

Sequoia and Kings Canyon

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National Parks
California

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National Parks
U.S. Department of the Interior

Official Map and Guide

From atop Moro Rock you can grasp the multiple superlatives that brought Sequoia—and eventually Kings Canyon—into the National Park System so early that Sequoia is now our second oldest national park. To the north lies the Giant Forest plateau where sequoias rise above their forest neighbors. In cathedral-like

Giant Forest stands the 275-foot-tall General Sherman giant sequoia tree, whose trunk weighs an estimated 1,385 tons and whose circumference at the ground is nearly 103 feet. To the west, in contrast to these gargantuan conifers, are the dry foothills with their oak trees and chaparral vegetation descending toward the

San Joaquin Valley. To the south, and down, down more than 5,000 vertical feet, the Middle Fork of the Kaweah River threads its rugged canyon. To the east, snowcapped peaks of the Great Western Divide and the Kaweah Peaks top out on Mt. Kaweah at 13,802 feet. Just out of sight beyond the divide, the highest moun-

tain in the contiguous 48 states, Mount Whitney, reaches 14,494 feet of elevation. Big trees, high peaks, and deep canyons in North America's longest single continuous mountain range: superlatives abound amidst glorious scenery. Pioneering conservationist John Muir explored and named the Giant Forest. "When I entered

this sublime wilderness the day was nearly done," he observed, "the trees with rosy, glowing countenances seemed to be hushed and thoughtful, as if waiting in conscious religious dependence on the sun, and one naturally walked softly and awestricken among them." May you follow in Muir's footsteps.

Earth's Largest Living Thing

In volume of total wood, the giant sequoia stands alone as the largest living thing on Earth. Its nearly conical trunk—like a club, not a walking stick—shows why. At least one tree species lives longer, one has a greater diameter, three grow taller, but none is larger. In all the world, sequoias grow naturally only on the west slope of the Sierra Nevada, most often between 5,000 and 7,000 feet. There are some 75 groves in all. The General Sherman tree is between 2,300 and 2,700 years old. Its largest branch is almost seven feet in diameter. Each year the General Sherman adds enough wood growth to make a 60-foot-tall tree of usual proportions.

"Most of the Sierra trees die of disease, fungi, etc.," John Muir wrote, "but nothing hurts the Big Tree. Barring accidents, it seems to be immortal." Muir was partly right. Chemicals in the wood and bark provide resistance to insects and fungi, and thick bark insulates them from most fire. The main cause of sequoia deaths is toppling. They have a shallow root system with no tap root. Soil moisture, root damage, and strong winds can also lead to toppling.



American Museum of Natural History
Loggers pose on a fallen monarch. Cavalry troops (below) protected the park in its early years.

America's Second Oldest National Park, Sequoia San Joaquin Valley residents and others pressed Congress to protect Sierra tracts against logging in the 1880s. Some park proponents sought to protect water supplies for irrigation; others, the Big Trees. Preserving land for scenic and recreational values was an infant idea then.

Sequoia National Park was created on September 25, 1890. A week later Congress tripled its size and created General Grant National Park to protect Grant Grove. In 1893 a Sierra Forest Reserve protected more lands, and in 1926 Kern Canyon was added to Sequoia. In 1940 General Grant was merged into the newly-created Kings Canyon National Park. In 1978 Mineral King was added to Sequoia. Since 1943 Sequoia and Kings Canyon have been managed jointly.



John Muir
Conservationist and author John Muir's response to the logging of giant sequoias was: "As well sell the rain clouds and the snow and the rivers to be cut up and carried away, if that were possible."

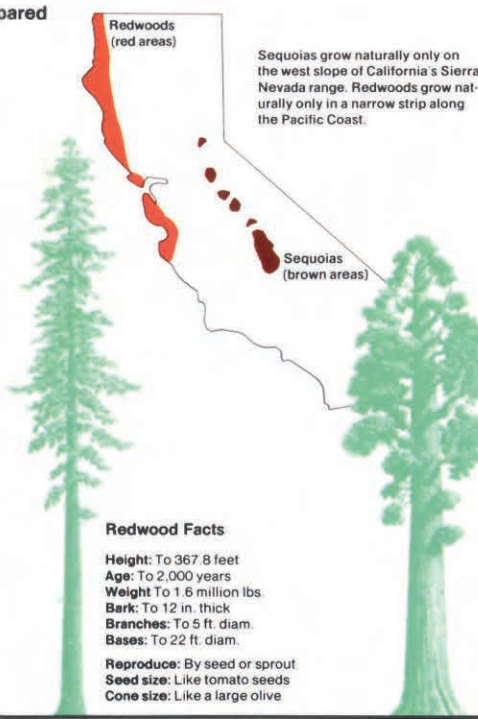
Muir explored and named the Giant Forest, where stand 4 of the world's 5 largest trees, and pioneered Mt. Whitney's steep east face. He would prove the geologic role of Sierran glaciers, a new theory disputed by California's state geologist, Josiah D. Whitney.

Sequoia and Redwood Compared

The giant sequoia has a column-like trunk, huge stout branches, and cinnamon-colored bark. Also called "Sierra redwood" and "Big Tree," its scientific name is *Sequoiadendron giganteum*. The taller and more slender coast redwood, *Sequoia sempervirens*, is more conifer-like in profile.



The Senate Group



Redwood Facts

Height: To 367 ft
Age: To 2,000 years
Weight: To 1.6 million lbs.
Bark: To 12 in. thick
Branches: To 5 ft. diam.
Bases: To 22 ft. diam.
Reproduce: By seed or sprout
Seed size: Like tomato seeds
Cone size: Like a large olive

Sequoia Facts

Height: To 311 ft
Age: To 3,200 years
Weight: To 2.7 million lbs.
Bark: To 31 in. thick
Branches: To 8 ft. diam.
Bases: To 40 ft. diam.
Reproduce: By seed only
Seed size: Like oat flakes
Cone size: Like chicken's eggs

Deep Canyons and High Peaks

Steep and barren, the parks' canyon areas seem skeletal and cut to their geologic quicks. Kings Canyon reaches a depth outside the park of some 8,000 feet from river level up to Spanish Mountain's peak. There, just downstream from the confluence of the Middle and South Forks of the Kings River, the canyon is without peer in North America—deeper than the Snake River's Hells Canyon in Idaho, or the Grand Canyon in Arizona. Kern Canyon in southern Sequoia National Park is 6,000 feet deep, and several other canyons exceed 4,000 feet.

Sierran canyons show both stream-cut, V-shaped profiles and the U-shaped profile characteristic of glacial gouging. Both Generals Highway and Kings Canyon Scenic Byway thread through canyons. At Roads End on Kings Canyon Highway (closed from mid-November to mid-April), you can stand on a flat, glacial valley and stare up at canyon walls rising nearly a mile above the river's level.



Upper Dusy Basin in Kings Canyon National Park

The Snowy, Sawtoothed Mountain Range More than 400 miles long and 60 to 80 miles wide, the Sierra Nevada exceeds the whole Alps area—French, Swiss, and Italian. Palisade Crest in Kings Canyon National Park and the Mt. Whitney group in Sequoia each boast six peaks over 14,000 feet in elevation.

No roads cross the range here; intimate appreciations of the mountains' scale and grandeur are hard-won afoot or with packstock. Panoramic vistas can be seen from atop Moro Rock; from roadside pullouts along the Generals Highway; from Panoramic Point, near Grant Grove; and from roadside pullouts before Kings Canyon Highway descends into the canyon. Mineral King Valley provides superlative hiking access to meadows, alpine lakes, and Sierra peaks.

Because park roads top out at 7,800 feet of elevation, most people who visit the parks do not experience the alpine country. Above 9,000 feet the harsh climate cannot support tall trees or dense forests. Above about 11,000 feet, no trees grow. Here are mostly boulders, rocks, and gravel punctuated with small alpine lakes, meadows, and low-growing shrubs. Summer flourishes but briefly. Preparing for winter, the marmot stores body fat; the pika stores small piles of hay. Mountain lakes dot Sierran highcountry, many set in small bowls—called cirques—carved by glaciers.



Crescent Meadow

The General Sherman tree, world's largest living thing, is in Giant Forest, Sequoia National Park. The General Grant, the Nation's Christmas Tree, is in Grant Grove, Kings Canyon National Park.

The world's first, second, third, and sixth tallest trees grow within a mile of each other on Redwood Creek along the northern California coast in Redwood National Park.

Sierran Wildlife

Mule deer are the prime prey sought by elusive mountain lions. Pine martens, fishers, and Wolverines pursue squirrels and other smaller animals. Black bears may take fawns or eat carrion but subsist mostly on vegetation. Marmots and pikas inhabit the meadows. Coyotes, gray fox, bobcats, raccoons, and ring-tails patrol the foothills. Decades of fish plantings introduced non-native

brown, brook, golden, and cutthroat trout, but rainbow trout and Little Kern golden trout, native to the Sierra's west slope streams, are being restored.



Brook trout

Rainbow trout

Visiting the Parks

Getting Here Vehicle access is by Highway 180 into Kings Canyon or Highway 198 into Sequoia. The Generals Highway connects both, making loop trips possible. Vehicles longer than 22 feet are not advised between Potwisha and Giant Forest Museum in Sequoia Park; Highway 180 has fewer curves. There is no road access from Highway 395 on the parks' east side. Air, bus, Amtrak and rental cars are available in Fresno and Visalia. Gasoline is not available in the parks.

Information The free park newspaper describes park resources and facilities. Call 559-565-3341 for 24-hour recorded information on road and weather conditions (updated daily), camping, lodging, and activities, or to reach a ranger. Or write: Sequoia and Kings Canyon National Parks, 47050 Generals Highway, Three Rivers, CA 93271-9700. Information is also available on the parks' website, www.nps.gov/seki.

Activities Check bulletin boards for schedules of ranger-led walks and talks. Buy tickets for Crystal Cave tours only at Lodgepole and Foothills visitor centers (not at the cave).

Food and Lodging For reservations in Kings Canyon year-round, 559-335-5500. Wuksachi Village lodge is scheduled to open in Sequoia by mid-1999, 888-252-5757. Grant Grove and Wuksachi Village will offer food service year-round. Cedar Grove and Lodgepole in summer. Nearby communities offer food and lodging.

Camping Campgrounds range from warm foothills to cool forests; some are open all year. Only Lodgepole and Dorst accept reservations. For reservations (May-October) contact 800-365-2267 or NPSR, P.O. Box 1600, Cumberland, MD 21502. Lodgepole, Grant Grove, and Altwil Mt. campgrounds are near sequoias. To reserve group sites (summer use only), write to the parks.

Protect the Past Archeological sites and artifacts and all park resources are protected by law. If you find artifacts or see evidence of collecting, please notify the park.

Trails Day-hikes are available in all areas. Al-

ways use trail maps. No motorbikes, mountain bikes, or pets are permitted on any park trail.

Wilderness permits are required for all overnight backcountry trips. Reserve them by mail or fax only (not postmarked before March 1) at least 21 days in advance. Some first-come, first-served permits are available after 1 p.m. the day before departure. Ask for specific regulations on use of horses, burros, and llamas. For wilderness information call 559-565-3708.

Bears Black bears are these parks' only bears. They are attracted by human food and cause severe property damage trying to get it. If they



Black bear illustration by George Founds

succeed, they may get aggressive and must be killed, so proper food storage is required. Keep all food and odorous items in the metal boxes provided. Lodge guests must bring all items indoors. Keep a clean camp; put all garbage in bear-proof containers. If a bear approaches, scare it away: make loud noises and throw pebbles, but keep a safe distance and use good judgment.

Please don't feed any wildlife. Let them live in natural conditions—for their good and your safety. Rodents here can have fleas carrying plague. Don't try to touch animals. **Pets must be leashed at all times.**

Mountain Hazards Natural areas pose hazards: falling trees, rolling rocks, cliffs, fast rivers, and wild animals. You are responsible for your own safety. Seek first aid at visitor centers. In an emergency call 911 from any park phone; no coins needed.

Park roads are steep, narrow, and winding. Downshift even in automatics to prevent a burned-out transmission going uphill and burned out brakes downhill. Pull into a safe turnout to look at scenery. Slow-moving vehicles must pull over to let others pass. Motorcyclists: watch for oil buildup on roads. Seatbelts are required by law.

Rattlesnakes are common in the parks. Always be sure you can see where you step or reach.

Rivers and waterfalls are treacherous, especially in spring and early summer's high water. Be alert for undercut banks and slippery rocks. Fast currents and cold water are a deadly combination. **Don't swim above waterfalls or in swift water.** Keep children in sight.

Giardia lamblia is a protozoan in natural water in the parks. Boil surface water three minutes before drinking.

If you camp or hike in the foothills, check clothes often for ticks. They can carry Lyme disease. Get information on removal and bites at visitor centers.

Cougars live in these parks. Avoid hiking or running alone. Watch children closely. If you encounter a cougar, don't run or crouch down. Stand your ground or back off slowly. Pick up small children. Wave, shout, and throw stones. If attacked, fight back.

When a thunderstorm threatens, get in a vehicle or large building. Don't stand under a lone tree.

Avoid open areas and water and high places such as Moro Rock. If your hair stands on end, drop to your knees and bend forward with your hands on your knees. Don't lie flat.

Winter Entry roads are kept open to Grant Grove and Giant Forest/Lodgepole but may be closed temporarily for plowing. The Generals Highway between Lodgepole and Grant Grove is usually kept open—except during and after heavy storms. **Tire chains may be required any time.** Ask about dangers of hypothermia, carbon monoxide poisoning, snowplay, and winter driving. Foothills and Grant Grove visitor centers stay open

daily. Naturalist programs may be given on weekends and holidays. At Wolverton and Grant Grove there are food service, crosscountry ski and snowshoe rentals, winter camping, and snowplay areas. Grant Grove, Wuksachi, and nearby communities offer lodging.

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Profile of the Sierra

Phenomenal changes in topographic relief that characterize these parks are illustrated in this geological cross section through the Sierra Nevada from the North Fork of the Kaweah River, straight east through the Giant Forest to Mt. Whitney, the parks' highest point.

Foothills Chaparral

Dry, hot summers in the Sierra's western foothills give rise to chaparral, a drought-resistant shrub community adapted to withstand periodic fire.

Winter rains bring wildflower bursts in spring before grasslands and chaparral go brown for summer and fall.

The Giant Sequoia Belt

The world's 75 giant sequoia groves grow on moist, unglaciated ridges on the Sierra's west slope, between 5,000 and 7,000 feet of elevation. Only 8 groves lie north of Kings River—scattered over nearly 200 miles. The rest occur south of the river at intervals of 4.5 miles or less in a 60-mile-long belt. This Big Tree's range had shrunk to this area by about 2.5 mil-

lion years ago when climates became drier. Some 60 million years ago its ancestral species ranged more widely. Visually dominant in their groves, sequoias are part of the mixed-conifer forest that includes white fir, sugar pine, yellow pine, and incense cedar. The largest remaining sequoia groves are at Redwood Mountain in Kings Canyon National Park and at Giant Forest in Sequoia Na-

tional Park. Redwood Mountain grove covers 3,100 acres and has 15,800 sequoia trees more than one foot in diameter at their bases. Giant Forest is 1,800 acres and has 8,400 such trees. About 36,500 acres of sequoia groves remain in the Sierra, mostly under federal or state protection. The groves are labeled and shown in dark green in the diagram below.

Elevation and Precipitation

The Sierra Nevada forces moist, eastbound air upwards. As it rises the air is cooled and forced to release its moisture as precipitation. Drought-resistant chaparral covers lower west slope elevations.

Gargantuan sequoia/mixed-conifer forests cover middle elevations. Air masses crest the mountains mostly depleted of moisture. East of the Sierra Nevada, in its rain-shadow, lies the semi-arid Great Basin. Generally speaking, on the Sierra's west slope, precipitation increases

until it reaches a maximum between 5,000 and 8,000 feet in elevation. This zone of maximum precipitation includes the sequoia belt and its luxuriant forest development. Above these elevations precipitation tends to decrease.

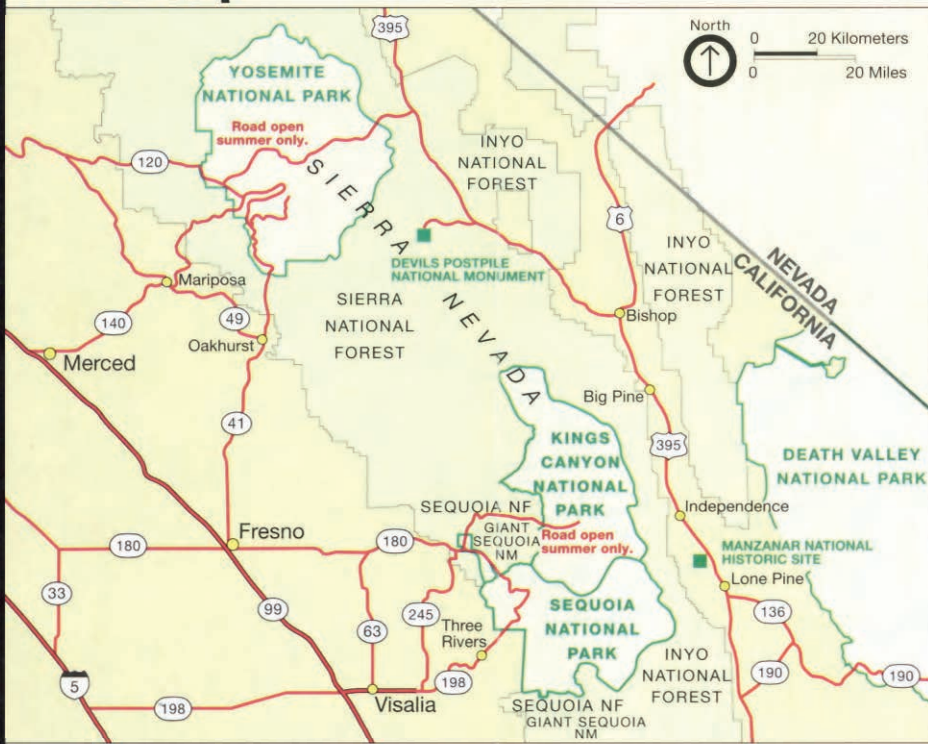
Mt. Whitney

Mt. Whitney crowns the Sierra Nevada—highest point in the contiguous United States. Named for California State Geologist Josiah Dwight Whitney in 1864, it is visible from the west only from remote backcountry. Visitors to the Owens Valley east of the park see it from Highway 395 near Lone Pine.

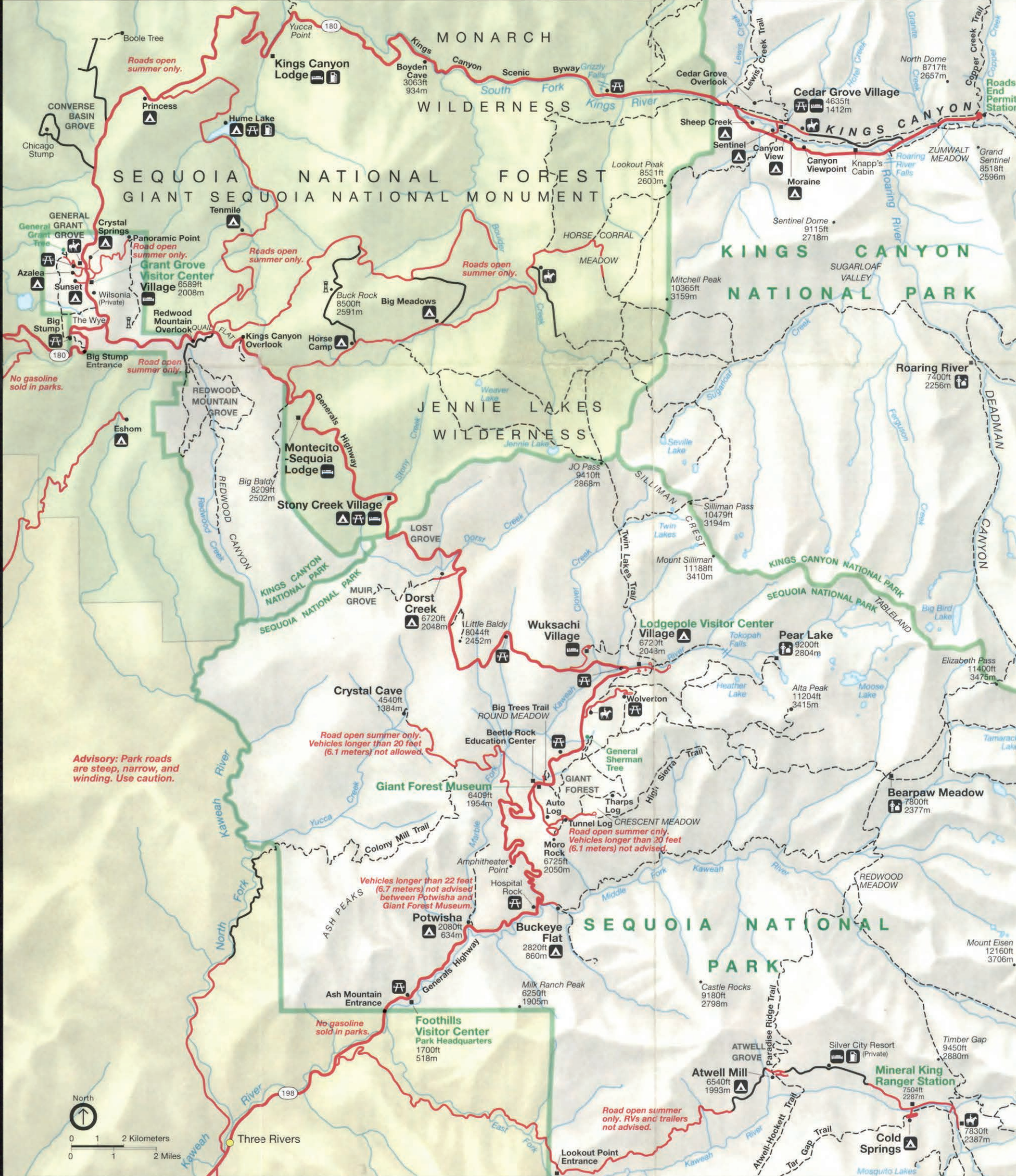


Moving from west to east in this cross section, the distance from the North Fork of the Kaweah River to Mount Whitney is approximately 34 miles.

Area Map



Driving Map



Map of the Parks

