

National Park Service  
U.S. Department of the Interior



Big South Fork National River and Recreation Area  
Oneida, Tennessee

# Geology and History of the Cumberland Plateau



# Geological History

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Rising over 1000 feet above the region around it, the Cumberland Plateau is a large, flat-topped tableland. Deceptively rugged, the Plateau has often acted as a barrier to man and nature's attempts to overcome it. The Plateau is characterized by rugged terrain, a moderate climate, and abundant rainfall. Although the soils are typically thin and infertile, the area was once covered by a dense hardwood forest equal to that of the Appalachians less than sixty miles to the east. As a landform, this great plateau reaches from north-central Alabama through Tennessee and Kentucky and Pennsylvania to the western New York border. Geographers call this landform the Appalachian Plateau, although it is known by various names as it passes through the different regions. In Tennessee and Kentucky, it is called the Cumberland Plateau.

Within this region, the Cumberland River and its tributaries are formed. A view from any overlook quickly confirms that the area is indeed a plateau. The adjoining ridges are all the same height, presenting a flat horizon.

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## The River Systems

The Clear Fork River and the New River come together to form the Big South Fork of the Cumberland River, the third largest tributary to the Cumberland. The Big South Fork watershed drains an area of 1382 square miles primarily in Scott, Fentress, and Morgan counties in Tennessee and Wayne and McCreary counties in Kentucky.

The rivers and streams have been the major force that has created the often-dramatic landscape of the area today. As the streams have cut downward into the sandstone, which caps the plateau, they have carved out gorges and canyons, leaving behind cliffs, natural arches, rock shelters and waterfalls. Elevations are not extreme, but change suddenly. They range from 1800 feet along the highest ridge tops to 800 feet along the river.



Leatherwood Ford in the evening sun

### Overlooks

Kentucky, Blue Heron Area  
Yahoo Falls                      Devils Jump #  
Blue Heron Catawba      Bear Creek

Tennessee, Bandy Creek Area  
East Rim #                      Leatherwood  
Sunset \*                      Angel Falls \*

Tennessee, Rugby Area  
Honeycreek #

# Easy Access - - Wheelchair accessible  
\* Undeveloped - - No protective railing

# Geological History

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## Rocks of the Plateau

The rocks that now form the cap of the Cumberland Plateau were laid down in a ancient shallow sea over 350 million years ago, during the Mississippian (360- 320 million years ago) and the Pennsylvanian (320 - 296 million years ago) periods of geologic time. These sediments were deposited in horizontal layers thousands of feet thick. The resulting pressure hardened these sediments into layers of limestone, shale, coal, and sandstone. Beginning about 285 million years ago, the entire area was slowly lifted over 2000 feet above sea level and erosion immediately began to shape the landscape.

It is interesting to note that most of the coal mined in Kentucky and all in Tennessee comes from the Cumberland Plateau. At present, the river has just begun to cut into the limestone deposits, which are estimated to be over 320 million years old. Limestone, therefore, plays an insignificant part in the landscape of the area. As you travel from the gorge rim to the river below, the various rock layers become evident.



The school house, one of many "ghost structures" which are part of the Blue Heron Mining Community

A good place to view up close layers of shale, coal, sandstone and the overhanging conglomerate cap is near Leatherwood Ford Trailhead on the Angel Falls Trail. The trail is 2.0 miles one way.



Learn more about coal mining on the Cumberland Plateau. Visit the town of Stearns, Kentucky and ride the Scenic Railway down to the Blue Heron Mining Community. You can also drive to Blue Heron via KY Hwy 742. A self-guided brochure "A Guide to the Blue Heron Community" is available to enhance your visit.

# Geology

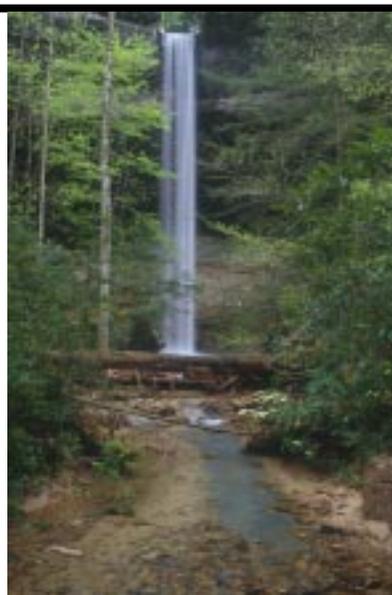
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Dramatic cliffs, arches, rock shelters, chimneys, and other interesting features are carved into the sandstone of the plateau. The conglomerate rock that caps the sandstone is quite resistant to erosion while the underlying rocks are much softer and more easily eroded. Differential weathering is responsible for the formation of many fascinating features of the Big South Fork. Hundreds of arches and rock shelters of varying size wait to be discovered by the adventurous explorer; however, hiking or horse trails lead to many of them, which have been named.

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## WATERFALLS

- |                  |  |
|------------------|--|
| Cumberland Falls | KY 90 near Corbin, KY  |
| Yahoo Falls      | KY 700 near Whitley City   |
| Slave Falls      | Fork Ridge Road Sawmill Trailhead  |
| Northrup Falls   | One mile east of Allardt, Colditz Cove State Natural Area then one mile south of TN 52 |



Yahoo Falls, Kentucky's highest waterfall drops 113 feet.

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## ROCKSHELTERS

- |                  |                                    |
|------------------|------------------------------------|
| Yahoo Falls      | Yahoo Falls Scenic Area off KY 700 |
| Dome Rockhouse   | Big Island Loop (Horse Trail)      |
| Indian Rockhouse | Slave Falls Loop Trail             |
| Hazard Cave      | Pickett State Park                 |
| Witches Cave     | Gentleman's Swimming Hole Trail    |

The best hiking trails for viewing numerous large rockshelters are the Middle Creek Trail and the lower loop of the Twin Arches Trail.

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## CHIMNEYS

Two large chimney rocks can be viewed from Station Camp Road as you near the river access.



Chimney Rock

# Geology

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## Arches

The Big South Fork National River and Recreation Area abounds in dramatic cliffs, arches, and rockshelters. The region may contain more natural arches than any other region in the eastern United States. Natural arches are found frequently in the Big South Fork at the edges of the tableland surface, there the resistant Rockcastle Conglomerate slowly succumbs to erosion. Arches form along gorge edges where the resistant sandstone is able to support its own weight when layers below erode away.

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**TWIN ARCHES** were formed by headward erosion along a narrow ridge. The arches are considered to be the largest arches in the Big South Fork and quite possibly in the Eastern United States. They may be reached by a number of routes, the shortest being a .7 mile hike from the Twin Arches Trailhead.

**NEEDLE ARCH** is a thin, delicate arch that was left standing alone when the back of the rockshelter of which it was once a part eroded. It can be reached from the Sawmill Trailhead on Fork Ridge Road.

**SPLIT BOW ARCH** is unusual in that a narrow finger of the bluff split away from the main bluff. When large chunks of rock fell, a high, thin bridge was all that was left. You can see the arch from an overlook or hike a 0.7 loop trail that will take you through the arch. Signs at the Bear Creek Scenic Area in Kentucky (just off KY 742) will direct you to the arch.

**YAHOO ARCH** is another arch formed as a result of erosion at the back of a rockshelter. It can be easily reached from the Yahoo Falls Scenic Area just off KY 700.



North Arch of the Twin Arches

**KOGER ARCH** is a broad arch and was the result of rockshelter erosion. It is accessible from the Sheltoewe Trace and also a short trail leading up from Devils Creek Road near the Yamacraw area.

**BUFFALO ARCH** is also accessible from the Sheltoewe Trace near the Big South Fork/ Daniel Boone National Forest boundary on Rock Creek. Located in the Daniel Boone National Forest, it can also be reached from Hwy 1363.

**GOBBLERS ARCH** in the Daniel Boone National Forest provides a passageway for an alternative to the Sheltoewe Trace leading from Rock Creek to Peters Mountain Trailhead.

# Human History

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## The First Humans

About 20,000 years ago the great ice sheets began retreating northward, opening the way for nomadic hunters to enter North America. By 10,000 BC these early Americans had reached the southeast searching for large game animals such as elk, bison, deer and bear. The numerous rockshelters found in the Big South Fork made convenient homes for the early peoples.

As millennia passed the climate and forest changed and the large herd animals began to disappear. The people began to adapt to a changing environment. Instead of hunting large animals they now depended on a variety of smaller game and plant foods. Eventually they began to collect plants and hunt on a seasonal basis to insure a more sustained food supply. Evidence of these activities still re-

mains in rock shelters, in riverside campsites and in remote upland sites. These people moved their camps frequently, following the seasonal changes in food supply. It is likely that their bands were small in number, consisting primarily of members of the same family.

About 900 to 1000 AD a major shift to agriculture led the Indians to leave the Plateau for the more fertile river bottoms of larger streams such as the Tennessee and Cumberland. There they lived in towns and villages developing complex societies highly dependent on agriculture. Only occasionally did hunting parties venture into the remote areas of the Cumberland Plateau. By the time the first longhunters began to explore the area in the late 1700s there was only very sparse Indian settlement in the region.

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## Archaeology

Many of the dry rockshelters on the Cumberland Plateau have preserved clues about prehistoric life not found in other open sites. Unfortunately about 98% of these sites have been damaged through vandalism and the hunting of relics. Artifacts and archaeological sites are rare, non-renewable resources. You can help preserve Big South Fork's cultural history. If you find an artifact or archaeological site, leave it as you find it. Please report any recent site destruction you may observe or any artifacts or sites you may discover.



Trained archeologists under park service supervision work to recover artifacts .

# Human History

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## European Settlement

By 1780 the Big South Fork and its tributaries were being actively hunted and explored. By 1800 there were several permanent homesteads in the area. The land itself was quite rugged as local names still suggest. Names such as Troublesome, Difficulty, and No Business leave little doubt. Early settlement was confined to the river and streams where small sections of fertile land could be found. The first settlers came from Virginia and North Carolina and were primarily of English and Scotch-Irish ancestry. Local place names still give testimony to these early families.

These hardy pioneers thrived on the independence and isolation of the Cumberland Plateau. Through hard work and determination they established small, self-sufficient farms and eventually small communities. For the next 100 years relatively little changed on the Plateau as progress seemed to flow



The Oscar Blevins Farm is one example of a subsistence farm. Others are the Lora Blevins Farm and the John Litton/General Slaven Farm.

around the region. The terror caused by guerilla warfare during the Civil War did little but isolate the region even more. Industry was limited to simple water-powered gristmills, moonshining and the mining of “nitre” (potassium nitrate) for gunpowder. You can see evidence of nitre mining in one of the rockshelters on the Twin Arches Loop Trail.



History is interpreted at pioneer camp set up for visitors and school children to enjoy.

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## Cemeteries

Many of the older gravesites in the area are simply marked with an upturned stone and are scarcely recognizable. A visit to the one of the larger cemeteries such as the Katie Blevins, Hattie Blevins, or Terry cemeteries will give testimony to some of the earliest family names. Jonathan Blevins, the first longhunter to permanently settle here, is buried near Station Camp Creek.

# Human History

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## Industrial Revolution

The solitude and isolation were not to last forever, as the Industrial Revolution finally came to the Cumberland Plateau. The region's rich timber and coal resources were basically untapped in the early 1900s, and the nation's industrialists saw it as a source of wealth. The Big South Fork was suddenly alive with logging, railroads, and coal mining. Logging and mining camps seemed to spring up overnight as the local people were drawn by the lure of wages. Companies such as the Stearns Coal and Lumber and Tennessee Stave and Lumber were to have a profound influence on the area.



The O&W Bridge can be reached by driving or hiking.

The pace was rapid until the end of World War II when the area's coal and timber resources were depleted. By the early 1950s logging camps, railroads and mines began to be abandoned and once thriving towns such as Zenith, Barthell and Blue Heron became ghost towns. Suddenly many people found themselves unemployed. No longer were they content to return to the homesteads and live in the remote isolated "hollers." The lifestyle of most was changed forever. The old communities were slowly abandoned as people searched for a better way of life. Many left the area entirely as they looked for work in the cities of the Industrial North. The land itself was also changed forever as the scars left behind by logging, mining, and farming were left for nature to slowly heal.

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## Blue Heron Mining Community

Hike, drive, or ride the Scenic Railway to the Blue Heron Mining Community. Pick up a copy of "A Guide to the Blue Heron Community" to assist you as you walk around the re-created mining town of Blue Heron.



Coal mining exhibit



Blue Heron Tipple

# National Park Service

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## Big South Fork National River and Recreation Area

There are many reminders still evident of the past activity that has influenced the Big South Fork. There are trail guides available in the bookstores that will help you to identify more of the historical sites. Today the area is undergoing change as a new chapter in the history of the Big South Fork begins. With the establishment of the Big South Fork National River

and Recreation Area in 1974 the area is being preserved and opened for recreational use. Now others can enjoy the rugged beauty that local residents have long known and appreciated.



### Recreational Activities

ATV Riding  
Canoeing  
Four-Wheel Driving  
Hunting  
Nature Walks  
RV Camping  
Scenic Views/Overlooks  
Swimming  
Trapping

Backpacking  
Exploring  
Hiking  
Kayaking  
Photography  
Road Bike Riding  
Scuba  
Tent Camping  
Whitewater Rafting

Campfire Programs  
Fishing  
Horseback Riding  
Mountain Bike Riding  
Picnicking  
Rock Climbing  
Snorkeling  
Trail Bike Riding

# National Park Service

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## Obed Wild and Scenic River

Wild and scenic are good words to describe the Obed river system. Located south of the Big South Fork, the Obed Wild and Scenic River was added to the National Park system in October, 1974. Consisting of four streams, Daddys Creek, Clear Creek, the Emory River and the Obed River, it shares like geological features and a similar history with the Big South Fork. In his Thousand Mile Walk to the Gulf, John Muir said of the Emory River, “Its banks are luxuriantly peopled with rare and lovely flowers and overarching trees, making one of Nature’s coolest and most hospitable places. Every tree, every flower, every ripple and eddy of this lovely stream seemed solemnly to feel the presence of the great Creator.”

The Obed offers some of the best whitewater paddling on the Cumberland Plateau. Like

the Big South Fork, it is a free-flowing river and changes dramatically with the weather conditions and the seasons. The visitor center in Wartburg is the best place to plan your visit to the park. Wartburg, TN is located 34 miles south of Oneida on US 27.



Hiker at Lilly Bluff Overlook



Kayaking has long been popular on the rivers and streams of Obed WSR

# Park Neighbors

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## Daniel Boone National Forest

The Daniel Boone National Forest borders the Big South Fork National River and Recreation Area on the north where you will also find hiking, camping and other recreational opportunities. The U.S. Forest Service , Stearns Ranger District, is located on U.S. 27 north of Whitley City, Kentucky.

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Natural Arch Recreation Area	Take KY 927 off US 27
Hemlock Grove Picnic Area	Take KY 1363 off KY 167
Great Meadows Campground	(north of Pickett State Park, TN154)

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## Other Parks, Natural Areas, Points of Interest

### Kentucky

Cumberland Falls State Resort Park	North of Whitley City, KY on US 27, turn east onto KY90.
General Burnside State Park	Two miles south of Burnside, KY off US 27

### Tennessee

Pickett State Park	Hwy. 154 North
Colditz Cove State Natural Area	Off TN 52 east of Allardt, TN
Historic Rugby	Hwy 52 East
Alvin C. York Gristmill	North of Jamestown on US 127
Cordell Hull Birthplace	Off TN 42 near Byrdstown, TN
Catoosa Wildlife Management Area	South of Obed Wild & Scenic River
Lone Mountain State Forest	Southwest of Wartburg off US 27
Frozen Head State Park	Southeast of Wartburg off TN 62
Cumberland Mountain State Park	South of I-40 on US 127



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