

# Joshua Tree

NATIONAL MONUMENT • CALIFORNIA

## POINTS OF INTEREST

See map for the following locations.

- 1. THE VISITOR CENTER**, at monument headquarters, offers museum exhibits, botanical displays, and a self-guiding nature trail through historic Twentynine Palms Oasis.
- 2. FORTYNINE PALMS OASIS**. Take the 2.5-kilometer (1.5-mile) trail to this oasis where water-loving plants thrive. This area is closed during summer months.
- 3. INDIAN COVE NATURE TRAIL** is 0.8 kilometer (0.5 mile) long and is accessible from both the family camping area and the group campground.
- 4. HIDDEN VALLEY**. A trail system winding between massive boulders leads you through this legendary cattle rustlers' hideout.
- 5. CAP ROCK NATURE TRAIL**. You will be able to observe and learn about many of the plants and animals of the Joshua-tree forest on this 0.8-kilometer (0.5-mile) trail.
- 6. LOST HORSE MINE**. A 2.5-kilometer (1.5-mile) trail leads to the historic gold mine.
- 7. KEYS (SALTON) VIEW**. This outstanding scenic point in the monument gives a superb sweep of valley, mountain, and desert from its elevation of 1,576 meters (5,185 feet). The panorama of the

Coachella Valley from the Salton Sea, 73 meters (241 feet) below sea level, to the summits of San Jacinto and San Gorgonio, more than 3,000 meters (10,000 feet) high, is magnificent.

- 8. RYAN MOUNTAIN**. The 2.5-kilometer (1.5-mile) trail to the summit has several lookout points with fine views of Queen, Lost Horse, Hidden, and Pleasant Valleys.
- 9. GEOLOGY TOUR ROAD**. This 29-kilometer (18-mile) self-guiding motor nature tour leads to Squaw Tank, which was built by cattlemen to collect water for their stock.
- 10. JUMBO ROCKS**. A 0.8-kilometer (0.5-mile) trail leads from the campfire area to Skull Rock.
- 11. WHITE TANK NATURE TRAIL**. A short hike takes you to Arch Rock. White and Grand Tanks are hidden among the huge boulders.
- 12. CHOLLA CACTUS GARDEN**, a short self-guiding nature trail, features some of the plants and animals of the Colorado Desert.
- 13. COTTONWOOD SPRING**. Noted for its birdlife, this palm oasis is easily accessible by road. A small visitor center is near the campground.
- 14. LOST PALMS OASIS**. A 6.4-kilometer (4-mile) trail leads you to the largest group of palms in the monument.

## TIPS FOR A TROUBLE-FREE VISIT

Park regulations are established for your safety as well as for the protection of natural features. A publication containing all regulations is available for reference at monument headquarters and ranger stations.

**Vehicles** must be operated only on established roads. Off-road travel leaves scars on the landscape which last for years.

**Speed limits** are low out of respect for the narrow, winding desert roads. Maximum speed is 72 kilometers per hour (45 mph) with lesser speeds posted for curves and congested areas.

**Natural features** are protected as parts of the natural setting. Even dead vegetation contributes to the preservation of the area through returning nutrients to the soil for the support of future life. Plants (living or dead), animals, rocks, artifacts, or other natural or historic objects may not be gathered, defaced, disturbed, or removed from the monument.

**Hunting** is not permitted within the monument. Firearms or any weapons capable of killing or wounding animal life must be kept locked away.

**Pets** must be kept under physical control (leashed) at all times out of consideration for other visitors and the protection of wildlife. They are not allowed in public buildings.

**Camping, picnicking, and parking** are allowed only in designated areas. Bring your own firewood because all vegetation—even that which is dead and down—is protected. Campfires in campgrounds must be confined to established fire sites. When in doubt about what you may do, ask a park ranger. Rangers are here to help you have a safe, trouble-free visit.

## HOW TO REACH THE MONUMENT

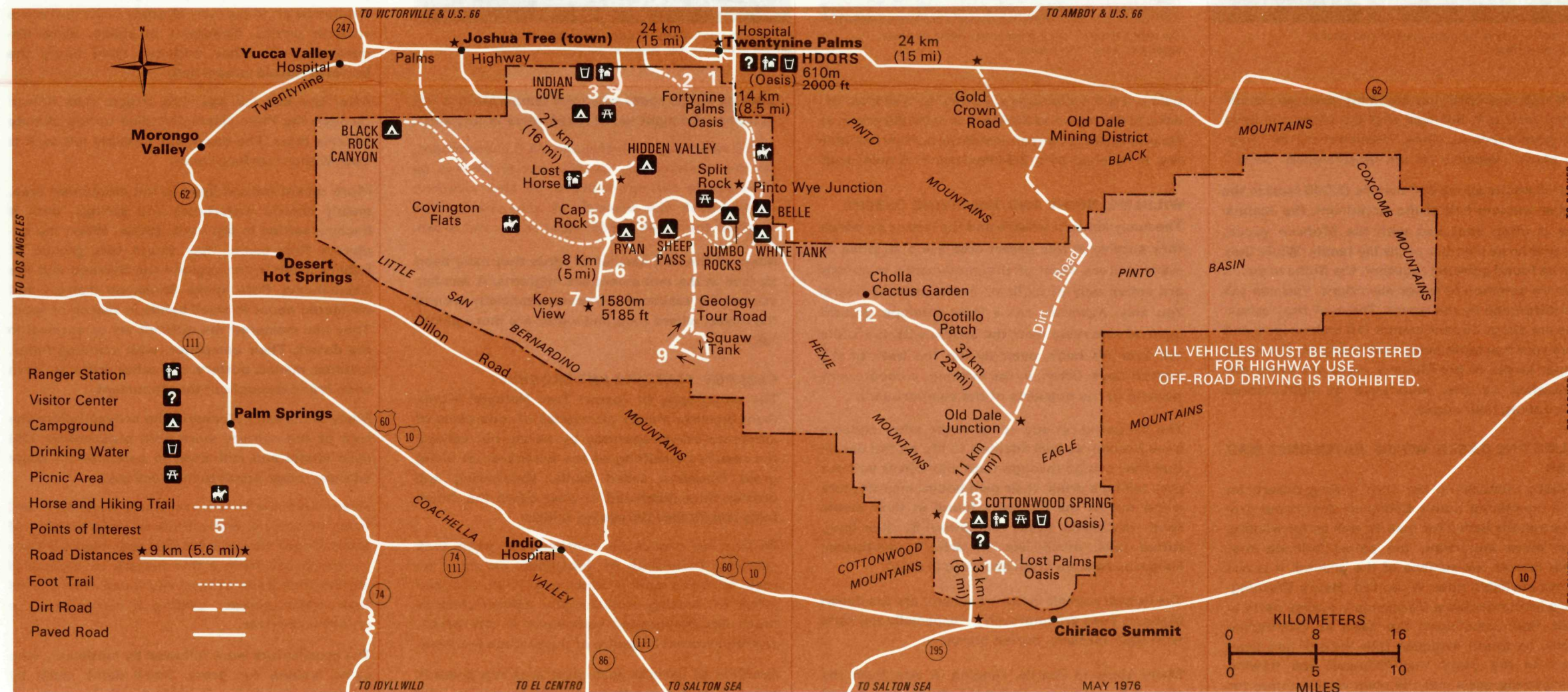
The monument is 225 kilometers (140 miles) east of Los Angeles. From the west it is approached via I-10 (U.S. 60) and Twentynine Palms Highway (Hwy 62) to the north entrances at the towns of Joshua Tree and Twentynine Palms. The Cottonwood Spring (south) entrance is 40 kilometers (25 miles) east of Indio, Calif., via I-10 (U.S. 60).

## ACCOMMODATIONS AND SERVICES

**Nine campgrounds**, with tables, fireplaces, and toilets, have been developed. Campers must bring their own water and firewood and should be prepared for wide fluctuations in temperature.

**Motels, restaurants, gas stations, dump stations, and stores** are located in nearby towns.

**Conducted walks, hikes, and campfire talks** are scheduled principally in spring and fall; information is posted on campground bulletin boards and at ranger stations.



## WHEN HIKING, BIKING, OR DRIVING IN JOSHUA TREE:

- Drink 4 liters (at least a gallon) of water per day during hot weather.
- Stay clear of mine shafts.
- Operate vehicles only on the roads. **OFF-ROAD USE PROHIBITED.** All vehicles, including motorcycles and scooters, operated in the monument must be registered for highway use.
- Obey the speed limits. **MAXIMUM SPEED 72 KILOMETERS PER HOUR (45 MILES PER HOUR).** Reduced speeds are posted where road conditions warrant.

## ADMINISTRATION

Joshua Tree National Monument, established on August 10, 1936, and containing about 2,253 square kilometers (870 square miles), is administered by the National Park Service, U.S. Department of the Interior. A superintendent is in charge; his address is 74485 Palm Vista Drive, Twentynine Palms, CA 92277.

As the Nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering the wisest use of our land and water resources, protecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historical places, and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to assure that their development is in the best interests of all our people. The Department also has a major responsibility for American Indian reservation communities and for people who live in Island Territories under U.S. administration.

**National Park Service**  
**U.S. DEPARTMENT OF THE INTERIOR**

Located in beautiful California desert country, Joshua Tree National Monument preserves a variety of plant and animal communities. It is the home of many creatures that have acquired special adaptations for survival in an arid environment. Here, the sand may suddenly be covered with wildflowers, oases may shelter a varied bird population, and colorful cactuses, the spidery ocotillo, and the picturesque Joshua-tree grow.

Altitudes in the monument range from 304 meters (1,000 feet) in the Pinto Basin to 1,800 meters (nearly 6,000 feet) in the Little San Bernardino Mountains. The weather is pleasant most of the year and is particularly so in spring and fall. In summer, while it is hot at lower elevations, it is relatively cool at higher altitudes. The average annual rainfall is less than 12 centimeters (5 inches), but there are wide departures from this average.

**Periodic rainstorms produce flash flood conditions in the desert. Stay clear of canyons and washes during rainstorms. If water flowing across a road is encountered, do not attempt to cross until the water has subsided and you are sure the road is still there.**

#### DESERT PLANTS: ADAPTATION AND SURVIVAL

Joshua Tree National Monument was set aside primarily because of the notable variety and richness of its desert vegetation. One reason for this diversity is its location; the monument embraces the transition zone between the Mojave and Colorado Deserts (High and Low Deserts).

Adaptation is the key to survival on the desert. Plants must be able to go for long periods without water and to make the most of brief but often violent showers. Some, such as the creosote bush, spread their roots close to the surface to catch the moisture before it evaporates. The roots of some other plants penetrate deep into the earth, enabling them to tap underground water supplies. Mesquite roots often reach depths of 15 to 20 meters (50 to 60 feet).

Desert plants have developed many ways of preventing water loss. The leaves of creosote bush have a heavy waxy coating. The ocotillo loses its leaves during each period of dryness and produces new ones after each good rain. Most cactuses have no leaves; their green stems have taken over the function of food production.

Although it is seldom that careful observation fails to reveal something in bloom, the desert is at its best in spring following a wet winter. Then, even the rocky hillsides may be covered with brilliant patches of color. Wildflower displays are best observed during April and May; flowering starts in March at lower elevations and continues through June at high altitudes.

#### JOSHUA-TREES: PRAYING PLANTS OF THE MORMONS

One of the most spectacular botanical features of our southwestern deserts is the Joshua-tree. It attains heights to 12 meters (40 feet) and bears cream-white blossoms in clusters 20 to 35 centimeters (8 to 14 inches) long at the tips of heavy, angular, erratic branches. The best displays come

**FOR YOUR SAFETY** Text material printed in brown contains safety information and should be read thoroughly.



The Joshua-tree is the most characteristic plant of the Mojave Desert.

in March and April, but blooming does not occur every year. It is believed that the Mormons gave this giant yucca its name, "Joshua-tree," or "praying plant," because of the up-stretched "arms."

Found mostly above 900 meters (3,000 feet) in the higher western half of the monument, the Joshua-tree is often confused with the Mohave yucca, another large member of the lily family. While they can be found growing together, the Mohave yucca is more common at lower elevations. You can tell the difference by the leaves. Those of the Joshua-tree are about 25 centimeters (10 inches) long and have very fine teeth along their margins. The much longer leaves of the Mohave yucca are easily distinguished by the abundance of light-colored fibers along their edges.

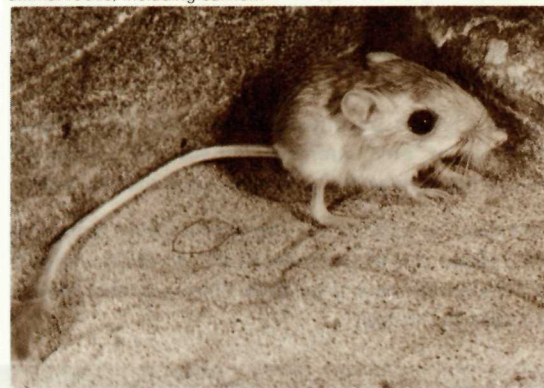
#### PALMS AND OASES: WHERE WATER ONCE WAS NEAR

In sharp contrast to the surrounding desert, an oasis containing native California fan palms provides a shady haven for man as well as for wildlife. Even more important, the palms indicate that water is near the surface of the ground. It is not always available now. When Col. Henry Washington, who conducted a Government survey party in 1855, first came upon the oasis at Twentynine Palms, he found evidence that Indians had lived there. In the years that followed, the flowing spring in the oasis was the main water source for miners and cattlemen in the area.

Of the other oases in the monument, the largest is in Lost Palms Canyon. Containing more than 100



The adaptable coyote feeds upon a great variety of plant and animal foods, including carrion.



The desert kangaroo rat is a nocturnal feeder on green vegetation, seeds, and insects.

palms, it is 6.4 kilometers (4 miles) by trail from the oasis at Cottonwood Spring. The splendid group at Fortynine Palms Canyon, inside the northern boundary, is reached by a 2.5-kilometer (1.5 mile) trail.

#### WILDLIFE: NIGHT AND THE LIVING DESERT

The many kinds of wildlife and the means by which they survive in this desert area are a surprise to many visitors. Most of the monument's mammals are active only at night or in the twilight hours. You may, however, see a little antelope ground squirrel scurrying over the sands, with his white tail over his back, even during the heat of the hottest days. Often, in the evening, a coyote may be seen at the outskirts of the campgrounds.

The kangaroo rat and some of the other rodents have become so well adapted to life on the desert that they can go through their entire lives without ever taking a drink; their own bodies manufacture water out of the elements found in their staple food—dry seeds. Easily recognized by their long, tufted tails, much like an artist's paintbrush, kangaroo rats are often observed at night.

The largest animals in the monument are the desert bighorn. They are impressive—especially the rams with their massive, curled horns.

Many kinds of lizards, ranging in size from the slim, 1.3-centimeter (0.5-inch) desert (or yucca) night lizard to the large, flat, 30-centimeter (foot-long)—from nose to tip of tail—chuckwalla, are found in the monument. The latter may be seen



The famous Cholla Cactus Garden has plants and animals of the Colorado Desert of Southern California.

basking on the rocks when the temperature is not extreme; the night lizard is secretive in its habits.

**Of the twenty species of snakes in the monument, six are rattlesnakes. Caution should always be observed in the out-of-doors. In cool weather, snakes seek the warmth of sunshine; in hot weather they seek shade under rocks and brush.**

Many of the 262 species of birds that have been sighted in the monument are migrants. A number are familiar residents, however, especially around the oases, where food and water are more plentiful.

#### GEOLOGY: FAULTING AND EROSION

The topography of Joshua Tree National Monument consists mainly of a series of mountains of moderate relief separated by nearly flat valleys, the results of shifting of the Earth's crust along great fractures called faults. Weathering and erosion have combined to wear down the mountains and fill the intervening valleys.

**Weathering processes continue to make rock climbing hazardous by loosening particles on rock surfaces and producing a "ball bearing" effect for footing. Boulder piles attract children much like playground equipment in city parks, and adults must be aware of the hazards involved.**

Granites of several geological eras are present, but two types predominate—Pinto gneiss, and quartz monzonite. The dark Pinto gneiss formation makes up the bulk of the mountains in the monument. More than 500 million years old, the gneiss

was formed under great pressures and high temperatures that altered the older rocks into their present form. Pinto gneiss is readily identified by thin bands of contrasting color exhibited in most exposures.

Scattered over a large part of the monument, particularly in the higher central section, are hundreds of outcrops of massive, light-gray or pinkish quartz monzonite. These rocks solidified at least 150 million years ago when molten rock, or magma, intruded the older Pinto gneiss. The magma cooled and crystallized well below the surface. Later, molten rock of a slightly different composition was forced into some of the fractured and weaker zones, cooled, and formed dikes of contrasting colors.

Subsequent gradual uplift speeded up weathering and erosion of the rocks. Gradually the quartz monzonite was exposed as the overlying Pinto gneiss was carried away and deposited in the valleys between the mountains. The contact between the two kinds of rock can best be seen on the mountains east of White Tank Campground or on the west side of Ryan Mountain.

#### HUMAN HABITATION: INDIANS, MINERS, AND CATTLEMEN

The presence of a large number of campsites along an ancient river terrace in the Pinto Basin provides evidence that this region was once inhabited by primitive man. Crudely fashioned stone weapon points, distinctive in shape, were discovered, with other artifacts, lying along the banks of the old stream bed.

After the last ice age, the stream that flowed through the Pinto Basin dwindled as the climate became drier. The basin was possibly left as it is now, without surface water.

More recent Indians lived in the monument area, mainly around waterholes and springs, until it became settled in the early 1900s. When the explorers first came, they found two groups of Indians living in the region—the Serrano and the Chemehuevi. Both spoke Shoshone dialects and wandered about in small bands in search of food. They had mastered the difficult art of survival in the desert. Their campsites, with grinding holes, metates, manos, pottery, and other artifacts, have been found throughout the monument.

Many of the early pioneers who arrived before the turn of the century were gold prospectors. Old mine shafts and mill sites, in evidence on many hillsides today, attest to their activity.

**Abandoned shafts are extremely hazardous and every attempt is being made to warn visitors of their danger through fencing and signing. They vary in depth from a few meters to dozens of meters (hundreds of feet) and loose rock around their edges makes "getting a closer look" a potential disaster.**

The prospectors were followed by cattlemen, who came looking for grass. Small dams made by cattlemen to catch rainwater for their herds are occasionally found among the boulders. These "tanks" are the sources of place names such as White Tank, Squaw Tank, and Ivanpah Tank.