# Bryce Canyon

Bryce Canyon National Park
Utah

National Park Service
U.S. Department of the Interior

Bryce Amphitheater
© KEVIN DOXSTATER

## Poetry in Stone

Bryce Canyon's serene vistas are deceptive; the landscape is never static. Stand at the rim in early morning and experience the chilly dawn, crystalline blue sky, and rocks ablaze with the ruddy light of sunrise. After breakfast, walk the rim and your shifting perspective dramatically recomposes the scene below. The Sun arcing across the sky casts a kaleidoscope of slowly altered hues and shifting shadows over the land. You peel off layers of clothing as the air rapidly warms—as much as 40°F from dawn to late afternoon. Thin air can leave you short of breath. The high elevation that causes these effects also creates the climate that weathers the cliffs and bulbous columns called hoodoos. After sunset, as the chill returns, listen through the advancing twilight for the faint clatter or murmur of the stones tumbling in the distance. At Bryce Canyon the forces of weathering and erosion never rest, not even for a day. This dynamic, mesmerizing place is like no other.

## Wildlife at Bryce




Watchful eyes and good luck may reward you with wildlife sightings. Mountain lions and Great Basin rattlesnakes are secretive and not often seen. White-throated swift nests blend with the red rocks—but look up on Wall Street and you may spot them. Violet-green swallows wait out spring cold snaps by slowing their fast metabolism. Utah prairie dogs were listed as an endangered species in 1973, but protecting both them and their habitat improved their situation; in 1994 they were listed as a threatened species.

## Geology of Bryce Canyon

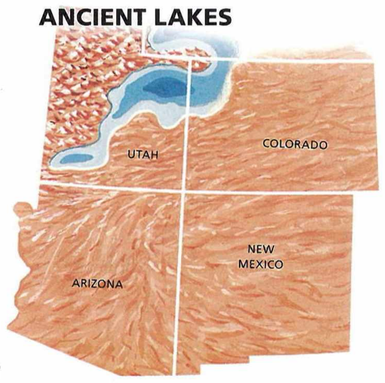
### LIVES OF THE HOODOOS

Weathering and erosion shape these statuesque rock features, but unlike many places, flowing water only plays a minor role in this story. As snow and ice melt, water seeps into fractures. As it re-freezes, it expands and cracks the rock around it. This common process of frost-wedging happens with uncommon frequency at Bryce Canyon.

About 180 days a year temperatures swing widely between freezing nights and warm afternoons. The combination of gravity and meltwater causes soil creep, moving the stone fragments downhill. Rain from summer thunderstorms further dissolves the limestone into a clay ooze and generates just enough flowing water to help remove the debris.

Before this area was full of hoodoos it was full of water. Between 55 and 40 million years ago (mya), today's Utah was a mountain-encircled basin. For millions of years, rivers deposited sediments—mostly dissolved limestone—into a system of large lakes. Twenty million years ago, as the Colorado Plateau began to rise, the lakes dried up and their mixtures of sediments became the muddy limestone called the Claron Formation.

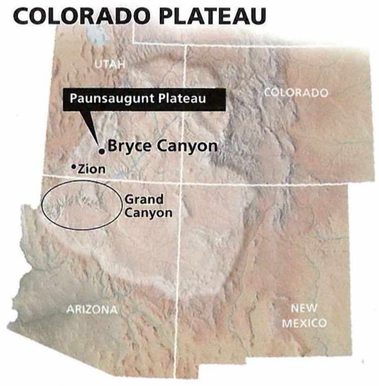
### ANCIENT LAKES



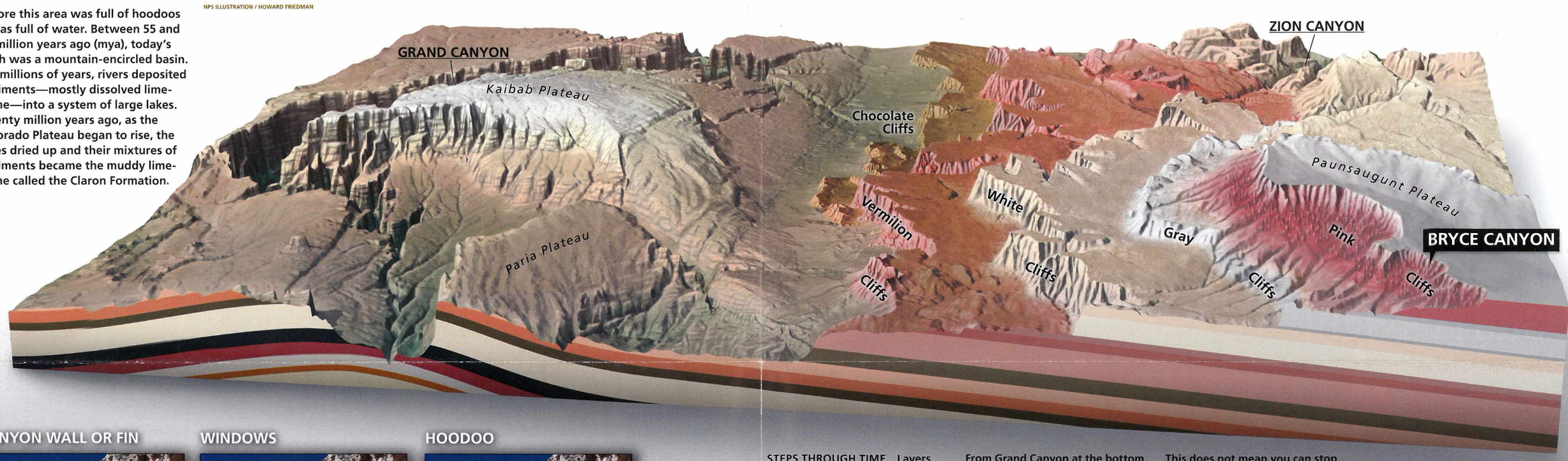

An inland sea that divided the continent east-to-west 90 mya deposited sediments that formed the oldest rocks in the park. They lie unseen now below the Claron Formation that formed from 55 to 35 mya by sedimentation in large lakes *(above)* that waxed and waned in the region.

NPS ILLUSTRATION / HOWARD FRIEDMAN

### COLORADO PLATEAU




Massive tectonic plate activity from 20 to 15 mya began to push up a tremendous swath of Earth's crust. This eventually raised the region nearly two miles, to form the 130,000-square-mile Colorado Plateau.




### CANYON WALL OR FIN



### WINDOWS



### HOODOO



HOODOO FORMATION Hoodoos don't grow like trees but are eroded out of the cliffs where rows of narrow walls form. These thin walls of rock are called fins. Frost-wedging enlarges cracks in the fins, creating holes or windows. As windows grow, their tops eventually collapse, leaving a column. Rain further dissolves and sculpts these limestone pillars into bulbous spires called hoodoos. The delicate climatic balance between snow and rain ensures that new hoodoos will emerge while others become reduced to lumps of clay.

NPS PHOTO ILLUSTRATION / KEVIN DOXSTATER

STEPS THROUGH TIME Layers in rock are like the chapters in a huge history book that describe how Earth developed. Where can you read the only unabridged edition of the planet's history? Right here.

The Grand Staircase *(illustration above)* is the world's most complete sequence of sedimentary rocks—rocks formed over vast timespans from sediments built up in lakes, inland seas, swamps, deserts, and forests.

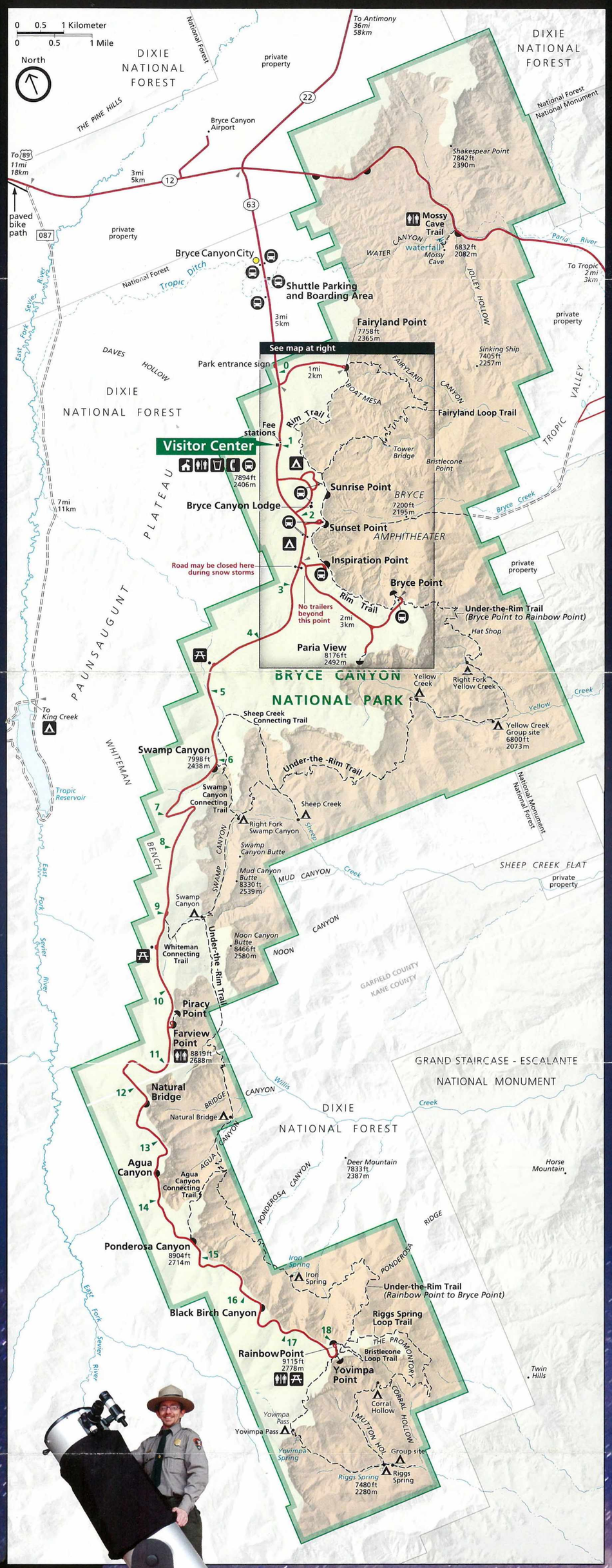
From Grand Canyon at the bottom, through Zion National Park in the middle, to Bryce Canyon National Park near the top of the staircase, this rock record recounts a history of 525 million years.

Elsewhere on Earth the geological sequences have been interrupted by uplift of mountain ranges or carving and scouring action by glaciers. In the Grand Staircase, however, very few gaps mar the sequence. Most chapters and even pages of this book are still intact.

This does not mean you can stop just anywhere along the 100-mile-long Grand Staircase and see all 525 million years of this history. Earth's curvature would not let you do that.

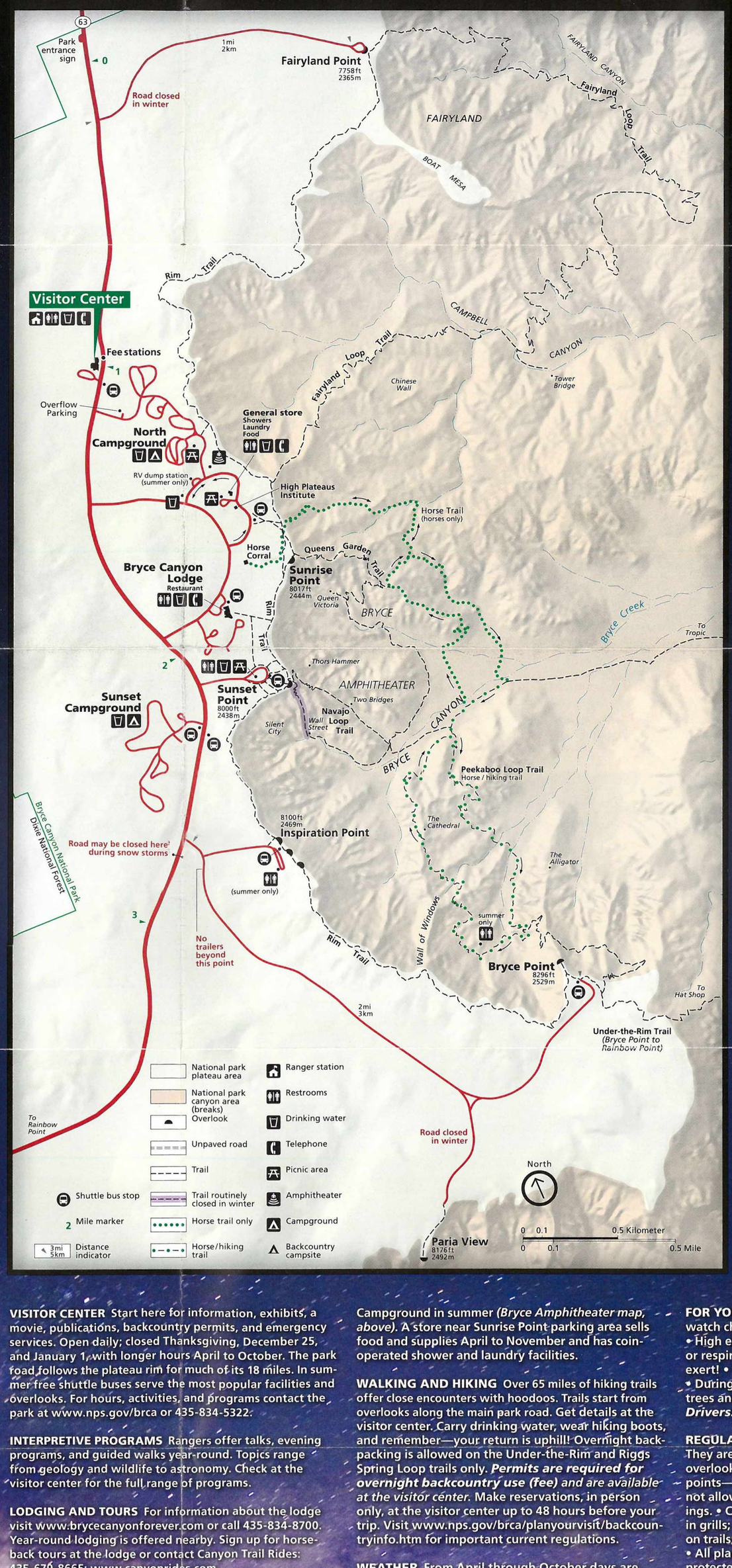
As this illustration shows, the exposed cliff faces of the tilted rock formations suggested the staircase metaphor. The pink cliffs at Bryce Canyon are the top step of the staircase.

# Exploring Bryce Canyon

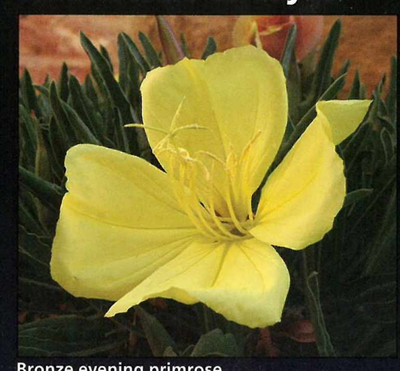



A Bryce Canyon "Dark Ranger" shows off one of the powerful telescopes you can use in the park's Night Sky programs.
© KEVIN DOXSTATER

## Bryce Amphitheater




## Wildflowers of Bryce


Bronze evening primrose
© DAVE MACZUGA


Markagunt penstemon
© KEVIN DOXSTATER


Sego lily, Utah's state flower
© CORY MAYLETT


Rock columbine
© STEPH ABEGG


Scarlet gilia
© KEVIN DOXSTATER

**VISITOR CENTER** Start here for information, exhibits, a movie, publications, backcountry permits, and emergency services. Open daily; closed Thanksgiving, December 25, and January 1, with longer hours April to October. The park road follows the plateau rim for much of its 18 miles. In summer free shuttle buses serve the most popular facilities and overlooks. For hours, activities, and programs contact the park at www.nps.gov/brca or 435-834-5322.

**INTERPRETIVE PROGRAMS** Rangers offer talks, evening programs, and guided walks year-round. Topics range from geology and wildlife to astronomy. Check at the visitor center for the full range of programs.

**LODGING AND TOURS** For information about the lodge visit www.brycecanyonforever.com or call 435-834-8700. Year-round lodging is offered nearby. Sign up for horseback tours at the lodge or contact Canyon Trail Rides: 435-679-8665; www.canyonrides.com.

**CAMPING** Over 200 sites (tent and RV, fee) at North and Sunset campgrounds are mostly first-come, first-served, with water and restrooms nearby. At North Campground 13 RV sites can be reserved. At Sunset Campground 20 tent sites and one group site can be reserved. To reserve a site contact 877-444-6777; www.recreation.gov. Bring or buy firewood; gathering wood in the park is prohibited. No hookups. An RV dump station (fee) is near North Campground in summer *(Bryce Amphitheater map, above)*. A store near Sunrise Point parking area sells food and supplies April to November and has coin-operated shower and laundry facilities.

**WALKING AND HIKING** Over 65 miles of hiking trails offer close encounters with hoodoos. Trails start from overlooks along the main park road. Get details at the visitor center. Carry drinking water, wear hiking boots, and remember—your return is uphill! Overnight backpacking is allowed on the Under-the-Rim and Riggs Spring Loop trails only. ***Permits are required for overnight backcountry use (fee)*** *and are available at the visitor center.* Make reservations, in person only, at the visitor center up to 48 hours before your trip. Visit www.nps.gov/brca/planyourvisit/backcountryinfo.htm for important current regulations.

**WEATHER** From April through October days are pleasant, nights cool. Thunderstorms are common in summer. Winter days are brisk and bright. Most overlooks are open in winter.

**ACCESSIBILITY** We strive to make facilities, services, and programs accessible to all. Buildings, restrooms, many viewpoints, and the trail between Sunset and Sunrise points are wheelchair-accessible. Accessible campsites are available in summer. Service animals are welcome.

**FOR YOUR SAFETY** Steep drop-offs abound here; watch children closely and stay back from cliff edges. • High elevations can be dangerous if you have heart or respiratory ailments. Know your limits—don't overexert! • Wear hiking boots and watch your footing. • During thunderstorms stay in your vehicle; avoid trees and open areas. • Obey posted speed limits. ***Drivers: Be alert for animals, especially after dark.***

**REGULATIONS** Pets must be attended and leashed. They are allowed on all PAVED surfaces—including overlooks and the trail between Sunset and Sunrise points—and in campsites and picnic areas. Pets are not allowed on any unpaved trails or in public buildings. • Camp in designated campgrounds; build fires in grills; and picnic at designated picnic areas. • Stay on trails; don't take shortcuts. Yield to horse traffic. • All plants, animals, rocks, and cultural objects are protected by federal law. • For firearms regulations see the park website. • Hunting and trapping are prohibited. • *All wheeled vehicles, even bicycles, must stay on paved roads.*

**EMERGENCIES:** Call 911 or the Garfield County Sheriff's office at 435-676-2411.

# Starry Night

High elevation, clean dry air, and lack of light pollution make Bryce Canyon one of Earth's darkest places. With our Dark Rangers' help, Bryce Canyon offers you ultimate stargazing. High-quality darkness is ablaze with starlight. On moonless nights the Milky Way looks like a huge silvery rainbow from horizon to horizon. Venus and Jupiter are so bright they create shadows.

Powerful telescopes reveal the new stars inside nursery nebulae, shock waves from exploded stars, and ancient globular clusters seem like diamonds on black velvet. Millions of light years beyond, but reached by our telescopes, other galaxies of all shapes and sizes inspire the imagination. Making the most of a bright full moon, our Dark Rangers offer guided night-hikes among the moonlit hoodoos. Bryce Canyon is the perfect place to see why astronomy fascinates so many people. Use our website to plan your stellar visit.

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**MORE INFORMATION**
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www.nps.gov/brca

Bryce Canyon is one of over 400 parks in the National Park System. Learn more about national parks and National Park Service programs, at www.nps.gov.

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