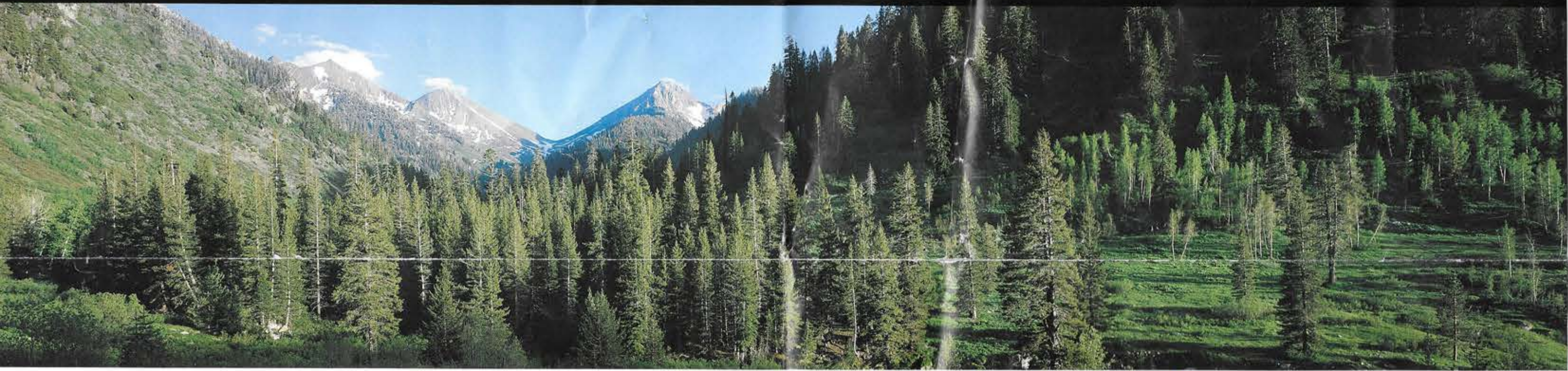


Sequoia and Kings Canyon

Sequoia and Kings Canyon
National Parks
California

National Park Service
U.S. Department of the Interior



Mineral King Valley © KATHLEEN MORRIS COOK

From atop Moro Rock you can grasp the many 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 where sequoias rise above their forest neighbors. In this cathedral-like grove stands the

275-foot-tall General Sherman Tree. Its trunk weighs an estimated 1,385 tons and its circumference at the ground is nearly 103 feet.

To the west are the dry but diverse foothills with their oak trees and chaparral brush descending toward the San Joaquin

Valley. To the south, and down over 5,000 vertical feet, the Middle Fork of the Kaweah River threads its rugged canyon. To the east, snowcapped peaks up to 13,802 feet tall are visible. Just out of sight the highest mountain in the contiguous 48 states, Mount Whitney, reaches 14,494 feet. Big trees, high peaks, deep canyons,

and extensive wilderness, all in North America's longest single continuous mountain range: these 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 Tree

In volume of total wood the giant sequoia is Earth's largest living tree. Its nearly conical trunk—which remains thick high into the branches—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, usually between 5,000 and 7,000 feet of elevation. There are some 75 groves in all. The General Sherman Tree is estimated to be 2,200 years old. Its largest branch is almost seven feet in diameter. Every year the General Sherman grows enough new wood to produce a 60-foot-tall tree of usual size.

"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 taproot. Soil moisture, root damage, and strong winds can lead to toppling.



Loggers on fallen monarch

John Muir



US Cavalry protected the park in its early years.

Sequoia, America's Second Oldest National Park San Joaquin Valley residents and others urged Congress to protect Sierra tracts from 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. Congress tripled its size a week later and created General Grant National Park to protect Grant Grove. A Sierra Forest Reserve protected more lands in 1893, and in 1926 Kern Canyon was added to Sequoia. In 1940 General Grant merged with the new 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 John Muir's response to logging the 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, site of four of the world's five largest trees. He pioneered Mount Whitney's steep east face. And he proved the geologic role of Sierran glaciers, a new theory then that was disputed by the California state geologist, Josiah D. Whitney.

Sequoia and Redwood Compared
The giant sequoia has a massive 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.



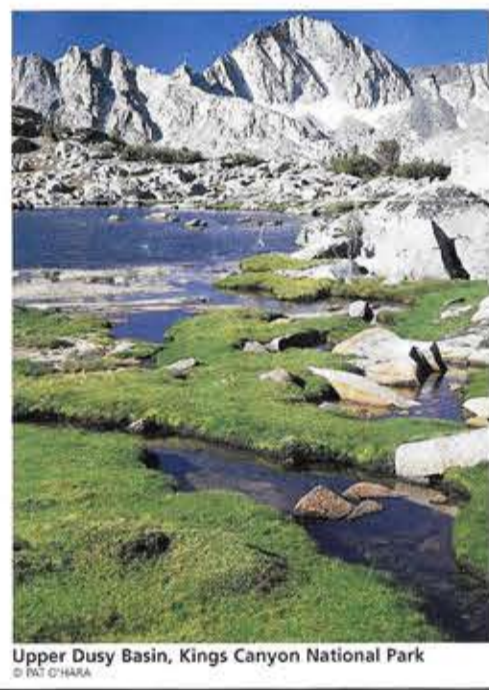
Giant Sequoia Ecology
Sequoias don't die of old age and are resistant to fire and insect damage. Most die by falling over. These huge trees sprout from seeds as small and light as oat flakes. Mature trees may yearly produce 2,000 egg-sized cones—bearing 400,000 seeds dispersed only as cones open. Cones hang on trees, green and closed, up to 20 years. Douglas squirrels (above) or larvae of a cone-boring beetle may make a few cones open, but fire is the key to seed dispersal and seedbed fertility. It makes the cones dry, open, and drop seeds. It lets sunlight in and burns logs and branches on the forest floor to ashes as fertilizer.



Deep Canyons and High Peaks

These parks encompass the most rugged portions of the Sierra Nevada. From the highest peaks in the lower 48 states, ice age glaciers descended to carve some of the country's deepest canyons. In their upper reaches these gorges show the U-shaped profile characteristic of glacial gouging. At lower elevations they resume the V shape of water-carved canyons. In Sequoia the Generals Highway climbs the stream-cut walls of the Kaweah canyon. Kings Canyon Scenic Byway passes through both geologic profiles; where it ends, you can stand on canyon floor scoured flat by glaciers and stare up at canyon walls rising thousands of feet.

Extreme elevation range—from 1,500 to 14,500 feet—creates a great variety of habitats. Plants and animals here inhabit life zones that range from desert heat to arctic cold. This rich diversity stands as one of the values Sequoia and Kings Canyon National Parks preserve for the world. These parks also preserve iconic Sierran wildlands. Congress designated over 96 percent of these parks as wilderness, adding another layer of protection.



Upper Dusy Basin, Kings Canyon National Park

The Snowy, Sawtoothed Mountain Range
Over 400 miles long and 50 to 80 miles wide, the Sierra Nevada is larger than the entire Alps area—French, Swiss, and Italian combined. Palisade Crest in Kings Canyon National Park and the Mount Whitney group in Sequoia each boast six peaks over 14,000 feet of elevation.

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

Park roads top out at 7,800 feet of elevation, so most people visiting the parks do not experience the alpine country. Above 9,000 feet, tall trees or dense forests cannot survive the harsh climate. 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 set in cirques, bowl-shaped niches carved by glaciers, dot the high Sierran wilderness.



Kearsarge Lake



Crescent Meadow

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

The tallest trees in the world grow within a mile of one another on Redwood Creek along California's northern coast in Redwood National Park.

Sierran Wildlife
Mule deer are prime prey of elusive mountain lions. Pine martens, fishers, and wolverines pursue squirrels and other small animals. Black bears may take fawns or eat carrion but mostly eat vegetation. Marmots and pikas live in mountains. Coyotes, gray foxes, bobcats, and ringtails patrol the foothills.

Decades of planting non-native brook, brown, and other trout displaced the native rainbow and Little Kern golden trout. These planted fish also ravaged amphibian populations, especially frogs.



Mule deer

Visiting the Parks

Getting Here Vehicle access is by CA 180 into Kings Canyon or CA 198 into Sequoia. You can drive between and within the parks on the scenic Generals Highway. Vehicles longer than 22 feet are not advised between Potwisha and Giant Forest Museum in Sequoia Park; CA 180 has fewer curves. There is no road access from US 395 east of the parks. Air, bus, Amtrak, and rental cars are available in Fresno and Visalia. Visalia offers a shuttle to Sequoia National Park in summer. Gasoline is not available in the parks.

More Information A free newspaper describes the parks and their facilities. Call 559-565-3341 for 24-hour recordings on road and weather conditions (updated daily), camping, lodging, and activities, or to reach a ranger. Or contact:

Sequoia and Kings Canyon National Parks
47050 Generals Highway
Three Rivers, CA 93271-9700
www.nps.gov/seki

Activities Check bulletin boards for schedules of ranger-led walks and talks.

Crystal Cave This cool, beautiful cavern is open in summer only. Buy tickets for tours only at Lodgepole and Foothills visitor centers—not at the cave.

Food and Lodging For reservations in Kings Canyon year-round, call 877-436-9617. Wuksachi Lodge is open year-round in Sequoia; call 889-252-5157. Grant Grove and Wuksachi offer food service year-round; Cedar Grove and Lodgepole in summer. Nearby towns offer food and lodging.

Camping Campground locations range from the warm foothills to cool forest settings; some are open all year. Lodgepole, Grant Grove, and Atwell Mill campgrounds are close to sequoias. Lodgepole, Dorst Creek, Potwisha, and Buckeye Flat accept reservations for summer. To reserve sites at these or large-group sites (summer use only) call 877-444-6777 or visit www.recreation.gov.

Protect the Past Archeological sites and artifacts and all park features 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. Always use trail maps. **Motorbikes, mountain bikes, and pets are not permitted on any park trail.**

Bears Black bears are attracted by human food and can cause severe property damage trying to get it. If they succeed they may get aggressive and must be killed, so **proper food storage is required at all times.** 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. There are no grizzly bears in these parks.



Black bear

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.**

Wilderness permits (fee charged in summer) are required for all overnight wilderness trips. Permits can be reserved. Fax or mail requests no earlier than March 1 and no later than two weeks before the start of your trip. Some first-come, first-served permits are available after 1 pm on the day before departure. Be prepared to be fully self-reliant. Ask for specific regulations on use of horses, burros, and llamas. For information call 559-565-3766.

Natural Hazards Expect the unexpected: falling trees, slippery surfaces, rolling rocks, cliffs, fast rivers, biting insects, 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. Seatbelts are required by law. Motorcyclists: watch for oil buildup on roads.

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

Rivers are treacherous all year, and especially in spring and early summer's cold, high water. Be alert for undercut banks and slippery rocks. Many victims fall in by accident. Strong currents may be invisible below the surface. **Don't swim above waterfalls or in swift water.** Keep children in sight at all times.

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 here. 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.

Lightning Danger 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 like Moro Rock. If your hair stands on end, drop to your knees and bend forward with your hands on your knees. Do not lie flat on the ground.

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 may be 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. Several visitor centers stay open daily. Naturalist programs may be given on weekends. Grant Grove and the Giant Forest/Wuksachi area have food service, cross-country ski and snowshoe rentals, and snowplay areas. Grant Grove, Wuksachi, and nearby communities have lodging. Grant Grove offers winter camping.

Profile of the Sierra

Phenomenal changes in topographic relief that characterize these parks are illustrated in this geological cross section below. It shows the Sierra Nevada from the North Fork of the Kaweah River, 34 miles east through the Giant Forest to Mount Whitney, the parks' highest point. Labels on the illustration identify the parks' giant sequoia groves.

Foothills Chaparral
Dry, hot summers in the Sierra's western foothills give rise to chaparral, a drought-resistant shrub community adapted to 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 eight 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 million 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 National Park. Redwood Mountain grove covers 3,100 acres and has 15,800

sequoia trees over one foot in diameter at their bases. The Giant Forest covers 1,800 acres, with 8,400 such trees. Some 36,500 acres of sequoia groves remain in the Sierra. Most are under federal or state protection.

Elevation and Precipitation
The Sierra Nevada forces moist, eastbound air upwards. As it rises the air is cooled and forced to release 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. On the Sierra's west slope precipitation generally increases until it reaches a maximum between 5,000 and 8,000 feet of elevation. This zone of maximum precipitation

includes the sequoia belt and its luxuriant forest development. Above these elevations precipitation tends to decrease.

Mount Whitney
Mount Whitney crowns the Sierra Nevada—the highest point in the

ILLUSTRATION BY ROB WOOD



1,320ft
402m

2,560ft
780m

2,200ft
2,194m

12,698ft
3,861m

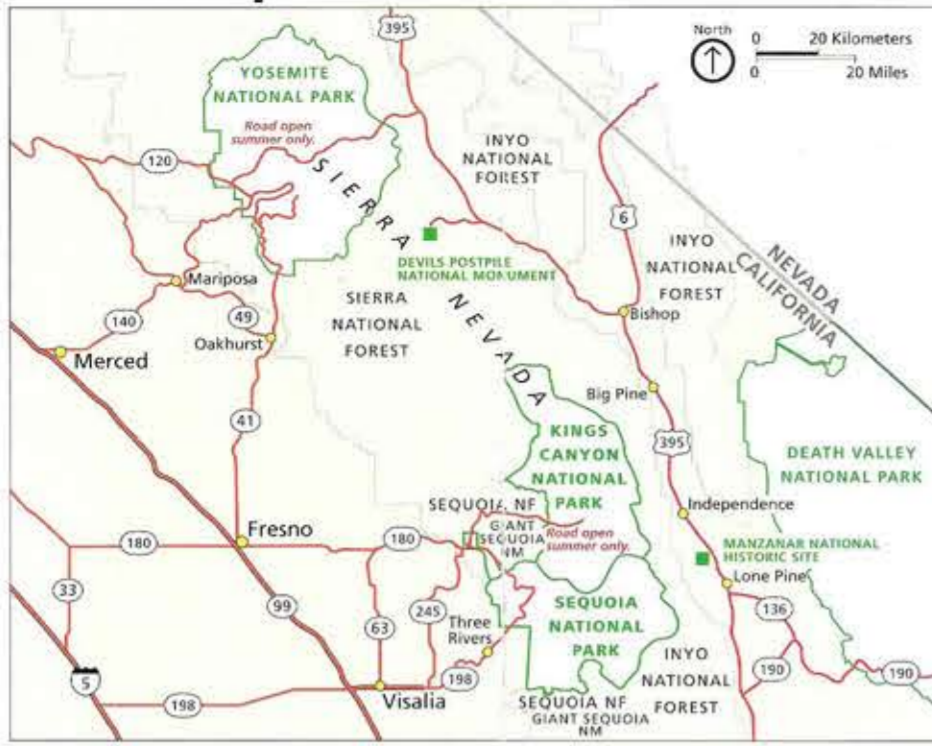
8,000ft
2,434m

14,494ft
4,418m

6,980ft
1,629m

Sequoia and Kings Canyon

Area Map



- Unpaved road
- Hiking trail
- John Muir and Pacific Crest trails
- Wilderness ranger station (summer only)
- Fire lookout
- Gate for winter road closure
- Campground
- Picnic area
- Lodging
- Pack station (horses for hire)
- Gas station (in National Forest only)
- Public telephone

Natural areas pose hazards. You are responsible for your safety. Do not use these maps for hiking. Buy trail maps at the park visitor centers.

- No road crosses the Sierra Nevada within either Sequoia or Kings Canyon National Parks.
- There is no road access to the parks from the east and US 395.
- Park roads are steep, narrow, and winding. See red labels on map below regarding vehicle length advisories.
- No road crosses the Sierra Nevada within either Sequoia or Kings Canyon National Parks.
- Shift to first or second gear in automatic and manual vehicles on steep downhill roads.
- Giant Forest Summer Shuttle: See the park newspaper and website (www.nps.gov/seqi) for schedule and routes.

Accessibility We strive to make our facilities, services, and programs accessible to all. For information go to a visitor center, ask a ranger, call, or check our website.

Firearms For firearms regulations please ask a park ranger or visit www.nps.gov/seqi.

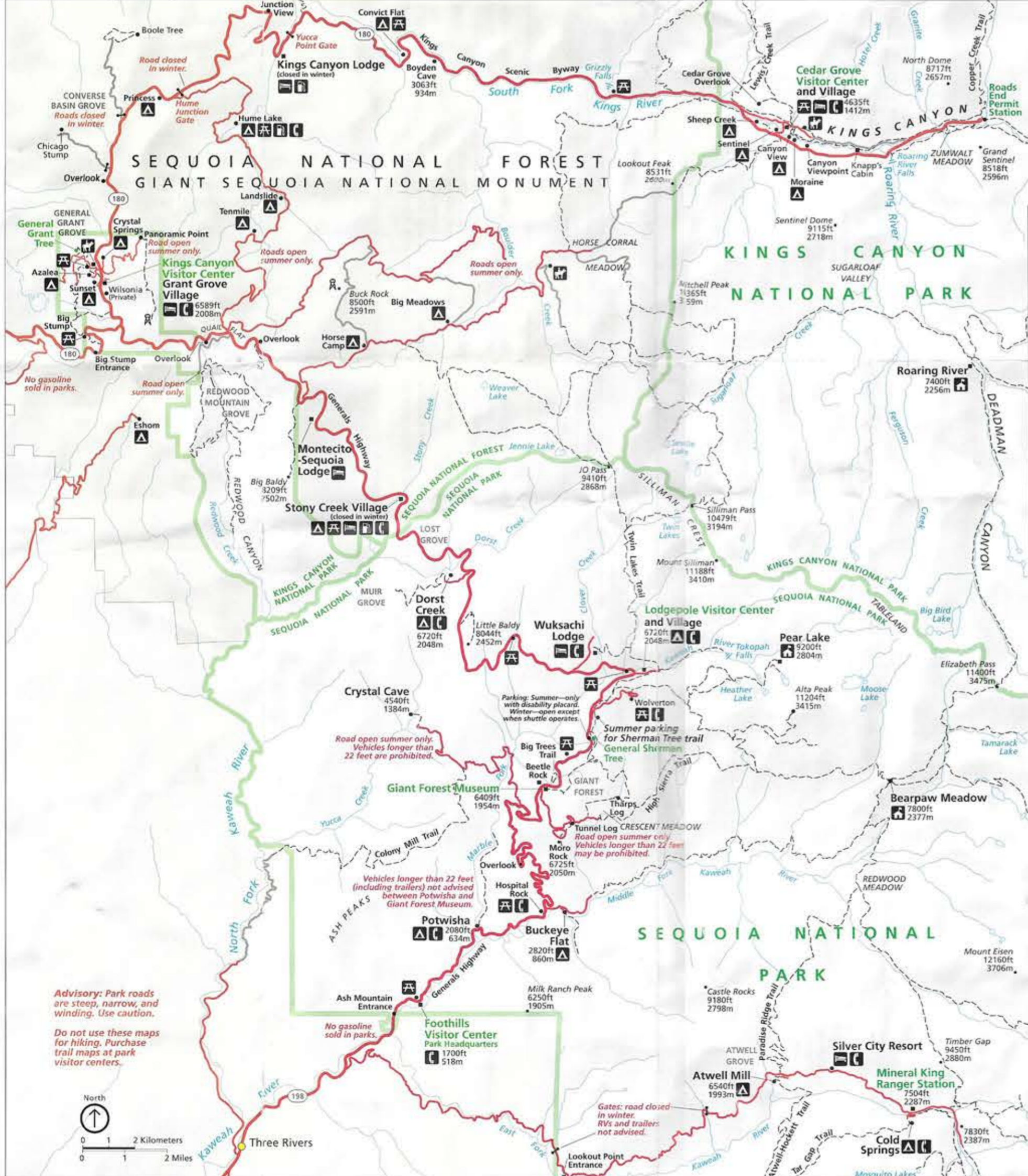
To Protect Forever Sequoia and Kings Canyon National Parks share the mission to protect the Sierran ecosystem forever—foot-hills chaparral, gigantic trees, and magnificent mountain landscapes. The purpose of these

maps is to help people, now and in the future, experience and understand the meaning and significance of these features and to champion the values of national parks and designated wilderness.

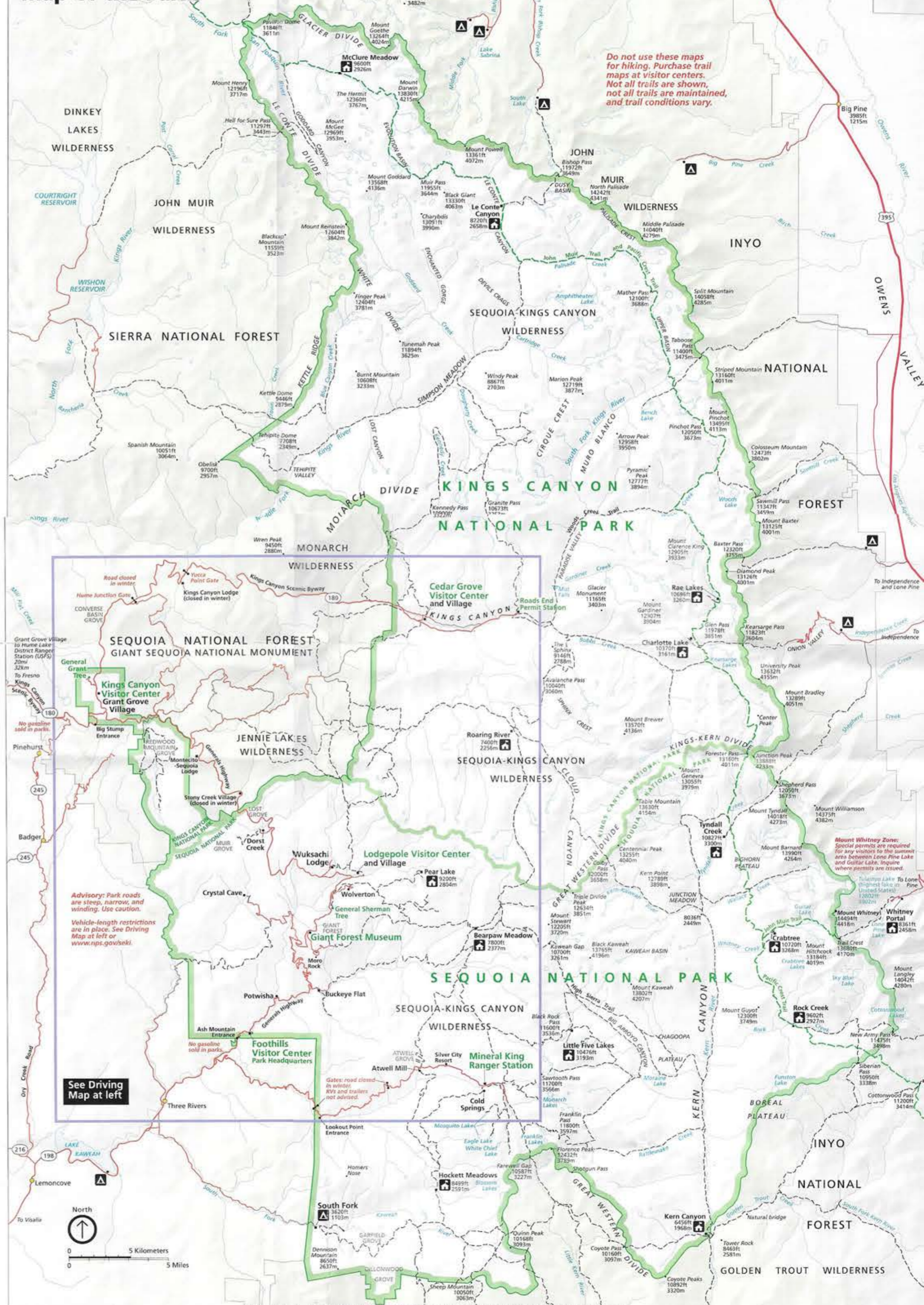
Sequoia and Kings Canyon National Parks are two of over 400 parks in the National Park System. Learn about parks and the National Park Service at www.nps.gov.

National Park Foundation
Join the park community.
www.nationalparks.org

Driving Map



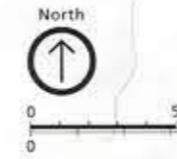
Map of the Parks



Do not use these maps for hiking. Purchase trail maps at visitor centers. Not all trails are shown, and trail conditions vary.

Advisory: Park roads are steep, narrow, and winding. Use caution. Vehicle-length restrictions are in place. See Driving Map at left or www.nps.gov/seqi.

See Driving Map at left



Advisory: Park roads are steep, narrow, and winding. Use caution. Do not use these maps for hiking. Purchase trail maps at park visitor centers.

