

Natural Bridges

National Park Service
U.S. Department of the Interior

National Monument
Utah



The natural bridges in these photos represent three stages: old age, youth, and maturity. Top Streams no longer erode Owachomo Bridge in its old age, but frost

action and seeping moisture do. The bridge may have a fatal crack now—or stand for centuries. Below right Young Kachina Bridge looms big and bulky. White Canyon

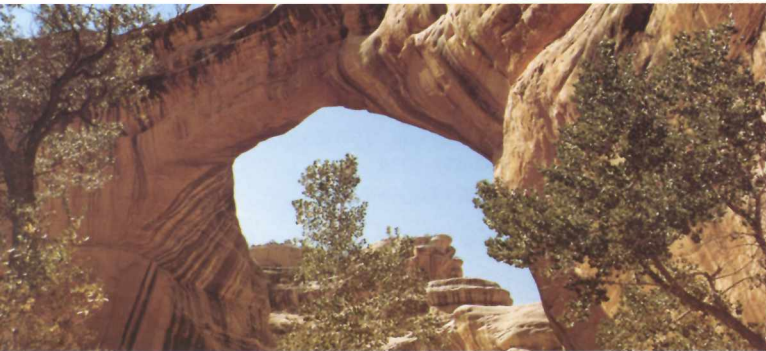
floodwaters still work to enlarge its span. A trail threads the canyon between the three bridges. Below left Mature, highest, and greatest in span, Sipapu Bridge can be hard

to spot from the canyon rim overlook, despite its mass. It endures very little stream erosion because its abutments stand far from the stream.

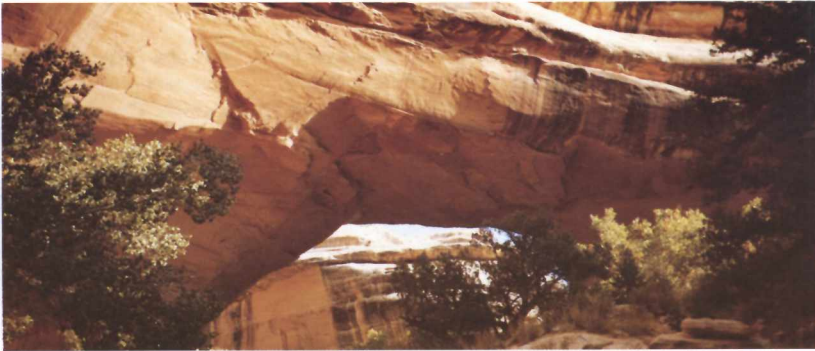
Owachomo Bridge				
	Height	Span	Width	Thickness
Owachomo	106	180	27	9
Sipapu	220	268	31	53
Kachina	210	204	44	93

Dimensions in feet

Sipapu Bridge



Kachina Bridge



Discovery of the Bridges

In 1883 prospector Cass Hite wandered up White Canyon from his base camp along the Colorado River. In search of gold, he found instead three magnificent bridges water had sculpted from stone. In 1904 *The National Geographic Magazine* publicized the bridges, and in 1908 President Theodore Roosevelt established Natural Bridges National Monument, creating Utah's first National Park System area.

Several names have been applied to the bridges. First named President, Senator, and Congressman in order of height, the bridges were renamed Augusta, Caroline, and Edwin by later explorer groups. As the park was expanded to protect nearby Puebloan structures, the General Land Office assigned the Hopi names Sipapu, Kachina, and Owachomo in 1909. Sipapu means "the place of emergence," an entryway by which the Hopi believe their ancestors came into this world. Kachina is named for rock art symbols on the bridge that resemble symbols commonly used on kachina dolls. Owachomo means "rock mound," a feature atop the bridge's east abutment.

Early Human History The area was repeatedly occupied and abandoned from 9,000 to 700 years ago. Only rock art and tools—left by

families hunting small game and gathering wild plants—reveal that humans lived here then. Ancestors of modern Puebloan people moved onto the mesa tops 1,300 years ago to dry farm (relying only on natural precipitation) and later left as the environment changed. About 900 years ago new migrants from across the San Juan River moved into small, single-family dwellings near the deepest, best-watered soils throughout this area. In the 1200s, farmers from Mesa Verde migrated here, but by the 1300s the ancestral Pueblos migrated southward. Navajos and Paiutes lived in the area in historic time, and Navajo oral tradition holds that their ancestors lived among the early Pueblos.

The evidence these people left is fragile and irreplaceable. To help preserve it, do not enter the structures or touch or mark walls or rock art. Leave artifacts in place and stay on trails.

Natural History Millions of years ago these sandstones were deposited and then slowly uplifted as part of the Colorado Plateau. Erosional forces gradually created today's canyons and landscapes. Plant communities varied over time, too. Pollen studies show this area once was a spruce-fir forest. Alterations in the

climate changed the dominant plant type, but small pockets of Douglas fir still dot cooler, moist, north-facing cliffs near Sipapu Bridge.

Precipitation is infrequent and unpredictable and can be dramatic—from long periods of drought to periods of heavy rain and snow. Plants and animals have adapted to this environment. Cryptobiotic soil, the black and lumpy crust here, retains moisture and stabilizes and adds nutrients to the ground. This allows other plant communities, such as pinyon-juniper forests, to develop and mature.

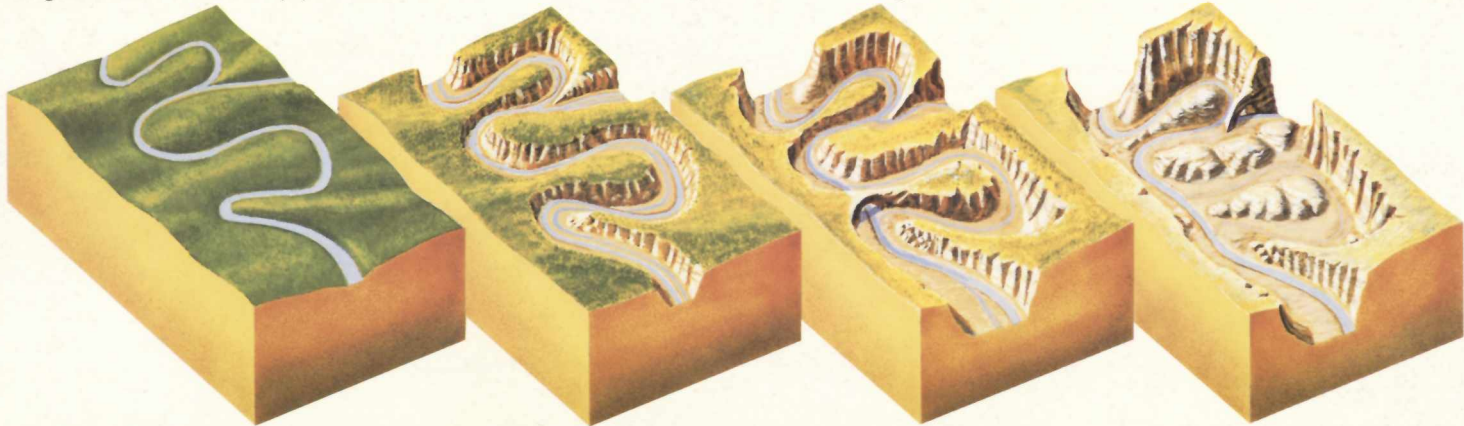
How Bridges and Arches Differ Natural bridges are formed by the erosive action of moving water. Arches are formed by other erosional forces, mainly frost action and seeping moisture. Those same forces also work to enlarge natural bridges once stream erosion forms them.

How Natural Bridges Form

The rock in the park is a sandstone first formed by windblown sand. The deep, looping White and Armstrong canyons and the three bridges within them can be traced to the relentless action of water against the crossbedded sandstone. The desert stream would occasionally scour its bed with a great head of water and sand, so that conditions for forming natural bridges were set. Kachina and Sipapu straddle streams

with long winding curves. (Owachomo, now straddling no stream, was apparently cut by the action of two streams.) When a river forms a great looping meander, almost circling back on itself, it can create the thin rock wall in which natural bridges form. Raging flood waters scrape away at both sides of the thin wall. Even during low water, percolation weakens the wall further. Eventually the river breaks through and

takes the shorter course under its new bridge, abandoning the old looping meander. The river continues to wear down the rock, enlarging the hole by cutting itself deeper. A natural bridge is temporary. Blocks fall from its underside, and its surfaces weather, wear, and weaken. The span of Owachomo, for example, the oldest bridge, has worn thin.



Natural Bridges



Pinyon-juniper forest



Moss Back Butte



Horse Collar Ruin



Horned lizard

A High Desert Environment

Annual precipitation averages 13 inches, and elevations range from 5,500 to 6,500 feet. Pinyon-juniper forest dominates the mesa top surrounding

the visitor center and Bridge View Drive. Grasses and shrubs are scattered across lower elevations. Willow and cottonwood trees and other

water-loving plants grow in canyons and where water sources are perennial. Hanging gardens are found near seeps in canyon walls. Douglas fir and

ponderosa pine occur along some shaded canyon walls. In season wildflowers splash their colors against sandstone backdrops. The life and cul-

ture of the people who came and went here over the centuries depended on the area's natural resources and the tools for using them.

Please stay on trails and do not touch rock art or write on canyon walls or enter structures. Leave all artifacts in place for others to see and enjoy.

Making the Most of Your Stay

Visitor Center Prepare for your visit at the visitor center. Exhibits and an audio-visual program portray the geology, history, and wildlife and plants of Natural Bridges. Ask park staff about activities you might enjoy. Fill water bottles here: once you leave the visitor center area there is no water.

Services A 13-site campground (no water) has tables, tent pads, grills, and pit toilets, with a limit of one vehicle (26 feet long or less) per site. Find gasoline, groceries, and lodging 20 miles west at Fry Canyon or 40 miles east in Blanding or south in Mexican Hat.

Bridge View Drive Bridge View Drive leads to overlooks and trailheads for all three natural bridges and Horse Collar Ruin archeological site. This paved, one-way loop road is nine miles long. Each overlook and trailhead has limited parking. If towing a trailer or other vehicle, unhook and leave it in the visitor center parking lot.

Hiking Short hiking trails lead from Bridge View Drive to the base of each bridge. Trails along the canyon bottom and on the mesa top connect the bridges and trailheads and offer loop hikes of varied lengths (see chart below). The park is open year round, but late April through October is its most pleasant season.

Into the Canyon Descending into the canyon you may glimpse hanging gardens in shady alcoves. The shelves and benches in canyon walls occur because various rock layers erode at different rates. Mudstone and siltstone erode faster than sandstone—promoting sandstone's collapse, break-up, and removal. This creates the stairstep effect of alternating cliffs and benches from mesa top to canyon floor.

Wildlife Wildlife abounds here, but you may see only birds, rabbits, and lizards. Bobcats, coyotes, bears, mule deer, and mountain lions live in the area but will evade you unless you happen to surprise them.

WARNINGS Be cautious—the park has sheer drop-offs and unfenced trails. Watch for lightning and flash floods during thunderstorms. Always carry at least one gallon of water per person per day. **Climbing on bridges is prohibited. Dogs are not allowed on hiking trails;** they must be leashed when outside vehicles.

For More Information

Natural Bridges National Monument
HC 60, Box 1
Lake Powell, UT 84533-0001
435-692-1234
www.nps.gov/nabr

Loop Hikes to More Than One Bridge

	Sipapu	Kachina	Owachomo
Sipapu	0	5.6	8.6
Kachina	5.6	0	5.4
Owachomo	8.6	5.4	0

Miles, round-trip, from parking area

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