# Mesa Arch

TRAIL GUIDE

National Park Service
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EXPERIENCE YOUR AMERICA

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0.5 mile loop (0.8 km)
Island in the Sky District
CANYONLANDS NATIONAL PARK

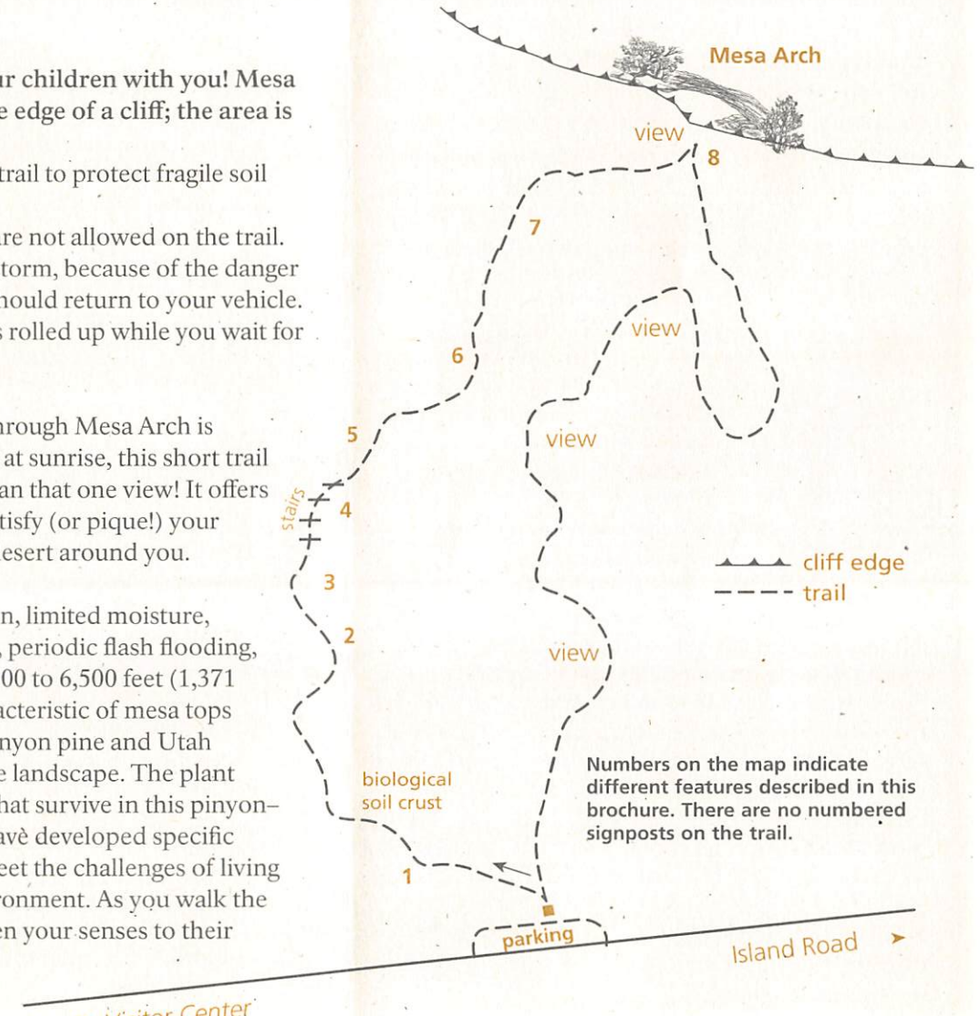
## Getting Started

The Mesa Arch trailhead is located 6 miles (9 km) south of the Island in the Sky Visitor Center. This loop trail covers a distance of 0.5 mile (0.8 km) and has an elevation change of 100 feet (30 m). The trail surface is mostly sand but also traverses several short sections of slickrock. Rock cairns (small rock piles) mark the route. Do not disturb existing cairns or build new ones.

- **Parents, keep your children with you! Mesa Arch stands at the edge of a cliff; the area is not fenced.**
- Please stay on the trail to protect fragile soil crusts.
- Pets and bicycles are not allowed on the trail.
- During a thunderstorm, because of the danger of lightning, you should return to your vehicle. Keep the windows rolled up while you wait for the storm to pass.

Although the view through Mesa Arch is striking, particularly at sunrise, this short trail offers much more than that one view! It offers an opportunity to satisfy (or pique!) your curiosity about the desert around you.

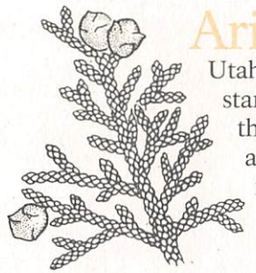
Dry and rocky terrain, limited moisture, intense summer sun, periodic flash flooding, and elevations of 4,500 to 6,500 feet (1,371 to 1,981 m) are characteristic of mesa tops in southern Utah. Pinyon pine and Utah juniper dominate the landscape. The plant and animal species that survive in this pinyon–juniper woodland have developed specific traits over time to meet the challenges of living in such a harsh environment. As you walk the Mesa Arch Trail, open your senses to their secrets of survival.



# Hidden Life

Can you see a knobby black and brown soil lying on both sides of the trail? It is a complex living mixture of organisms known as biological soil crust, and it is made up of cyanobacteria, lichen, algae, fungi, and moss. The crust enables plants to grow by retaining moisture, preventing erosion, and adding nitrogen and carbon to desert soils. Plant seeds that land in biological soil crust have a greater chance of germinating than those that land in loose, dry soil. Although it is a common ground cover in Canyonlands and the surrounding area, biological soil crust is extremely fragile! A careless footstep may destroy decades of growth. Please help protect this delicate living community by watching where you step and walking only on the marked trail.

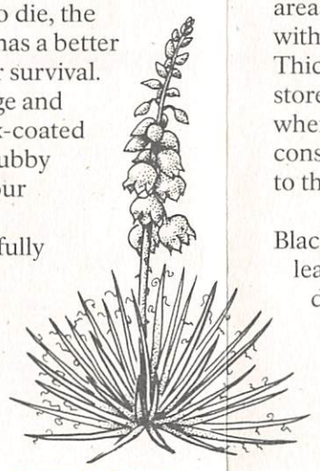
# Arid-land Plants



Utah juniper

Utah juniper (1) often appears stark and bare-branched against the sky. When moisture is scarce, a juniper tree will stop water flow to certain parts of itself. By allowing some outer branches to die, the tree itself has a better chance for survival.

The waxy greenish-yellow foliage and modified cones, resembling wax-coated bluish berries, also help this shrubby tree conserve moisture. Treat your senses: Without damaging the juniper's foliage or berries, carefully rub them between your fingers. Now smell your fingertips!

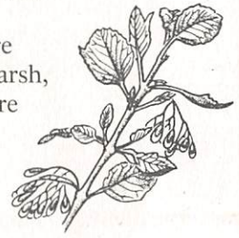


Narrowleaf yucca

Narrowleaf yucca (2) is distinctive for its stiletto-like leaves and dangling, bell-shaped white flowers. In its relationship with the pronuba moth, the yucca illustrates one of nature's unique partnerships. The moth pollinates the yucca when it lays its eggs in the flower, and when they hatch the moth larvae feed on the fruit seeds. The relationship benefits both moth and yucca. Look at the leaves of this plant. Closely cropped leaves are a telltale sign of woodrat activity. In addition to using them as nest-building materials, woodrats actually eat the spiky leaves.

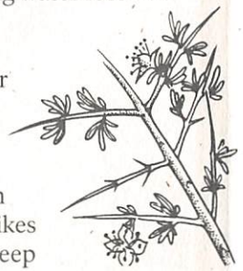
Pinyon pine

When mature, the root system of the pinyon pine (3) is at least as large as the above-ground portion of the tree and often extends deep into rock fissures. Pinyon nuts provide food for birds and rodents. Can you find an empty nutshell lying on the ground with a tiny hole gnawed in its side? Lunch for a pinyon mouse! Native people depended heavily on these nutritious nuts as well.



Singleleaf ash

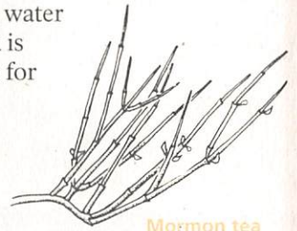
Singleleaf ash (4) lives where desert conditions are less harsh, such as in a rock crack where runoff from surrounding areas provides the plant with increased moisture. Thick, leathery leaves store water for use when moisture is not available. They also help conserve moisture by decreasing water loss due to the warm desert wind.



Blackbrush

Blackbrush plants (5) drop their leaves during prolonged drought. This adaptation minimizes water loss through evaporation. Even though blackbrush has spikes for protection, bighorn sheep browse them.

Can you locate the leaves on this Mormon tea plant (6)? Look at the joints of the stem. The tiny scales are the leaves! Less water is lost through evaporation when smaller leaf surfaces are exposed. Mormon pioneers boiled the stems of these plants to flavor water for a beverage. Ephedra is another common name for this plant.



Mormon tea

# Sediment and Time

The smooth, softly rounded rock outcrop is Navajo Sandstone (7). This light-colored stone displays distinct cross-bedding that reminds us of wind-blown sand. In fact there was once a sandy desert that covered this region, and what we see here are dunes hardened by pressure, over time, into rock.

Changing environmental conditions — oceans, lakes and streams, tidal flats, wind and water-deposited sand dunes — over millions of years left many distinctive layers of sediment. The resulting rock layers erode at varying rates. You can see evidence of this where a hard layer of sandstone spans an opening where a softer layer, originally deposited below it, has eroded away. Mesa Arch (8) (erosion-resistant Navajo Sandstone) is a prime example of a cliff-hanging arch that formed in just this way.

The sweeping vista through Mesa Arch is just one of many dramatic views that make the Island in the Sky so special. Looking east, Washer Woman Arch stands in the left foreground. Monster Tower is the large pinnacle to its right. The isolated butte behind them is Airport Tower.

Thirty-five miles (56 km) toward the eastern horizon rise the La Sal Mountains. The White Rim is 1,200 feet (366 m) below you, and the Colorado River another 1,000 feet (305 m) below the White Rim.

# Desert-smart Animals

Although shrubs and trees are the most visible of desert inhabitants, they are not the sole occupants of the pinyon–juniper woodland. In addition to many other plants, a wide variety of insect, bird, mammal, reptile, and amphibian species make their homes here. Over time they have all developed characteristics appropriate for this challenging environment. As you enjoy the mesa-top pinyon-juniper community beyond the Mesa Arch Trail, look for other desert inhabitants and try to determine the characteristics that make their survival possible. For instance, if you see an antelope ground squirrel scurrying around searching for nuts, notice how it holds its white tail over its back and head. Can you guess why? A portable sunshield!

As you leave Mesa Arch, the trail winds up and over the bedded outcrop of Navajo Sandstone that you stopped to view previously. Enjoy the spectacular vistas and desert scenery as you walk back to the trailhead.

Antelope ground squirrel