



# Canyonlands



The official newspaper  
of Canyonlands National Park

## Revisiting Rock Art

BY CHRIS GOETZE

WHEN YOU RETIRE, HOW WOULD YOU LIKE TO SPEND YOUR TIME? Golfing is one option, so is playing bridge. But how about volunteering at a National Park? That's what one retiree has been doing and it's changing the way we "see" rock art.

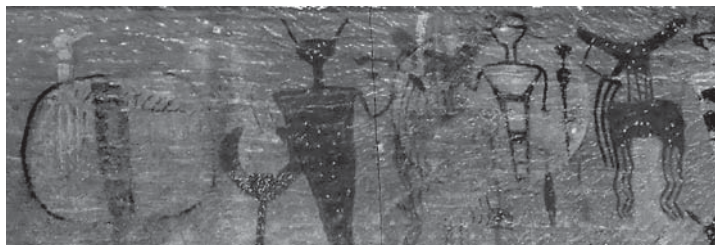
Bud Turner showed up at park headquarters in Moab looking for a volunteer opportunity that would allow him to contribute something to the park while experimenting with his passion for digital cameras, filters and different photographic techniques. He was especially interested in photographing prehistoric rock art.

We settled on Barrier Canyon Style rock art as the subject of his project. This pictograph style is spectacular, and Canyonlands National Park contains a majority of known panels, including the Great Gallery in Horseshoe Canyon, the type site for the style. In many cases, the documentation of the panels is poor or non-existent, so the project has a great benefit to park managers. It is also potentially interesting to archeologists and amateur enthusiasts because there is very little hard science regarding dating, pigment compositions, subtle stylistic differences, and a host of other possible research topics.

Mr. Turner agreed to provide the park with a high resolution photographic record of all the Barrier Canyon Style pictograph panels located in Arches and Canyonlands National Parks. These digital and film images will be used as a baseline to help park managers determine the long-term effects of weathering and aging. The images can also assist researchers interested in investigating how the panels were created, what pigments and paint binders were used, and what changes to the panels were made by later artists. Selected images can also be used in educational and interpretive displays to aid in the understanding and preservation of these important resources.

In addition to the baseline record, Mr. Turner is also photographing the panels in infrared wavelengths, and this is where things really become interesting. Rock art pigments react differently in infrared wavelengths, which are invisible to the human eye, than they do in visible light. Our initial expectation was that lighter pigments, such as white, would become transparent, while darker colors, such as red, would become even darker, allowing the observer to see beneath a white outer layer of pigment to the darker image beneath. This would help reveal vandalized or eroded red pigments that could no longer be seen with the naked eye. What we have discovered, however, is that rock art pigments don't always follow expectations.

In the first set of pictures, the Courthouse Wash Panel at Arches National Park was photographed in both visible and infrared wavelengths. True to expectations, the white circular figures became transparent in the infrared wavelengths and the red figures became much darker. The amount of detail that can be seen in the infrared image is striking when compared to what can be seen in visible light.



The Courthouse Wash panel at Arches: visible light (top) and infrared.

The second set of photos, however, confounded our initial expectations. The pigments at the Peek-a-boo Panel in the Needles District did not react as expected to the infrared wavelengths. The white images did not become transparent and the red images did not get darker and more visible. However, some details became much more visible, such as the large trapezoidal figure in the upper right of the panel.



The Peek-a-boo panel in the Needles: visible light (top) and infrared.

Mr. Turner's contribution has allowed us to "see" just how little we understand about the processes prehistoric people used to turn minerals into paint. Pigment composition is only one of the interesting areas we plan to research in the future. We are finding these ancient artworks to be more complex and enigmatic than we imagined, and every time we point a camera at another panel, something new and unexpected is revealed.

*Mr. Turner's work was funded by a Discovery Pool Grant from the Canyonlands Natural History Association. For more information about this program, see the sidebar on page three.*



### Welcome!

*"That in order to preserve an area in the State of Utah possessing superlative scenic, scientific, and archeologic features for the inspiration, benefit and use of the public, there is hereby established the Canyonlands National Park..."*

This passage from the public law passed by Congress in 1964 set aside a remarkable landscape containing much of the Colorado and Green river basins around their confluence. As Americans, we hold this to be a special place that preserves a part of this nation's natural and cultural heritage.

Canyonlands offers a full spectrum of discovery and experience. The Island in the Sky provides a raven's view of endless canyons and mesas. The Needles, whether accessed by vehicle or on foot, is a visual feast that constantly teases you into wanting to see what's around the next sandstone fin or knob. Venturing into the remote canyons of the Maze District allows visitors to lose and find themselves at the same time. Finally, floating the calm waters of the Green or Colorado rivers is nothing short of soothing therapy for the soul, while the rapids of Cataract Canyon below their confluence rouse your spirit.

Canyonlands is a place to make and share memories that can sustain you for a long time to come. I hope you rest, relax, recreate and, most importantly, remember your time here. As you leave the park behind, please take a piece of it home in your heart. On behalf of the dedicated National Park Service staff and our many volunteers, I truly hope that you safely enjoy your visit.

Kate Cannon  
Superintendent



Thanks to you, improvements are being made throughout the park. See back page for details.



### INSIDE CANYONLANDS

Join park rangers as they explore the many features of Canyonlands in our new interpretive video series: *Inside Canyonlands*. These three to five minute videos provide an in-depth look at topics like Native American history, geology and pothole ecology. All videos are available in a variety of formats, including files suitable for iPods and Apple TV. Learn more and download the videos on our website: [www.nps.gov/cany](http://www.nps.gov/cany).



### IT'S ALIVE!

Watch your step as you're exploring the park. See the back page for more information on living soil crusts.



National Park Service  
U.S. Department of the Interior

## Canyonlands Park News

### Published By

Canyonlands Natural History Association (CNHA), a nonprofit organization that assists the National Park Service in its educational, interpretive and scientific programs. CNHA's goals include enhancing every visitor's understanding and appreciation of public lands by providing a selection of quality, educational materials for sale at the park visitor centers. For more information, contact CNHA at (435)259-6003, or visit their website at [www.cnha.org](http://www.cnha.org).

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### Cover Photo

The Colorado River in Meander Canyon

*The National Park Service cares for the special places saved by the American people so that all may experience our heritage.*

# Preserving the Past

IF YOU ARE FORTUNATE ENOUGH TO HAVE THE opportunity to float the Green or Colorado Rivers this spring, you may see a flurry of activity at a few of the prehistoric sites located along the river.

A small crew of NPS archeologists will be conducting stabilization work at five sites with standing masonry walls that were recently evaluated as being unstable and in need of preservation. Although built between 700 and 1000 years ago, unlike many other prehistoric structures which have long since been reduced to wall remnants and rubble, these storage structures have withstood the ravages of time and are amazingly intact.

Some mortar and stone loss is occurring however, and threatens their future preservation. Natural weathering - water entering the sites due to precipitation, surface runoff, and alcove seeps, wind, animal activity, and bedrock decomposition - have had, and continue to have, a detrimental effect on the masonry walls. Additionally, because of the standing architecture and high visibility of these sites within the river corridor, they are well visited and as a result, exposed to human impacts.

Although visitor damage is largely unintentional, the "wear and tear" from foot traffic in and around the structures is contributing to their demise. The cumulative effect of these various impacts is resulting in the deterioration of these unique archeological resources and threatens their future preservation.

The 2008 stabilization work will address only those areas of deterioration crucial to maintaining wall stability and preserving the



An archeologist restores the mortar in a prehistoric wall.

existing architecture. The structures will be stabilized "as is," correcting weak points within the walls while maintaining their "ruin" appearance. Stabilization mortar will be mixed from locally acquired sediments, as was the case with the prehistoric mortar. A mortar amendment will be added to strengthen the mortar but this will not change the "aboriginal" appearance.

Newly added stones will be used to fill gaps, support overhanging wall sections, and secure loose masonry. The stabilization stones will be gathered off-site from natural rock debris and rubble. Like the mortar, they will be chosen and placed so as to blend in with the surrounding wall.

At some structures, backfill sediments and rock may be added to protect site deposits and support undermined walls impacted by foot traffic and weathering. Stabilization forms and photos will be used to record the preservation work. Since our goal is to make the stabilization repairs invisible and

maintain the aboriginal character of the structure, this documentation will be crucial for identifying work areas and tracking future changes.

Although stabilization will address the structural weak points, it will not provide a permanent preservation solution. Natural and human impacts are on-going and the erosional cycle will begin once again. Their preservation depends on the continued commitment of the NPS and park visitor alike.

As site stewards, we all play a role in minimizing impacts to these sites and preserving this important part of our cultural heritage.



Interpretive program at Grand View Point



Mountain biking on the White Rim Road



Sunrise at Mesa Arch

## Exploring Island in the Sky

### Basics

- Visitor center is open 8:00 a.m. to 6:00 p.m. from April to late October, and 9:00 a.m. to 4:30 p.m. the rest of the year. Features exhibits, book and map sales, audio-visual programs, backcountry permits, general information, and park rangers on duty.
- There are no free water sources at the Island. Water is sold in the visitor center at the front desk and at a vending machine outside.
- Orientation movie: *Wilderness of Rock* is shown on request at the visitor center (15 minutes).
- Vault toilets are located at the visitor center, Grand View Point, Green River Overlook, Upheaval Dome, White Rim Overlook and Willow Flat Campground. The visitor center toilets are wheelchair accessible.
- Campground at Willow Flat has 12 sites available on a first-come, first-served basis. No water or hookups provided. Nightly fee is \$10 per site.

### Scenic drive

The 34 mile (round-trip) scenic drive allows visitors to tour the entire mesa top. The *Road Guide to Canyonlands - Island in the Sky District* offers an insightful narrative for the trip and can be purchased at the visitor center. A self-guided driving tour CD is also available for sale or loan. Wheelchair accessible overlooks include Grand View Point, Green River Overlook and Buck Canyon Overlook. There are picnic areas at White Rim Overlook and Upheaval Dome.

### Interpretive activities

- Interpretive brochures are available for Mesa Arch and Upheaval Dome.
- Ranger programs: Geology talks (30 minutes) are presented daily at 10:30 and 11:30 a.m. at Grand View Point (April to late October). Porch talks and activities are presented daily (April to September). Check at the visitor center or campground for times and topics.

### For kids

Free Junior Ranger booklets are available at the visitor center. Kids age 5 and up can earn a Junior Ranger badge by completing four or more activities. Kids can also attend a Family Program (summer only), or check out an Explorer Pack: a backpack filled with activities and tools to help you have fun in the park. For hiking, kids enjoy peeking through Mesa Arch and climbing the back of the whale at Whale Rock. Use caution as there are unfenced overlooks on both of these trails.

### What to do with your day

First, stop at the visitor center for current information on trails, roads, interpretive programs, weather, or to watch the park orientation movie.

### If you have 2 hours:

Drive to Grand View Point or Green River Overlook. Hike to Mesa Arch.

### If you have 4 hours:

Drive to Grand View Point, Green River Overlook and Upheaval Dome. Hike the Grand View Point, Mesa Arch, and Upheaval Dome Overlook trails.

### If you have 8 hours:

Visit every overlook. Hike several mesa top trails or one of the more strenuous trails descending to the White Rim. Enjoy lunch on the trail or at White Rim Overlook or Upheaval Dome picnic areas.

### If you are interested in geology:

View the exhibits at the visitor center and pick up a geology handout. Visit Grand View Point to see the rock layers or attend a geology talk (spring through fall). Visit Upheaval Dome and hike to the first overlook.

### If you are interested in natural history:

View the visitor center exhibits and pick up a free natural history handout. As you pass through Gray's Pasture, watch for mule deer or bighorn sheep. Walk the Mesa Arch or Neck Spring trails and learn about native plants.

### If you are interested in human history:

View the visitor center exhibits and pick up a free handout. Hike the Aztec Butte Trail to see ancestral Puebloan ruins. Hike the Neck Spring Trail to view remnants of the ranching era. Old fences and corrals are visible along the scenic drive and Murphy Point Trail. Also, old mining roads are visible from most overlooks.

### If you are interested in watching sunrise/sunset:

Find out sunrise and sunset times at the visitor center. Visit Mesa Arch at dawn. Visit Green River Overlook or Grand View Point at dusk for incomparable views of sunset over the canyons. Hike to the top of Aztec Butte for a spectacular view of the Island in the Sky and surrounding countryside.

# Earth Scope

BY SIERRA COON

I STARTED OUT WITH A VAGUE IDEA OF MY destination and an even more vague idea of what exactly I was looking for. I figured that I would know it when I saw it. I walked for a while among various park equipment and supplies until I saw something that seemed out of place. Pipes and wires were sticking out of the ground connected to a solar panel. This had to be it.

The strange piece of equipment I have sought out is part of a project called USArray. It is one of 400 similar stations blanketing the West and marks one point in a giant grid that stretches from the Pacific Coast to the Rockies. Underground, a metal box houses a seismograph, a small device that records vibrations in the Earth caused by everything from earthquakes thousands of miles away to a car passing by. Scientists hope to use the information recorded by these instruments to understand processes that are going on deep beneath the surface of the Earth. I jump up and down, doing my part to help the project.

Canyonlands National Park sits atop the North American continent, the huge block of land that contains the US, Canada, Mexico, and Greenland. While the surface features are fairly well understood, the inner workings of the continent and what lies below it are still shrouded in mystery. The difficulty comes from the fact that we have no way of seeing inside the earth. The goal of the USArray project is to do just that. Geologists hope to use the data recorded by these observing stations to help develop a picture of the landscape below the surface. Vibrations that travel through the Earth take different paths and move at different speeds depending on the structure and composition of the material through which they move. Geologists can



A small footprint: a few solar panels power the seismic stations and the satellite dish that transmits the data they record.

look at the information collected from the seismographs and use it to construct models of the subterranean geology. Once they have an idea of what North America looks like on the inside, scientists can begin to understand the continent's history and how it came to be the land we know today. The team also hopes to gain insight into earthquakes and volcanic eruptions in the hopes of understanding their mechanics; why do they happen, when and where they do.

USArray is one component of an even larger project called EarthScope, which has been referred to as the world's largest observatory pointed at the Earth. Other components include studying California's San Andreas Fault deep underground, using GPS units to measure the movement of tectonic plates, and analyzing radar images to measure strain building in the Earth's crust. Projects take place all across the United States, in almost every county, connecting many different communities in a common project of exploration and discovery. EarthScope relies on partners like the National Park Service to provide good locations for

observation stations, GPS units, and seismographs. In return, the scientists share the information they collect with the parks so that everyone can learn more about our dynamic and changing Earth.

As I stand next to this piece of highly sophisticated scientific equipment that seems so at home amongst the gravel and two-by-fours of the storage yard, I picture it clicking away underground. It reaches out to its siblings scattered throughout the West and together they peer into the earth. . . measuring, drawing. . . creating a giant net of discovery. I wish that I could see what they see, the inner workings of our planet, but I suppose I'll just have to wait for the science to unfold. I jump one more time to hurry things along before heading back to the car.

To view data recorded by USArray seismic stations, visit their website at <http://www.iris.edu/USArray/>. The Canyonlands station number is R18A.

## Discovery Pool

The Discovery Pool is a grant program established by Canyonlands Natural History Association (CNHA) to provide its federal partners with financial support for scientific studies conducted within their administrative boundaries. Funding for these grants comes from CNHA memberships, retail outlet sales and private, tax-deductible donations.

The goals of the Discovery Pool grant program include:

- Encouraging scientific research that serves as the backbone of interpretive and educational programs.
- Providing matching funds that assist federal partners in obtaining larger grants.
- Providing funds directly to federal partners so that all monies apply directly to the granting project and none are absorbed by a third party for administrative costs.
- Promoting an understanding of the intricate cultural and natural resources found on federally administered lands.

Since 2006, CNHA has awarded over \$70,000 in grants to a variety of projects, several of which involve research in Canyonlands. In addition to Bud Turner's multi-spectral imaging of rock art (see front page), funds have also supported the study of bighorn sheep as well as human impacts on springs, seeps and hanging gardens.

For more information on Discovery Pool Grants, including how to apply or make a tax-deductible donation, visit CNHA's website at [www.cnha.org](http://www.cnha.org).

## Exploring The Needles

### Basics

- Visitor center is open 8:00 a.m. to 4:30 p.m. daily, with extended hours spring through fall. Features exhibits, book and map sales, audio-visual programs, backcountry permits, general information, picnic area, and park rangers on duty.
- Water is available year-round at the visitor center and at the Squaw Flat Campground.
- Orientation movie: *Wilderness of Rock* is shown on request at the visitor center (15 minutes).
- Restrooms are available at the visitor center and Squaw Flat Campground (wheelchair accessible). There are also vault toilets at Elephant Hill.
- Squaw Flat Campground has 26 sites available first-come, first-served. No hookups. Nightly fee is \$15 per site.

### Scenic drive

The scenic drive continues 7 miles past the visitor center, ending at Big Spring Canyon Overlook. Along the way are several pullouts for short hiking trails, viewpoints and a picnic area. Graded gravel roads lead to Cave Spring, where there is an interpretive trail, and to the Elephant Hill trailhead, where there is a second picnic area. The Elephant Hill access road provides excellent views of the Needles from a car (about one mile from the pavement).

### Interpretive activities

- Interpretive trails (with printed guides) include Cave Spring, Pothole Point, Roadside Ruin and Slickrock.
- Campfire programs are presented five nights a week at Squaw Flat Campground (April to October). Check at the visitor center or campground for topics and times.

### For kids

Free Junior Ranger booklets are available at the visitor center. Kids age 5 and up can earn a Junior Ranger badge by completing four or more activities. The Cave Spring Trail, featuring a cowboy camp and prehistoric pictographs, is always a hit with kids. Pothole Point is another popular hike, especially if the potholes are full of water. Before you set out, rent a kids' discovery pack from the visitor center. Packs include a naturalist guide, binoculars, hand lens and more (small fee and deposit required).

### What to do with your day

First, stop at the visitor center for current information on trails, roads, interpretive programs, weather, or to watch the park orientation movie.

#### If you have 2 hours:

Drive to Big Spring Canyon Overlook and hike the Pothole Point trail along the way. Drive to a view of the Needles on the Elephant Hill access road.

#### If you have 4 hours:

Explore the scenic drive and graded dirt roads. Hike the Cave Spring, Pothole Point and Roadside Ruin trails or the longer Slickrock trail.

#### If you have 8 hours:

After exploring the scenic drive, hike to Chesler Park or around the Big Spring-Squaw Canyon loop. Enjoy lunch on the trail.

#### If you are interested in geology:

View the exhibits at the visitor center and pick up a free geology handout. Every Needles trail provides unique views of rock formations, and marine fossils are visible in the canyon below Big Spring Canyon Overlook (follow the Confluence Trail).

#### If you are interested in natural history:

View the visitor center exhibits and pick up a free natural history handout. Bighorn sheep are seen most frequently from overlooks along the Slickrock Trail. Squaw, Lost and Salt Creek canyons are great for early-morning birding.

#### If you are interested in human history:

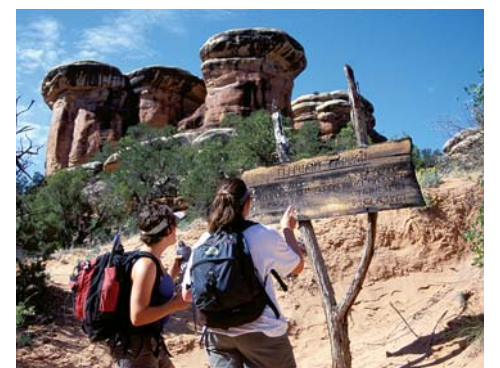
View the visitor center exhibits and pick up the free human history handout. Hike the Roadside Ruin and Cave Spring trails. If time permits, visit the Peekaboo rock art panel in Salt Creek Canyon.

#### If you are interested in watching sunrise/sunset:

Find out sunrise and sunset times at the visitor center. Sunrise is spectacular from the campground area, especially along the short trail over the butte between Loops A and B. Visit Pothole Point or Wooden Shoe Arch Overlook as the glow of sunset washes over the Needles.



Pothole Point



On the trail to Chesler Park



Rock spires in Chesler Park



A raft plunges through a rapid on its way through Cataract Canyon.

## Backcountry Areas

Much of the land in Canyonlands remains undeveloped, a fact evident at any of the overlooks along the Island in the Sky scenic drive. The park's primitive character has made it a popular destination for backcountry travel. In every district, rugged roads, trails and rivers provide paths into remote corners of the park.

The White Rim Road, a 100-mile loop below the Island in the Sky mesa, is a favorite of mountain bikers and four-wheel drivers. The Needles provides ideal itineraries for backpackers in search of solitude. The Maze offers opportunities for lengthy exploration by foot and vehicle. Due to its remoteness and the difficulty of roads and trails, travel to the Maze requires more time, as well as a greater degree of self-sufficiency.

Yet another way to see the park is on the rivers. Boaters can float down the flatwater sections of the Colorado and Green rivers to the Confluence, or continue downstream to face 14 miles of rapids as the river tumbles through Cataract Canyon.

Rock art enthusiasts should be sure to visit Horseshoe Canyon, a detached unit of Canyonlands northwest of the Maze. A moderately strenuous hike leads to a series of pictograph panels created by hunter-gatherers over 2,000 years ago.

If you're interested in planning a trip to any of these areas, request a copy of the *Canyonlands Trip Planner*, or visit our website at [www.nps.gov/cany](http://www.nps.gov/cany).

# Thanks to You

CANYONLANDS NATIONAL PARK WILL ENCHANT YOU WITH ITS MYSTERY AND BEAUTY. MILES of roads and trails offer access to a colorful geologic wonderland in the heart of the high desert of southeastern Utah - a masterpiece of nature's work. From sagebrush and claret cup to bighorn sheep and lizards, hundreds of species of plants and animals weave color and texture into Canyonlands' diverse landscape.

With all this majesty, hundreds of thousands of hikers, campers, boaters and other outdoor enthusiasts are drawn to Canyonlands each year. The park's popularity creates a challenge - to assist and protect its visitors, while preserving the natural and cultural treasures that brought them here in the first place. With your park fees and continued support, we can meet this challenge together.

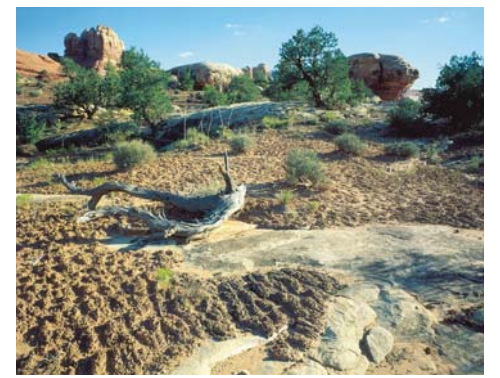
In 1996, Congress authorized the Recreational Fee Demonstration Program in order to reverse the deteriorating scope and quality of federal facilities and address natural and cultural resource issues. In 2004, Congress passed the Federal Lands Recreation Enhancement Act that continues the fee programs for an additional 10 years. Prior to these programs, user fees were returned to the general fund of the federal government and parks were reimbursed only for their collection costs. Now, Canyonlands keeps 80% of camping and entrance fees. During the past ten years, over 5 million dollars in retained fee revenue has been put to work at Canyonlands.

The park's trail crew continues to perform maintenance and rehabilitation on over 120 miles of trails. All of the paved roads at Canyonlands have received preventative maintenance that extends their life and makes travel safer. This year, the Island in the Sky Visitor Center is being upgraded and expanded in order to provide a better environment for both visitors and district employees.

National Park Service employees and volunteers work hard to protect the resources of Canyonlands. Now you're a partner in this important work. Thanks to you, park facilities and programs are improving, and visitors can continue to experience this national treasure for generations to come.



Upgraded and expanded: the remodeled Island in the Sky Visitor Center.



**WATCH YOUR STEP!** Biological soil crust is a living groundcover that forms the foundation of high desert plant life in Canyonlands and the surrounding area. This knobby, black crust is dominated by cyanobacteria, but also includes lichens, mosses, green algae, microfungi and bacteria.

## Protect Your Park

- Avoid trampling biological soil crusts. Always walk on trails, slickrock or in sandy wash bottoms.
- Pets are not allowed on hiking trails or four-wheel-drive roads, even in a vehicle. Pets may be walked along paved roads and in the campground, but must be leashed at all times.
- Protect water sources. Do not swim or bathe in potholes or intermittent streams.
- Preserve your heritage. Do not enter, alter or deface archaeological sites. Leave artifacts undisturbed.
- It is illegal to remove natural or cultural features including plants, rocks, artifacts, driftwood or antlers.
- Vehicles and bicycles must travel on designated roads.
- ATVs are not permitted.

## Protect Yourself

- Drink at least one gallon of water per day if you're active in the desert.
- Always carry a map, adequate clothing and flashlight in the backcountry.
- Remain in one place if you become lost or separated from a group.
- Always let someone know where you are going and when you expect to return.
- Never cross a canyon that is flooding.
- During lightning storms, avoid lone trees and high ridges. Sit in a vehicle if possible.
- Be careful near cliff edges, especially when rock surfaces are wet or icy.

# How hot will it be?

BY JERRY SHUE

IF YOU'RE PLANNING A TRIP TO THE ISLAND IN THE SKY DISTRICT OF CANYONLANDS, you might be wondering "What will the temperature be like in June when the kids are out of school?" And you might be told that the "official" average high in June 2007 was 86° F, while the average measured low was 64° F.

However, these official readings are taken at the visitor center weather station, which is in a shady, ventilated white box about four feet above the ground. Temperatures in the sun can be much hotter, as visitors to the Island have been discovering in a simple experiment.

In the experiment, temperatures were recorded by four thermometers, all in full sun but each treated in a different way. One thermometer was exposed to the full sun. Another sat in a white tube, which was intended to mimic the effect of wearing light-colored clothing. A third thermometer was in a black tube (dark clothing), while a fourth sat in a wet, gauze-covered tube (wet, light-colored clothing).

Each day during the summer of 2007, visitors recorded temperatures from these thermometers at a temporary station in front of the visitor center. Their findings were remarkable!

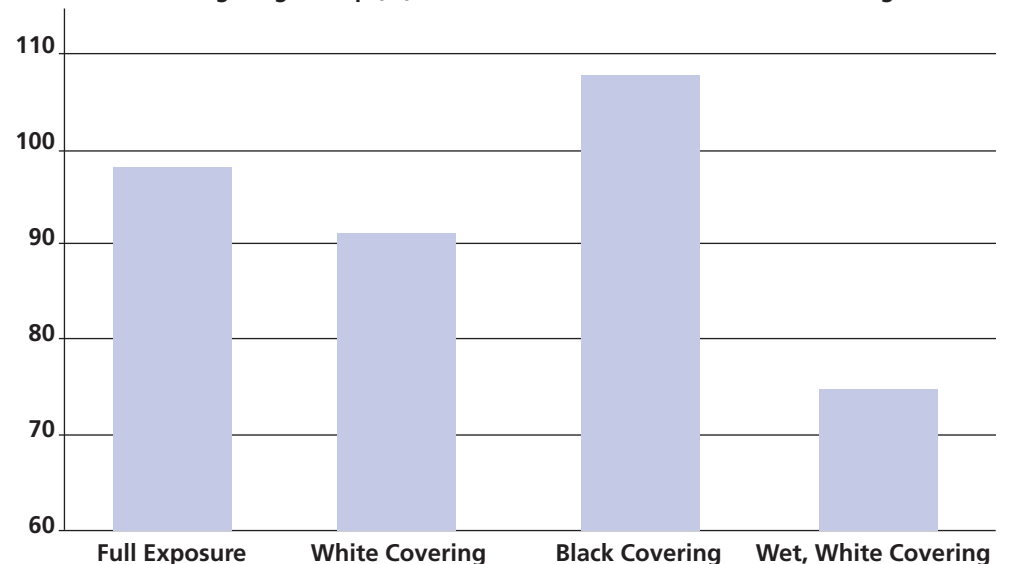
While the "official" high temperature might have been 86° F last June, the temperature of your skin exposed to the sun was probably more like 98° F, just like the exposed thermometer. If you were wearing white clothing, your surface temperature would have been somewhat cooler (93° F) because light colors reflect the sun's radiation.

But if you happened to be wearing dark clothing (which absorb more of the sun's radiation), your surface temperature might have soared as high as 108° F, inviting serious heat exhaustion. Most dramatically, if you had worn wet, light-colored clothing, evaporative cooling could have reduced your surface temperature down to a very comfortable 75° F. The average temperatures recorded by 165 visitors are shown here in a graph.

Of course, many other factors can affect the surface temperature of your skin. Is your clothing a loose or a tight weave? Is there a breeze? What is the relative humidity?

**But** the answer to "How hot will it be?" depends a great deal on how you dress. You can lower your surface temperature by protecting yourself with clothing and a hat that reflect as much of the sun's radiation as possible. You'll likely feel even more comfortable if you keep your clothing and hat wet.

June 2007  
Average High Temp (°F) vs. Thermometers with Different Coverings



Above: Average results from 165 temperature readings. Below: Visitors recording their observations.

In addition, drinking lots of water will help keep your body hydrated and allow natural sweating and evaporation to cool it. Drinking one gallon of water per person per day is a good rule of thumb.

So, enjoy the summer sun, but be temperature smart. Dress, and drink, for the season!

*Special thanks to all of the visitors who participated in this experiment.*

