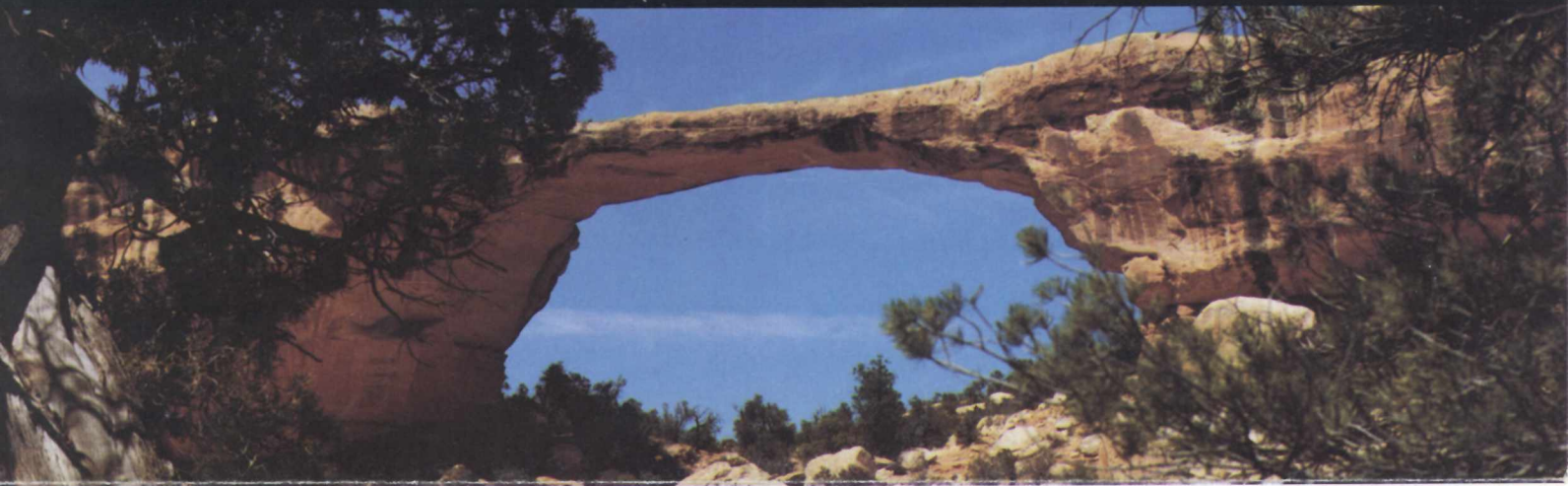


Natural Bridges

Natural Bridges National Monument
Utah

National Park Service
U.S. Department of the Interior



The natural bridges represent three stages: old age, maturity, and youth.

Streams no longer erode Owachomo Bridge (top) in its old age, but frost

moisture do. It may have a fatal crack now—or stand for centuries.

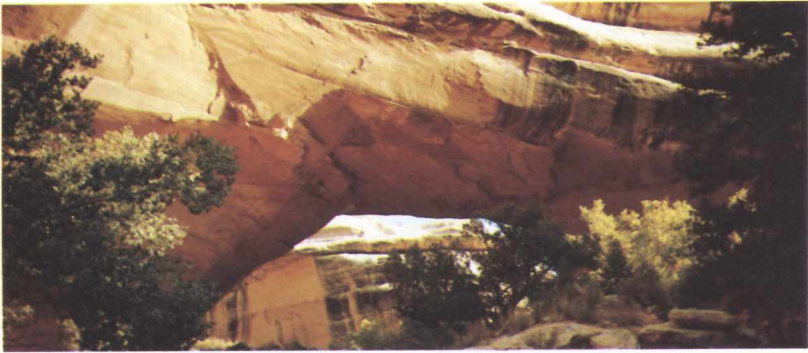
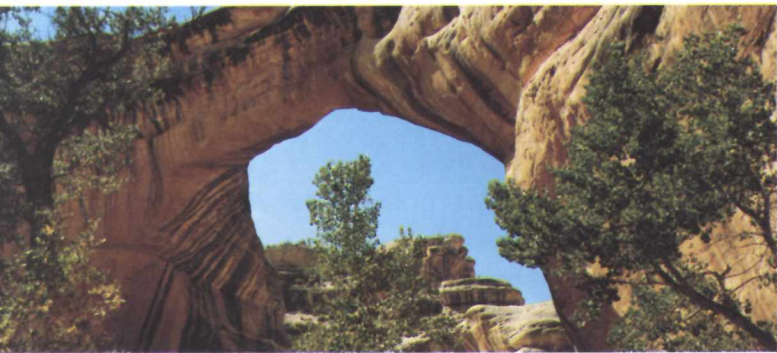
Mature, highest, and greatest in span, Sipapu Bridge (below, left) can be hard to spot from the canyon rim overlook,

despite its mass. It endures very little stream erosion because its abutments stand far from the stream.

Youthful Kachina Bridge (below, right) looms huge and bulky. White

Canyon floodwaters still work to enlarge its span. A trail threads the canyon between the three bridges.

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



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. Navajos and Paiutes lived in the area in historic time, and Navajo oral tradition holds that their ancestors lived among the early Pueblos.

Early Human History Repeatedly occupied and abandoned during prehistory, this area was first used during the Archaic period, from 7000 B.C. to A.D. 500. Only the rock art and tools—left by families hunting small game and gathering wild plants—reveal that humans lived here then. Around 700, ancestors of modern Puebloan people moved onto the mesa tops to dry farm and later left as the natural environment changed. Around 1100, new migrants from across the San Juan River moved into small, single-family houses 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.

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, more 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 running 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 cross-

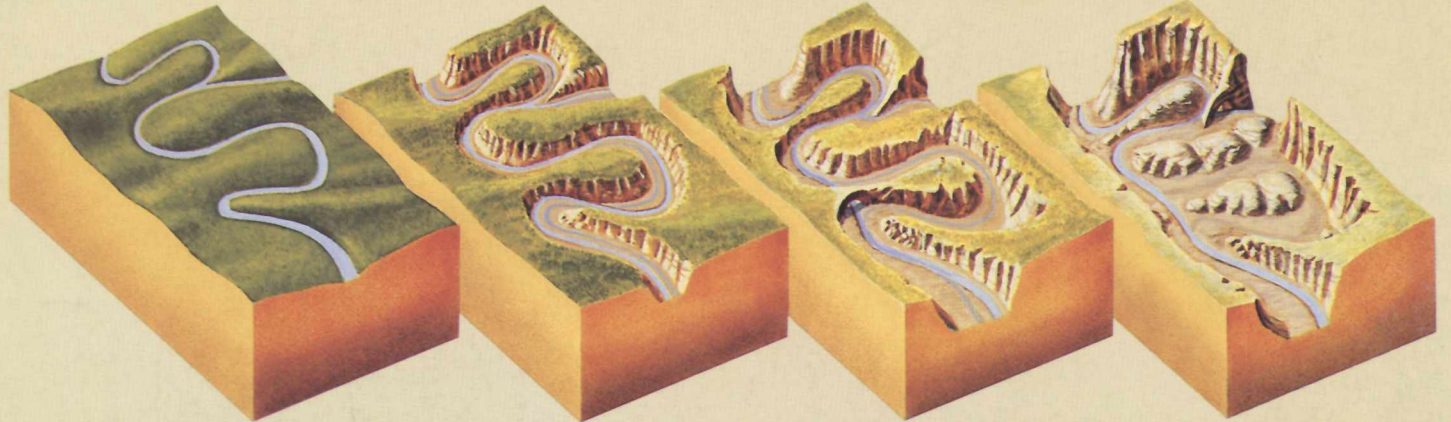
bedded sandstone. The desert stream would occasionally scour its bed with a great head of water and sand, so that conditions for forming natural bridges were set. Kachina and Sipapu straddle streams with

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 tempo-

rary. 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



A High Desert Environment

Precipitation averages 13 inches yearly here, and elevations range from 5,500 up to 6,500 feet. Pinyon-juniper forest dominates the mesa and the visitor center

area and Bridge View Drive. Grasses and shrubs dominate lower areas. In canyons or where water sources are perennial, cottonwood, willow trees, and other

water-loving plants will grow. Hanging gardens are found near seeps in canyon walls. Douglas fir and ponderosa pine occur along some cliffs. In season, wildflowers

splash their colors against the sandstone backdrops. The life and culture of the peoples 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 Make the most of your visit by making the visitor center your first stop. Its exhibits and audio-visual program portray Natural Bridges area geology and history and sample local wildlife and plants. Ask about park activities you might enjoy most. And remember to fill water bottles here: once you leave the visitor center area there is no water.

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

Bridge View Drive Bridge View Drive leads to overlooks and trailheads for all three natural bridges and Horsecollar Ruin archeological site. This paved, one-way loop road is nine miles long. Each overlook and trailhead offers limited parking. If you are towing a trailer or other vehicle, please 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 you loop hikes of varied lengths. Please see the map 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 on rock shelves. The many 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.

Information For more information write to: Superintendent, Natural Bridges National Monument, Box 1, Lake Powell, UT 84533-0001.

WARNINGS Sheer drop-offs and unfenced trails are many here. During thunderstorms watch for lightning and flash floods. Always carry at least one gallon of water per person per day. **Climbing on bridges is prohibited.** Dogs are not allowed in the canyons; they must be leashed when outside vehicles.

Loop Trails

	Sipapu	Kachina	Owachomo
Sipapu	0	5.6	8.6
Kachina	5.6	0	5.4
Owachomo	8.6	5.4	0
Distances in miles			

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