, groceries, camping & hiking supplies, sportswear, firewood, ice, souvenirs, ATM

#### **Restaurants:**

49er Cafe: 6am-10:30am; 11:30am-3pm; 4pm-10pm Wrangler Buffet: 6am-10am; 11am-2:00pm (large groups require reservations) Wrangler Steakhouse: 6pm-10pm Corkscrew Saloon: 11am-11pm 19th Hole: 10am-4:30pm (seasonal)

Laundry: Coin operated machines

Borax Museum: 10am-6pm daily (free)

**Gas Station:** 24 hours pay at the pump, unleaded, diesel. Propane and limited mechanic services

**Furnace Creek Stables:** Horseback trips 760-614-1018 - furnacecreekstables.net Sunset and moonlight rides (seasonal)

#### The Inn at Furnace Creek

Breakfast: 7am-10:30am Lunch: 12pm-2:30pm Dinner: 5:30pm-9pm (Reservations recommended: 760-786-2345)

## Timbisha Shoshone Village

**Indian Tacos & Shaved Ice:** 760-258-7858 Tuesday - Saturday 10am-6pm

## **Stovepipe Wells Village**

**Death Valley Lodging Company: Lodging & Camping:** 760-786-2387 - deathvalleyhotels.com

**Shower & Pool Passes:** Per person passes available until midnight

Internet: Hourly and daily rates

**General Store:** 7am-10pm daily ATM, groceries, ice, camping supplies, gifts, and firewood

Nugget Gift Shop: 7am-9pm daily

**Gas Station:** Open 24 hours pay at the pump Unleaded fuel only

**Restaurants:** Toll Road: Breakfast: 7am-10am Dinner: 5:30pm-9pm Badwater Saloon: Lunch: 11:30am-5pm Bar Snacks: 5pm-9pm

## Scotty's Castle

Scotty's Castle and the Bonnie Claire Road to NV 267 are closed due to flash flood damage until 2019. The roads from CA 190 to Ubehebe Crater, Racetrack, and Mesquite Spring Campground have not been affected.

## **Panamint Springs**

Panamint Springs Resort: Lodging & Camping: 775-482-7680 - panamintsprings.com

**General Store:** 7am-9pm daily ATM, snacks, ice, firewood, camping supplies, and gifts

Shower Passes: Available at general store

**Gas Station:** 7am-9:30pm 87, 89, & 91 octane gasoline

Restaurant and Bar: 7am-9pm daily

## **Local Communities**

**Beatty, Nevada:** Lodging, restaurants, ATM, camping, gas, general store

**Pahrump, Nevada:** Lodging, restaurants, grocery stores, hospital, auto service, gas, ATM, veterinarians, camping

Amargosa Valley, Nevada: Lodging, gas, restaurants

Shoshone, California: Lodging, restaurants, general store, gas, campground

**Tecopa, California:** Lodging, restaurants, camping

**Trona, California:** Lodging, restaurants, camping, gas, ATM

**Ridgecrest, California:** Lodging, restaurants, grocery stores, hospital, auto service, gas, ATM, veterinarians, camping

Lone Pine, California: Lodging, restaurants, camping, gas, ATM, groceries, health clinic

Sunset (Scott Stolberg)

NPS Campgrounds	Season/Reservations	Elevation	Fee	Lifetime Pass Rate	Sites	Water	Firepits	Tables	Toilets	Dump Station
Furnace Creek	open all year reservations only available and <u>strongly recommended</u> mid-Oct to mid-Apr must be made at least 4 days to 6 months in advance 877-444-6777 - recreation.gov	-196 ft (-60 m)	\$22 standard \$36 hookups	\$11 standard \$25 hookups	136 18	yes	yes	yes	flush	yes
Sunset	open mid-Oct to mid-Apr - <i>back into all sites</i> first come - first served	-196 ft (-60 m)	\$14	\$7	270	yes	group only	no	flush	yes
Texas Springs	open mid-Oct to mid-May - <i>no generators</i> first come - first served	sea level	\$16	\$8	92	yes	yes	yes	flush	yes
Stovepipe Wells	open mid-Oct to mid-May first come - first served	sea level	\$14	\$7	190	yes	some	some	flush	yes
Mesquite Spring	open all year first come - first served	1,800 ft (549 m)	\$14	\$7	40	yes	yes	yes	flush	yes
Emigrant	open all year - <i>tent only</i> first come - first served	2,100 ft (640 m)	fr	ee	10	yes	no	no	flush	no
Wildrose	open all year - 25 <i>ft length limit</i> first come - first served	4,100 ft (1,250 m)	fr	ee	23	yes	yes	yes	vault	no

Thorndike	open Mar-Nov - 25 ft length limit first come - first served	7,400 ft (2,256 m)	free	6	no	yes	yes	vault	no
Mahogany Flat	open Mar-Nov - 25 ft length limit first come - first served	8,200 ft (2,499 m)	free	10	no	yes	yes	vault	no

\*The National Park Service may reserve sites for management needs with or without notice at any time in any NPS campground. Generator hours are 7:00 am - 7:00 pm unless posted otherwise.

Private	Season	Elevation	Fee	Sites	Water	Firepits	Tables	Toilets	Dump Station
Ranch RV Park	open all year 760-786-2345 - furnacecreekresort.com	-218 ft (-66 m)	\$38 hookups	26	yes	group only	group only	flush	no
Fiddler's Camp	open all year 760-786-2345 - furnacecreekresort.com	-218 ft (-66 m)	\$18	35	yes	group only	group only	flush	no
Stovepipe Wells RV Park	open all year 760-786-2387 - deathvalleyhotels.com	sea level	\$34 hookups	14	yes	no	no	flush	yes
Panamint Springs	open all year 775-482-7680 - panamintsprings.com	2,000 ft (610 m)	\$35 hookups \$20 non-hookup \$10 tents \$50 - \$65 tent cabins	76	yes	some	yes	flush	no