

ACADIAN X

Explore Your World

Zion Loadout Package



Zion National Park Trekking Expedition via the Zion Traverse Route

Information Compiled by the AcadianX Outdoor Adventure Group



Zion National Park

Zion National Park is an American national park located in southwestern Utah near the town of Springdale. A prominent feature of the 229-square-mile (590 km²) park is Zion Canyon, which is 15 miles (24 km) long and up to 2,640 ft (800 m) deep. The canyon walls are reddish and tan-colored Navajo Sandstone eroded by the North Fork of the Virgin River. The lowest point in the park is 3,666 ft (1,117 m) at Coalpits Wash and the highest peak is 8,726 ft (2,660 m) at Horse Ranch Mountain. Located at the junction of the Colorado Plateau, Great Basin, and Mojave Desert regions, the park has a unique geography and a variety of life zones that allow for unusual plant and animal diversity. Numerous plant species as well as 289 species of birds, 75 mammals (including 19 species of bat), and 32 reptiles inhabit the park's four life zones: desert, riparian, woodland, and coniferous forest. Zion National Park includes mountains, canyons, buttes, mesas, monoliths, rivers, slot canyons, and natural arches.

The Zion Traverse Trek

The "Trans-Zion Trek" (also referred to as the "Zion Traverse") is a multi-day backpacking hike that connects several of Zion's trails into one long route from one corner of the park to the other. This strenuous and beautiful hike can take on average between three to five days and involves a lot of elevation gains and drops. Along the way, you will see some of Zion's most awe-inspiring scenery as well as many beautiful spots that most dayhikers never experience. Total mileage: roughly 48 miles. Before attempting this hike, you must work out the logistics of getting backcountry permits, planning your campsite spots for each night, car shuttles/car spots, and water sources (caching water and/or using available springs and streams).

Ecosystems

The Great Basin, Mojave Desert, and Colorado Plateau converge at Zion and the Kolob canyons. This, along with the varied topography of canyon-mesa country, differing soil types, and uneven water availability, provides diverse habitat for the equally diverse mix of plants and animals that live in the area. The park is home to 289 bird, 79 mammals, 28 reptiles, 7 fish, and 6 amphibian species. These organisms make their homes in one or more of four life zones found in the Park: desert, riparian, woodland, and coniferous forest.

Geology

The Zion National Park is located along the edge of a region known as the Colorado Plateau. The rock layers have been uplifted, tilted, and eroded, forming a feature called the Grand Staircase, a series of colorful cliffs stretching between Bryce Canyon and the Grand Canyon. The bottom layer of rock at Bryce Canyon is the top layer at Zion, and the bottom layer at Zion is the top layer at the Grand Canyon.

Fees & Permits

Fees need to be paid for the park entrance and to secure a backcountry itinerary. Entrance fees are paid on arrival whereas backcountry permits need to be paid and applied for through the backcountry office the day before or on the day of the start of your trip. Advanced reservations can be made by applying for permits either by fax or mail at least 4 months before your planned trip.

Regulations and Safety Considerations

The national parks are home to a variety of wildlife, including some animals and plants with the potential to harm humans. Weather poses the greatest danger to hikers. Check the forecast and heat indexes before departing. Prepare for a variety of conditions -- from chilling rains to blistering heat. With all the beauty that this treasure has to offer there are many considerations you need to be aware of. Refer to the regulations and safety section of this loadout to make yourself fully aware of what to expect and rules you need to follow in order to preserve the beauty of the park.

Routes and Topography

We have packed into this loadout a trove of maps and detailed descriptions for you to educate yourself on the layout of the trail. Study and review the details so that you may know your way in case you are separated from your team.

Camping Essentials and Gear

A complete list of essential gear and clothing are included in this loadout. To further assist you we have also included a checklist so that you may keep track of your acquired gear.

Logistics

The logistics section provides spaces for you to enter the relevant logistics information when they become available. This information can include flight details, hotel information, and car rental details.

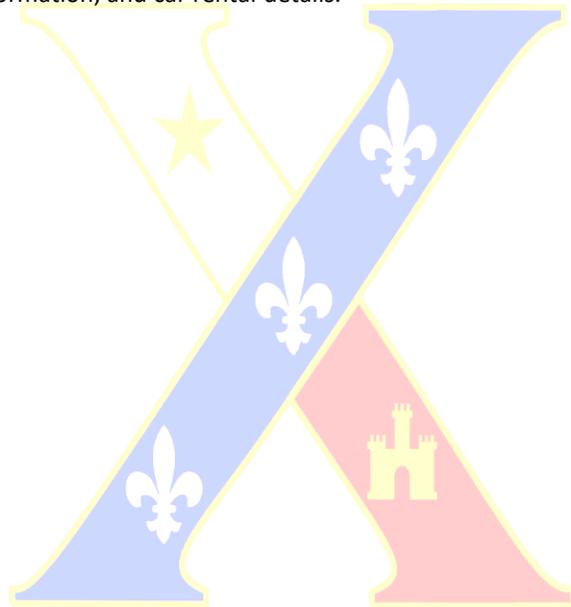


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About Zion National Park

General Information

Zion National Park is an American national park located in southwestern Utah near the town of Springdale. A prominent feature of the 229-square-mile (590 km²) park is Zion Canyon, which is 15 miles (24 km) long and up to 2,640 ft (800 m) deep. The canyon walls are reddish and tan-colored Navajo Sandstone eroded by the North Fork of the Virgin River. The lowest point in the park is 3,666 ft (1,117 m) at Coalpits Wash and the highest peak is 8,726 ft (2,660 m) at Horse Ranch Mountain. Located at the junction of the Colorado Plateau, Great Basin, and Mojave Desert regions, the park has a unique geography and a variety of life zones that allow for unusual plant and animal diversity. Numerous plant species as well as 289 species of birds, 75 mammals (including 19 species of bat), and 32 reptiles inhabit the park's four life zones: desert, riparian, woodland, and coniferous forest. Zion National Park includes mountains, canyons, buttes, mesas, monoliths, rivers, slot canyons, and natural arches.

Human habitation of the area started about 8,000 years ago with small family groups of Native Americans, one of which was the semi-nomadic Basketmaker Anasazi (c. 300 CE). Subsequently, the Virgin Anasazi culture (c. 500) and the Parowan Fremont group developed as the Basketmakers settled in permanent communities. Both groups moved away by 1300 and were replaced by the Parrusits and several other Southern Paiute subtribes. Mormons came into the area in 1858 and settled there in the early 1860s. In 1909, President William Howard Taft named the area Mukuntuweap National Monument in order to protect the canyon. In 1918, the acting director of the newly created National Park Service, Horace Albright, drafted a proposal to enlarge the existing monument and change the park's name to Zion National Monument, Zion being a term used by the Mormons. According to historian Hal Rothman: "The name change played to a prevalent bias of the time. Many believed that Spanish and Indian names would deter visitors who, if they could not pronounce the name of a place, might not

bother to visit it. The new name, Zion, had greater appeal to an ethnocentric audience." On November 19, 1919, Congress redesignated the monument as Zion National Park, and the act was signed by President Woodrow Wilson. The Kolob section was proclaimed a separate Zion National Monument in 1937, but was incorporated into the national park in 1956.

The geology of the Zion and Kolob canyons area includes nine formations that together represent 150 million years of mostly Mesozoic-aged sedimentation. At various periods in that time warm, shallow seas, streams, ponds and lakes, vast deserts, and dry near-shore environments covered the area. Uplift associated with the creation of the Colorado Plateau lifted the region 10,000 feet (3,000 m) starting 13 million years ago.

(Wikipedia Contributors, 2020)

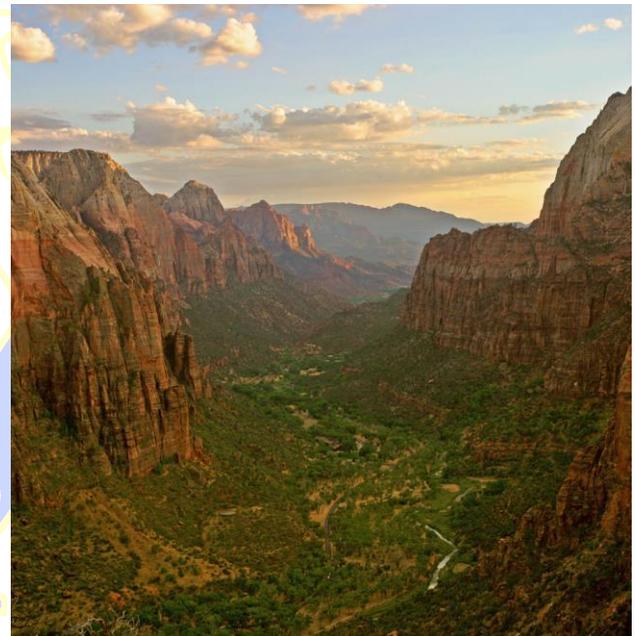


Figure 1: Zion Canyon from Angels Landing.

Hiking and Camping

Trails

Seven trails with round-trip times of half an hour (Weeping Rock) to 4 hours (Angels Landing) are found in Zion Canyon. Two popular trails, Taylor Creek (4 hours round trip) and Kolob Arch (8 hours round trip), are in the Kolob Canyons section of the park, near Cedar City. Hiking up into The Narrows from the Temple of Sinawava is popular in summer; however, hiking beyond Big Springs requires a permit. The entire Narrows from Chamberlain's Ranch is a 16-mile one way trip that typically takes 12 hours of strenuous hiking. A shorter alternative is to enter the Narrows via Orderville Canyon. Both Orderville and the full Narrows require a back country permit. Entrance to the Parunuweap Canyon section of the park downstream of Labyrinth Falls is prohibited. Other often-used backcountry trails include the West Rim and LaVerkin Creek. The more primitive sections of Zion include the Kolob Terrace and the Kolob Canyons. A network of trails totaling 50 miles in distance connect Zion's northwest corner of the park (Lee Pass Trailhead) to its southeast section (East Rim Trailhead). Popularly known as the Zion Traverse, the route offers backpackers a diverse experience of the park.



Figure 2: The Subway, a slot canyon within the Kolob Canyons section

Zion is a center for rock climbing, with short walls like Spaceshot, Moonlight Butte, Prodigal Son, Ashtar Command, and Touchstone being the most popular, highly rated routes.

Camping and lodging

Lodging in the park is available at Zion Lodge, located halfway through Zion Canyon. Three campgrounds are available: South and Watchman at the far southern side of the park, and a primitive site at Lava Point in the middle of the park off Kolob Terrace Road. Overnight camping in the backcountry requires permits.

History

Archaeologists have divided the long span of Zion's human history into three cultural periods: the Archaic, Protohistoric and Historic periods. Each period is characterized by distinctive technological and social adaptations.

Archaic period

The first human presence in the region dates to 8,000 years ago when family groups camped where they could hunt or collect plants and seeds. About 2,000 years ago, some groups began growing corn and other crops, leading to an increasingly sedentary lifestyle. Later groups in this period built permanent villages called pueblos. Archaeologists call this the Archaic period and it lasted until c. 500. Baskets, cordage nets, and yucca fiber sandals have been found and dated to this period. The Archaic toolkits included flaked stone knives, drills, and stemmed dart points. The dart points were attached to wooden shafts and propelled by throwing devices called atlatls.

By c. 300, some of the archaic groups developed into an early branch of seminomadic Anasazi, the Basketmakers. Basketmaker sites have grass- or stone-lined storage cists and shallow, partially underground dwellings called pithouses. They were hunters and gatherers who supplemented their diet with limited agriculture. Locally collected pine nuts were important for food and trade.

Protohistoric period

Both the Virgin Anasazi and the Parowan Fremont disappear from the archaeological record of southwestern Utah by c. 1300. Extended droughts in the 11th and 12th centuries, interspersed with catastrophic flooding, may have made horticulture impossible in this arid region.

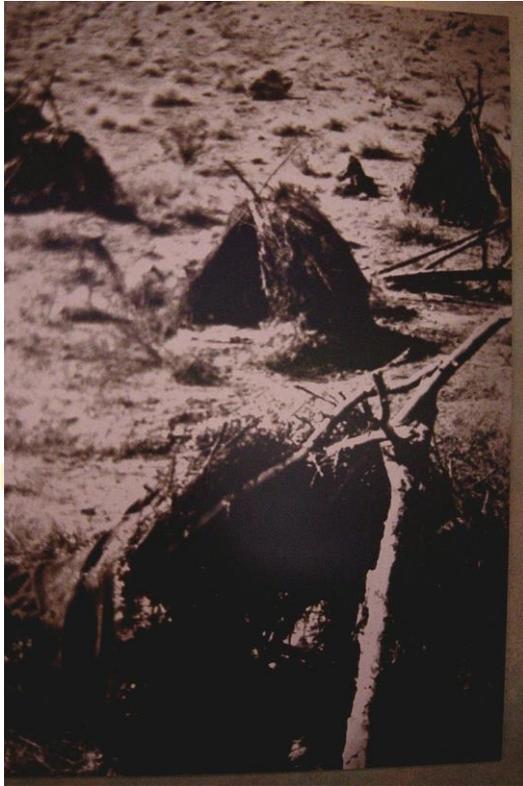


Figure 3: Kaun huts were used by Southern Paiute

Tradition and archaeological evidence hold that their replacements were Numic-speaking cousins of the Virgin Anasazi, such as the Southern Paiute and Ute. The newcomers migrated on a seasonal basis up and down valleys in search of wild seeds and game animals. Some, particularly the Southern Paiute, also planted fields of corn, sunflowers, and squash to supplement their diet. These more sedentary groups made brownware vessels that were used for storage and cooking.

Exploration and settlement by Euro-Americans

The Historic period begins in the late 18th century with the exploration of southern Utah by Padres Silvestre Vélez de Escalante and Francisco Atanasio Domínguez. The padres passed near what is now the Kolob Canyons Visitor Center on October 13, 1776, becoming the first people of European descent known to visit the area. In 1825, trapper and trader Jedediah Smith explored some of the downstream areas while under contract with the American Fur Company.

In 1847, Mormon farmers from the Salt Lake area became the first people of European descent to settle the Virgin River region. In 1851, the Parowan and Cedar City areas were settled by Mormons who used the Kolob Canyons area for timber, and for grazing cattle, sheep, and horses. They prospected for mineral deposits, and diverted Kolob water to irrigate crops in the valley below. Mormon settlers named the area Kolob—in Mormon scripture, the heavenly place nearest the residence of God.



Figure 4: A ranch near the mouth of Zion Canyon (c. 1910s)

Settlements had expanded 30 miles (48 km) south to the lower Virgin River by 1858. That year, a Southern Paiute guide led young Mormon missionary and interpreter Nephi Johnson into the upper Virgin River area and Zion Canyon. Johnson wrote a favorable report about the agricultural potential of the upper Virgin River basin, and

returned later that year to found the town of Virgin. In 1861 or 1862, Joseph Black made the arduous journey to Zion Canyon and was very impressed by its beauty.

The floor of Zion Canyon was settled in 1863 by Isaac Behunin, who farmed corn, tobacco, and fruit trees. The Behunin family lived in Zion Canyon near the site of today's Zion Lodge during the summer, and wintered in Springdale. Behunin is credited with naming Zion, a reference to the place of peace mentioned in the Bible. Two more families settled Zion Canyon in the next couple of years, bringing with them cattle and other domesticated animals. The canyon floor was farmed until Zion became a Monument in 1909.

The Powell Geographic Expedition of 1869 entered the area after their first trip through the Grand Canyon. John Wesley Powell visited Zion Canyon in 1872 and named it Mukuntuweap, under the impression that that was the Paiute name. Powell Survey photographers John K. Hillers and James Fennemore first visited the Zion Canyon and Kolob Plateau region in the spring of 1872. Hillers returned in April 1873 to add more photographs to the "Virgin River Series" of photographs and stereographs. Hillers described wading the canyon for four days and nearly freezing to death to take his photographs.

Protection and Tourism

Paintings of the canyon by Frederick S. Dellenbaugh were exhibited at the Saint Louis World's Fair in 1904, followed by a favorable article in Scribner's Magazine the next year. The article and paintings, along with previously created photographs, paintings, and reports, led to President William Howard Taft's proclamation on July 31, 1909 that created Mukuntuweap National Monument. In 1917, the acting director of the newly created National Park Service visited the canyon and proposed changing its name from the locally unpopular Mukuntuweap to Zion, a name used by the local Mormon community. The United States Congress added more land and established Zion National Park on November 19, 1919. A separate Zion National Monument, the Kolob Canyons area, was proclaimed on January 22, 1937, and was incorporated into the park on July 11, 1956.



Figure 5: Painting of Zion Canyon by Frederick S. Dellenbaugh (1903)

Travel to the area before it was a national park was rare due to its remote location, lack of accommodations, and the absence of real roads in southern Utah. Old wagon roads were upgraded to the first automobile roads starting about 1910, and the road into Zion Canyon was built in 1917 leading to the Grotto, short of the present road that now ends at the Temple of Sinawava.

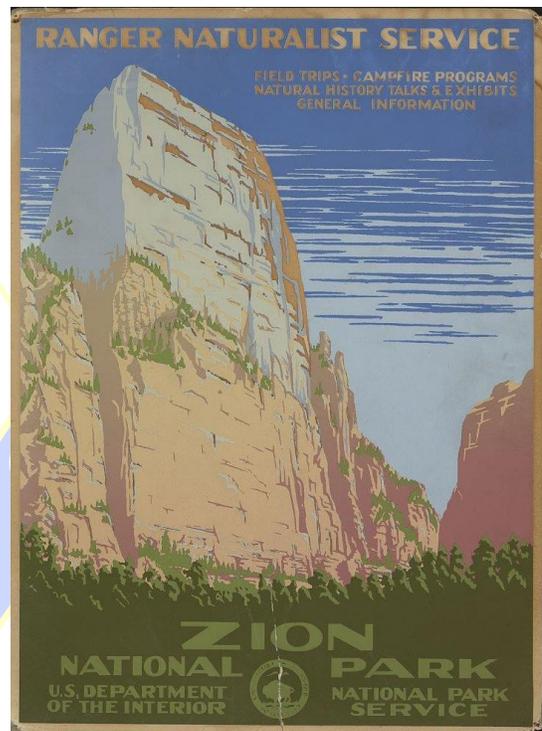


Figure 6: 1938 poster of Zion National Park

Touring cars could reach Zion Canyon by the summer of 1917. The first visitor lodging in Zion Canyon, called Wylie Camp, was established that same year as a tent camp. The Utah Parks Company, a subsidiary of the Union Pacific Railroad, acquired Wylie Camp in 1923, and offered ten-

day rail/bus tours to Zion, nearby Bryce Canyon, the Kaibab Plateau, and the North Rim of the Grand Canyon. The Zion Lodge complex was built in 1925 at the site of the Wylie tent camp. Architect Gilbert Stanley Underwood designed the Zion Lodge in a rustic architectural style, while the Utah Parks Company funded the construction.

Infrastructure Improvements

Work on the Zion Mount Carmel Highway started in 1927 to enable reliable access between Springdale and the east side of the park. The road opened in 1930 and park visit and travel in the area greatly increased. The most famous feature of the Zion – Mount Carmel Highway is its 1.1-mile (1.8 km) tunnel, which has six large windows cut through the massive sandstone cliff.

In 1896, local rancher John Winder improved the Native American footpath up Echo Canyon, which later became the East Rim Trail. Entrepreneur David Flanigan used this trail in 1900 to build cableworks that lowered lumber into Zion Canyon from Cable Mountain. More than 200,000 board feet (470 m³) of lumber were lowered by 1906. The auto road was extended to the Temple of Sinawava, and a trail built from there 1 mile (1.6 km) to the start of the Narrows. Angel's Landing Trail was constructed in 1926 and two suspension bridges were built over the Virgin River. Other trails were constructed by the Civilian Conservation Corps during the 1930s.



Figure 7: The Altar of Sacrifice (center) with reddish, blood-like streaks

More Recent History

Zion National Park has been featured in numerous films, including *The Deadwood Coach* (1924), *Arizona Bound* (1927), *Nevada* (1927), *Ramrod* (1947) and *Butch Cassidy and the Sundance Kid* (1969).

Zion Canyon Scenic Drive provides access to Zion Canyon. Traffic congestion in the narrow canyon was recognized as a major problem in the 1990s and a public transportation system using propane-powered shuttle buses was instituted in the year 2000. As part of its shuttle fleet, Zion has two electric trams each holding up to 36 passengers. Usually from early April through late October, the scenic drive in Zion Canyon is closed to private vehicles and visitors ride the shuttle buses.



Figure 8: Zion shuttle bus stops are marked with numbers

On April 12, 1995, heavy rains triggered a landslide that blocked the Virgin River in Zion Canyon. Over a period of two hours, the river carved away part of the only exit road from the canyon, trapping 450 guests and employees at the Zion Lodge. A one-lane, temporary road was constructed within 24 hours to allow evacuation of the Lodge. A more stable — albeit temporary — road was completed on May 25, 1995 to allow summer visitors to access the canyon. This road was replaced with a permanent road during the first half of 1996.

The Zion–Mount Carmel Highway can be travelled year-round. Access for oversized vehicles requires a special permit, and is limited to daytime hours, as traffic through the tunnel must be one way to accommodate large

vehicles. The 5-mile (8.0 km)-long Kolob Canyons Road was built to provide access to the Kolob Canyons section of the park. This road often closes in the winter.

In March 2009, President Barack Obama signed into law the Omnibus Public Land Management Act of 2009, which designated and further protected 124,406 acres (50,345 ha) of park land as the Zion Wilderness.

In September 2015, flooding trapped a party of seven in Keyhole Canyon, a slot canyon in the park. The flash flood killed all seven members of the group, whose remains were located after a search lasting several days.

(Wikipedia Contributors, 2020)



Plant Life

With elevations ranging from roughly 3,700 to 8,700 feet, Zion National Park has a diversity of plant communities, supporting more than 1,000 species of plants. Changing elevations, temperature ranges, and varying amounts of sun and water create a mosaic of habitats within the park. The species that can be found here are influenced by nearby areas, including the Colorado Plateau, Basin and Range, and Mojave Desert.

Riparian and Aquatic

Visitors are often surprised by the relative lushness found in Zion Canyon. The riparian area of the Virgin River supports enormous cottonwood trees and a diversity of herbaceous plants and grasses. Nearby, saturated wetlands make nice habitat for cattails, willows, aquatic plants, and rushes. Water seeping out of the Navajo sandstone creates tranquil springs and the unique “hanging gardens” for which Zion is famous, full of ferns, wildflowers, and mosses.



Figure 9: Hanging garden; credit: NPS/Pete Sawtell

Arid Grasslands and Desert Shrubs

At the lower elevations in the park, the drought tolerant plants thrive. Desert shrubs, well adapted to high temperatures, are right at home. Throughout the summer, grasses bloom and go to seed before drying in the sun to wait for the next growing season. By utilizing many different habitats, and developing ingenious ways to find shade, store water, and collect nutrients, cacti are desert specialists, abundant throughout the park.



Figure 10: Grasses and shrubs on the Chinle Trail; Credit: NPS/Jen Sawtel

Pinyon-Juniper Forest

Moving up in elevation, the arid grassland and desert shrub communities give way to the pinyon-juniper community, a desert forest full of life. These slow growing evergreens are both cold and drought tolerant, supporting a diversity of wildlife to rival the riparian areas. Juniper trees, being more drought tolerant, dominate the transition zone between the lowland communities and the pinyon-juniper forests.

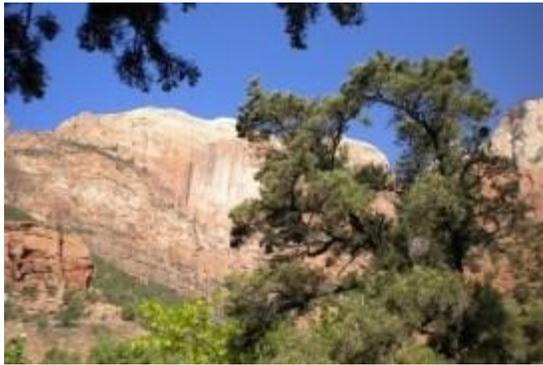


Figure 11: Pinyon pine on the Pa'rus Trail; Credit: NPS/Jen Sawtell

Ponderosa Pine

High on the sandstone cliffs, ponderosa pines cling to cracks and ledges. These massive trees push powerful roots into the Navajo Sandstone, adding to the slow process of erosion that is constantly changing the face of Zion.



Figure 12: Ponderosa pine; Credit: NPS/Pete Sawtell

Mixed Conifer and Aspen Forest

On the high plateaus, the ponderosa pines blend into the mixed conifer forest of douglas fir and white pine, as well as nearby aspen communities. On the Kolob Terrace, high elevation plant species grow in soils that are both sedimentary and volcanic. On Zion's east side, they may sprout from no more than a tiny windswept crevice in the slickrock.



Figure 13: Mixed conifer and aspen forest; Credit: NPS/Pete Sawtell

Providing food, shelter and even water to Zion's wildlife, these plants add to the richness of the desert community and delight visitors with their wild beauty and brilliant color.

(NPS Contributors, 2020)

Animal Life



Figure 14: Two mountain lions hunting prey at night.

The morning sun pours red light onto the western walls of Zion Canyon. The song of a yellow warbler greets the day. As the sun rises in the sky, plateau lizards scurry frantically about over sandy trails, soaking up the heat of a desert day to keep their bodies warm. Mule deer and wild turkeys coexist up canyon where they graze the surface of an ancient lakebed for forage. A Western rattlesnake coils up in the shade of sagebrush, avoiding the sun's unforgiving rays. Afternoon gives way to evening and gray foxes emerge to hunt for rodents for their young. Canyon tree frogs begin to call as dusk approaches, leaving swifts and Western pipistrelles to play in the dimming light. It is

only after the sun has sunk in the west, leaving the canyon walls dark and silent, that the chores and mischief of the ringtail begins, to be accompanied by the mountain lions, red spotted toads, porcupines and other nocturnal creatures of Zion Canyon.

Sitting at the boundaries and meeting points of the Colorado Plateau, Great Basin, Basin and Range, and Mojave Desert physio-geographic zones, animal life in Zion National Park is vast and varied. With elevations ranging from roughly 3,700 feet to 8,700 feet, the park encompasses 5,000 feet of elevation change in 148,000 acres. With so many varying heights and resultant microclimates and habitats, it is no surprise that Zion is home to over 78 species of mammals, 291 species of birds, 37 species of reptiles and amphibians, and 8 species of fish. Masters in the art of desert heat evasion, many animals take to burrows or dens in the heat of the day or choose to be nocturnal and use the night to live upon the landscape in cooler temperatures.



Figure 15: A collared lizard basks on sandstone in the hot, desert sun.

Though all the animals in Zion are protected by the National Park designation, some animals are of special note. Zion is critical habitat for the Mexican spotted owl, a species classified as threatened at the federal level. A small population of Mojave Desert tortoises is being monitored, along with the endangered Southwestern willow flycatcher.



Figure 16: A Mexican spotted owl rests through the sunshine hours.

Another two bird species to watch for in Zion are the peregrine falcon and California condor. Their populations are once again on the rise after many years of vast losses.

All throughout Zion, a rich diversity of desert fauna can be seen and experienced.

(NPS Contributors, 2020)

Geography and Geology

Geography

The park is located in southwestern Utah in Washington, Iron and Kane counties. Geomorphically, it is located on the Markagunt and Kolob plateaus, at the intersection of three North American geographic provinces: the Colorado Plateau, the Great Basin, and the Mojave Desert. The northern part of the park is known as the Kolob Canyons section and is accessible from Interstate 15, exit 40.

The 8,726-foot (2,660 m) summit of Horse Ranch Mountain is the highest point in the park; the lowest point is the 3,666-foot (1,117 m) elevation of Coal Pits Wash, creating a relief of about 5,100 feet (1,600 m).

Streams in the area take rectangular paths because they follow jointing planes in the rocks. The stream gradient of the Virgin River, whose North Fork flows through Zion Canyon in the park, ranges from 50 to 80 feet per mile (9.5 to 15.2 m/km) (0.9–1.5%)—one of the steepest stream gradients in North America.



Figure 17: Towers of the Virgin

The road into Zion Canyon is 6 miles (9.7 km) long, ending at the Temple of Sinawava, which is named for the coyote god of the Paiute Indians. The canyon becomes more narrow near the Temple and a hiking trail continues to the mouth of The Narrows, a gorge only 20 feet (6 m) wide

and up to 2,000 feet (610 m) tall. The Zion Canyon road is served by a free shuttle bus from early April to late October and by private vehicles the other months of the year. Other roads in Zion are open to private vehicles year-round.

The east side of the park is served by Zion-Mount Carmel Highway (SR-9), which passes through the Zion–Mount Carmel Tunnel and ends at Mount Carmel. On the east side of the park, notable park features include Checkerboard Mesa and the East Temple.

The Kolob Terrace area, northwest of Zion Canyon, features a slot canyon called The Subway, and a panoramic view of the entire area from Lava Point. The Kolob Canyons section, further to the northwest near Cedar City, features one of the world's longest natural arches, Kolob Arch.

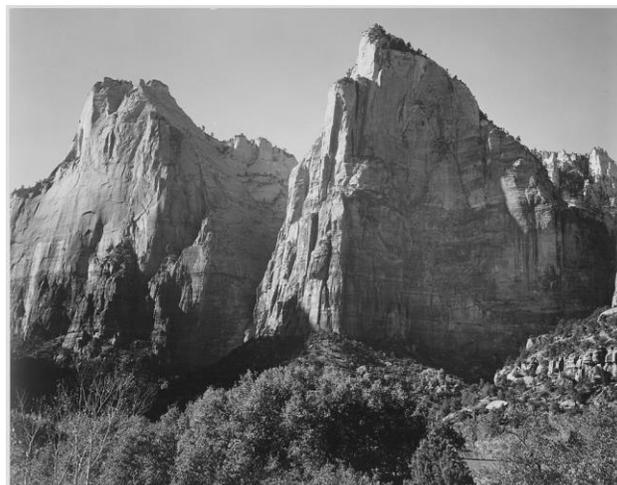


Figure 18: Court of the Patriarchs, by Ansel Adams (1933)

Other notable geographic features of the park include the Virgin River Narrows, Emerald Pools, Angels Landing, The Great White Throne, and Court of the Patriarchs.

Spring weather is unpredictable, with stormy, wet days being common, mixed with occasional warm, sunny weather. Precipitation is normally heaviest in March. Spring wildflowers bloom from April through June,

peaking in May. Fall days are usually clear and mild; nights are often cool. Summer days are hot (95 to 110 °F; 35 to 43 °C), but overnight lows are usually comfortable (65 to 70 °F; 18 to 21 °C). Afternoon thunderstorms are common from mid-July through mid-September. Storms may produce waterfalls as well as flash floods. Autumn tree-color displays begin in September in the high country; in Zion Canyon, autumn colors usually peak in late October. Winter in Zion Canyon is fairly mild. Winter storms bring rain or light snow to Zion Canyon and heavier snow to the higher elevations. Clear days may become quite warm, reaching 60 °F (16 °C); nights are often 20 to 40 °F (-7 to 4 °C). Winter storms can last several days and make roads icy. Zion roads are plowed, except the Kolob Terrace Road which is closed when covered with snow. Winter driving conditions last from November through March.

Geology

The Zion National Park is located along the edge of a region known as the Colorado Plateau. The rock layers have been uplifted, tilted, and eroded, forming a feature called the Grand Staircase, a series of colorful cliffs stretching between Bryce Canyon and the Grand Canyon. The bottom layer of rock at Bryce Canyon is the top layer at Zion, and the bottom layer at Zion is the top layer at the Grand Canyon.

Sedimentation

Zion was a relatively flat basin near sea level 240 million years ago. As sands, gravels, and muds eroded from surrounding mountains, streams carried these materials into the basin and deposited them in layers. The sheer weight of these accumulated layers caused the basin to sink, so that the top surface always remained near sea level. As the land rose and fell and as the climate changed, the depositional environment fluctuated from shallow seas to coastal plains to a desert of massive windblown sand. This process of sedimentation continued until over 10,000 feet of material accumulated.

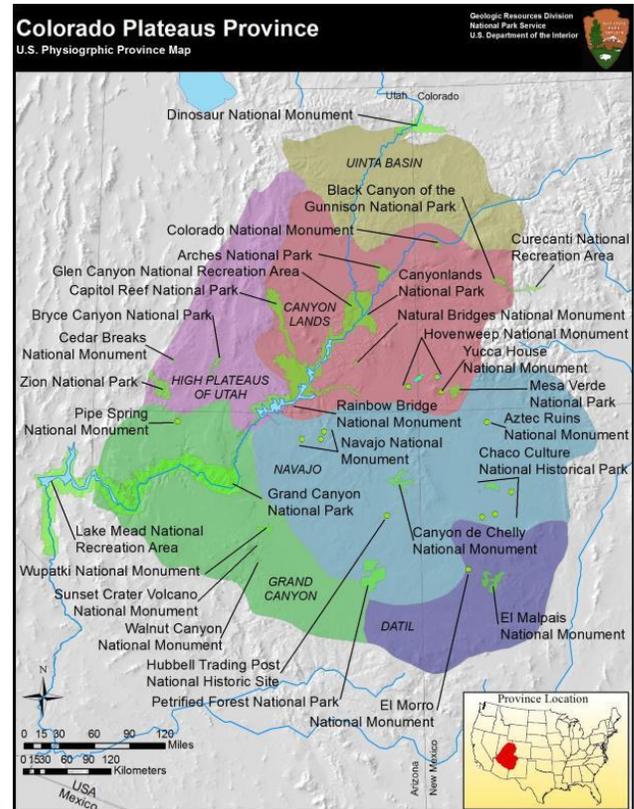


Figure 19: Colorado Plateau

Lithification

Mineral-laden waters slowly filtered through the compacted sediments. Iron oxide, calcium carbonate, and silica acted as cementing agents, and with pressure from overlying layers over long periods of time, transformed the deposits into stone. Ancient seabeds became limestone; mud and clay became mudstones and shale; and desert sand became sandstone. Each layer originated from a distinct source and so differs in thickness, mineral content, color, and eroded appearance.

Uplift

In an area from Zion to the Rocky Mountains, forces deep within the earth started to push the surface up. This was not chaotic uplift, but very slow vertical hoisting of huge blocks of the crust. Zion’s elevation rose from near sea level to as high as 10,000 feet above sea level.

Uplift is still occurring. In 1992 a magnitude 5.8 earthquake caused a landslide visible just outside the south entrance of the park in Springdale.

Erosion

This uplift gave the streams greater cutting force in their descent to the sea. Zion’s location on the western edge of this uplift caused the streams to tumble off the plateau, flowing rapidly down a steep gradient. A fast-moving stream carries more sediment and larger boulders than a slow-moving river. These streams began eroding and cutting into the rock layers, forming deep and narrow canyons. Since the uplift began, the North Fork of the Virgin River has carried away several thousand feet of rock that once lay above the highest layers visible today.

The Virgin River is still excavating. Upstream from the Temple of Sinawava the river cuts through Navajo Sandstone, creating a slot canyon. At the Temple, the river has reached the softer Kayenta Formation below. Water erodes the shale, undermining the overlying sandstone and causing it to collapse, widening the canyon.

Geology-in-Action

A landslide once dammed the Virgin River forming a lake. Sediments settled out of the quiet waters, covering the lake bottom. When the river breached the dam and the lake drained, it left behind a flat-bottomed valley. This change in the character of the canyon can be seen from the scenic drive south of the Zion Lodge near the Sentinel Slide. This slide was active again in 1995, damaging the road.

Flash floods occur when sudden thunderstorms dump water on exposed rock. With little soil to absorb the rain, water runs downhill, gathering volume as it goes. These floods often occur without warning and can increase water flow by over 100 times. In 1998 a flash flood increased the volume of the Virgin River from 200 cubic feet per second to 4,500 cubic feet per second, again damaging the scenic drive at the Sentinel Slide.

Zions Rock Layers

Most of the rocks in Zion National Park are sedimentary rocks –made of bits and pieces of older rocks that have been weathered, eroded, and deposited in layers. These rock layers hold stories of ancient environments and inhabitants very different from those found in Zion today. In this distant past, Zion and the Colorado Plateau were near sea level, and were even in a different place on the globe—close to the equator. The rock layers found in Zion today were deposited between approximately 110 –270 million years ago –only in recent geologic time have they been uplifted and eroded to form the scenery of Zion National Park.

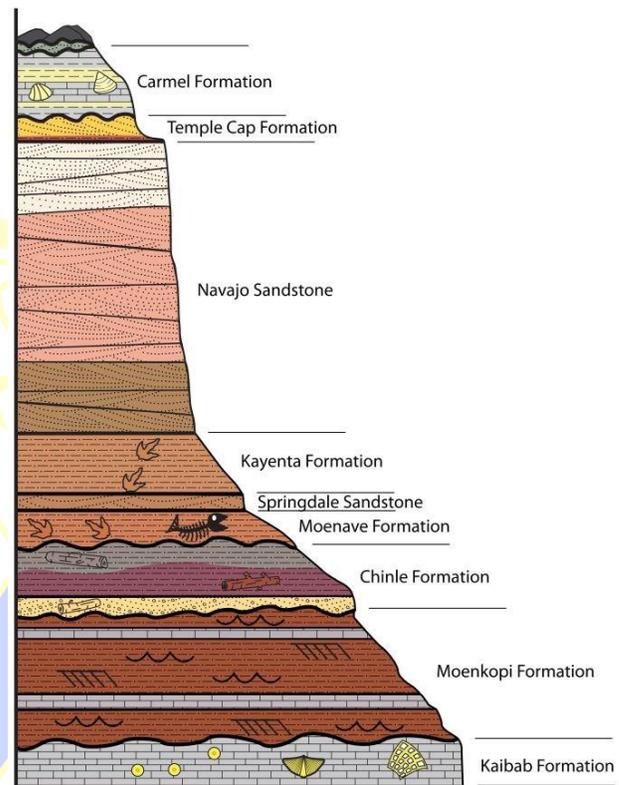
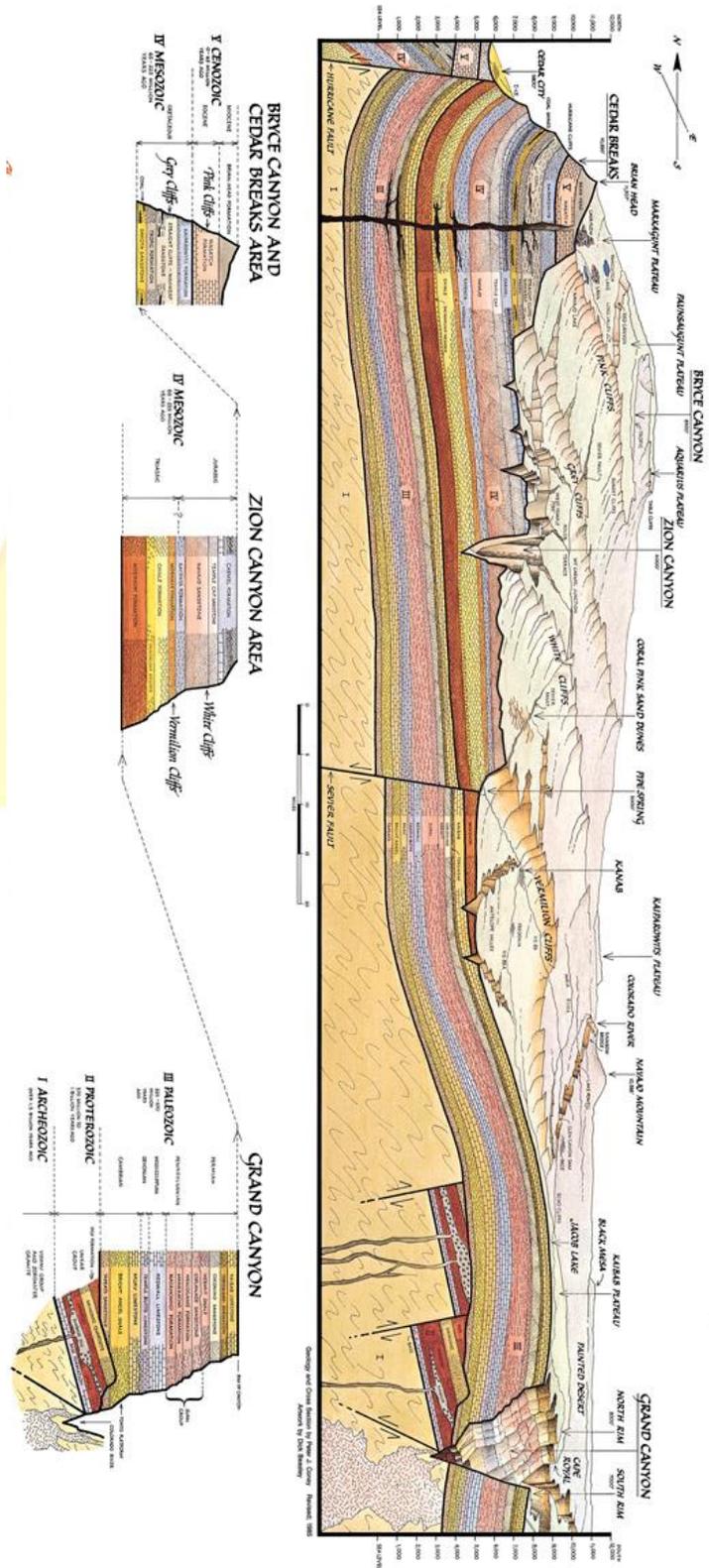


Figure 20: Geologic formations of Zion

(NPS Contributors, 2020)

GEOLOGIC CROSS SECTION OF THE CEDAR BREAKS - ZION - GRAND CANYON REGION



Average Climate

According to the Köppen climate classification system, Grand Canyon National Park has five climate zones: Cold Semi-Arid (BSk), Humid Continental Dry Cool Summer (Dsb), Humid Continental Dry Warm Summer (Dsa), Warm Summer Mediterranean (Csb), and Hot Summer Mediterranean (Csa). The plant hardiness zone at Grand Canyon Visitor Center is 7a with an average annual extreme minimum temperature of 3.3 °F (−15.9 °C)

Climate data for Zion National Park (1981–2010)

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Record high °F (°C)	73 (23)	89 (32)	91 (33)	97 (36)	106 (41)	114 (46)	115 (46)	112 (44)	110 (43)	99 (37)	86 (30)	81 (27)	115 (46)
Average high °F (°C)	54.2 (12.3)	58.3 (14.6)	66.2 (19.0)	74.3 (23.5)	85.2 (29.6)	95.7 (35.4)	101.0 (38.3)	98.3 (36.8)	91.0 (32.8)	78.3 (25.7)	63.5 (17.5)	53.3 (11.8)	76.7 (24.8)
Daily mean °F (°C)	42.3 (5.7)	45.9 (7.7)	52.3 (11.3)	59.1 (15.1)	68.9 (20.5)	78.8 (26.0)	85.0 (29.4)	83.0 (28.3)	75.6 (24.2)	63.6 (17.6)	50.3 (10.2)	41.4 (5.2)	62.3 (16.8)
Average low °F (°C)	30.3 (−0.9)	33.5 (0.8)	38.3 (3.5)	43.9 (6.6)	52.7 (11.5)	62.0 (16.7)	69.0 (20.6)	67.7 (19.8)	60.3 (15.7)	48.8 (9.3)	37.0 (2.8)	29.5 (−1.4)	47.8 (8.8)
Record low °F (°C)	−15 (−26)	0 (−18)	10 (−12)	21 (−6)	20 (−7)	7 (−14)	41 (5)	35 (2)	33 (1)	17 (−8)	−10 (−23)	−5 (−21)	−15 (−26)
Average <u>precipitation</u> inches (mm)	1.82 (46)	1.98 (50)	2.04 (52)	1.31 (33)	0.67 (17)	0.31 (7.9)	1.22 (31)	1.45 (37)	1.04 (26)	1.30 (33)	1.42 (36)	1.63 (41)	16.19 (409.9)
Average snowfall inches (cm)	0.9 (2.3)	1.0 (2.5)	0.7 (1.8)	0.1 (0.25)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.5 (1.3)	1.0 (2.5)	4.2 (10.65)
Average precipitation days (≥ 0.01 in)	6.5	7.8	7.8	6.1	4.4	2.7	5.1	6.6	4.7	5.1	4.8	6.4	68
Average snowy days (≥ 0.1 in)	0.6	0.5	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.6	2.5

Source #1: NOAA

Source #2: Western Regional Climate Center (extremes 1904–present)

(Wikipedia Contributors, 2020)

Park Entrance Fees

Entrance Fee by vehicle - 7-day permit \$35.00

This is an entrance fee for all persons traveling in a single, private, non-commercial vehicle (car/truck/van). The permit is non-transferable. Visitors can enter the park at any time, and the permit is valid for seven days and includes both the Zion Canyon and Kolob Canyon areas.

All park visitors are required to pay an entrance fee. Money collected must be used in ways that directly improve visitor experiences and assist with the cost of providing safe, meaningful experiences to park visitors. Entrance passes may be purchased at all the NPS Entrance Stations. Passes may also be purchased online then printed out for display before entering the park or displayed on a smart phone. Passes are non-transferable. Credit cards are preferred at all fee collection areas.

Buy Your Digital Pass on [Recreation.gov](https://www.recreation.gov)

Whether you're planning a single visit or coming back multiple times a year, enjoy the convenience of purchasing a Grand Canyon National Park site-specific digital pass on Recreation.gov before you arrive. You have immediate access to your digital pass and can easily download it on your phone or tablet. Your pass will also be emailed as a PDF and can be printed out for display when you arrive.

Backcountry Permits

Standard Permit Fee

\$15.00 for 1 to 2 people

\$20.00 for 3 to 7 people

\$25.00 for 8 to 12 people

Permits are required for all overnight trips, including climbing bivouacs, all thru-hikes of The Narrows and its

tributaries, all canyons requiring the use of descending gear or ropes, and all trips into Left Fork (The Subway). All permits (including those with reservations and those awarded through the lottery) must be obtained in person on the day before or day of the trip at the Zion Canyon or Kolob Canyons Visitor Centers. Use the park's online reservation system at:

www.nps.gov/zion/planyourvisit/wilderness.htm

GET A PERMIT

There are several ways to obtain a permit for your trip into the Zion Wilderness. Over half of all available permits are secured using the advance reservation system. The remaining permits are obtained through the Last-Minute Drawing (canyoneering day trips) or as Walk-in Permits (backpacking trips).

CALENDAR RESERVATIONS

Visitors can reserve a wide variety of trips using the online reservation system. Please note that calendar reservations are not permits. Visitors with calendar reservations must pick up their permits at either the Zion Canyon or Kolob Canyons Visitor Center before beginning their trip.

MAKING A CALENDAR RESERVATION

Reservations are available online during a three-month time frame. On the fifth day of every month at 10:00 am MT, reservations for trips a month out become available. If they are still available, reservations can be made until 5:00 pm MT on the day before your trip. There is a \$5.00 non-refundable fee for an online calendar reservation. There is an additional charge for a permit that is determined by the size of your group.

Many of the permits for Left Fork (The Subway) and Mystery Canyon are secured through the Advance Lottery prior to calendar reservations becoming available.

ADVANCE LOTTERY RESERVATIONS

The Advance Lottery is for trips through Left Fork (The Subway) and Mystery Canyon. Due to the popularity of

these areas, the park created an online lottery for reservations. The Advance Lottery does not run from November through March due to a low demand for permits, however, permits are still required for these areas any time of year. Calendar reservations can still be made.

Advance Lottery applications are completed online. Entries must be submitted three months prior to your planned trip. Entries are limited to one request per individual per canyon per month. Entrants can request three prioritized dates. The non-refundable lottery application fee is \$5.00.

Applicants will be sent a notification email on the fifth day of the following month with information about the status of their request. If a reservation is awarded, the permit must be obtained before the trip at a park visitor center.

Occasionally, a few spaces remain after the Advance Lottery has been held. These spaces can be reserved through the Calendar reservations system.

LAST MINUTE DRAWING RESERVATIONS

Visitors can apply for the Last-Minute Drawing for canyoneering day trips. This drawing eliminates the need to wait in long lines for last minute permits. When a slot canyon day trip is fully booked online through the Calendar reservations system or the Advance Lottery, the Last-Minute Drawing becomes an option. Individuals can submit an application for the Last-Minute Drawing to obtain any remaining reservations for permits. The Last-Minute Drawing is limited to one request per individual per canyon. Last Minute Drawing applications are completed online. Entries can be submitted as early as one week prior to a trip date until two days before at noon MT. The drawing is held at 1:00 pm MT, two days before a trip date. Any spaces not taken through the drawing will be available as Walk-in Permits the day before a trip date.

Applicants will be sent a notification email with information about the status of their request. If a reservation is awarded, the permit must be obtained before the trip at a park visitor center. Must be 18 years of age to apply for lottery, reservations, and Last-Minute Drawings.

WALK-IN PERMITS

About one-third of wilderness campsites are not available through the reservation system. They are made available as Walk-in Permits and can be obtained the day before your trip starts. Any slot canyon or climbing permits not taken through the reservation system are available as Walk-in Permits. Wilderness campsites, climbing areas, and slot canyons that are not listed in the reservation system are only available as Walk-in Permits. Plan ahead and obtain a reservation to avoid any disappointment.

ZION EXPRESS MEMBERSHIP

Zion Express Membership allows members who obtain a reservation in their account to convert it to a permit online, three days before their trip. The entire permit process can be completed online. Zion Express Membership is recommended for frequent visitors. The benefits of membership include:

- No cost to enroll.
- No waiting in line to pick up permit.
- No need to coordinate with Wilderness Desk hours of operation.
- Greater flexibility in planning (allows for early starts and late finishes).
- Reservation fees are applied to the cost of the permit.
- Membership is valid for three years. To become a Zion Express Member,

GROUP SIZE LIMITS

Large groups result in larger impacts. All groups traveling into the Zion Wilderness must follow the group size limit for that area. These limits apply to all trips into the park's wilderness including trips that do not require a permit. Wilderness trails have a group size limit of 12, but many canyoneering areas are limited to 6. Group size limits are strictly enforced. Permits will be denied and violators will be cited if limits are exceeded.

Groups are limited to a maximum of 6 or 12 people that share the same affiliation (e.g., school, club, scout troop, family, and friends). Groups that exceed these limits may not split up and visit the same drainage, route, or wilderness trail on the same day, but may split up and visit different areas.

Group size limits do not apply to most trails in Zion Canyon, including the Emerald Pools Trails, Angels Landing, Riverside Walk, Watchman Trail, and The Narrows below the junction with Orderville Canyon.

Contact Information

Zion National Park Superintendent
Jeff Bradybaugh

Mailing Address

Zion National Park Springdale, UT 84767

Park Information

435 772-3256

Wilderness Information

435 772-0170

Website

www.nps.gov/zion

E-mail

zion_park_information@nps.gov

Lost and Found

Report at any visitor center

Emergencies

911 or 435 772-3322

Reservation Dates		
Note: The Advance Lottery is only for trips through Left Fork (The Subway) and Mystery Canyon		
For a trip in	Advance Lottery applications received in	Calendar Reservations become available
April	January	February 5
May	February	March 5
June	March	April 5
July	April	May 5
August	May	June 5
September	June	July 5
October	July	August 5
November		September 5
December		October 5
January		November 5
February		December 5
March		January 5



Trip Planning

Traveling into the wilderness, even on short trips, can be challenging and risky and requires careful planning before you begin. Each year, people are injured or die while exploring the park. Your safety depends on your own good judgment, adequate preparation, and constant observation. Speak with park rangers at park visitor centers or visit the links below for current conditions, weather forecasts, and flash flood potential ratings.

- Take action to ensure that your group is self-reliant and aware of the risks involved with backpacking in the Zion Wilderness.
- Be aware of the weather and the flash flood potential rating. Continuously evaluate the weather and adjust plans to keep you and your group safe. Have a back-up plan.
- Have a route description, map, compass, and the ability to use them.
- Familiarize yourself with the water sources in Zion. Carry enough water, one gallon per person per day, and drink it. Do not drink untreated water.
- Plan your wilderness transportation to and from the trailhead. Upstream travel to campsites in the Narrows is prohibited.
- Everyone in the group should have the proper equipment, skill level, and physical ability to successfully complete each overnight trip.
- Know that rescue is not a certainty. Your safety is your responsibility.

Seasons

SPRING

As the park warms, more areas of the wilderness become accessible. One of the first areas without snow is the Southwest Desert of the park. La Verkin Creek is often snow free by mid-March, and the East and West Rims are usually snow free by late April. In an average year, high water due to snow melt makes The Narrows impassable until late May.

Monthly Averages

Month	Average Maximum Temperature (F)	Average Minimum Temperature (F)	Average Precipitation (Inches)	Average Total Snow Fall (Inches)
Jan	28.6	9.6	1.1	14.5
Feb	34.0	13.0	0.75	10.4
March	39.6	17.2	1.1	13.1
April	49.4	26.0	1.2	5.9
May	60.4	34.3	2.0	1.5
June	70.0	41.2	1.5	0.1
July	79.6	46.7	1.5	0.0
Aug	78.3	45.3	1.4	0.0
Sep	67.8	37.0	1.3	0.5
Oct	55.7	29.4	1.0	3.7
Nov	38.7	19.2	1.0	9.0
Dec	30.5	11.8	1.0	13.5
Annual	52.8	27.6	15.4	72.1

SUMMER

Zion National Park is hot through the summer months with temperatures regularly exceeding 100°F. Even higher elevation areas such as the Kolob Canyons and West Rim can see high temperatures in excess of 90°F. Visitors must pay constant attention to the possibility of thunderstorms and lightning. The park typically experiences a monsoon season from mid-July through mid-September with an increased risk of severe thunderstorms and dramatic flash flooding.

FALL

The brilliant autumn colors and cooler temperatures can make the fall an ideal time for backpacking trips in the park. Canyoneering trips through The Narrows and other slot canyons are

best if completed prior to mid-October when cooler temperatures may require wetsuits and other specialized gear.

WINTER

Much of Zion National Park is snow-covered through the winter months. All trails, even at lower elevations, can be ice-covered and traction devices are highly recommended. In winter, sections of the Kolob Terrace Road are not plowed. Snow causes closures of the Kolob Terrace Road near the Hop Valley Trailhead throughout the winter, as well as periodic closures of the Kolob Canyons Road. Recreational use is limited to skis and snowshoes.

Activities

What activities you will engage in will decide how you will need to prepare. Here is a list of activities required for this trip and a list of possible activities if you should choose to do so:

Required Activities

- Long Distance Hiking
- Overnight Camping
- Stream Crossing

Winter Related Activities

- Long Distance Hiking
- Overnight Camping
- Stream Crossing
- Snow Shoeing
- Traversing Over Ice

Optional Activities

- Canyoneering
- River Hiking (Narrows)

Route Planning

Zion National Park has several trails in a variety of landscapes for backpackers to explore. Backpackers in the Zion Wilderness can camp in designated campsites or in at-large areas on Zion's high plateaus, in the low desert shrublands, or next to a river in a narrow canyon.

Reservations can be made for approximately two-thirds of the backpacking sites. These sites are booked through Calendar Reservations. Reserve as soon as possible as sites go quickly. The remaining one-third of the backpacking sites are booked as a Walk-in Permit. Wilderness sites are in high demand and are often booked for several days. If you do not have a reservation, have a backup plan.

When planning your trip, consider your interests, time, and ability. There is no perfect trail. Use the Wilderness Guide, other guidebooks, and topographic maps to plan the best trip for you during your visit. Refer to the map for campsite locations.

WEST RIM TRAIL

Distance

West Rim Trailhead to The Grotto 14.2 miles (via Rim Trail)
13.6 miles (via Telephone Canyon Trail)

Elevation Change

3,400 feet (1063 m)

Water Sources

Sawmill Springs (seasonal), Potato Hollow Spring (seasonal), Cabin Spring

Season

Late Spring, Summer, Fall

Seasonal Conditions

Seasonal rain/snow may cause trail to be muddy or snow covered. Snow melt can continue well into summer, making trails wet and muddy.

Trailheads

West Rim Trailhead (near Lava Point), The Grotto

Other trails accessible by West Rim Trail are Wildcat Canyon, Telephone Canyon, and Angels Landing.

Description

The trail starts at the West Rim trailhead near Lava Point and traverses across the high alpine elevation with sweeping views out into the Wildcat Canyon area for the first 6.5 miles as you drop into Potato Hollow. Next the trail climbs out of Potato Hollow before it splits into the Telephone Canyon Trail and the West Rim trail. The West Rim Trail follows along the rim with views of Phantom Valley and the canyons to the south. The Telephone Canyon Trail provides a shortcut between Potato Hollow and Cabin Spring or a possible loop for hikers entering and exiting the same trailhead. At Cabin Spring the trail begins a steep drop in elevation and descends 2,500 feet over 4.7 miles ending at the Grotto Picnic Area.

Camping Options

Camping is permitted in designated sites only. There are 9 sites along the West Rim.

EAST RIM TRAIL

Distance

East Entrance Trailhead to Weeping Rock 10.8 miles.

Elevation Change

2,300 feet (672 m)

Water Sources

Stave Spring (seasonal)

Season

Spring and Fall

Seasonal Conditions

Seasonal rain/snow may cause trail to be muddy or snow covered.

Trailheads

East Entrance Trailhead, Weeping Rock Trailhead
Other areas accessible by East Rim Trail are East Mesa, Deertrap Mountain, and Cable Mountain.

Description

The trail starts at East Entrance trailhead and climbs 1,000 feet onto the rim with views into Jolley Gulch and the east side slickrock areas. The first stretch of trail offers sweeping views of the slickrock areas on the east side before walking through the high ponderosa forest. After you traverse the plateau the views of the Echo Canyon basin open up as you near the East Rim of Zion Canyon. You then sharply descend 2,300 feet down to the floor of Zion Canyon ending at Weeping Rock by passing through Echo Canyon and down the East Rim Trail.

Camping Options

This area has no established campsites. At large camping is allowed on parts of the East Rim, East Mesa, Cable Mountain, and Deertrap Mountain. A wilderness permit is required.

Hop Valley Trail**Distance**

Hop Valley Trailhead to La Verkin Creek 6.5 miles

Elevation Change

1,050 feet (320 m)

Water Sources

None

Season

Spring, Summer, Fall

Seasonal Conditions

Trail is wet and often muddy. Seasonal rain/snow may cause trail to be extra muddy or snow covered.

Trailheads

Hop Valley Trailhead. Other trails accessible by the Hop Valley Trail are the La Verkin Creek Trail, Kolob Arch, and the Connector Trail.

Description

The trail begins off the Kolob Terrace Road and wanders through the open fields with wide open views of the surrounding rock formations. As you near Hop Valley, the trail starts its descent. The valley floor of Hop Valley is breathtaking with its flat sandy bottom and vertical walls rising on both sides. The trail is sandy and well worn.

Camping Options

Camping is permitted in designated sites only. There are two campsites located at the far end of the valley before the steep descent into La Verkin Creek.

SOUTHWEST DESERT**Distance**

Chinle Trailhead to Coalpits Wash 8.1 miles, Coalpits Trailhead to Chinle Trail 3.6 miles

Elevation Change

200 feet (61 m)

Water Sources

Coalpits Spring, Coalpits Wash (seasonal)

Season

Fall, Winter, Spring

Seasonal Conditions

Trail can be very muddy following rain events.

Trailheads

Coal Pits Trailhead, Chinle Trailhead

Description

The Chinle Trail starts from the Anasazi Way Subdivision and crosses the open desert as it wanders around the base of Mount Kinesava. The trail travels through the open desert and offers up some amazing and sweeping views of the cliffs behind great formations like the West Temple

and Mount Kinesava. The trail crosses areas of highly developed cryptobiotic soil. This trail is very hot in the summer but pleasant in the spring and fall. Coalpits Wash has no developed trail, but there is a well beaten path that is easy to follow to the junction with Scoggins Wash. At the junction of Scoggins Wash, bear left and head up the canyon between enormous boulders and small waterfalls.

Camping Options

Camping is permitted in designated sites only. There are 6 sites along the Chinle Trail and Coal Pits Wash.

LA VERKIN CREEK TRAIL

Distance

Lee Pass to Kolob Arch 7 miles, Kolob Arch to Hop Valley Trailhead 7.4 miles

Elevation Change

950 feet (290 m)

Water Sources

Beatty Spring, La Verkin Creek

Season

Spring, Summer, Fall

Seasonal Conditions

Creek crossings can be difficult during or following heavy rain events. Seasonal rain/snow may cause trail to be muddy or snow covered.

Trailheads

Lee Pass. Other trails accessible by La Verkin Creek are the Hop Valley Trail.

Description

The trail begins at Lee Pass and passes by the open canyons and nearby cliffs of Kolob Canyons as it travels along Timber Creek. After coming around the corner and within view of La Verkin Creek, the trail descends the slope down to the creek bottom on a hard packed trail. Once on the creek bed, the trail heads up stream offering amazing views of the surrounding cliffs. The trail is 7 miles from Lee Pass to Kolob Arch, one of the main destinations of the route and one of the world's largest free-standing arches. From there you can continue up canyon to Bear Trap Canyon and Willis Canyon to extend your trip. This is a great area to spend a few days.

Camping Options

Camping is permitted in designated sites only. There are 10 sites between Lee Pass and Kolob Arch, and 3 more further upstream, beyond the junction with the Hop Valley Trail.

Wildcat Canyon Trail

Distance

Wildcat Trailhead to West Rim Trail 5.8 miles

Elevation Change

350 feet (107 m)

Water Sources

Wildcat Spring

Season

Late Spring, Summer, Fall

Seasonal Conditions

Seasonal rain/snow may cause trail to be muddy or snow covered. Snow melt can continue well into summer, making trails wet and muddy.

Trailheads

Wildcat Trailhead, West Rim Trailhead (near Lava Point) Other trails accessible by Wildcat Trail are West Rim trail, Connector Trail, Northgate Peaks.

Description

This trail starts from Wildcat Trailhead and goes past the Northgate Peaks Trail Junction offering views of the Northgate Peaks as it passes through the ponderosa pine forest. It opens into meadows before coming to the edge of Wildcat Canyon offering sweeping views down into the deep canyon. After crossing the canyon, the trail climbs slightly until connecting up with the West Rim Trail. This is a beautiful area on its own, or a great option to extend West Rim trips.

Camping Options

This area has no established campsites. At large camping is allowed near parts of the trail. A wilderness permit is required.

The Narrows (North Fork of the Virgin River)

Distance

Chamberlain's Ranch to The Temple of Sinawava 16 miles

Elevation Change

1300 feet (400 m)

Water Sources

Virgin River, Big Spring

Season

Summer, Fall

Seasonal Conditions

The Narrows is a hike through a river. The river often closes to hiking during the Spring snowmelt (which can continue into Summer). The river is closed to hiking during and immediately following Flash Flood Warnings, which are common during the desert monsoon (July-September).

Trailheads

Chamberlain's Ranch, Temple of Sinawava

Description

The Virgin River has carved a spectacular gorge in the upper reaches of Zion Canyon: 16 miles long, up to 2000 feet deep, and at times only 30 feet wide. Walking in the shadow of soaring walls, sandstone grottos, natural springs, and hanging gardens can be an unforgettable wilderness experience. It is not, however, a trip to be underestimated. Hiking the Zion Narrows means hiking in the Virgin River. At least 80% of the hike is spent wading, walking, and sometimes swimming in the river. There is no maintained trail; the route is the river. The current is swift, the water is cold, and the rocks underfoot are slippery. Flash flooding and hypothermia are constant dangers. Good planning, proper equipment, and sound judgment are essential for a safe and successful trip.

Camping Options

Camping is permitted in designated sites only. There are 12 sites, all are roughly halfway between Chamberlain's Ranch and Temple of Sinawava. All overnight campers must begin their trip at Chamberlain's Ranch and end at Temple of Sinawava.

EXTENDED TRIPS

Trips up to 50 miles in length can be made in Zion National Park's wilderness by combining the La Verkin Creek, Hop Valley, Wildcat Canyon, West Rim, and East Rim Trails. These routes cross several roads, so many variations to

your trip are possible. A vehicle shuttle may be necessary. Backpackers that intend to camp in multiple locations need to make a separate reservation for each

Estimated Travel Times**Check for Updates**

Check the [Backcountry Updates and Closures page](#) for current information on trail conditions and situations affecting the backcountry.

<https://www.nps.gov/zion/playourvisit/conditions.htm>

Also check the weather, flash flood and road conditions for any relevant conditions that may affect your trip:

Weather

<https://www.nps.gov/zion/playourvisit/weather-and-climate.htm>

Flash Flood

<https://www.weather.gov/slc/flashflood>

Be Realistic

- Choose the appropriate trail for your abilities or consider walking the Rim Trail for an easier hike.
- Check the weather and adjust plans; avoid summer heat. Remember the weather can change suddenly.
- Leave your itinerary with someone who will notice if you are overdue and report it to 911.
- Hydrate, but don't force fluids. Eat a good meal, and get a good night's sleep. If you do not feel well, do not hike.
- Prepare yourself for a faster hike down with high impact on your joints and a slow, strenuous hike out that may take twice as long or longer.

Water Sources

The desert can be an extreme and unforgiving environment. Carry enough water, one gallon per person

per day, and drink it. Do not drink untreated water. Information on the flow of natural springs, based on the best available data, is posted in the Zion Canyon Visitor Center. Plan ahead and prepare, your safety is your responsibility.

Potable Drinking Water Availability in Zion Canyon

- Zion Canyon Visitor Center
- South and Watchman Campground
- Zion Human History Museum
- Zion Lodge
- The Grotto
- Temple of Sinawava

Rivers, Creeks, and Washes

There are many perennial, intermittent, and ephemeral streams throughout Zion. Water obtained from these rivers, creeks, and washes should always be properly treated.

Springs and Seeps

A spring is a place where water naturally flows out of the ground. Water flow magnitude at natural springs can vary throughout the park and may not always be reliable.

- Never drink untreated spring water.
- Springs should be used as an emergency source for water, not as a primary source.
- Overnight camping is not permitted within a ¼ mile of any spring.

Water Treatment

CDC Guide to Water Treatment for Backcountry & Travel Use:

https://www.cdc.gov/healthywater/drinking/travel/backcountry_water_treatment.html

Water collected in the Zion Wilderness is not safe to drink without proper treatment. Except for boiling, few water treatment methods are 100% effective in removing all pathogens.

Boiling can be used as a pathogen reduction method that should kill all pathogens. For most elevations in Zion, water should be brought to a rolling boil for 3 minutes.

Filtration can be used as a pathogen reduction method against most microorganisms. Manufacturer's instructions must be followed.

Disinfection can be used as a pathogen reduction method against microorganisms. However many factors can impact the effectiveness of chemical disinfection. The length of time and concentration of disinfectant varies by manufacturer and effectiveness of pathogen reduction depends on the product. 100% effectiveness may not be achieved.

If boiling water is not possible, a combination of filtration and chemical disinfection is the most effective treatment method for drinking water in the Zion Wilderness.

Water Availability in the Zion Wilderness

North Fork of the Virgin River (Narrows)

- Untreated water from the Virgin River and its springs is not safe to drink. It has passed over rangeland and may be contaminated with illness-causing bacteria.
- Boil all water you collect or treat with a combination of filtration and disinfection.
- Water should NOT be collected above the confluence with Deep Creek.
- Big Spring is a reliable source for obtaining water and, like all other natural springs in the park, its water should always be properly treated.

Kolob Canyons

- Timber Creek: Intermittent stream that usually is dry by early spring after snowmelt.
- LaVerkin Creek: Perennial stream that flows year-round. Water is muddy during spring snowmelt and after rain events.
- Beatty Spring: Usually flows year-round.
 - Located between campsites 10 and 11 where the trail crosses LaVerkin Creek.

Hop Valley

- Due to a private cattle ranch within the park, water may be contaminated and should NOT be obtained from Hop Valley.

Wildcat Canyon Trail

- Wildcat Spring: Usually has a small flow year-round.
 - Located on the northside of the Wildcat Canyon Trail, 1.5 miles from the junction of the Wildcat Canyon Trail and the West Rim Trail.
 - Overnight camping is not permitted within a ¼ mile of the spring.

West Rim

- Sawmill Springs: Usually is dry by early to mid-summer. Not a reliable water source.
 - Located near campsite 9 on the West Rim Trail.
- Potato Hollow Spring: Usually is dry by mid to late summer. Not a reliable water source.
 - Located near campsite 8 on the West Rim Trail.
- West Rim (Cabin) Spring: Usually has a small flow year-round.
 - Located near campsite 2 on the West Rim Trail.

East Rim

- Stave Spring: Usually is dry by early summer. Not a reliable water source
 - Located near the junction of the East Rim Trail and Cable Mountain Trail.
 - Overnight camping is not permitted within a ¼ mile of the spring.

Southwest Desert

- Coalpits Wash Spring: Usually flows year-round.
 - Located near campsite 5 in Coalpits Wash

Travel Logistics

Zion Canyon Shuttle

During most of the year, the Zion Canyon Scenic Drive is only accessible by the Shuttle System. See the park newspaper for a map of the route and a current schedule of times and dates of this free service. The buses have room for backpacks, climbing gear, and other equipment.

While in Zion Canyon you may get on and off at any shuttle stop. Plan your wilderness trip so that your group will not miss the last shuttle of the day.

Automobiles

Travel on the Zion Canyon Scenic Drive during most of the year is by shuttle bus only. The Zion-Mount Carmel Highway, Kolob Terrace Road, and Kolob Canyons Scenic Drive in the park are open to private vehicles. Park roads are used by vehicles, bicycles, and even wildlife. Obey posted speed limits. Unless otherwise posted, the maximum speed limit is 35 mph. Seat belts or child safety seats are required for all occupants of a vehicle. Please park in designated spaces to protect fragile vegetation and turn off your engine when your vehicle is stopped.

Hiker Shuttle Services

Commercial taxi and recreational shuttle services can be hired to provide point-to-point pick-up and drop-off at designated parking areas, pullouts, and developed areas within the park. All services must have a current Commercial Use Authorization (CUA) with Zion National Park. Search online for authorized services. For through hikes, we recommend using these services to get to your starting point and hiking back to your car.

Hitchhiking

It is occasionally necessary for park visitors to solicit transportation from others in order to reach their destinations and in order to transit the Zion-Mount Carmel Tunnel. In order to provide for this transportation need and the safety considerations associated, hitchhiking is allowed only in established roadside pullouts.

Bicycles

Bicycles are not permitted in the Zion Wilderness. Bicycling is permitted on all park roadways and on the Pa'rus Trail. Bicyclists must ride single file and stop to let shuttle buses pass. Do not pass a moving shuttle bus. Each shuttle bus has a rack for at least two bicycles. All other park trails, off-trail routes, and the Zion-Mount Carmel Tunnel are closed to bicycles. Bicyclists attempting to travel through the Zion-Mount Carmel Tunnel must obtain a ride through the tunnel. Hitchhiking is permitted. Rangers are not allowed to provide, or arrange for, transport through the tunnel.

Other Vehicles

Any use of off-highway vehicles (OHVs), all-terrain vehicles (ATVs), or utility vehicles (UTVs) are prohibited within Zion National Park.

Directions to Chamberlain's Ranch

Permit holders for the top-down Narrows will need to start at Chamberlain's Ranch. Chamberlain's Ranch is a private ranch outside Zion National Park. Please respect private property. It is a 1.5-hour drive from Zion Canyon along paved and dirt roads to access Chamberlain's Ranch. The dirt roads are passable for normal cars only when dry. When wet, they may be impassable even for four-wheel drive vehicles. Snow closes the road in winter.

From the park's East Entrance, drive 2.5 miles east on Route 9. Turn left on a paved road and continue 18 miles to a bridge that crosses the North Fork of the Virgin River. Turn left beyond the bridge and drive three-quarters mile to the trailhead at Chamberlain's Ranch. There may be a gate that you will need to close behind you, follow the direction of posted signs. There is a pit toilet at the trailhead just before the road crosses the river. Park here. To begin your hike, cross the river and follow the road for approximately 3 miles. Enter the river at the end of the road just past the old cabin. Overnight camping is NOT allowed at the trailhead.

Equipment

10 Essentials for Your Day Pack

1. Water: bring a sufficient amount and extra in case of emergency; always bring a water treatment method
2. Salty snacks and high-calorie meal(s)
3. First aid kit, prescriptions, blister care, duct tape, and pocket knife
4. Map or trail guide
5. Flashlight or headlamp with spare batteries
6. Sunscreen, wide-brimmed hat, and sunglasses
7. Whistle, signal mirror, and cell phone
8. Lightweight tarp or emergency shelter

9. Broken-in hiking shoes with good soles and hiking poles
10. Layers of clothing

Overnight Essentials

Below is a list of basic equipment needs for this trip. You will find a more in-depth list in the Gear Essentials section of this report.

Required Activities

- **Long Distance Hiking**
 - Hiking Shoes
 - Trekking Poles
 - Navigation
- **Overnight Camping**
 - Pack
 - Shelter
 - Sleep System
- **Stream Crossing**
 - Water Crossing Shoes

Winter Related Activities

- **Long Distance Hiking**
 - Hiking Shoes
 - Trekking Poles
 - Navigation
- **Overnight Camping**
 - Pack
 - Shelter
 - Sleep System
- **Stream Crossing**
 - Water Crossing Shoes
- **Snow Shoeing**
 - Snow Shoes
- **Traversing Over Ice**
 - Traction

Optional Activities

- **Canyoneering**
 - Wetsuit
 - Neoprene Socks
 - Canyoneering Boots
 - Technical Climbing Gear
 - Canyoneering Safety Gear

- Dry Bag
- **River Hiking (Narrows)**
 - Trekking Poles
 - Neoprene Socks
 - Canyoneering Boots

Outfitter Services

Local outfitter services may be required in order to shuttle your group, guiding unfamiliar terrain or technical climbs, rent specialized gear needed for the trip, and/or training for skills not possessed by your team. All services must have a current Commercial Use Authorization (CUA) with Zion National Park. Here is a list of local Zion outfitters that have been verified as of the printing of this document. Keep in mind that businesses may lose their license or go out of business so you should follow up to be sure.

Zion Outfitter

Services

Equipment Rental, Guiding Services, Shuttle

Phone

(435) 772-5090

Email

info@ZionOutfitter.com

Website

<https://www.zionoutfitter.com/>

Zion Rock & Mountain Guides

Services

Equipment Rental, Guiding Services, Canyoneering Services, Shuttle

Phone

(435) 772-3303

Email

info@zionrockguides.com

Website

<https://www.zionrockguides.com/>

Meal Planning

You should plan to have enough food for the duration of your time in the backcountry with enough nutrition to keep you at full capacity. It is important to have food that is both nourishing and edible. On long trips, with specialized activities, or in different climates, it may be necessary to plan a menu that supplies a specific number of calories per day and stresses certain food groups over others.

The Trans-Zion Trek requires 5 days and 4 nights to complete. We usually plan for a hot meal in the morning, a hot meal in the evening and snacks through out the day. So your meal plan may look as follows:

MEAL PLAN			
Meal Type	Breakfast	Dinner	Snacks
# of Days	4	4	5

Skill Development

Based on the activities planned there may be certain skill sets that are needed to successfully complete this trip. Ensure that you have the base knowledge you need in order to give yourself the best experience. If you find yourself lacking then take the time to educate yourself. For instance if you plan on canyoneering but have never done so in the past you should schedule a training program with a local outfitter. If you lack the basics in backcountry skills, AcadianX now offers a training program known as AcadianXU that will ensure you possess all the base knowledge you need.

Special skills that may be needed for Zion are:

- Canyoneering
- Rock Climbing

Regulations and Safety

Backcountry Regulations

It is the responsibility of a backcountry permit trip leader to insure that all participants know and obey the following regulations. The trip leader and/or participants can be cited for violating these regulations.

1. A backcountry permit is required for all overnight backcountry use and **MUST** be in the trip leader's possession while in the backcountry. Permittees must abide by all trail closures and activity or use restrictions.
2. A backcountry permit is valid only for the trip leader, campsites, dates, and number of people specified on the permit.
3. Carry out your trash. Burning, burying, or leaving trash or toilet paper is prohibited.
4. A backcountry permit is void if on any night another group affiliated to yours (i.e. same club, organization, group of friends, etc.) is using the same campground or use area. More than one group from the same organization or affiliation camping in the same designated campground or use area per night is prohibited.
5. Commercial Use Authorization is required for commercial use of the backcountry.
6. Wood or charcoal fires of any type are prohibited. Sterno or fossil fuel backpack stoves are permitted.
7. Use of biodegradable or any other type of soap in creeks is prohibited, and hikers in at-large areas are encouraged where possible to leave room for wildlife and protect water quality by camping at least 100 feet away from natural water sources other than the Virgin River.
8. Feeding, touching, teasing, or intentionally disturbing wildlife is prohibited. Be aware that wild animals can be unpredictable. Do not approach or attempt to move sick or injured wildlife. Please report any encounters with aggressive, sick, or injured animals to a park ranger.
9. Throwing or rolling rocks or other items down hillsides or mountainsides, into valleys or canyons, or inside caves is prohibited.
10. Leaving a trail or walkway to shortcut between portions of the same trail or walkway, or to shortcut to an adjacent trail is strictly prohibited.
11. Possessing, destroying, injuring, defacing, removing, digging, or disturbing from its natural state any plants, rocks, animals, mineral, cultural or archeological resources natural features, or signs is prohibited. Walking on, entering, traversing, or climbing an archeological resource is prohibited.
12. Overnight private stock use requires a backcountry permit. Use is restricted to trails and campsites designated for stock. Other domestic animals or pets are prohibited.
13. Traps and nets are prohibited. A valid fishing license is required for all fishing.
14. Because of their sensitive and sometimes dangerous nature, entry and/or exploration of any canyons must be approved in advance through Zion National Park.

Overnight Camping (Etiquette)

"At-large" camping is allowed in Wildcat Canyon and on the East Rim. Follow these guidelines when camping overnight.

Prepare: Plan Ahead

- Backpackers planning to camp overnight must obtain a backcountry permit before starting their hike. Attach the permit visibly to your backpack. Camp only in campgrounds, not along the trail. No campfires allowed.
- In addition to the 10 essentials listed above, bring a stove, fuel, and matches; blanket or sleeping bag with ground pad; and ground cloth, tarp, or tent.
- Pack weight should not be more than 15–20% of your body weight. In summer, pack light—replace your sleeping bag with a liner or sheet; bring ready-to-eat foods and leave the stove behind.

While at Camp

- Choose your campsite. Sites are first-come, first-served with the required permit. Large group sites are reserved for parties of 7–11 hikers.
- Immediately place all food, toiletries, and plastic bags and keep away from rodents and small mammals.
- Keep your backcountry permit with you at all times. If approached by park rangers be prepared to produce it for them.
- Use headlamps with red lights to preserve your night vision, minimize light pollution, and avoid disturbing other campers.

When Leaving Camp

- If you start early, remember to maintain a quiet camp and let fellow campers sleep.
- Do not leave any trash, gear, or extra food behind. Check your site for micro-trash—look for bandages, twist ties, fruit peels, etc.

Leave No Trace Principles



Developed by the National Outdoor Leadership School, the principles of Leave No Trace are an extension of the National Park Service mission to preserve a vast system of resources

“unimpaired for the enjoyment of future generations” that challenge individuals to become active stewards in its preservation. The Program builds awareness, appreciation, and respect for the land, and provides a foundation for applying minimum-impact techniques.

Plan Ahead and Prepare

- Know the regulations and restrictions for the area you visit.
- Prepare for extreme weather, hazards, and emergencies.
- Select terrain and mileage based on what your group can handle.
- Schedule your trip to avoid times of high use.
- As you look through the campsite list in this planner, please note the party size limit that pertains to each campsite. If your group size exceeds these limits, you will need to camp and cook as smaller groups in separate campsites with separate permits.
- Repackage food to minimize waste.

Travel and Camp on Durable Surfaces

- To prevent erosion, avoid shortcuts and switchbacks.
- Walk single file in the middle of the trail, even when wet or muddy.
- Camp in designated campsites.
- Protect riparian areas by camping at least 100 feet from lakes and streams.
- Keep campsites small. Focus activity in areas where vegetation is absent. Avoid leveling the tent site.

Dispose of Waste Properly

- Pack it in, pack it out. Inspect your campsite and rest areas for trash or spilled foods. Never bury it or dump it in pit toilets. Pack out all trash, leftover food, and litter.
- To wash yourself or your dishes, carry water 100 feet away from streams or lakes and use small

amounts of biodegradable soap. Scatter strained dishwater.

- Deposit solid human waste in catholes dug 6 to 8 inches deep at least 100 feet from water, camp, and trails. Cover and disguise the cathole when finished.
- Pack out toilet paper and hygiene products.

- Step to the downhill side of the trail when encountering pack stock.
- Take breaks and camp away from trails and other visitors.

Let nature's sounds prevail. Avoid loud voices and noises.

Respect Wildlife

- Do not approach wildlife. All wild animals are potentially dangerous. Observe Wildlife from a distance. If your presence causes an animal to move away, you are too close.
- Never feed or harass animals. Feeding wildlife damages their health, alters natural behaviors, and exposes them to predators and other dangers.
- Protect wildlife and your food by storing rations and trash securely.
- Avoid wildlife during sensitive times: mating, nesting, raising young, or winter.

Minimize Campfire Impacts

- Campfires can cause lasting impacts to the backcountry. Use a lightweight stove for cooking and enjoy a candle lantern for light.
- Where fires are permitted, use established fire rings, fire pans, or mound fires. Campfires are only permitted in specified campsites in designated fire rings.
- Keep fires small. Burn only small diameter dead and down wood. Do not break, cut or saw branches from any standing tree (dead or alive).
- Burn all wood and coals to ash, put out campfires completely. Fires must be completely extinguished before you leave the site.

Leave What You Find

- Avoid introducing or transporting non-native species.
- Do not build structures, furniture, or dig trenches.
- Federal law prohibits: collecting antlers; removing any plant, animal, or mineral substance; and disturbing or removing archeological or historical items. Leave natural objects as you find them.

Be Considerate of Other Visitors

- Respect other visitors and protect the quality of their experience.
- Be courteous. Yield to other users on the trail.

Backcountry Safety

Wildlife Hazards

You will encounter wildlife while in the wilderness. Be aware that wild animals can be unpredictable. Do not approach or attempt to move sick or injured wildlife. Please report any encounters with aggressive, sick, or injured animals to a park ranger.

Please keep all animals wild and healthy by viewing them from a safe distance. Do not feed or touch wildlife. Store food and trash responsibly.

Mountain Lions

Mountain lions are wild animals and can be dangerous. They have been seen in the park. An attack is unlikely, and the park has never had a reported attack on people or pets. However, mountain lions have attacked in other wilderness areas.

- Watch children closely, and never let them run ahead or lag behind.
- Solo hiking is not encouraged.
- Never approach a mountain lion. Most will avoid a confrontation. Always give them a route to escape.
- Do not run. Try to look large and put your arms up.
- If a mountain lion approaches, wave your arms, shout, and throw rocks or sticks at it.
- If attacked, fight back.

Terrain Safety

Steep Cliffs

Falls from cliffs on trails have resulted in deaths. Loose sand or pebbles on stone are very slippery. Be careful of edges when using cameras or binoculars. Never throw or roll rocks, as there may be hikers below you. Trails can be snow and ice covered in winter.

- Stay on the trail.
- Stay back from cliff edges.
- Observe posted warnings.

- Please watch children.

Water Safety

The desert is an extreme environment. Carry enough water, one gallon per person per day, and drink it. Water is available at visitor centers, campgrounds, and the Zion Lodge. Water flow at natural springs can vary, check for information at visitor centers. Do not drink untreated water. Water collected in the wilderness is not safe to drink without treatment.

Stream Crossings

Few of Yellowstone's rivers or streams have bridges, and many cannot be crossed until July or later. Even in late summer, water levels can rise quickly after rainstorms or from snowmelt in the high country on warm afternoons. The water can be cold, fast, and more than thigh-deep, making any attempt to cross perilous. Trying to ford deep, swift water has resulted in loss of gear, injury, and death. Carefully check your itinerary on a topographic map for stream crossings, and ask about river conditions at a ranger station before beginning your trip. Don't be afraid to turn around if conditions are dangerous. Before you ford a river, make sure everyone in your group is comfortable doing so.

Drowning

Sudden immersion in cold water (below 80° F, 27° C) may trigger the "mammalian diving reflex." This reflex restricts blood from outlying areas of the body and routes it to vital organs like the heart, lungs, and brain. The colder the water, the younger the victim, and the quicker the rescue, the better the chance for survival. Some cold-water drowning victims have survived with no brain damage after being submerged for over 30 minutes.

Giardia

Giardiasis is caused by a parasite (*Giardia lamblia*) found in lakes and streams. Persistent, severe diarrhea, abdominal cramps, and nausea are symptoms of this disease. If you experience any symptoms, contact a physician. When hiking, carry water from one of the park's treated water systems. If you plan to camp in the backcountry, follow recommendations received with your permit. Bring water to a boil or use an approved filter.

Flash Floods

All narrow canyons are potentially hazardous. Flash floods, often caused by storms miles away, are a real danger and can be life threatening. By entering a narrow canyon you are assuming a risk.

During a flash flood, the water level rises quickly, within minutes or even seconds. A flash flood can rush down a canyon in a wall of water 12 feet high or more. You cannot outrun or outswim a flash flood.

Know the weather and flash flood potential forecasts before starting your trip. If bad weather threatens, do not enter a narrow canyon. Whether hiking, climbing, or canyoneering, your safety depends on your own good judgment, adequate preparation, and constant attention to your surroundings. Your safety is your responsibility.

Watch for these indications of a possible flash flood:

- Any deterioration in weather conditions
- Build up of clouds or sounds of thunder
- Sudden changes in water clarity from clear to muddy
- Floating debris
- Rising water levels or stronger currents
- Increasing roar of water upcanyon

If you observe any of these signs, seek higher ground immediately. Even climbing a few feet may save your life. Remain on high ground until conditions improve. Water levels usually drop within 24 hours. Flash floods do occur in the park during periods of low flash flood potential. A moderate or higher flash flood potential should be a serious cause for concern.

Safety Tips

Plan Ahead

THE DIFFERENCE BETWEEN A GREAT HIKE OR A TRIP TO THE HOSPITAL IS UP TO YOU!

Your descent into the wilderness marks your entry into a world in which planning and preparation, self-reliance, and good choices are crucial. Don't hike alone. Know what your destination will be and how to get there. Know where water is available. Get the weather forecast. Don't

overestimate your capabilities. Hike intelligently. You are responsible for your own safety as well as that of everyone in your party. Stay on the trail and never shortcut switchbacks.

Monthly Averages

Month	Average Maximum Temperature (F)	Average Minimum Temperature (F)	Average Precipitation (Inches)	Average Total Snow Fall (Inches)
Jan	28.6	9.6	1.1	14.5
Feb	34.0	13.0	0.75	10.4
March	39.6	17.2	1.1	13.1
April	49.4	26.0	1.2	5.9
May	60.4	34.3	2.0	1.5
June	70.0	41.2	1.5	0.1
July	79.6	46.7	1.5	0.0
Aug	78.3	45.3	1.4	0.0
Sep	67.8	37.0	1.3	0.5
Oct	55.7	29.4	1.0	3.7
Nov	38.7	19.2	1.0	9.0
Dec	30.5	11.8	1.0	13.5
Annual	52.8	27.6	15.4	72.1

Average temperatures, weather information, and road conditions can also be found in the [Climate](#) section.

WARNING! Summer thunderstorms bring lightning.

Be Kind to Yourself

KNOW YOUR ABILITIES; CHOOSE AN APPROPRIATE HIKE.

You will be hiking at high elevation in hot, dry desert conditions with a steep climb out at the end of the day. Everyone who hikes in the canyon for the first time reports that it was more difficult than they expected. Be conservative in planning your hike!

If you have asthma, diabetes, a heart condition, knee or back problems, or any other health or medical issue, limit both your exertion and your exposure to the heat. The altitude, strenuous climbing, dehydration, and intense inner canyon heat will combine to make any medical problem worse. Stay within your training, physical limitations, and abilities.

Be a Lightweight

THE LESS YOU CARRY, THE MORE ENJOYABLE THE HIKE.

Travel as light as possible. The heaviest items in your pack should be food and water. Use hiking sticks to take stress off your legs. Wear well-fitting and broken-in hiking boots. Bring a small lightweight flashlight and a change of batteries and bulb. Wear sunscreen, sunglasses, and a hat. Bring a map, compass, signal mirror or whistle, first aid kit,

and water purification tablets. Keep in mind that all trash (including biodegradable) needs to be carried out of the canyon.

Avoid Huffing and Puffing

IF YOU CAN TALK WHILE YOU ARE WALKING, YOU ARE WALKING THE PERFECT SPEED.

When you huff and puff your body is not getting enough oxygen. Walking at a pace that allows you to be able to walk and talk means that your legs and your body are getting the oxygen needed to function efficiently.

When your body generates fewer metabolic waste products, you enjoy your hike more and you feel better at the end. At times it may seem like you are walking too slow, but at an aerobic pace (sometimes even baby-sized steps when the trail is steep) your energy reserves will last longer. You will also feel much better that night and the next day.

Take a Break

TAKE A TEN MINUTE BREAK AT LEAST ONCE EVERY HOUR.

A break of ten minutes helps remove the metabolic waste products that build up in your legs while hiking. Take a break at least every hour. Sit down and prop your legs up. Eat some food, drink some fluids, and take this time to enjoy and appreciate the view. These efficient breaks can recharge your batteries. In the long run, breaks will not slow you down.

No Food, No Fuel, No Fun

EAT OFTEN AND DON'T FORCE FLUIDS.

Eat more than you normally do, ensuring you eat before, during, and after your hike. No matter what the temperature, you need water and energy to keep going. Every hour hiking in the canyon can be likened to the physiological equivalent of shoveling wet sand. Plan accordingly when determining how much food and water you should consume during your hike.

Keeping yourself cool while hiking in the canyon takes a large amount of energy (food). Food is your body's primary source of fuel while hiking in the canyon. You

need to eat about twice as much as you normally would to meet your energy needs while hiking in the Grand Canyon. Salty snacks and water or sports drink should be consumed on any hike lasting longer than 30 minutes.

Your best defense against illness and exhaustion is to eat a healthy breakfast, and eat regularly throughout your hike.

Summer Hiking

The National Park Service urges SPECIAL CAUTION for all hikers during the summer months.

Every year, scores of unprepared hikers, lured by initially easy downhill hiking, experience severe illness, injury, or death from hiking in the canyon.

Be aware that efforts to assist you may be delayed during the summer months due to limited staff, the number of rescue calls, employee safety requirements, and limited helicopter flying capability during periods of extreme heat or inclement weather.

Do not rely on physical strength alone, hiking smart will take you much farther. Rangers respond to heat exhausted hikers every day during the summer — don't let yourself become one of them! Use the information below to hike smart.

10 Summer Hiking Essentials

1. **Water** - plain and some with electrolyte replacement.
2. **Food** - especially salty foods. Eat twice as much as normal.
3. **First Aid Kit** - bandaids, ace wrap, antiseptic, moleskin, etc.
4. **Map** - while many trails are well-marked, maps are helpful tools.
5. **Pack** - to carry the essentials.
6. **Flashlight/Spare Batteries** - allows you to hike out during the cool of the evening.
7. **Spray Bottle** - fill with water for your own personal air conditioning system.
8. **Hat/Sunscreen** - to keep the sun off you and protect your skin.

9. **Whistle and/or Signal Mirror** - for emergency use.
10. **Waterproof Clothing** - poncho or jacket; especially useful during monsoon season (mid-July to early September).

Don't Force Fluids. Drink When You Are Thirsty. Rest and Eat Often.

Ambient temperature, elevation, and exercise intensity and duration increase the physiological strain, calorie and water demands on our bodies. This makes canyon hiking more difficult than traveling the same distance on level ground or in cooler temperatures.

Fluid/electrolyte loss can exceed 2 quarts per hour if you hike uphill in direct sunlight and during the hottest time of the day. Because inner canyon air is so dry and hot, sweat evaporates instantly, making its loss almost imperceptible. Keep an eye out for salt rings on your clothes.

Even a mild level of dehydration can make hiking a lot less fun. The more dehydrated you become, the less efficient your body is at self-cooling. This puts you at greater risk for heat related illness. Over-hydration and lack of salty foods can be equally as dangerous, as this may lead to a life-threatening electrolyte disorder called hyponatremia.

The sensations of thirst and hunger are influenced by many factors, and should not be used as the only guide to replenishment. Eat and drink enough throughout your hike to replace the calories and fluid your body is using. Make sure that you balance your food and fluid intake, to avoid the risk of becoming exhausted, debilitated, or severely ill.

Wait for the Shade

AVOID HIKING BETWEEN 10AM AND 4PM!

Even if you are eating and drinking correctly you still need to avoid hiking in direct sunlight during the hottest part of the day. Sun temperatures are 15F to 20F (9C-11C) degrees hotter than posted shade temperatures. And keep in mind, the farther into the canyon you go the hotter it gets!

Plan your day so you are not hiking between the hours of 10am and 4pm. Take a break near shade and water to avoid the worst heat of day. Enjoy a predawn start and a late afternoon finish. Experienced desert hikers know that the timing of their hike is the most important factor in avoiding hazards. Most of the people who need emergency medical help in the canyon due to heat illness are hiking between 10am and 4pm.

Always bring a lightweight flashlight to give yourself the option of hiking out after dark in the event that illness, injury, or enjoyment should slow you down.

Stay Wet and Stay Cool

KEEP YOURSELF SOAKING WET TO STAY COOL.

This is one of the best things that you can do for yourself, it will help decrease your core body temperature. Whenever you are near water, make sure that you wet (actually soak) yourself down. If you hike while soaking wet you will stay reasonably cool. This will make a wonderful difference in how well you feel, especially at the end of the day!

The Hazardous H's

WATCH OUT FOR THESE HEALTH HAZARDS!

HEAT EXHAUSTION

- The result of dehydration due to intense sweating. Hikers can lose one or two quarts (liters) of water per hour. Rangers at Phantom Ranch and Indian Garden treat many cases of heat exhaustion each day in summer.
- *Symptoms:* pale face, nausea, vomiting, cool and moist skin, headache, cramps.
- *Treatment:* drink water with electrolytes, eat high-energy foods (with fats and sugars), rest in the shade for 30-45 minutes, and cool the body by getting wet.

HEATSTROKE

- A life-threatening emergency where the body's heat regulating mechanisms become overwhelmed by a combination of internal heat production and environmental demands. Your body loses its ability to cool itself. Grand Canyon has two to three cases of heatstroke a year.

Untreated heat exhaustion can lead to heatstroke.

- *Symptoms:* flushed face, dry skin, weak and rapid pulse, high core body temperature, confusion, poor judgment or inability to cope, unconsciousness, seizures.
- *Treatment:* the heatstroke victim must be cooled immediately! Continuously pour water on the victim's head and torso, fan to create an evaporative cooling effect. Immerse the victim in cold water if possible. Move the victim to shade and remove excess clothing. The victim needs evacuation to a hospital. Someone should go for help while attempts to cool the victim continue.

HYPONATREMIA (water intoxication)

- An illness that mimics the early symptoms of heat exhaustion. It is the result of low sodium in the blood caused by drinking too much water and losing too much salt through sweating.
- *Symptoms:* nausea, vomiting, altered mental states, confusion, and frequent urination. The victim may appear intoxicated. In extreme cases seizures may occur.
- *Treatment:* have the victim eat salty foods, slowly drink sports drinks with electrolytes, and rest in the shade. If mental alertness decreases, seek immediate help!

HYPOTHERMIA

- A life-threatening emergency where the body cannot keep itself warm, due to exhaustion and exposure to cold, wet, windy weather.
- *Symptoms:* uncontrolled shivering, poor muscle control, careless attitude. Look for signs of the "umbles" - stumbling, mumbling, fumbling, grumbling.
- *Treatment:* remove wet clothing and put on dry clothing, drink warm sugary liquids, warm victim by body contact with another person, protect from wind, rain, and cold.
- Avoid hypothermia by checking at Canyon View Information Plaza or the Backcountry Information Center for the latest weather and trail conditions, taking layered clothing for protection against cold and wet weather, eating

frequently, replacing fluids and electrolytes by drinking before feeling thirsty, and avoiding exposure to wet weather.

Winter Hiking

Every year, scores of unprepared hikers, lured by initially easy downhill hiking, experience severe illness, injury, or death from hiking in the canyon. Travel in Grand Canyon National Park's backcountry has inherent risks and involves unavoidable hazards. Your safety depends upon your judgment, your experience, and a realistic assessment of your abilities.

A successful and safe winter hike depends on weather and routes, but realize that any hike can be affected by unforeseen natural occurrences. Routes and trails are susceptible to deterioration from rockslides. Weather, at any time of the year, can compromise an individual's ability to cope with the psychological challenges of backcountry travel. Always be sure you have adequate food, water, and equipment to deal with the unexpected.

If you have doubts as to your ability to hike safely in the Grand Canyon, do not attempt to do so! All visitors should be aware that efforts to assist them may be delayed and limited due to weather, rescuer safety, and incident urgency.

Do not rely on physical strength alone, hiking smart will take you much farther. Use this information to hike smart.

10 Winter Hiking Essentials

1. **Food** – especially salty foods. Eat twice as much as normal.
2. **First Aid Kit** – bandaids, ace wrap, antiseptic, moleskin, etc.
3. **Map** – while many trails are well-marked, maps are helpful tools.
4. **Water** – plain and some with electrolyte replacement.
5. **Pack** – to carry the essentials.
6. **Flashlight/Spare Batteries** – allows you to hike out at night.
7. **Appropriate Footwear** - waterproof boots, gaiters to keep snow and mud out of your boots.

8. **Over-the-shoe traction devices** - it will only take a short and unexpected stretch of ice to make you glad you have extra traction.
9. **Hiking Poles** – to help with footing on icy trails.
10. **Whistle and/or Signal Mirror** – for emergency use, know how to use your equipment.
11. **Waterproof/Warm Clothing** – parka, hat, gloves for the snow and rain, plus an extra set of dry clothing – in case you get wet.

The Hazardous H

WATCH OUT FOR THIS HEALTH HAZARD!

HYPOTHERMIA

- A life-threatening emergency where the body cannot keep itself warm, due to exhaustion and exposure to cold, wet, windy weather.
- *Symptoms:* uncontrolled shivering, poor muscle control, careless attitude, confusion, exhaustion (even after rest). Look for signs of the "umbles" - stumbling, mumbling, fumbling, grumbling.
- *Treatment:* remove wet clothing and put on dry clothing, drink warm sugary liquids, warm victim by body contact with another person, protect from wind, rain, and cold. If re-warming is unsuccessful - seek help.
- Avoid hypothermia by checking at the Visitor Center or the Backcountry Information Center for the latest weather and trail conditions, taking layered clothing for protection against cold and wet weather, eating frequently, replacing fluids and electrolytes by drinking before feeling thirsty, and avoiding exposure to wet weather.

Trail Conditions

KNOW TRAIL CONDITIONS BEFORE YOU START!

Some trails are more difficult than others to navigate in the winter. Stop by the Backcountry Information Center prior to your hike for a trail update. Pay close attention to the weather forecast. Winter travelers are reminded that precipitation patterns in Southern Utah are quite variable. Just because it is the winter season doesn't mean it looks or feels like winter on the ground.

Weather Dangers

Lightning

- Go to low-lying areas away from cliff edges, lone trees, poles, or metal objects. Make sure the area is not subject to flash floods. Do not seek shelter in caves or alcoves.
- Become a smaller target by squatting low on the ground. Place hands on knees or back of neck with head between knees. Do not lie down or touch the ground with your hands. Minimize contact with the ground and nearby rocks to minimize ground current effects caused by a nearby strike.
- Lightning can strike 10 miles across the canyon, so being below the rim does not make you at a low spot.

Rock Falls

- Watch and listen for rock falls and slides, especially during and after downpours.
- Do not stand at places where rocks have obviously fallen before.

Flash Floods

All narrow canyons are potentially hazardous. Flash floods, often caused by storms miles away, are a real danger and can be life threatening. By entering a narrow canyon you are assuming a risk.

During a flash flood, the water level rises quickly, within minutes or even seconds. A flash flood can rush down a canyon in a wall of water 12 feet high or more. You cannot outrun or outswim a flash flood.

Know the weather and flash flood potential forecasts before starting your trip. If bad weather threatens, do not enter a narrow canyon. Whether hiking, climbing, or canyoneering, your safety depends on your own good judgment, adequate preparation, and constant attention to your surroundings. Your safety is your responsibility.

Watch for these indications of a possible flash flood:

- Any deterioration in weather conditions
- Buildup of clouds or sounds of thunder

- Sudden changes in water clarity from clear to muddy
- Floating debris
- Rising water levels or stronger currents
- Increasing roar of water up canyon

If you observe any of these signs, seek higher ground immediately. Even climbing a few feet may save your life. Remain on high ground until conditions improve. Water levels usually drop within 24 hours. Flash floods do occur in the park during periods of low flash flood potential. A moderate or higher flash flood potential should be a serious cause for concern.

(NPS Contributors, 2020)

Altitude Sickness

Altitude sickness, the mildest form being acute mountain sickness (AMS), is the negative health effect of high altitude, caused by rapid exposure to low amounts of oxygen at high elevation. Symptoms may include headaches, vomiting, tiredness, trouble sleeping, and dizziness. Acute mountain sickness can progress to high altitude pulmonary edema (HAPE) with associated shortness of breath or high-altitude cerebral edema (HACE) with associated confusion. Chronic mountain sickness may occur after long term exposure to high altitude.

Altitude sickness typically occurs only above 2,500 meters (8,000 ft), though some are affected at lower altitudes such as 6,000 feet. Risk factors include a prior episode of altitude sickness, a high degree of activity, and a rapid increase in elevation. Diagnosis is based on symptoms and is supported in those who have more than a minor reduction in activities. It is recommended that at high-altitude any symptoms of headache, nausea, shortness of breath, or vomiting be assumed to be altitude sickness.



Prevention is by gradually increasing elevation by no more than 300 meters (1,000 ft) per day. Pre-medicating with the drug acetazolamide (trade name Diamox) may help some people making a rapid ascent to sleeping altitude above 2,700 meters (9,000 ft), and it may also be effective if started early in the course of AMS. Acetazolamide can be taken before symptoms appear as a preventive measure at a dose of 125 mg twice daily. Consult with your doctor to explore this option. Being physically fit does not decrease the risk. Treatment is generally by descending to a lower altitude and sufficient fluids. Mild cases may be helped by ibuprofen, acetazolamide, or dexamethasone. Prior to the onset of altitude sickness, ibuprofen is a suggested non-steroidal anti-inflammatory and painkiller that can help alleviate both the headache and nausea associated with AMS. Severe cases may benefit from oxygen therapy and a portable hyperbaric bag may be used if descent is not possible.



AMS occurs in about 20% of people after rapidly going to 2,500 meters (8,000 ft) and 40% of people going to 3,000 meters (10,000 ft). While AMS and HACE occurs equally frequently in males and females, HAPE occurs more often in males.

The Narrows, The Subway, Canyoneering

The Narrows

The Virgin River has carved a spectacular gorge in the upper reaches of Zion Canyon: 16 miles long, up to 2,000-feet deep, and at times only 20 to 30-feet wide. The Narrows, with its soaring walls, sandstone grottos, natural springs, and hanging gardens can be an unforgettable wilderness experience.

The Narrows is not a hike to be underestimated. Hiking The Narrows means hiking in the Virgin River. At least 60 percent of the hike is spent wading, walking, and sometimes swimming in the river. There is no maintained trail because the route is the river. The current is swift, the water is cold, and the rocks underfoot are slippery. Flash flooding and hypothermia are constant dangers. Good planning, proper equipment, and sound judgment are essential for a safe and successful trip. Your safety is your responsibility.

GROUP SIZE LIMIT

Large groups produce increased impacts on the wilderness. Group size is limited to a maximum of 12 people sharing the same affiliation (e.g., school, club, scout troop, family, and friends) in the same drainage, route, or wilderness trail on the same day. Group size limits are strictly enforced. Permits will be denied and violators cited if limits are exceeded.

WHEN TO HIKE THE NARROWS

Entering The Narrows is safest when the forecast has little chance of rain and the river is low, clear, and relatively warm. Conditions change from day to day and are impossible to predict. Check the Zion Canyon Visitor Center for the latest weather forecast and possible advisories. Permits are not issued when the flow is 120 cubic feet per second (cfs) or greater. Flash floods can occur any time, but are more common in mid-summer and early fall. From November through May, trips through The Narrows require wetsuits, or even drysuits, and special cold weather preparation. Spring snowmelt frequently

causes the river to run at dangerously high levels from March to early June.

FOOTWEAR

Hiking The Narrows is like walking on slippery bowling balls. It requires balancing on algae-coated rocks in a swiftly flowing river. Sturdy footwear is essential. Hiking boots with good ankle support are best. Sandals and bare feet are not appropriate. Inappropriate footwear often results in twisted ankles and crushed toes.



CLOTHING

Even in summer The Narrows can be cool. The water is cold, breezes blow steadily, and very little sunlight penetrates to the canyon floor. Take extra warm clothing. Clothing made of wool or synthetic fibers has the best insulation.

DRINKING WATER

Untreated water from the river and its springs is not safe to drink. It has passed over rangeland and may be contaminated with illness-causing bacteria. Treat the water you collect by filter, tablets, or by boiling. Hikers are encouraged to carry in all of their water. Drink one gallon of water per person per day.

FALLS

Even the most experienced hikers fall in The Narrows. Pack a walking stick for additional stability. It is also a good idea to waterproof your belongings. Many hikers line their

packs with plastic bags. Smaller resealable bags provide extra protection for cameras and other items.

WATER DEPTH

The water level varies in The Narrows. Under ideal conditions, when flow is less than 70 cubic feet per second, most crossings are around knee-deep. Higher flows mean higher water, a stronger current, and may require wading in waist-deep water. Be prepared to swim. Even when the river is low, chest-deep holes are common. When possible, help the park protect fragile vegetation in The Narrows and hike in or near the river.

DAY HIKE FROM THE BOTTOM AND BACK

To experience The Narrows, start at the Temple of Sinawava, hike one mile to the end of the Riverside Walk and wade into the river. In less than a mile, you will be hiking in one of the narrowest sections of the canyon. There is not a formal destination, and you will return the same way you came. Some hikers try to reach Orderville Canyon, a tributary roughly two hours upstream from the end of the trail. Travel upstream into Orderville Canyon or beyond Big Spring is prohibited. No permit is required for this day hike. Groups size limits apply beyond the junction with Orderville Canyon.

DAY HIKE FROM TOP TO BOTTOM

Walking the entire length of The Narrows can be a grueling experience. Under favorable conditions, the 16-mile route takes an average of 12 hours. Even for well-conditioned hikers, this makes for a long and strenuous day. The trailhead at Chamberlain’s Ranch is a 1.5-hour drive from the Temple of Sinawava. Two vehicles or a shuttle is necessary. A wilderness permit is required. Group size limits apply.

OVERNIGHT HIKE FROM TOP TO BOTTOM

To enjoy The Narrows at a more leisurely pace, some visitors choose to spend a night in the gorge. There are twelve numbered sites. Only one-night stays are allowed, and overnight trips must start from Chamberlain’s Ranch. Reservations are recommended for weekend trips. Campsite capacity is limited and only two sites can accommodate groups of more than six people.

TRANSPORTATION

If you are planning to hike The Narrows from top to bottom, there are a couple of transportation options:

- If you have two vehicles, you can shuttle yourself by parking one vehicle at Chamberlain’s Ranch and the other at the Zion Canyon Visitor Center.
- You may make arrangements with a local shuttle service.

At the end of your hike at the Temple of Sinawava, you must catch the Zion Canyon Shuttle to the visitor center. Plan your hike so you do not miss the last shuttle of the night.

DIRECTIONS TO CHAMBERLAIN’S RANCH

Chamberlain’s Ranch is a 1.5-hour drive from Zion Canyon, along paved and dirt roads. The dirt roads are passable for normal cars only when dry. When wet, they may be impassable even for four-wheel drive vehicles. Snow closes the road in winter. From the park’s East Entrance, drive 2.5 miles east on Route 9. Turn left on a paved road and continue 18 miles to a bridge that crosses the North Fork of the Virgin River. Turn left beyond the bridge and drive one-quarter mile to the gate of Chamberlain’s Ranch. Please close the gate behind you. Drive one-half mile farther and park just before the road crosses the river. To begin your hike, cross the river and follow the road for approximately 3 miles. Enter the river at the end of the road past the old cabin. Chamberlain’s Ranch is a private ranch outside Zion National Park. Please respect private property.

Chamberlain’s Ranch	0:00 / 0.0 mi
Old Cabin	1:00 / 2.3 mi
First Narrows	3:30 / 6.1 mi
Waterfall	4:15 / 8.3 mi
Deep Creek	5:00 / 8.9 mi
Kolob Creek	5:45 / 9.8 mi
Goose Creek	6:35 / 10.9 mi
Big Spring	7:20 / 11.5 mi
Orderville Canyon	10:00 / 13.5 mi
Riverside Walk	11:50 / 15.1 mi
Temple of Sinawava	12:20 / 16.2 mi

Track your progress by recognizing side canyons like Deep Creek, Kolob Creek, and Big Spring. Watch closely for the mouth of Goose Creek.

(NPS Contributors, 2020)

Left Fork (The Subway)

There are two ways to hike Left Fork (The Subway). Both trips involve extensive route finding. Visitors are encouraged to travel with an experienced hiker of Left Fork (The Subway) or obtain a detailed route description. Permits are required regardless of the direction of travel. Left Fork (The Subway) is a day-use area only.

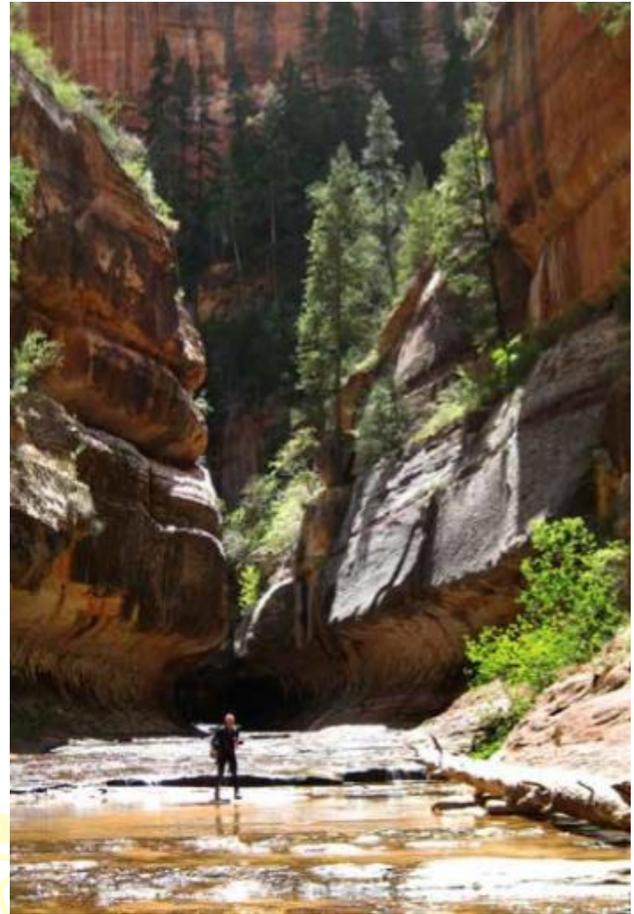
FROM THE BOTTOM AND BACK

This strenuous 9-mile round-trip hike requires route finding, stream crossing, and scrambling over boulders. This hike begins and ends at the Left Fork Trailhead on the Kolob Terrace Road.

FROM THE TOP TO THE BOTTOM

This strenuous 9.5-mile hike requires rappelling skills, 60 feet of rope, and extensive route-finding experience. The route also requires swimming through several deep pools of very cold debris-filled water. The trail begins at the Wildcat Canyon Trailhead and ends at the Left Fork Trailhead. Both trailheads are located on the Kolob Terrace Road north of Virgin, Utah.

(NPS Contributors, 2020)



Canyoneering

Canyoneering combines route finding, rappelling, problem solving, hiking, and swimming. Zion National Park is one of the premier places in the country to participate in this exciting activity. With dozens of different canyons to explore, some barely wide enough for a human to squeeze through, the park offers opportunities that range from trips for beginners to experiences requiring advanced technical skills.

A short trip into the lower end of The Narrows from the Temple of Sinawava is a great introduction to the slot canyons of the park. For those with expertise and experience, The Subway and Orderville Canyon offer opportunities for route finding, swimming, and short rappels.

MINIMUM IMPACT CANYONEERING

Travel on durable surfaces, like slickrock, river bottoms, or drainages. Avoid steep, sandy, or erodible slopes. Carry solid waste disposal bags and pack out everything, including toilet paper. Don't bury it, burn it, or leave it. Prevent bottlenecks. If a faster group catches up to you, allow them to pass.



Avoid bolting. Bolts should only be placed as a last result. Only use a bolt if there are no other safe options for creating an anchor. If bolts are used, they should be placed so that they will last for many years and will avoid scarring on the rock caused by rope pulls. There are several items that you should bring on every canyoneering trip in Zion National Park.

BACKUP EQUIPMENT

The ability to stop, move up, or down while hanging mid-rope is a lifesaving skill that must be learned before you need it. Can you create extra friction? Do you have ascenders? Can you belay the less experienced members of your group?

UP-TO-DATE WEATHER & FLASH FLOOD POTENTIAL

Carefully evaluate the forecast and flash flood potential before entering a narrow canyon. Remember that a 30 percent chance of rain means that 30 percent of the forecasted area is expected to receive measurable precipitation. Continuously evaluate weather conditions. If bad weather threatens, avoid traveling in a slot canyon. If you are in a slot canyon, find higher ground and wait for conditions to improve.

MAP AND ROUTE DESCRIPTION

You must have and use them. Carefully assess your location before beginning your first rappel.

ANCHOR EQUIPMENT

Can you replace webbing if it is worn? Can you create a new anchor if needed?

EXTRA CLOTHING

Could you spend an unexpected night in the canyon?

EXTRA FOOD

Food keeps your energy up and helps you stay warm if you remain out overnight.

WATER

Drink a minimum of one gallon per person per day.

FLASHLIGHT / HEADLAMP

Every week, canyoneers spend unintended nights camped in the wilderness of the park. A headlamp could make the

difference between spending the night in the canyon and making it out.

HELMET

Rock falls can cause severe injuries.

FIRST AID KIT

Even a minor injury can cause major problems in the wilderness. Remember, even the most reliable cell phones and GPS units rarely work in the narrow canyons of Zion National Park.

(NPS Contributors, 2020)

Canyoneering Safety

ALWAYS HAVE A PLAN B

There is no substitute for planning ahead, taking the proper equipment, having the right skills, and using sound judgment. Be prepared to take care of yourself and your group by resolving any difficulties that may arise. Rescue is not a certainty. If rescue is possible, it will take hours or days to remove an injured hiker from the wilderness.

ENGLESTEAD CANYON

September 3, 2017, a male was descending Englestead Canyon with a group. The first rappel in this canyon is approximately 300 feet. On this rappel, he lost control approximately 70 feet off the ground and fell to the canyon floor where he was fatally injured. This individual was descending on a single strand of rope, using a new 8.3 mm rope. He was descending on an ATC device without a belay or a backup. He was reported to be an experienced canyoneer. Understand your system, forces, and the variables that will change your descent. Are you taking shortcuts? Will your descent system stop you if you are unable to stop yourself? Are you positive you possess and are employing the skill to safely complete the canyon you are attempting? Know how to tie a hands-free backup. Make safety your number one priority.

LOWER ECHO CANYON

September 6, 2016, two males attempted to descend Middle Echo Canyon, but did not look at their route description until they descended into Lower Echo Canyon. They continued through the canyon, even though the

features did not meet the route description. By the time they looked at their route description, they were already too committed to exit Lower Echo Canyon. Eventually, they emerged at the top of Weeping Rock, a drop more than 10 times higher than the largest rappel in Middle Echo (this rappel is not permitted). Luckily, they were able to call down for help. These canyoneers spent the night at the top of Weeping Rock where they were rescued the next day, after being stranded for approximately 15 hours. Even heavily traveled canyons in the park are routes, not maintained trails. Do you have a map and a route description? Are you confident in your ability to use them? When you enter a canyon and pull your rope after your first rappel, you are committed. You must complete the canyon whether you intended to or not and regardless if you are prepared for the canyon you are descending.

PINE CREEK CANYON

On November 15, 2014, a group of three was rappelling through Pine Creek Canyon. A member of the party jumped off an obstacle about five feet high into a pool of water. He believed that the pool was deep enough to cushion his fall but landed on a hidden ledge. The 36-year-old man suffered from a significant lower leg injury. The patient was less than half a mile from a road, but the technical rope rescue necessary to extract him from the canyon required six hours and 14 rescuers. Lower leg fractures are the most common injuries suffered in the wilderness. The most common cause of lower leg injuries is jumping. Do not jump. Bring a rope and use it.



+ Do you have a backup for all party members? Can all members of your group stop mid-rappel or ascend a short distance to correct a problem? If not, consider taking a canyoneering course before heading out on your own.

THE NARROWS

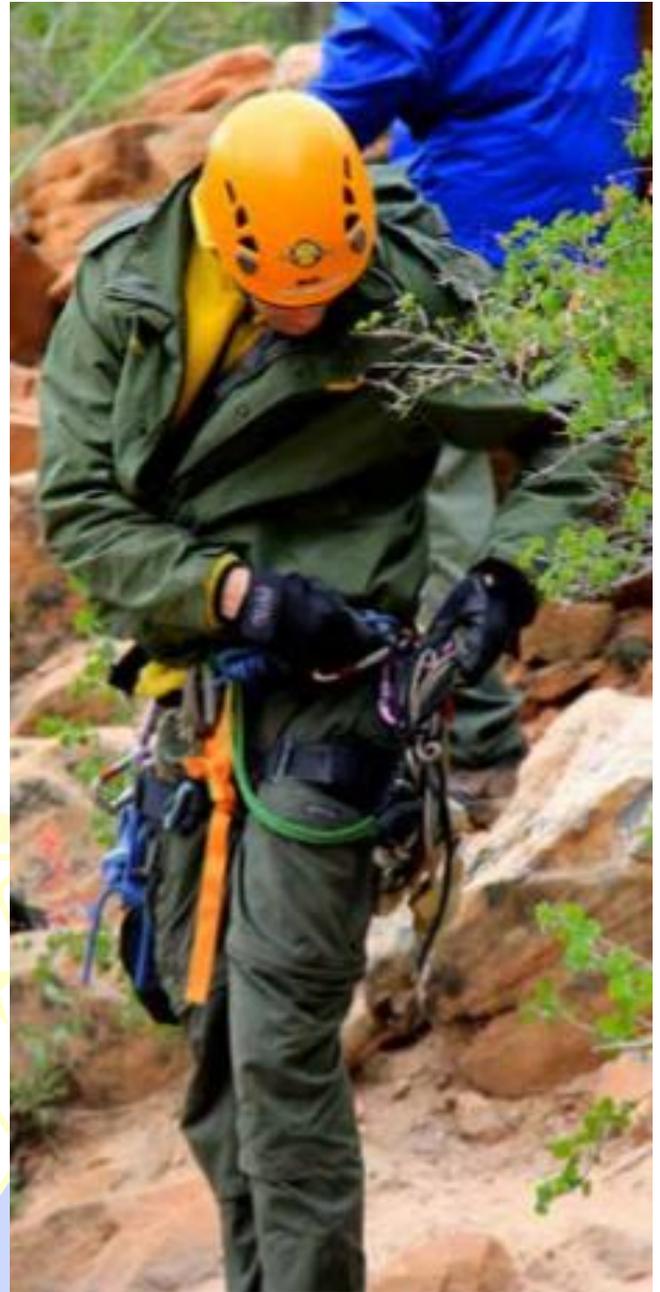
On the morning of September 27, 2014, two men hiked into the lower end of The Narrows. There was a 90% chance of rain that day, and the flash flood potential rating indicated that flash flooding was expected. Heavy rain began mid-morning and lasted through most of the day. The volume of the river increased to 40 times its early morning flow. The men were trapped on separate sand bars 200 feet apart. One of the men somehow survived a swim to the end of the Riverside Walk. The other man was killed by the flood. Always check the weather before your trip. If bad weather threatens, do not enter a canyon. If you observe any signs of a possible flood, climb to high ground and remain there until water levels drop.



REFRIGERATOR CANYON

On September 20, 2014, a group of eight people, including a thirteen-year-old boy, attempted the Refrigerator Canyon route. The boy attempted to rest by tying off his rappel device when he was about 40 feet off of the ground. He lost control while completing the tie off and fell 20 to 40 feet. A prussic caught him before he impacted the ground, but he still suffered back and chest injuries. The boy's prussic backup prevented more serious injuries. Do you have a backup for all party members? Can all members of your group stop mid-rappel or ascend a short distance to correct a problem? If not, consider taking a canyoneering course before heading out on your own.

(NPS Contributors, 2020)



The Expedition

The "Trans-Zion Trek" (also referred to as the "Zion Traverse") is a multi-day backpacking hike that connects several of Zion's trails into one long route from one corner of the park to the other. This strenuous and beautiful hike can take on average between three to five days and involves a lot of elevation gains and drops. Along the way, you will see some of Zion's most awe-inspiring scenery as well as many beautiful spots that most dayhikers never experience. Total mileage: roughly 48 miles. Before attempting this hike, you must work out the logistics of getting backcountry permits, planning your campsite spots for each night, car shuttles/car spots, and water sources (caching water and/or using available springs and streams).

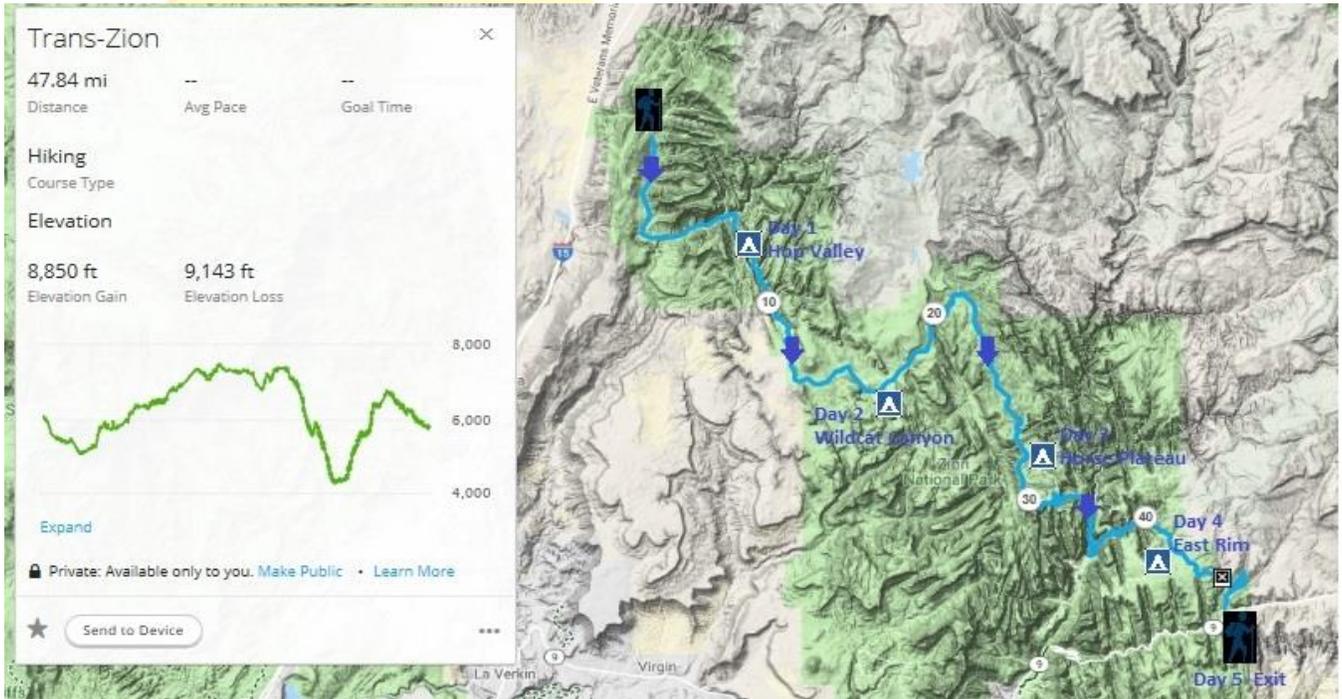
Itinerary

ZION ITENERARY for April of 2020							
Date	Day/Activity	Night/Camp	Distance	Positive Gain	Negative Gain	Overall Gain	Travel Times
4/25/2020	Fly into Las Vegas, Check into Hotel.	Las Vegas Hotel					
4/26/2020	REI run in Vegas, drive to Zion, Obtain permit, Walmart supply run, check into hotel	Springdale hotel					
4/27/2020	Shuttle to trailhead, hike to hop valley	Campsite A in Hop Valley	7.96 mi.	991 ft.	1377 ft.	-386 ft.	5.38 hrs.
4/28/2020	Hike to Wildcat Canyon	Northgate peaks trail, open camping	8.96 mi.	1380 ft.	184 ft.	1196 ft.	6.35 hrs.
4/29/2020	Hike to Horse Plateau near Potatoe Hollow	Campsite 8 near Potatoe Hollow	9.76 mi.	951 ft.	1082 ft.	-131 ft.	6.31 hrs.
4/30/2020	Hike from the West Rim to Angels Landing and then on to the East Rim	Camp at Stave Spring on the East Rim	14.62 mi.	4475 ft.	4781 ft.	-306 ft.	12.76 hrs.
5/1/2020	Hike to the trail end. Drive to Vegas.	Hotel in Vegas	5.8 mi.	503 ft.	1285 ft.	-782 ft.	3.69 hrs.
5/2/2020	Fly home						
Totals			47.1 mi.	8300 ft.	8709 ft.	-409 ft.	34.49 hrs.

Elevation Profile



Topographical Map of the Trans-Zion Trek

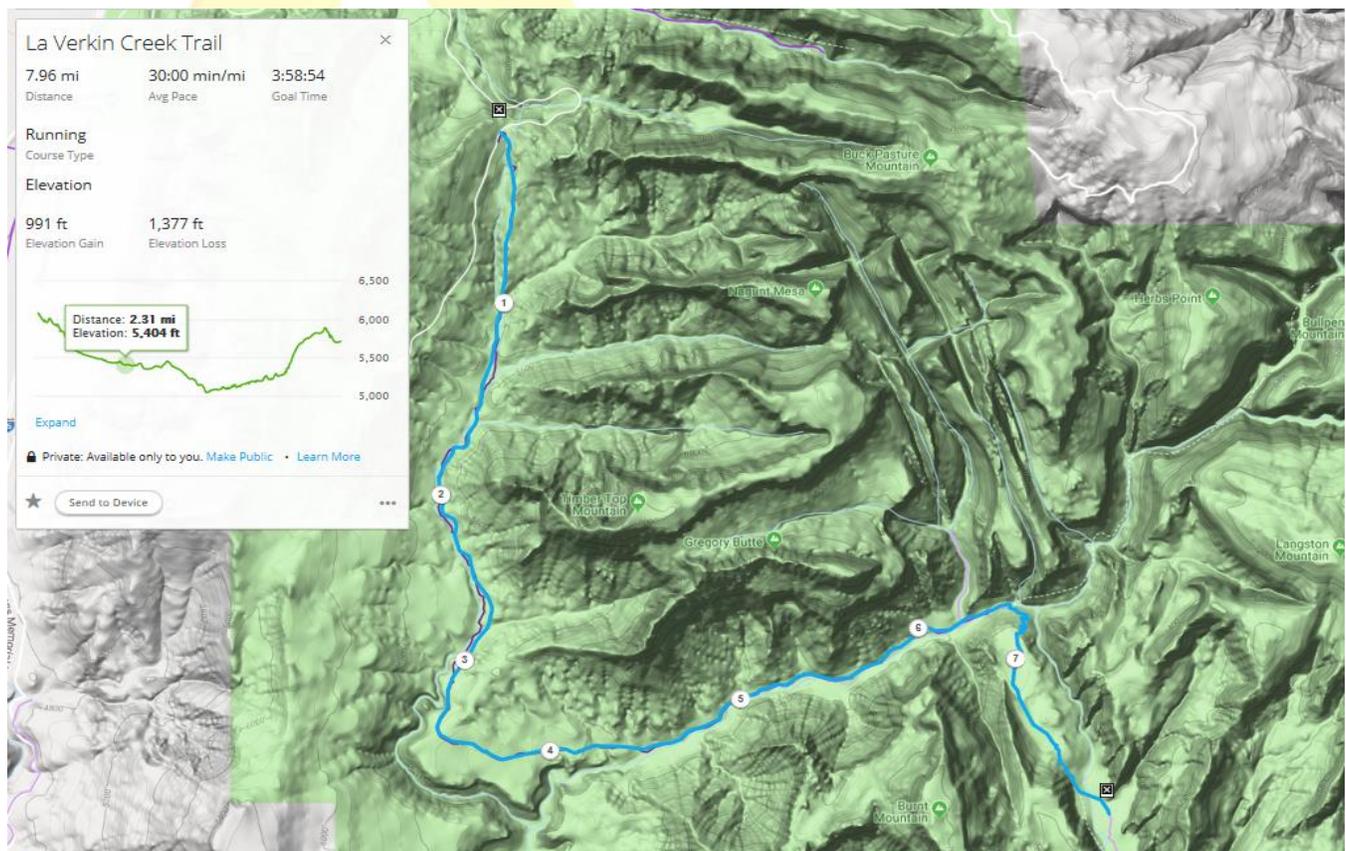


Hiking Routes

Day 1

Trailhead:	<i>Lee Pass</i>	Elevation Gain:	<i>991 ft.</i>
Campsite:	<i>Hop Valley A</i>	Elevation Loss:	<i>1377 ft.</i>
Mileage:	<i>7.96 mi.</i>	Travel Time:	<i>5.38 hrs.</i>
Water Locations:			
Emergency Access:			

Starting at Lee Pass in the Kolob Canyons section of the park, hike down the La Verkin Creek Trail as heads to La Verkin Creek. Turn off at the junction with the Hop Valley Trail just past the Kolob Arch spur trail. Gradual elevation loss of 1000 feet.



Day 2

Trailhead: Hop Valley Campsite A

Campsite: Wildcat Canyon

Mileage: 8.96 mi.

Elevation Gain: 1380 ft.

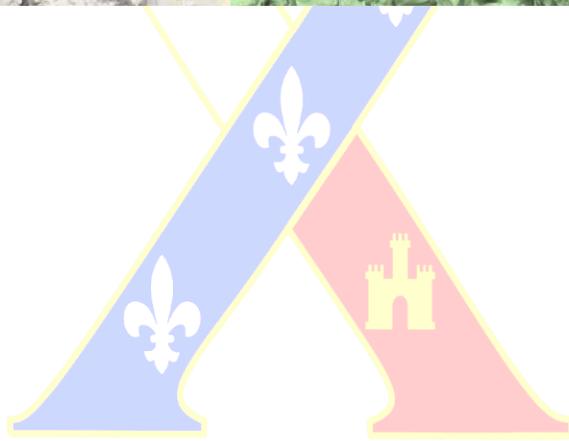
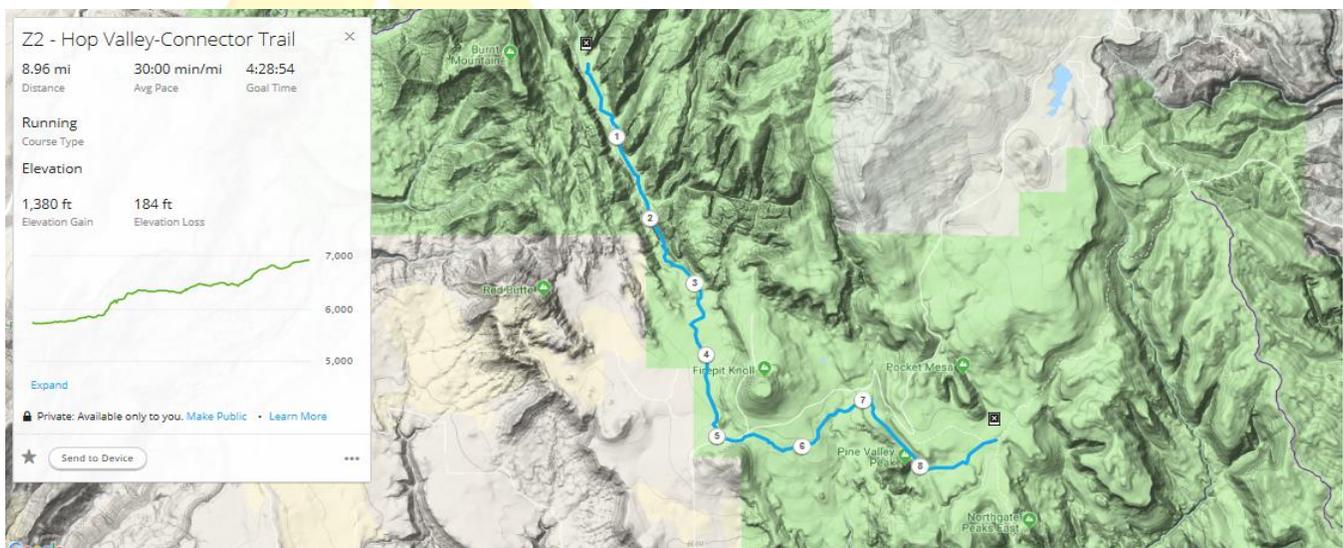
Elevation Loss: 184 ft.

Travel Time: 6.35 hrs.

Water Locations:

Emergency Access:

Head south up sandy Hop Valley to the Kolob Terrace section and the junction with the Kolob Terrace Road. A gradual elevation gain of 1000 feet. Note: The Connector Trail veers off to the east just before reaching the official Hop Valley Trailhead. After crossing the Kolob Terrace Road, head east on the more faint trail as it wanders through the open valley, then heads up to the forested plateau and the junction with the Wildcat Canyon Trail. Elevation gain of 500 feet.



Day 3

Trailhead: Connector Trail Junction

Campsite: Campsite 8

Mileage: 9.76 mi.

Water Locations:

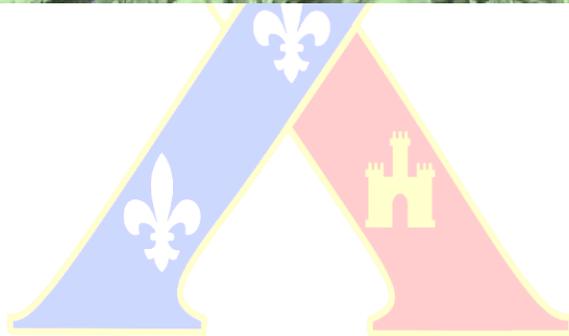
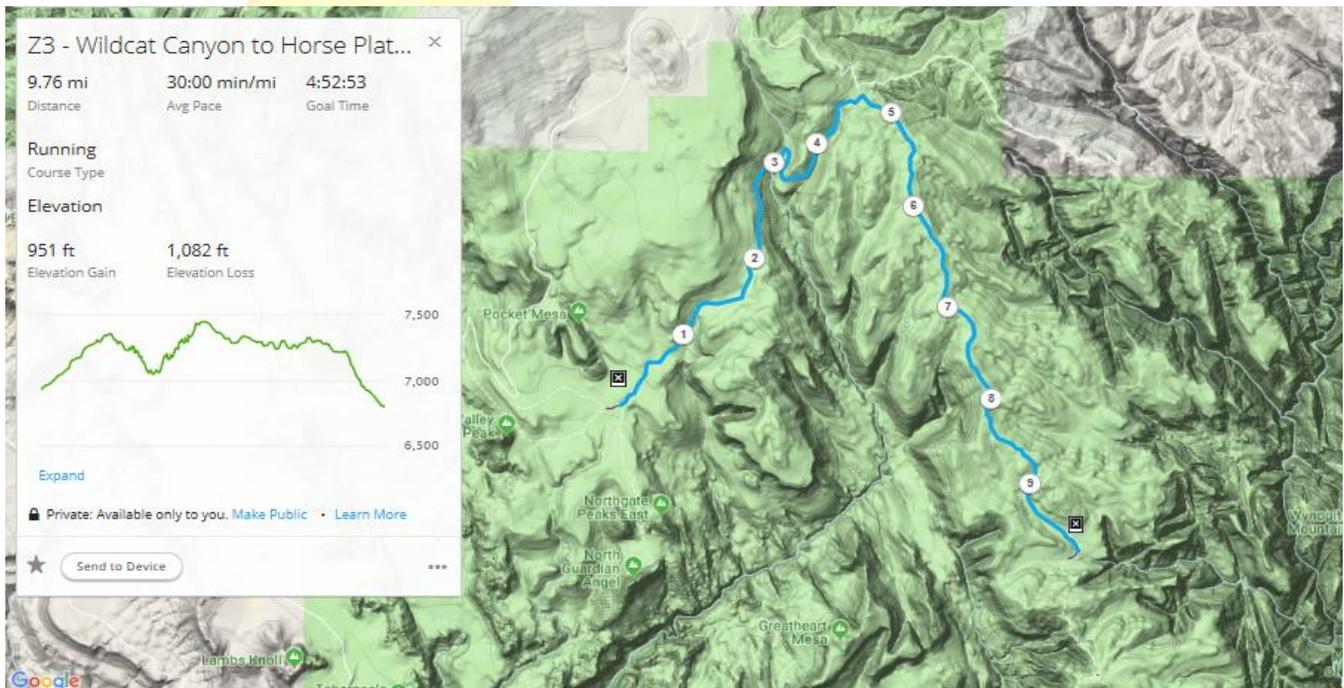
Emergency Access:

Elevation Gain: 991 ft.

Elevation Loss: 1377 ft.

Travel Time: 6.35 hrs.

A mostly level section of trail that wanders through a beautiful pine forest, an open meadow, then skirts around the White Cliffs above Wildcat Canyon to join up with the West Rim Trail. Roughly 5 miles with an elevation gain of 500 feet.



Day 4

Trailhead: Campsite 8

Campsite: East Rim

Mileage: 14.62 mi.

Elevation Gain: 4475 ft.

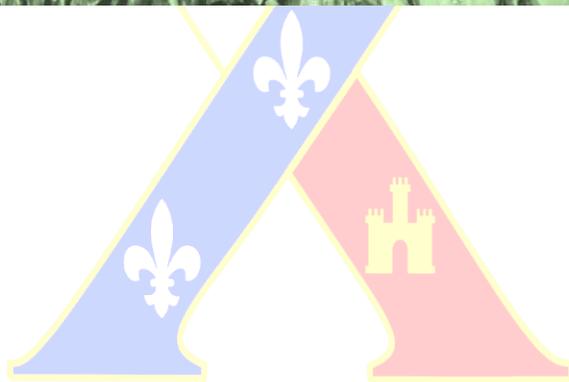
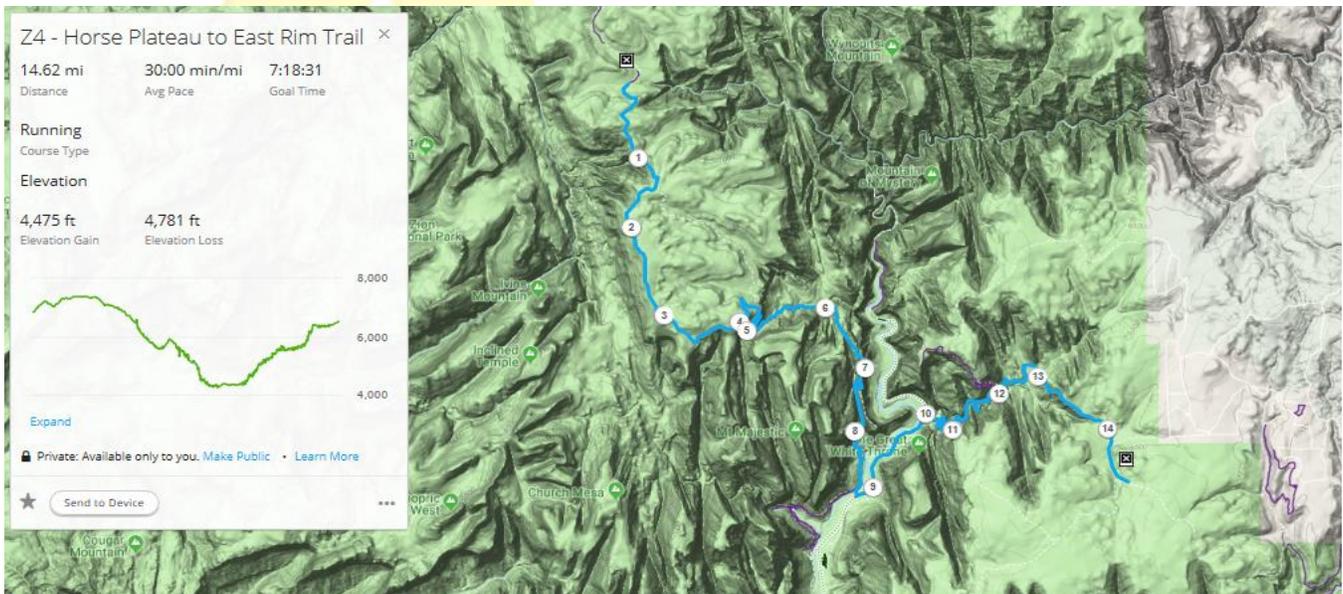
Elevation Loss: 4781 ft.

Travel Time: 12.76 hrs.

Water Locations:

Emergency Access:

A long, mostly level stretch of trail along the high plateau with marvelous views to both the west and east. The last few miles of this stretch are a dramatic descent down a mostly paved trail chiseled through the White Cliffs to pass the famous Angels Landing and end at the bottom of the main canyon. Elevation loss of 3000 feet. From the Weeping Rock Trailhead, hike the steep trail up the east side of the main canyon. At the trail junction in Echo Canyon, choose the less-traveled trail to the East Entrance that will wander across Echo Canyon, then zigzag all the way to the top of the east plateau.



Day 5

Trailhead: East Rim

Campsite: Hotel

Mileage: 5.78 mi.

Water Locations:

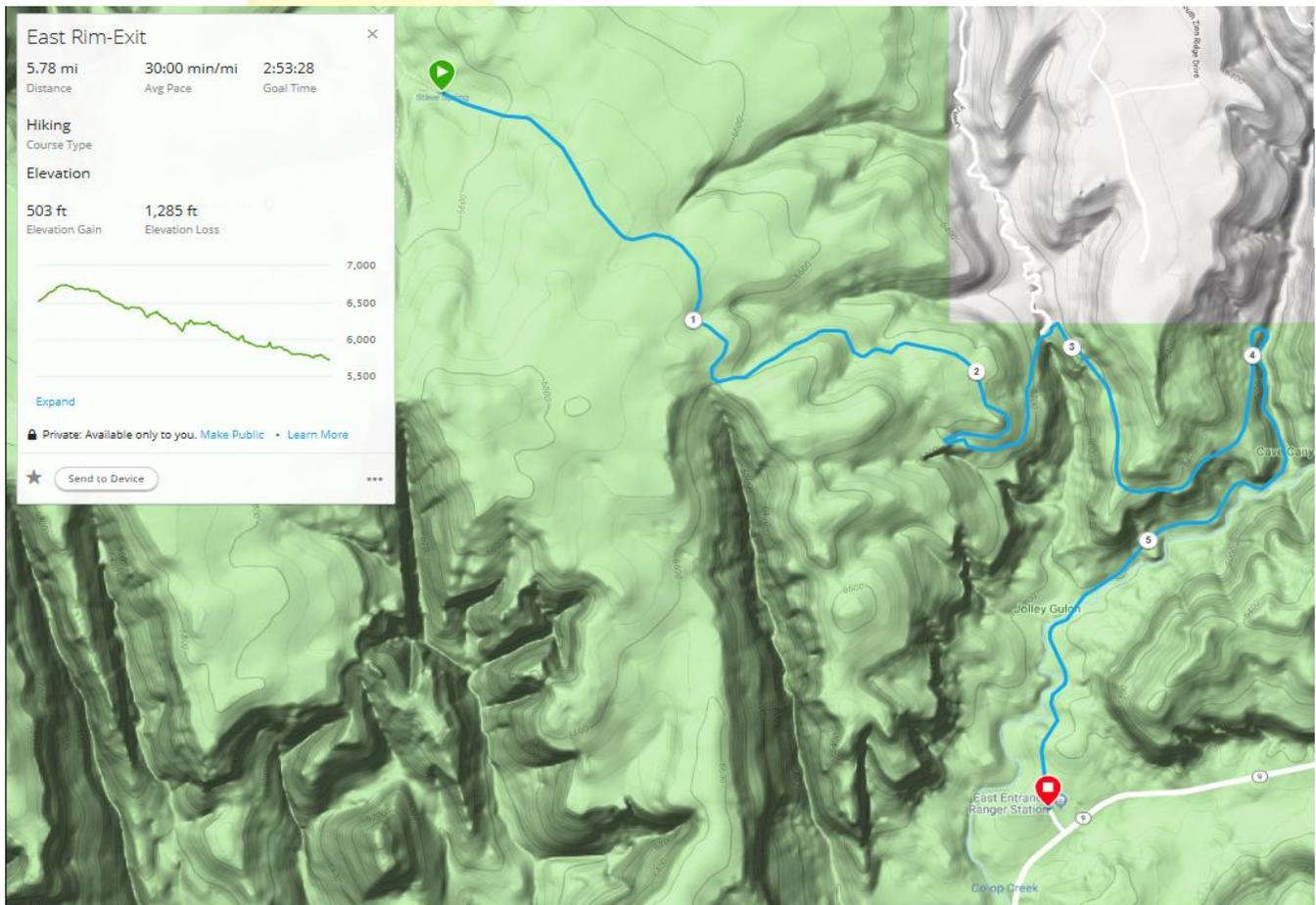
Emergency Access:

Elevation Gain: 503 ft.

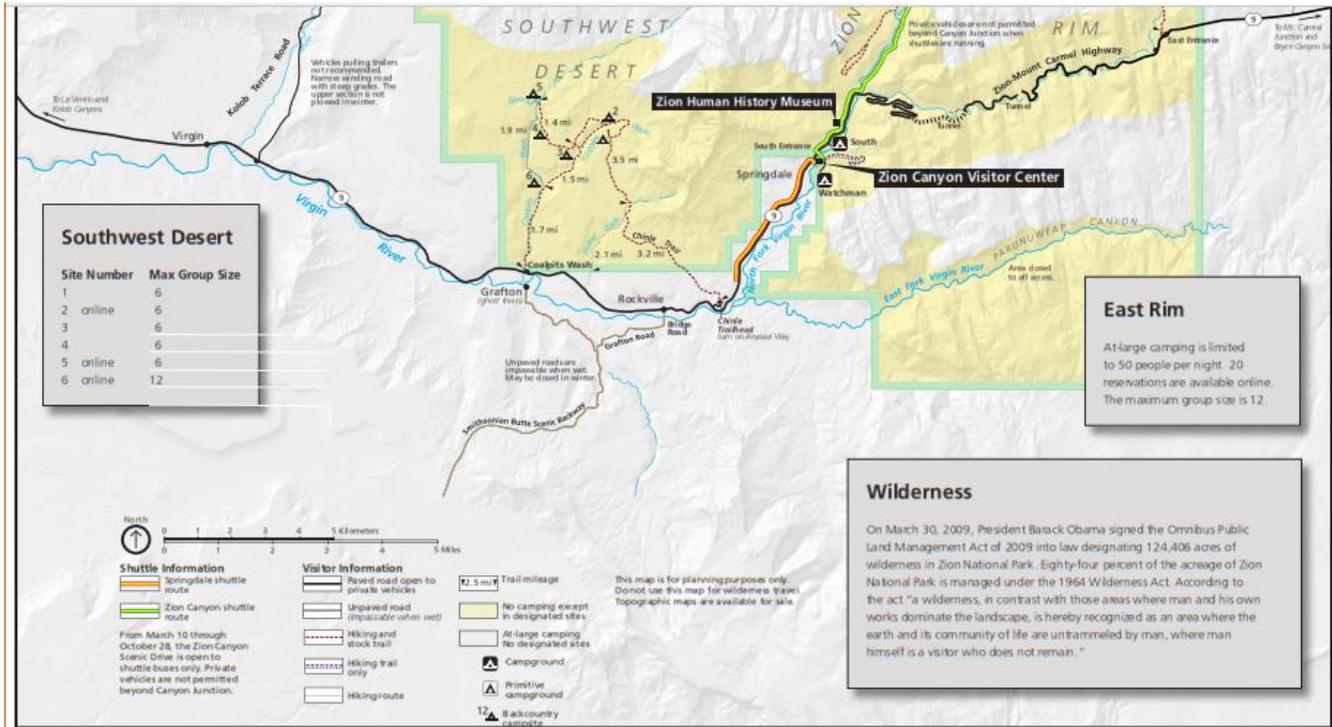
Elevation Loss: 1285 ft.

Travel Time: 3.69 hrs.

After several miles of mostly flat terrain on top of the plateau, the trail will then work its way down into the Upper East Canyon near the East Entrance. Elevation gain of 2000 feet during the steep ascent to the east plateau, then a gradual descent of 500 feet into the upper East Canyon.



Zion Wilderness Map #2



Zion National Park's wilderness is managed using standards that were developed to measure the health of natural resources and to determine the number of encounters people considered desirable and acceptable while experiencing wilderness. These two standards were combined with existing management zones to create overall use limits and group size limits. The use limits are evaluated each year, and may change as conditions warrant.

Wilderness Use Limits

Area	Total Use Limit	Advance Reservations	Last Minute Drawing	Group Size Limit
Behunin Canyon*	12 people per day	6 people per day	6 people per day	6
Echo Canyon*	12 people per day	6 people per day	6 people per day	6
Keyhole Canyon	80 people per day	60 people per day	20 people per day	12
Left Fork (The Subway)	80 people per day	60 people per day	20 people per day	12
Mystery Canyon	12 people per day	6 people per day	6 people per day	6
Orderville Canyon*	50 people per day	30 people per day	20 people per day	12
Pine Creek Canyon*	50 people per day	30 people per day	20 people per day	12
Spry Canyon	20 people per day	14 people per day	6 people per day	6
The Narrows	40 people per day	24 people per day	16 people per day	12

*Total use limits are reduced from March through August for wildlife protection.

Wilderness Guide 6-7



Zion Day Hiking Map

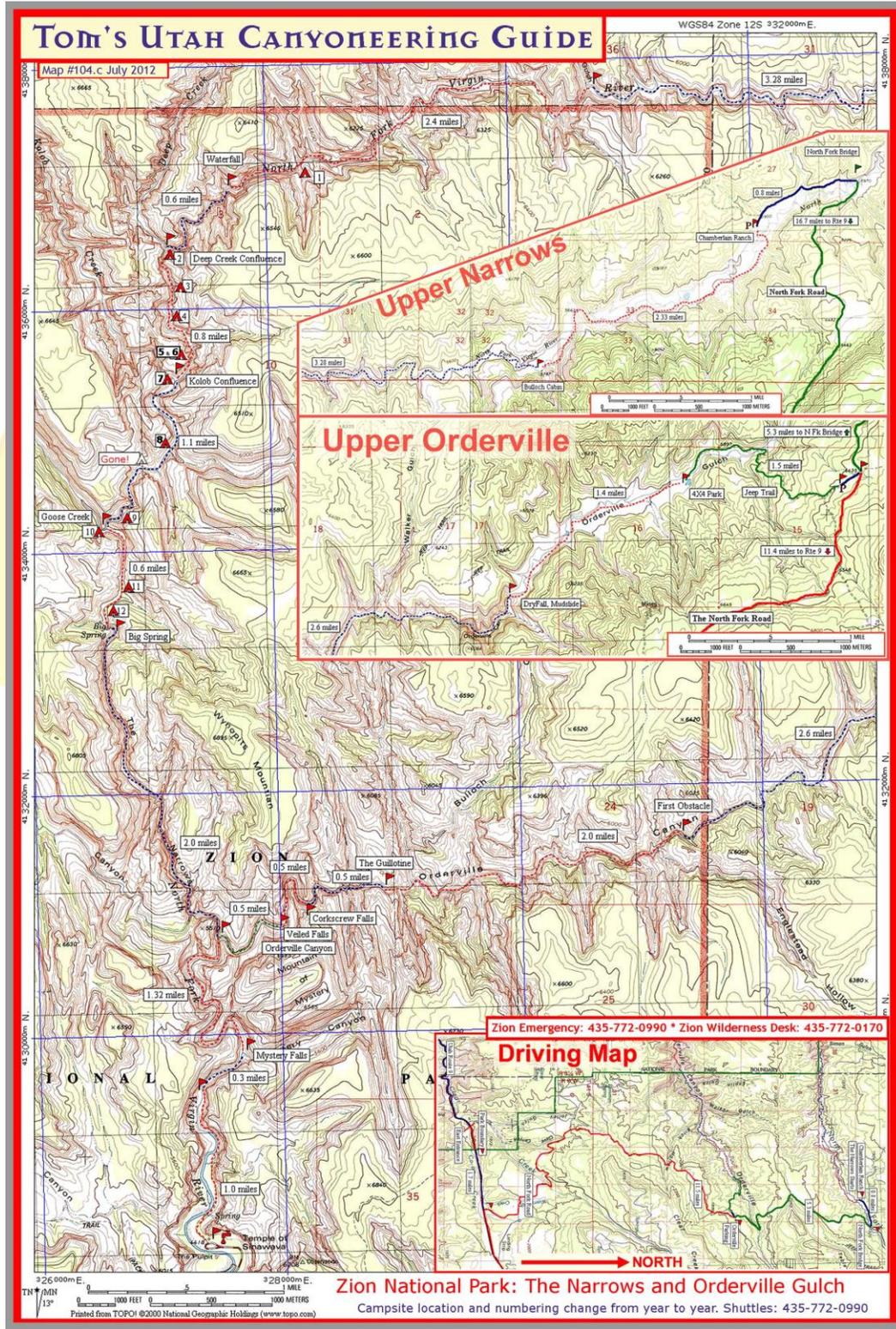
Hiking Guide

Shuttle Stop	Hike Trailhead	Round Trip	Elevation Change	Description
Easy				
1	Pa'rus Trail Zion Canyon Visitor Center	2 hours 3.5 mi / 5.6 km	50 ft / 15 m	Paved trail follows the Virgin River from the South Campground to Canyon Junction. Wheelchairs may need assistance.
1	Archeology Trail Zion Canyon Visitor Center	0.5 hour 0.4 mi / 0.6 km	80 ft / 24 m	Short, but steep. Starts across from the entrance to the visitor center parking lot. Climbs to the outlines of several prehistoric buildings. Trailside exhibits.
5	Lower Emerald Pool Trail Zion Lodge	1 hour 1.2 mi / 1.9 km	69 ft / 21 m	Minor drop-offs. Paved trail leads to the Lower Emerald Pool and waterfalls.
6	The Grotto Trail Zion Lodge The Grotto	0.5 hour 1 mi / 1.6 km	35 ft / 11 m	The trail connects the Zion Lodge to The Grotto. This trail is great for wildlife viewing.
7	Weeping Rock Trail Weeping Rock	0.5 hour 0.4 mi / 0.6 km	98 ft / 30 m	Short, but steep. Minor drop-offs. Paved trail ends at a rock alcove with dripping springs. Trailside exhibits.
9	Riverside Walk Temple of Sinawava	1.5 hours 2.2 mi / 3.5 km	57 ft / 17 m	Minor drop-offs. Paved trail follows the Virgin River along the bottom of a narrow canyon. Trailside exhibits. Wheelchairs may need assistance.
Moderate				
1	Watchman Trail Zion Canyon Visitor Center	2 hours 3.3 mi / 4.3 km	368 ft / 112 m	Moderate drop-offs. Ends at viewpoint of the Towers of the Virgin, lower Zion Canyon, and Springdale.
5	Sand Bench Trail Zion Lodge	5 hours 7.6 mi / 12.2 km	466 ft / 142 m	Commercial horse trail from March to October. Hike atop a massive landslide under The Sentinel. Deep sand and little shade.
5	Upper Emerald Pool Trail Zion Lodge	1 hour 1 mi / 1.6 km	200 ft / 61 m	Minor drop-offs. A sandy and rocky trail that climbs to the Upper Emerald Pool at the base of a cliff. No swimming is allowed. Closed temporarily due to rockfall.
6	Kayenta Trail The Grotto	1.5 hours 2 mi / 3.2 km	150 ft / 46 m	Moderate drop-offs. An unpaved climb to the Emerald Pools Trails. Connects The Grotto to the Emerald Pools Trails. Closed temporarily due to rockfall.
East Side Tunnel	Canyon Overlook Trail Zion-Mt. Carmel Hwy	1 hour 1 mi / 1.6 km	163 ft / 50 m	Long drop-offs, mostly fenced. Rocky and uneven trail ends at viewpoint of Pine Creek Canyon and lower Zion Canyon. Parking lot is right-turn only.
Kolob Canyons	Taylor Creek Trail Kolob Canyons Road	3.5 hours 5.0 mi / 8.0 km	450 ft / 137 m	Limited to 12 people per group. Follows the Middle Fork of Taylor Creek past two homestead cabins to Double Arch Alcove. Closed temporarily.
Kolob Canyons	Timber Creek Overlook Trail Kolob Canyons Road	0.5 hour 1 mi / 1.6 km	100 ft / 30 m	Follows a ridge to views of Timber Creek, Kolob Terrace, and the Pine Valley Mountains. Closed temporarily.
Strenuous				
6	Angels Landing via West Rim Trail The Grotto	4 hours 5.4 mi / 8.7 km	1488 ft / 453 m	Long drop-offs. Not for young children or anyone fearful of heights. Last section is a route along a steep, narrow ridge to the summit.
7	Hidden Canyon Trail Weeping Rock	2.5 hours 2.4 mi / 3.9 km	850 ft / 259 m	Long drop-offs. Not for anyone fearful of heights. Follows along a cliff face to the mouth of a narrow canyon.
7	Observation Point via East Rim Trail Weeping Rock	6 hours 8 mi / 12.9 km	2148 ft / 655 m	Long drop-offs. Climbs through Echo Canyon to viewpoint of Zion Canyon. Access to Cable Mountain, Deertap Mountain, and East Rim Trail.
9	The Narrows via Riverside Walk Temple of Sinawava	8 hours 9.4 mi / 15.1 km	334 ft / 102 m	Read information on the reverse side and check conditions at the visitor center before attempting. High water levels can prevent access to The Narrows.
Kolob Canyons	Kolob Arch via La Verkin Creek Trail Kolob Canyons Road	8 hours 14 mi / 22.5 km	1037 ft / 316 m	Limited to 12 people per group. Follows Timber and La Verkin Creeks. A side trail leads to Kolob Arch, one of the world's largest arches. Closed temporarily.

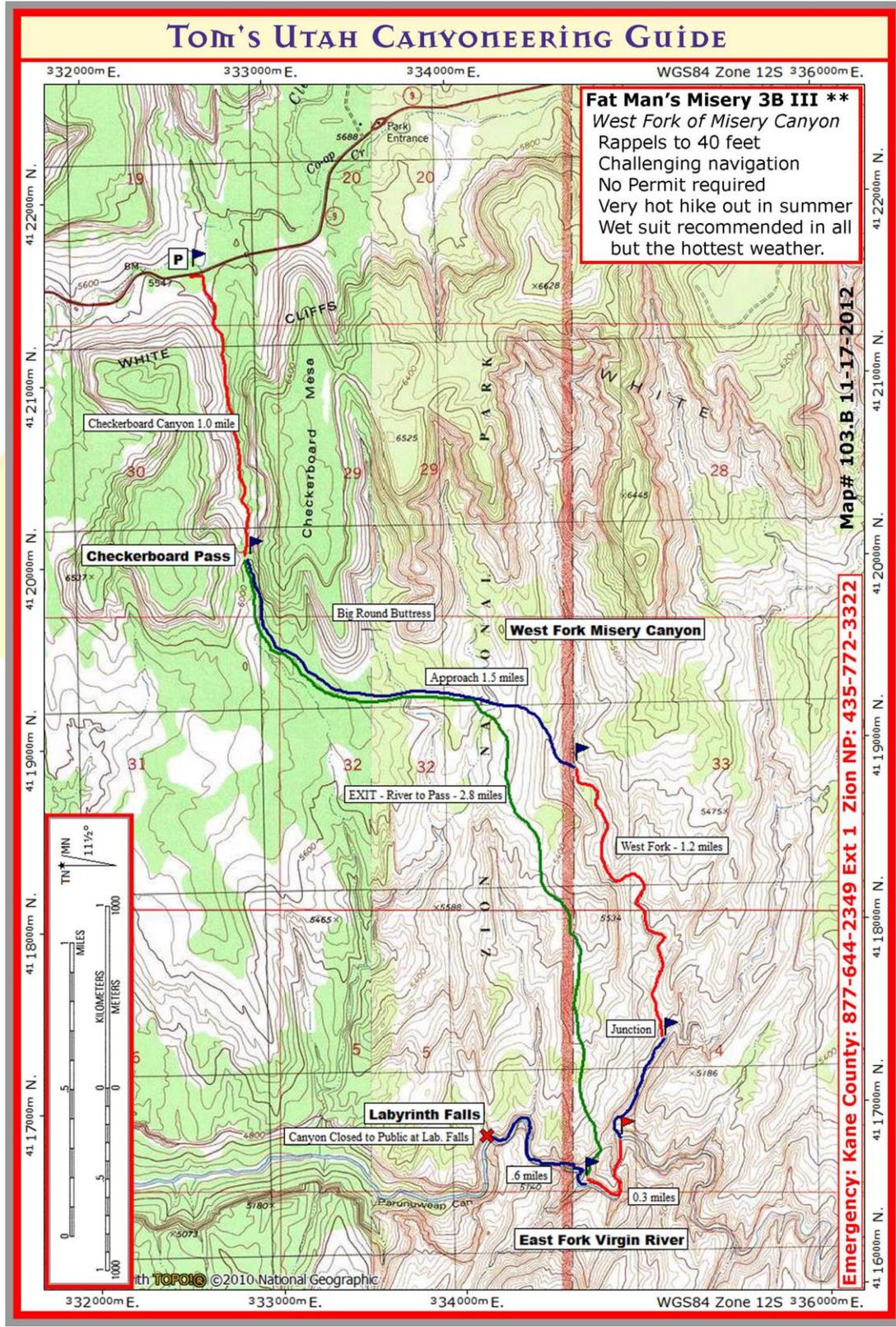
Stay on established trails and watch your footing, especially at overlooks and near drop-offs. Avoid cliff edges. Watch children closely. People uncertain about heights should stop if they become uncomfortable. Never throw or roll rocks because there may be hikers below.



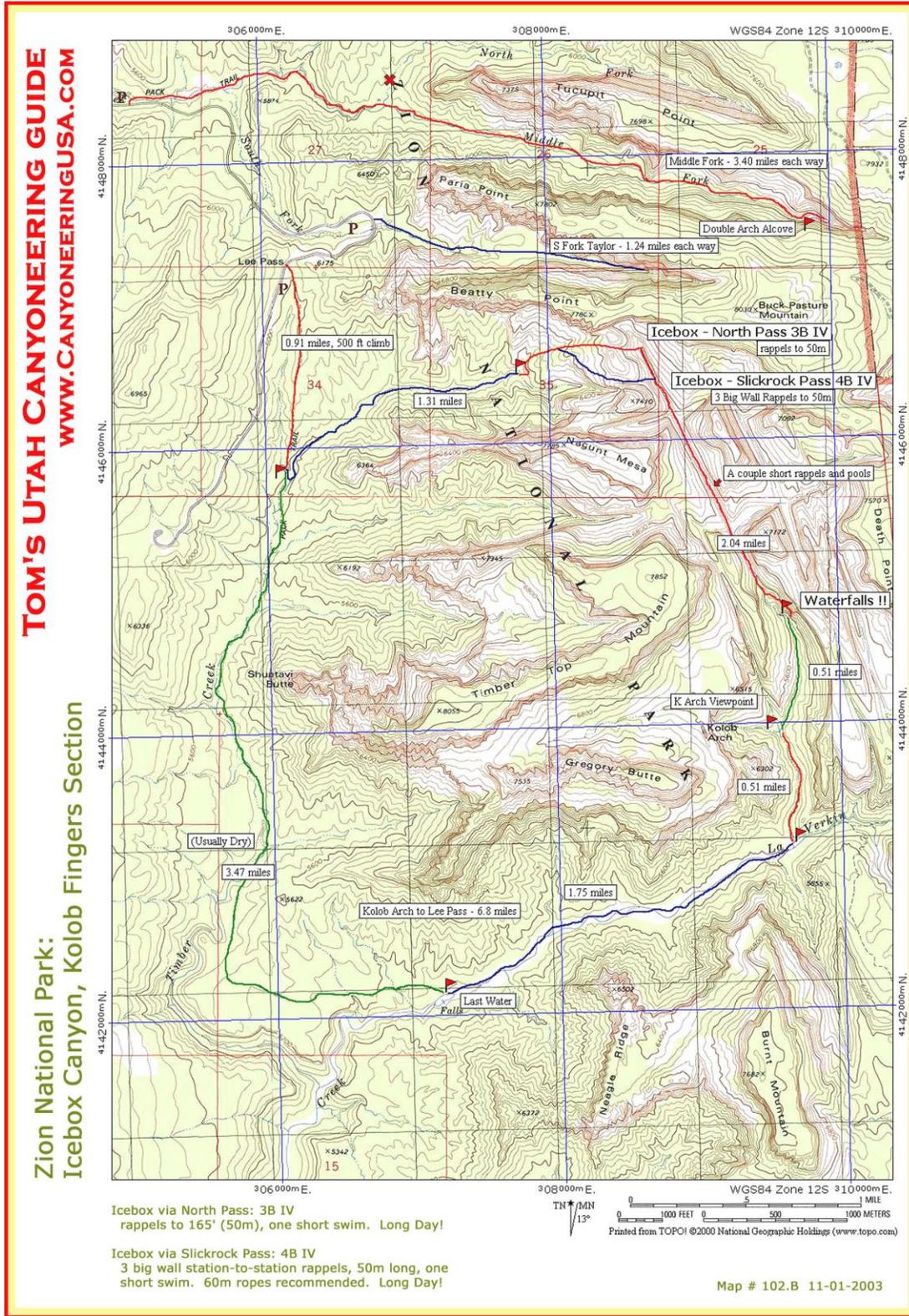
Canyoneering Map - Narrows



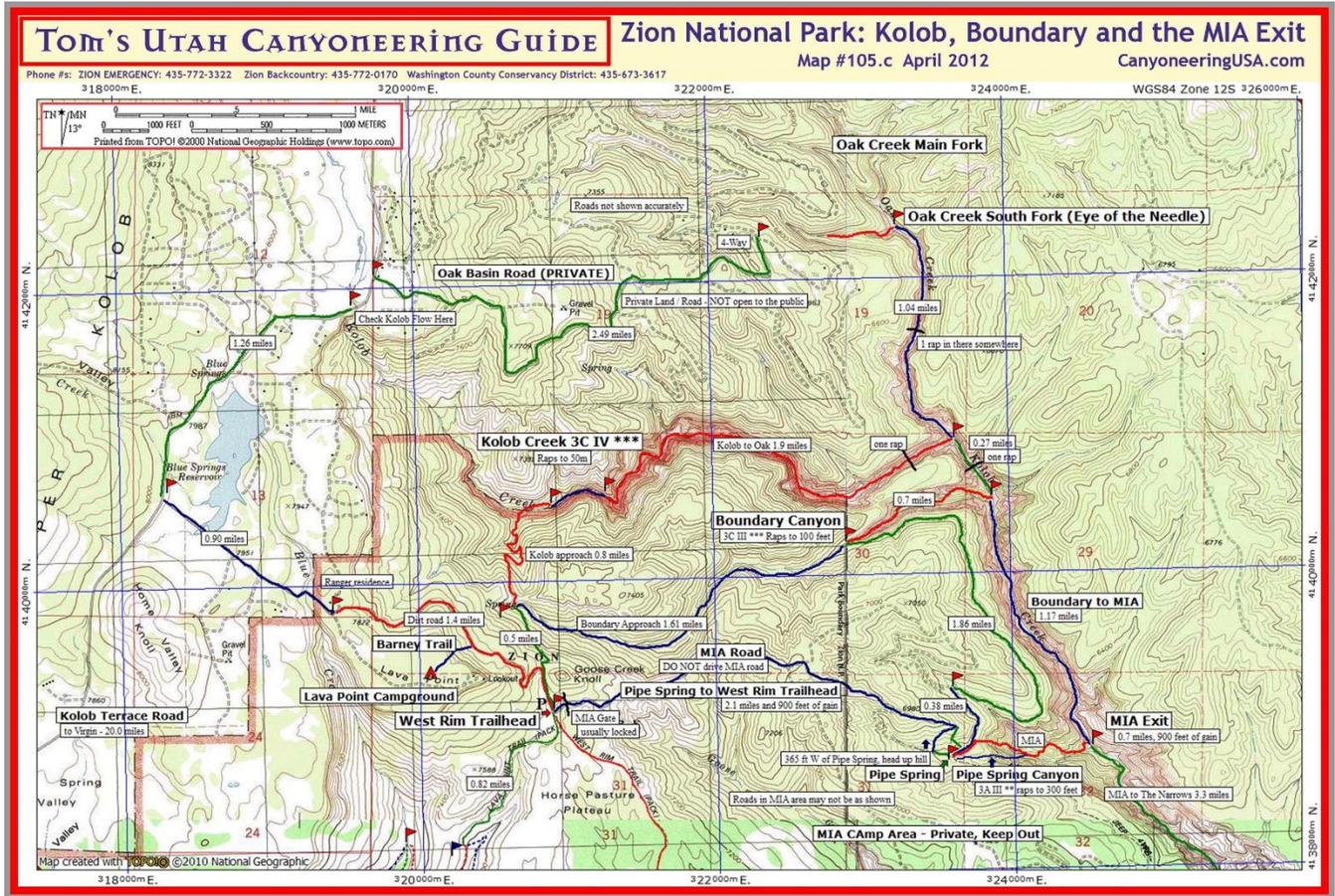
Canyoneering Map – East Side



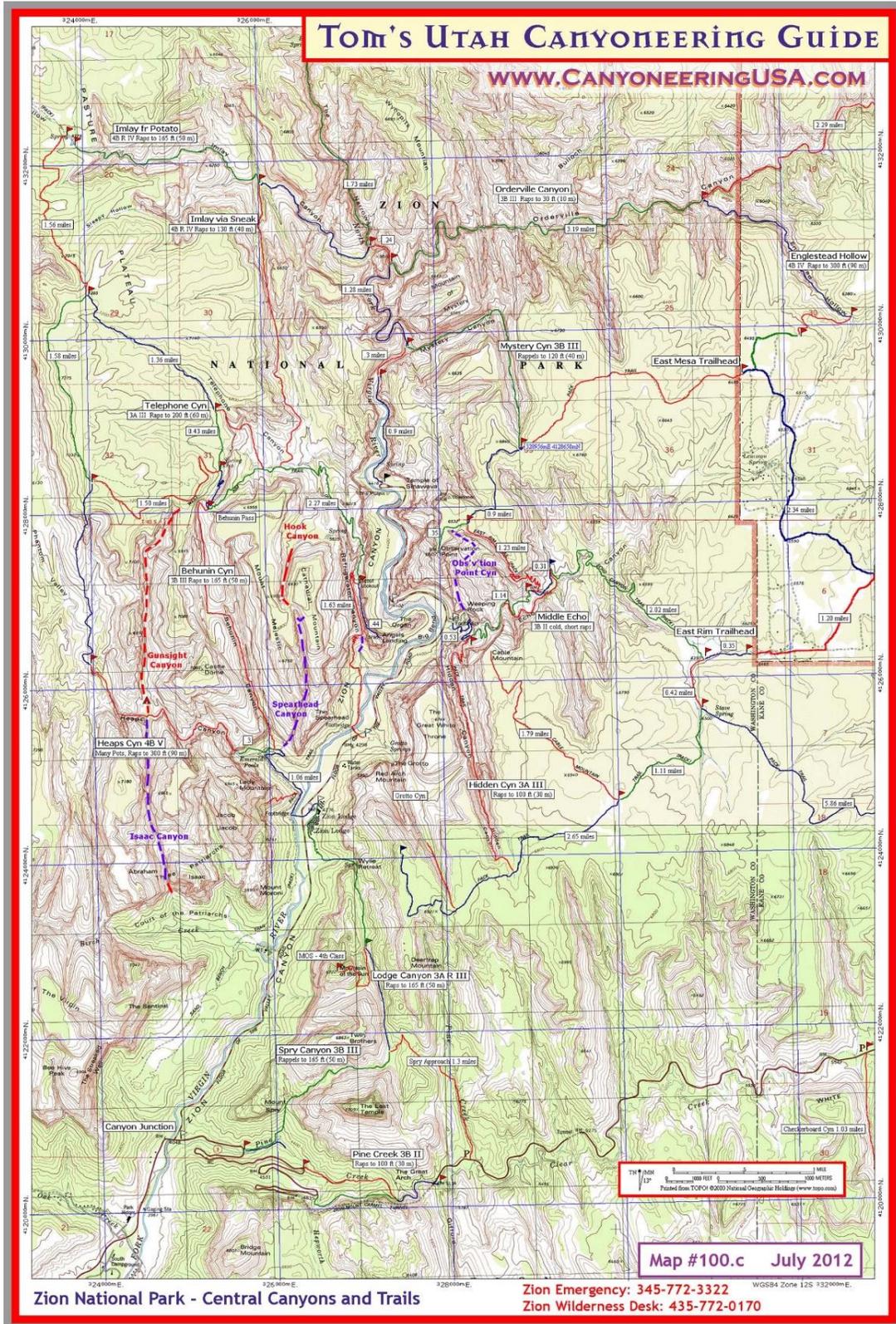
Canyoneering Map – Kolob Fingers Area



Canyoneering Map – North Kolob Terrace

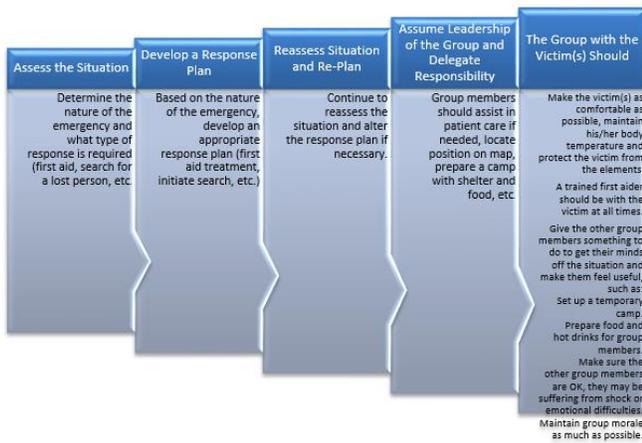


Canyoneering Map – Central Zion



Emergency Action Plan (EAP)

Since each situation is unique, trip leaders must remain flexible in their response. The key to properly responding to an emergency is to remain calm, assess things carefully before acting, and continue to reassess your strategy throughout. There are two basic things to be done, care for the victim and care for the rest of the group. The more severe the situation, the more both populations will need your care and support. A basic approach to handling emergency situations is shown in flowchart form in the figure below.



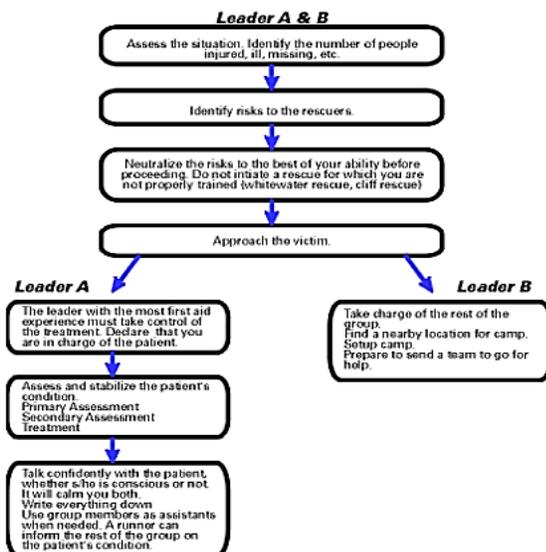
Evacuation Procedures

When to Evacuate

Evacuation is used as a general term for transporting someone from a trip. In most cases we think of this as caused by a medical problem. It can also be the result of psychological problems, a family emergency, or the assessment of the trip leaders that the person's behavior poses a threat to themselves or others in the group. Specific evacuation protocols for first aid situations will be determined by the group leaders.

If someone needs to be evacuated due to injury or illness, the primary concern is for the safety and health of the patient. When assessing the need for an evacuation, think both about the patient's condition and how rapidly medical attention is needed. For example, it may take 2 hours for the patient to walk out on their own. Whereas to send two people out for help (2 hours), get a rescue squad to the trailhead (1 hour), hike back in (2 hours - unless driving in is possible), and hike back out (2 hours+) will mean over 7 hours before the patient is evacuated. Their injury may need treatment sooner than that. You also consider your resources, do you have the necessary equipment, manpower, and experience to safely evacuate the person given the current trail and weather conditions. If you do evacuate the person, take the time to plan out the best route keeping in mind patient condition, distance, terrain, etc. Depending on the situation, you might choose the shortest route, the quickest route, or a longer route that poses less threat to the patient's condition. Use the evacuation flow chart to determine how to deal with an evacuation situation.

Emergency Response Flow Chart



Possible Evacuation Scenarios

Person Can Walk Out On Own Power	Person Can Walk Out with Assistance	Person Cannot Walk Out
<ul style="list-style-type: none"> The person's medical condition would not be compromised by walking out. This may necessitate taking all the person's equipment. Ex. Stomach ailment, mild allergic reaction, minor laceration. 	<ul style="list-style-type: none"> If the distance is not too great, the person may be able to hike out if carrying no weight and with assistance. This is to be attempted only as long as it does not aggravate the individual's condition. The person must be constantly monitored. 	<ul style="list-style-type: none"> The injury/illness would be aggravated by walking out or movement is contraindicated. Do not attempt a litter evacuation unless you have the necessary equipment, experience, and manpower, otherwise you risk additional injury to your patient as well as placing other members of the group at risk (see Dynamics of Accidents Model page 00). In this case a litter evacuation by skilled rescue personnel (rangers, first aid squad, etc.) is required. Send for help

Choosing to Evacuate

If you have determined that it is medically appropriate to evacuate your patient, you need to determine whether or not you have the skills, the time and the manpower to perform the evacuation safely. Ask yourself these questions.

_____ How much daylight do you have?

_____ What is the weather? Is it changing? For the worse?

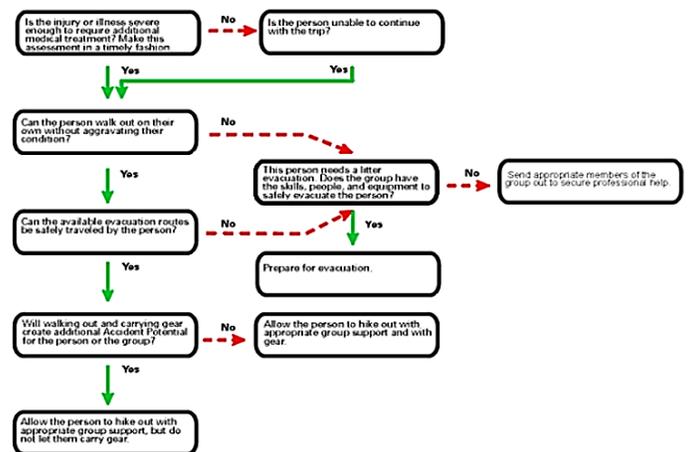
_____ Can you continue to provide the necessary first aid treatment and monitoring during the evacuation?

_____ What if your patient's condition deteriorates? Would it be more difficult to treat him/her once you start hiking out?

_____ How many people do you have to do the evacuation? For a litter evacuation you should plan to have a minimum of 3 teams of 6-8 people rotating through the litter carry.

Evacuation Flow Chart

Evacuation Plan Flow Chart



Identify exact location and phone number. Can you call back? If not determine a time or plan for the caller to contact you again.

Interview caller to determine problem

Leaders may underestimate the nature of the problem so a conservative medical response is the best course of action.

Triage problem

Class I - minor medical problem. Person can remain on the trip.

Class II - minor medical problem. Person must be treated or evaluated at medical facility. Discharge and return to trip likely. Anything above Class II requires a call to McCosh Health Center.

Emergency Call – Ins/Rescue

In the event of an emergency one of the most important components is how you handle the incoming call. You need to gather sufficient information to determine the nature of the problem and to select the most appropriate responses.

In order to categorize the nature of the response we use an adaptation of the International Scale of River Difficulty which is used to rate whitewater rivers on a scale from Class I to Class V. As you will see below, we use this scale to establish responses levels for Evacuation, Medical Response, and Notification.

Identify caller

Class III - moderate medical problem. Person must be treated or evaluated at medical facility. Discharge and return to trip uncertain.

Class IV - serious medical problem. Person must be treated or evaluated at medical facility. Discharge and return to trip unlikely.

Class V - Advanced Rescue Team or helicopter required

Notifications (each higher level is cumulative of the levels beneath)
Family members

Follow-up
How is the group doing? Do they need to be evacuated for emotional support?
Will the group need follow-up support and/or counseling upon return to campus?
Will the leaders need follow-up support and/or counseling upon return to campus?

Determine appropriate evacuation response

Class I - hikes out on own power
How long will this take?
What if it takes longer?
What if patient's condition deteriorates?

Class II - hikes out with assistance
How long will this take?
What if it takes longer?
What if patient's condition deteriorates?

Class III - needs to be picked up by vehicle
How long will this take?
What if it takes longer?
What if patient's condition deteriorates?

Class IV - needs litter evacuation
How long will this take?
What if it takes longer?
What if patient's condition deteriorates?

Class V - needs helicopter airlift
How long will this take?
What if it takes longer?
What if patient's condition deteriorates?

Determine appropriate professional medical response

Class I - person seen on return to campus
Class II - leaders or support drives person to hospital
Class III - EMS meets groups at trailhead
Class IV - EMS sent in to group

Triage

The purpose of Triage is to determine the nature and extent of injury or illness. In the case of multiple victims, it is used to prioritize treatment. As you take an emergency phone call, you need to gather information to do your own triage of the situation.

1. Get full SOAP Note from Leader
 - History
 - Vitals
 - Problem list
 - Anticipated Problem list
2. Determine exact location of the group.
 - Where was the group when the messengers left?
 - How far are they from the trailhead?
 - What other options are there for reaching the patient? What is the group doing (staying put or hiking out?)
 - How will the time lengths of different evacuation modes affect the medical condition/treatment?
3. Contact outside experts as needed to develop emergency response plan
 - Based on problem as defined in #1 and #2 determine the "need for speed."
 - Implement the appropriate professional medical response as indicated above.

Communications and Navigation

Recommended Communication Equipment

Motorola T600 H20 2-Way Radio	
 <p>Group will be equipped with two way radios for communications and emergency procedures. Range of up to 35 miles (may vary depending on terrain and conditions); compatible with any radio regardless of brand.</p> <p>Motorola T600 H20 2-way radios will keep you in contact with your adventure partners on land or water, thanks to a 35-mile range and a floating, waterproof design and LEDs that light up in water. An emergency alert button transmits an alert siren followed by spoken or incidental sounds to warn others of your peril, and has a built-in LED flashlight for emergencies.</p> <p>Push-To-Talk (PTT) power boost allows you to extend the transmission range by increasing the transmitter power output. Hands-free communication is provided by iVOX/VOX, which acts like a speakerphone to keep your hands free as you hike</p>	
Emergency Frequency:	
Ranger Frequency:	

Garmin inReach Mini	
 <p>inReach Mini is your go-to connection for maintaining off-the-grid contact. It's our palm-sized satellite communicator for adventures where size and weight matter. inReach Mini lets you send and receive text messages, track and share your journey and, if necessary, trigger an SOS alert to contact the GEOS 24/7 emergency response team. With inReach connectivity, your family and friends will know they can stay in touch globally.</p> <ul style="list-style-type: none"> • Small, rugged, lightweight satellite communicator enables two-way text messaging using the 100% global Iridium network (satellite subscription required) • Trigger an interactive SOS to the 24/7 search and rescue monitoring center (satellite subscription required) • Access downloadable maps, U.S. NOAA charts, color aerial imagery and more by using the free Garmin Earthmate app and compatible devices • Optional inReach weather forecast service provides detailed updates directly to your inReach Mini or paired device; basic and premium weather packages available • Send and receive inReach messages through compatible Garmin devices, including connected wearables and handhelds 	
Garmin Link for Tracking:	

Recommended Tracking & Emergency Signal Devices

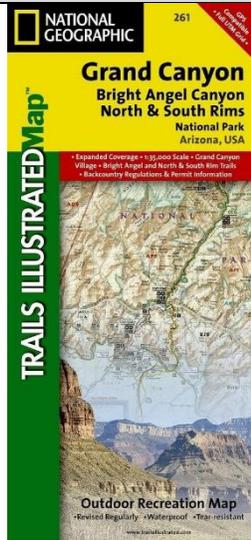
Garmin Rino 755t	
 <p>We will have one Rino device for navigation, gps tracking and emergency communications. High-sensitivity GPS with GLONASS satellite reception tracks satellites in more challenging environments than GPS alone.</p> <p>Powerful, 5 watt FRS/GMRS 2-way radio lets you communicate by voice call or unit-to-unit text messaging. 3 in. color touch-screen with dual orientation and sunlight-readable display.</p> <p>Bluetooth® connectivity supports a wireless headset (not included) for improved voice communication.</p> <p>3-axis compass with accelerometer and barometric altimeter sensors. NOAA weather radio, Active Weather forecasts and animated weather tracking help you stay one step ahead of changing conditions.</p> <p>Geocaching Live connects with Geocaching.com to download the caches you want while you're on the go.</p> <p>Position Reporting shows you the location of other Rino users on the same channel and lets you alert them if you need help.</p>	

Note: AcadianX Guides are equipped with all mentioned gear.

Recommended Navigation Tools

Topographic Trail Map

National Geographic Trails Illustrated Topo Map



Learning how to navigate with a paper map is an essential skill. A topographic map is designed to show the physical features and terrain of an area, which is what makes them ideal for backpackers. They're different from other maps because they show the three-dimensional landscape: its contours, elevations, topographic features, bodies of water, and vegetation. Simplified trail maps—like the JPEG images you might find on a national park's website—don't include all the information you need in order to navigate. No elevation data, no magnetic declination, and much fewer symbols. If you get lost, these trail maps won't help you find your way out. A topographic map offers a wealth of orienteering information—not just elevation and distance, but changes in vegetation and even human-made structures. It's enough to plan an entire trip in advance or to find your way in a pinch.

Handheld Navigation Device

Garmin Rino 755t



Whether you're hunting, hiking, climbing or paddling, the rugged Rino 700 navigator is your go-to for any adventure. Offering an affordable entry point to our navigator/communicator lineup, it retains the core functionality of our more feature-rich Rino 750 and 755t handhelds. And its powerful two-way radio is fully compatible with them as well. So, it's easy to stay in touch with other Rino-carrying members of your group.

- 5 W GMRS two-way radio offers extended range, up to 20 miles; communicate by voice or unit-to-unit text messaging
- High-sensitivity GPS and GLONASS satellite reception; tracks in more challenging environments than GPS alone
- Rechargeable internal lithium-ion battery can provide up to 13 hours of battery life
- Position reporting feature shows locations of other Rino users on the same channel
- Worldwide basemap shows position and supports basic navigation

Navigation Enabled Watch

Garmin Fenix



- Ultimate multisport GPS watch with full-color TOPO U.S. mapping, routable cycling maps and other outdoor navigation features
- Fit for adventure with rugged design that features stainless steel bezel, buttons and rear case: Physical size 5.1 x 5.1 x 1.8 cm; Weight - silicone band: 98 g ; metal band: 196 g
- Built-in navigation sensors include GPS and GLONASS capability

to track in more challenging environments than GPS alone as well as 3-axis compass, gyroscope and barometric altimeter

- Preloaded run profiles: running, treadmill running, trail running. Put key stats at your fingertips with the performance widget that shows your training status, training load and more
- Provides built-in mapping and navigation features to help keep you oriented and on course. Full-color TOPO mapping comes preloaded with map data optimized for at-a-glance navigation and location tracking.
- Features multinetwork (GPS, GLONASS and Galileo) satellite reception to track in more challenging environments than GPS alone. In addition to map-based guidance, each watch also provides a set of ABC (altimeter, barometer and compass) sensors for outdoor navigation. The built-in altimeter provides elevation data to accurately monitor ascent and descent for activities such as hiking, while the tilt-compensated three-axis electronic compass keeps your bearing — whether you're moving or not.

Note: AcadianX Guides are equipped with all mentioned gear.

Clothing Essentials

Layering Basics

When you step outdoors, the ancient art of layering becomes your smart-technology thermostat. This tried-and-true strategy lets you regulate comfort by slipping layers on and off as your activity level or the weather changes.

How to layer: To understand layering your clothing for outdoor activities, you need to know the function of each layer:

1. **Base layer** (underwear layer): wicks sweat off your skin
2. **Middle layer** (insulating layer): retains body heat to protect you from the cold
3. **Outer layer** (shell layer): shields you from wind and rain

Even if you don't wear all three layers at the outset, it's a good idea to take all layers on every outing: You can peel off layers if things heat up, but you can't put on layers that you didn't bring along.

Cold, Rainy and Hot Layering Examples

We're often asked about how to layer for certain weather. Any suggestions based solely on weather, though, overlook key considerations, like exertion level and personal metabolism. The examples below are for a hypothetical person who doesn't run particularly hot or cold, who is going on an intermediate-level half-day hike:

Cold-weather layers:

Midweight polyester long underwear top and bottom; a jacket with synthetic insulation; midweight fleece pants; waterproof/breathable rain jacket and pants.



Rainy-weather layers (cool temps):

Lightweight polyester long underwear top and bottom; lightweight fleece jacket; synthetic hiking pants; lightweight waterproof/breathable rain jacket and pants (with plenty of vents).



Hot-weather layers:

Polyester briefs and a short-sleeve synthetic Tee; convertible nylon hiking pants; lightweight wind jacket.

You have literally dozens of alternatives and options for each of these layers. The trick is to go with options that

make the most sense for where you're headed, what you're doing and what you're able to spend.

It's also key that you take the time to adjust layers as conditions change. If the rain and wind let up, remove your shell. If hiking alone isn't warming you up, add a middle layer. And many people add a middle layer (on top) and/or outer layer at every rest stop, just to avoid getting chilled.



Base Layer: Moisture Management

As the next-to-skin layer, a base layer's job is moving perspiration away from your skin, aka "wicking." In cool or cold conditions, wicking long-underwear-style base layers are needed to keep your skin dry. That's essential because it helps to keep you from becoming chilled or worse—hypothermic.



Base layer materials: You have a wide range of fabric options, including synthetics like polyester and nylon, or natural fibers like merino wool and silk. Though there are subtle differences in wicking and drying for each material, and in odor retention and durability, a lot of people simply go with their personal fabric preference.

Base layer weights: Your options are straightforward—lightweight, midweight and heavyweight—though you might also see terms like "ultralightweight" on one end of the spectrum or "expedition weight" at the other. Generally, heavier (thicker) fabrics keep you warmer, though that's not really the primary purpose of a base layer (wicking is).

Warm-weather base layers: Long underwear might not be appealing when temperatures soar, but having dry skin generally makes you more comfortable in all conditions. (No one likes having clammy, drippy skin.) Here are some other warm-weather base-layer considerations:

- Any summer shirt is really a base layer, so look for ones that offer wicking.
- Some shirts designed for warm weather spread the moisture out through the fabric, where evaporation helps with cooling. They won't really be marketed as a base layer, but as your next-to-skin layer they can increase your comfort in hot conditions.
- Underwear like briefs, boxers and bras should also wick (the same is true when you wear it under your long underwear in winter).
- UPF-rated base layers give you added sun protection.
- Cotton, considered a no-no in winter because it sponges up water and can chill you, can be okay if you're outside on a super-dry, scorching summer day.
- Emerging fabric technologies, like wool infused with ceramic particles, will offer base layers that literally cool your skin for greater comfort.

Middle Layer: Insulation

The insulating layer helps you retain the heat that's radiated by your body. The more efficiently this layer traps that heat, the warmer you'll be.



Middle layer materials: Just as with base layers, you have a broad range of options, both synthetic and natural. In general, thicker (or puffier) equals warmer, though the efficiency of the insulating material is also important. Below are some common middle layer materials, though other options, like wool and wool-blend tops, are also available.

Here are some of your primary choices for middle layers:

Polyester fleece: Available in lightweight, mid-weight and heavyweight fabrics (sometimes marketed as 100, 200 and 300 weight), fleece stays warm even if gets damp, and it dries fast. Fleece also breathes well, so you're less likely to overheat in it.

The flipside of breathability, though, is that wind blows right through, which can steal warmth. That's why you need to have a shell layer with you if you're going with a fleece middle layer. (Another option is to wear wind fleece, which includes an inner wind-blocking membrane.)

Down insulated jackets: Highly compressible for easy packing, down offers more warmth for its weight than any other insulating material. The efficiency of down is measured in fill power—from 450 to 900. Because down is always inside a shell material, down jackets also offer some water and wind resistance. The drawback to down is that it loses insulating efficiency when damp.

Synthetic insulated jackets: Synthetic insulations have long tried to mimic down's efficiency, coming closer to that standard every year. And, while synthetics don't compress as well as down, they're a popular option for rainy conditions because they retain insulating ability when they get damp. And, like down, synthetic insulation is always inside a shell material that offers added water- and wind resistance.

Outer Layer: Rain and Wind Protection (Shell)

The outer layer (or shell layer) protects you from wind, rain and snow. Shells range from pricey mountaineering jackets to simple wind-resistant jackets. Most allow at least some perspiration to escape; virtually all are treated with a durable water repellent (DWR) finish to make water bead up and roll off the fabric.

Your outer shell is an important piece in stormy weather, because if wind and water are allowed to penetrate to inner layers, you can get seriously chilled.



Shells can be lumped into the following categories:

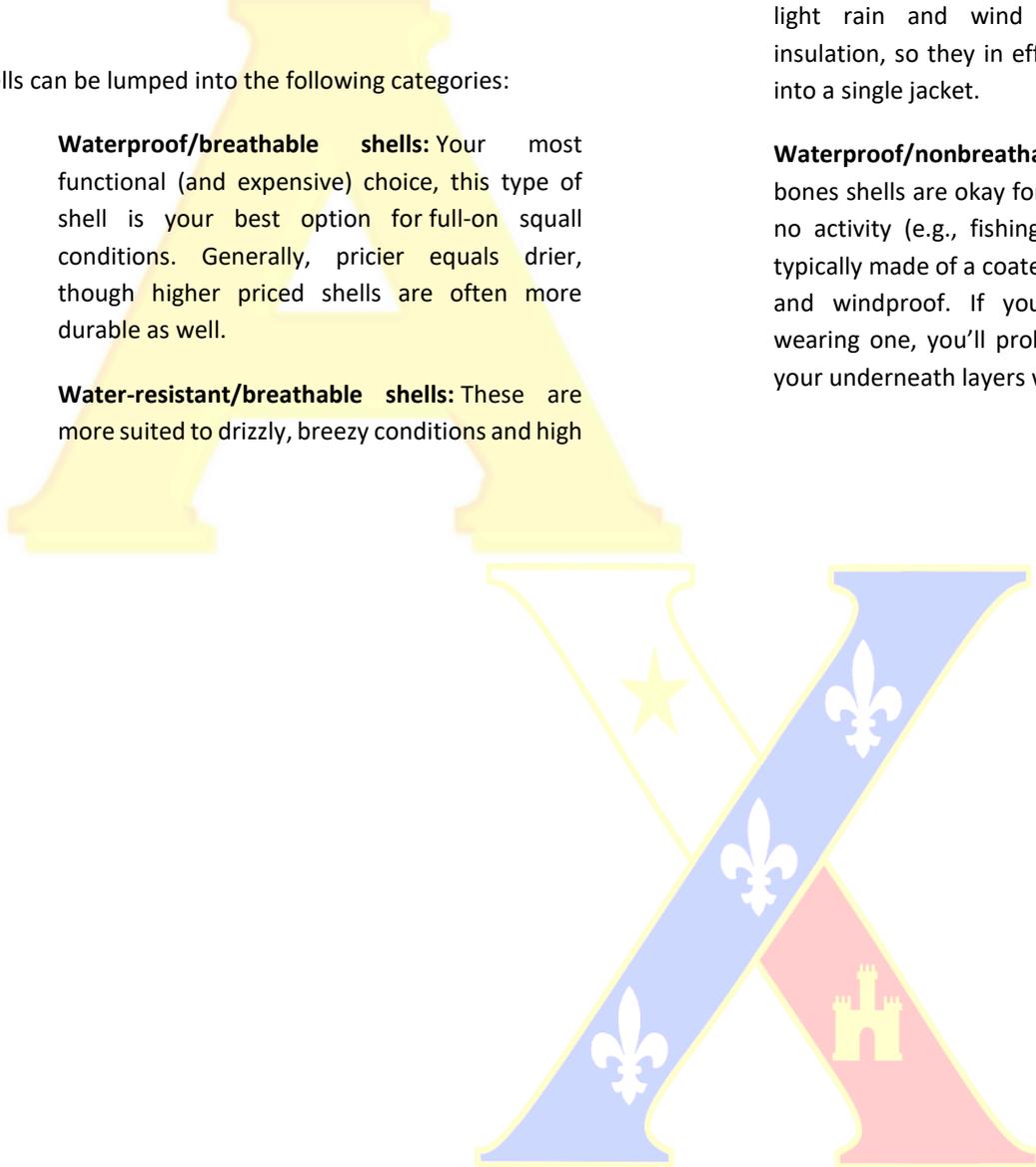
Waterproof/breathable shells: Your most functional (and expensive) choice, this type of shell is your best option for full-on squall conditions. Generally, pricier equals drier, though higher priced shells are often more durable as well.

Water-resistant/breathable shells: These are more suited to drizzly, breezy conditions and high

activity levels. More affordable than waterproof/breathable shells, they're typically made of tightly woven nylon or polyester fabrics that block light wind and light rain.

Soft shells: These emphasize breathability. Most feature stretch fabric or fabric panels for added comfort during aerobic activities. Many combine light rain and wind protection with light insulation, so they in effect combine two layers into a single jacket.

Waterproof/nonbreathable shells: These bare-bones shells are okay for rainy days with light to no activity (e.g., fishing, spectating). They are typically made of a coated nylon, which is water- and windproof. If you exert yourself while wearing one, you'll probably end up saturating your underneath layers with perspiration.



Recommended Clothing Brands and Considerations

Clothing Type	Style	Brands	Notes
Hiking Shoe/Boot		Salomon Merrel Obre	Some people like to wear a pair of light trail running shoes instead of boots. Most prefer boots in order to keep ankle stable. Feet will get wet so Gor-tex lined are recommended.
Base Layers	Torso	Tesla Under Armor	Must wick away moisture.
	Legs	Tesla Under Armor	Must wick away moisture.
Middle Layer	Torso	Mountain Hardware REI	Insulation layer for thermal protection.
	Legs	Under Armor	Insulation layer for thermal protection.
Outer Layer	Torso	Kuhl Outdoor Research Mountain Hardware	Should be durable, moisture resistant, quick drying and light weight.
	Legs	Kuhl Outdoor Research	Should be durable, moisture resistant, quick drying and light weight.
Briefs/Boxers		Exoficcio Saxx	Needs to be synthetic, anti-microbial, breathable, and moisture wicking. At least 3 pairs.
Socks		Smart Wool Darn Tough	Good hiking socks are a must. We recommend either Darn Tough" or "Smart Wool". You will need at least 3 pairs.
Head Gear	Beanie	Smartwool Outdoor Research	Should be snug on your head and keep you warm.
	Neck Gaiter/ Cravat	Buff	Most versatile piece of clothing you will have. A must on the trail.
Gloves	Hiking		Gloves - a good pair of biking gloves will help prevent blisters when using trekking poles.
	Thermal	Outdoor Research Black Diamond Manzella Sealskinz	Waterproof is preferable. Need to keep you warm even when wet outside.
Rain Shell		REI Co-Op Arc'teryx Outdoor Research	The rain shell needs to breathe properly allowing heat to escape. If not you will become overheated when hiking.



Recommended Clothing Retailers and Websites

Below is a list of suggested retailers where you can find your gear and websites to help you research and choose your best option:

1.  REI Co-Op <https://www.rei.com/>
2.  Backcountry.com <https://www.backcountry.com/>
3.  Amazon <https://www.amazon.com/>
4.  Outdoor Gearlab <https://www.outdoorgearlab.com/>

Recommended Local Clothing Retailers – Lafayette, Louisiana

1.  Pack & Paddle <https://packpaddle.com/> (Highly Recommended)
2.  The Backpacker <https://backpackeroutdoors.com/>
3.  Field & Stream <https://www.fieldandstreamshop.com/>

Gear Essentials

Gear Basics

Camping is like staying in a primitive cabin, minus the cabin itself. So, in addition to your tent, pack as though you're going to stay someplace where there's little or no furniture, no electricity, no stove or refrigerator, and the cupboards are bare. In a developed campground you will have running water and a community bathroom a few hundred yards away. A typical campsite has a table (if not, you'll want to bring one), a place to park a car and a place to pitch a tent.

You can keep your initial investment low if you borrow or rent the priciest items—the tent and your sleeping bags and pads. That's a better strategy than paying bottom dollar for something that might not even last for a single camping trip. That said, if you are ready to invest in your very own camping gear, here are a few tips to help you decide exactly what to buy.

- **The tent:** If your budget can go a little bigger, then go bigger with your tent: A 3-person tent gives a cozy couple a little extra breathing room, and a family of four can more easily achieve harmony in a 6-person tent. You can also check the tent's peak height if you want a tent that you can stand up in (that can make getting dressed and moving around easier to do). Vestibules outside the doors are nice for stowing muddy shoes and having two doors can help you avoid climbing over sleeping tent-mates for late-night bathroom breaks.

Tip: Practice setting up your tent at home first. And don't forget a properly sized footprint—if you have a ground sheet that's too small, it won't fully protect your tent floor, and if you have one that's too big, it can catch rainwater and pool it underneath your tent.

- **The sleeping bag:** When selecting your bag, temperature rating is a good place to start. If you're planning on only going fair-weather camping, a summer bag is probably all you'll need, but a 3-season bag will give you more

leeway for unpredictable shoulder-season weather. If you're always cold (or always hot), adjust accordingly. And no need to go with a super-snug mummy bag like backpackers use, when a rectangular camping bag will give your body more room to roam.

- **The sleeping pad:** A good sleeping pad is like the mattress on a bed, but it also has high-tech insulation to prevent you from losing body heat on the cold ground. Big air mattresses, like what your guests sleep on at home, might look temptingly plush, but their lack of insulation will likely leave you feeling cold. Take a look at specs when comparing sleeping pads—if one is thicker, longer or wider and has a higher insulation value (known as the R-value) — it will be more comfortable and warmer.

Tip: Set your tent, bag and pad up early, so you don't have to do it in the dark.

- **Lighting:** Campsites don't have illumination, so you have to bring your own. A flashlight is OK, but a headlamp frees up your hands for camp tasks. A lantern is nice for ambient light. (You can also build a campfire, but watch for fire restrictions.)
- **Stove:** A classic two-burner propane camp stove should do the trick. You won't spend a fortune and you can cook breakfast and prepare your morning brew at the same time. Bring at least a couple of fuel canisters and a lighter, and fire it up once at home to be sure you know how it works.
- **Pots, plates, cups and sporks:** You gotta bring everything necessary for food prep and consumption. You can raid your home kitchen, just don't bring the fine china. And, unless you plan to take dirty dishes home, you'll need a scrubber, biodegradable soap, a towel and a small washtub or two (one for dirty, one for clean).

Tip: Pack all your kitchen gear in a large clear plastic bin with a lid. It's easy to store away at home and everything will be ready next time you want to camp.

- **Camp Chairs:** These are optional if you can sit at the camp picnic table, but downtime will be a

little more enjoyable when you have a comfy place to perch. (And a hammock is even better, especially for afternoon naps.)

Tip: Mesh camp chairs let water drain easily and they dry quickly if left out in the rain or morning dew.



Recommended Gear Brands

Category	Gear	Brands	Notes
Packing	<i>Backpack</i>	Osprey	Pack size is dependent on trip length. For a 3 to 6 day hike a 60 L or larger pack is preferred. Look for good suspension with a breathable back. Should support hydration system.
	<i>Daypack</i>	Osprey	Hydration system is key.
	<i>Compression/Stuff Sacks</i>	Sea to Summit	These will protect your gear within your pack and help to keep it organized. Waterproof.
	<i>Pack Cover</i>	Osprey	Make sure the cover fits completely around your pack when fully loaded.
Shelter	<i>Tent</i>	REI Co-Op Big Agnes Nemo Kelty Sierra Designs	1 man tent is recommended but a 2 man is nice if you prefer the extra room. Pay attention to the total weight.
Sleep System	<i>Sleeping Bag</i>	Big Agnes Marmot REI Co-Op Nemo	20 degree rating is preferred. Major differences are between down or synthetic. Each has its benefits.
	<i>Sleeping Pad</i>	Therm-a-Rest Klymit Nemo	Pay attention to thermal rating. Also note the durability. A leaky pad during winter camping can suck.
	<i>Camp Pillow</i>	Sea to Summit Klymit	
Kitchen	<i>Stove</i>	Jetboil	
	<i>Utensils</i>		Need to be lightweight with a small footprint.
Health, Hygiene & Safety	<i>First Aid Kit</i>	Adventure Medical Kits	
	<i>Wipes</i>	Dude Wipes	Must be biodegradable.
	<i>Water Filter</i>	Sawyer Lifestraw Platypus	
Personal Gear/Tools	<i>Gaiters</i>	Outdoor Research	
	<i>Trekking Poles</i>	Black Diamond	
	<i>Camp Chair</i>	Helinox REI-Co Op	The lighter the better.
	<i>Head Lamp</i>	Black Diamond	
Navigation/ Electronics	<i>Radio</i>	Motorola	Used for communicating with other members of your team. Need to be weather proof and at least splash resistant.
	<i>Battery Pack Charger</i>	Anker	
	<i>Solar Power</i>	Goal Zero	
	<i>GPS</i>	Garmin	
	<i>PLB & Satellite Messaging</i>	Garmin	

Recommended Gear Retailers and Websites

Below is a list of suggested retailers where you can find your gear and websites to help you research and choose your best option:

1.  REI Co-Op <https://www.rei.com/>
2.  Backcountry.com <https://www.backcountry.com/>
3.  Amazon <https://www.amazon.com/>
4.  Outdoor Gearlab <https://www.outdoorgearlab.com/>

Recommended Local Gear Retailers – Lafayette, Louisiana

1.  Pack & Paddle <https://packpaddle.com/> (Highly Recommended)
2.  The Backpacker <https://backpackeroutdoors.com/>
3.  Field & Stream <https://www.fieldandstreamshop.com/>

Gear Checklist

*Optional depending on temperature and weather conditions.

Packing System:

- Backpack _____ lbs.
- Daypack _____ lbs.
- Compression/Stuff Sack _____ lbs.
- Pack/Rain Cover _____ lbs.

Shelter System:

- Tent _____ lbs.
- Tent Pad _____ lbs.

Sleep System:

- Sleeping Bag _____ lbs.
- Sleeping Pad _____ lbs.
- Camp Pillow _____ lbs.

Kitchen System:

- Stove/Burner _____ lbs.
- Fuel _____ lbs.
- Pot/Cup _____ lbs.
- Utensil _____ lbs.

Personal Gear/Tool System:

- Trekking Poles _____ lbs.
- Gaiters _____ lbs.
- Camp Chair _____ lbs.
- Water proof Flashlight/lamp _____ lbs.
- Water proof Headlamp _____ lbs.
- Knife _____ lbs.
- Multi-tool _____ lbs.
- Parachute Cord 50 ft. _____ lbs.
- Extra Batteries _____ lbs.
- Camp Shoes _____ lbs.

Navigation/Electronics System:

- Map/Nautical Map _____ lbs.
- Compass _____ lbs.
- GPS _____ lbs.

- PLB & Sat. Messaging _____ lbs.
- Waterproof VHF Radio _____ lbs.
- Battery Charger _____ lbs.
- Phone _____ lbs.

Health, Hygiene, and Safety System:

- First Aid Kit _____ lbs.
- Water Filter _____ lbs.
- Personal Wipes _____ lbs.
- Sunscreen _____ lbs.
- Lip Balm _____ lbs.
- Insect Repellent _____ lbs.
- Personal Medication _____ lbs.
- Sunglasses _____ lbs.
- Camp Towel _____ lbs.

Clothing System:

- Base Layer – Torso
- Base Layer – Legs
- Mid Layer – Torso*
- Mid Layer – Legs*
- Light weight/quick drying Outer Layer – Torso
- Light weight/quick drying Outer Layer – Legs
- Briefs x 3
- Socks x 3 pair
- Hiking Boots
- Belt
- Hat
- Beanie*
- Neck Gaiter*
- Hiking Gloves
- Thermal Gloves*
- Rain Shell
- Sleep Clothes

Logistics

Travel

You can travel to the Everglades by either plane or vehicle. The nearest airport to the park is either the Southwest Florida International Airport in Ft. Myers, FL or the Miami International Airport in Miami, FL.

Departure Flight

Route: Lafayette (LFT) to Phoenix
Date: _____
Depart Time: _____
Arrival Time: _____
Flight Number: _____

Return Flight

Route: Phoenix to Lafayette (LFT)
Date: _____
Depart Time: _____
Arrival Time: _____
Flight Number: _____

Lodging

There is plenty of available lodging in the Everglades National Park area. Lodging information here:

Hotel 1 Name: _____ Check-In Date: _____
Hotel 2 Name: _____ Check-In Date: _____
Hotel 3 Name: _____ Check-In Date: _____

Transportation

Vehicle needs to fit all members of the expedition with enough room to also haul all your gear and supplies.

Rental Service: _____ Pickup Location: _____
Type of Vehicle: _____

Shuttle Plan

Shuttle Service: _____ Pickup Date/Time: _____

Gear Rental

Outfitter Service: _____ Pickup Date/Time: _____
Type of Gear: _____

Preparation & Training

Study the map

Provided in this loadout are maps of the route which you can use to familiarize with the journey. Study the layout of the land and all the significant land features. Use mapping tools such as Google Earth to help visualize your journey.

Submit Permit Requests

You need to know when permits are being accepted and to be sure to submit them as soon as you can in order to secure the desired sites. Refer to the [Fees and Passes](#) section of this loadout for more details.

Book Travel and Lodging Arrangements

Travel and lodging arrangements should be made 3 months prior to departure. Ensure your vehicle has the capability to hold all your gear and get you where you're going. You can input your travel details in the [Logistics](#) section of this loadout once you have them.

Trip Insurance

For your protection, we strongly recommend the purchase of trip insurance. It will protect you against financial loss in the event of trip cancellation or interruption, medical expenses, travel delay, emergency evacuation or other circumstances. Follow the following link to find out more:

<https://www.imglobal.com/travel-insurance>

Gear up

Begin purchasing needed gear. Refer to the [Gear Loadout](#) section of this loadout to determine your gear needs. Use the gear checklist to determine the total weight of your gear. For a multi-day trip your gear should be within the 30 to 35 lb. range without food and water. Assume 20 lbs. for water.

Learn your gear

Know how to setup and use your gear. Pull all your gear out, ensure it all works, and calculate the total weight (you can use the [Gear Checklist](#) to record weights). Become familiar with your pack. Find an efficient way to pack it that works for you.

Physical Self-Assessment

Request the AcadianX "MOUNTAINEERING PHYSICAL ASSESSMENT & BACKCOUNTRY READINESS QUESTIONNAIRE" to assess yourself.

Training

You need to prepare your body for carrying a heavy load for long periods of time. The "3 Way Training" program is a good basic program to help you meet that goal. This consists of training for three days a week doing 3 different exercises for a span of 3 months.

Day 1: Leg Training & Trail Run

Begin with leg training. This can consist of calisthenics, plyometrics, and strength training. Then follow up with a 2 – 3 mile trail run. Work on improving your time.

Day 2: Tower Day

This day consists of using a weighted pack or vest that is equivalent to the amount of weight you will be carrying and to climb a local parking tower. You can alternate between the ramps and the stairs or for more of a challenge you can use the stairs exclusively.

Day 3: Hiking Day

On this day grab your weighted vest or pack and head to the trail. Again you should have enough weight to match the weight you will carry on your trip. Refrain from using trekking poles because you don't want to train your body to become dependent on them. Again go for 2 to 3 miles or more at a time and pay attention to pace. Maintaining between a 2 – 3 mile and hour pace is ideal.

For more in-depth advice on training and ways to physically prepare yourself for the mountains follow the link below:

[Physical Training Fundamentals for Mountaineering](#)

Assessment Hike

When training to go on a long distance trek or a summit attempt it is good practice to go on an overnight hiking trip in full gear at least one month before your scheduled adventure. This is a great way for you to assess your performance and break-in or test out your gear. Try to at least simulate the distances you will cover in a single day. For example when training for the Zion Traverse Trek, I took our group on an overnight hiking trip to Chicot State Park. This hike featured a 20 mile loop that was close to home (we are Cajuns from South Louisiana) with a hilly topography that was ideal for assessing our performance. Because our average daily distance planned for Zion was 9 miles, the Chicot loop gave us an ideal proving ground by offering similar hiking distances. When the hike was over, based on the group's performance, I was confident this team was ready to tackle highlands and canyons of Zion National Park.

References

1. NPS Contributors. (2020, 01 24). Retrieved from Zion National Park: <https://www.nps.gov/zion/index.htm>
2. Wikipedia Contributors. (2020, 01 24). *Zion National Park*. Retrieved from Wikipedia, The Free Encyclopedia: <https://www.nps.gov/zion/index.htm>