

Mesa Verde Education Packet

National Park Service
U.S. Department of the Interior

Mesa Verde National Park



Square Tower House

Explore Mesa Verde National Park

Mesa Verde is Spanish for “green table.” The park contains several mesas rising nearly 800 feet above the surrounding valley. Mesa Verde’s 52,000 acres contain nearly 5,000 known archeological sites, including 600 cliff dwellings. The archeological sites found in Mesa Verde are some of the most notable and best preserved in the United States.

Mesa Verde National Park offers a spectacular look at the lives of the Ancestral Pueblo people who made Mesa Verde their home for over 700 years. This brochure will help you learn more about the cultural and natural history of Mesa Verde National Park.

The Ancestral Pueblo People

For many years, the National Park Service referred to the original inhabitants of Mesa Verde as the “Anasazi.” Anasazi, a Navajo word, has many different meanings. Sometimes it translates as “ancient ones,” while another translation is “enemy ancestors.” We now refer to the ancient people of Mesa Verde as the Ancestral Pueblo people.

Today, there are 26 tribes that have a special relationship with Mesa Verde National Park. Affiliated tribes include the 19 Pueblos of New Mexico: Acoma, Cochiti, Isleta, Jemez, Laguna, Nambe, Ohkay Owingeh, Picuris, Pojoaque, Sandia, San Felipe, San Ildefonso, Santa Ana, Santa Clara, Santo Domingo, Taos, Tesuque, Zia, and Zuni. Ysleta del Sur in Texas and the Hopi in Arizona are also affiliated pueblos. The Ute Mountain Ute, Southern Ute, Northern Ute, Navajo, and Jicarilla Apache are all associated tribes.



Park Challenges

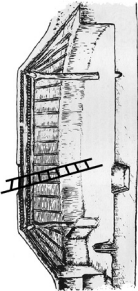












Each year, the park strives to keep up with the increased cost of protecting the natural and cultural resources of Mesa Verde National Park, and making those resources available for the public to enjoy. For instance:

- The park road, built on unstable shale soils, requires constant maintenance.
- A warming and drying climate has destabilized forested and aquatic habitats. And the spread of non-native species, habitat degradation, and environmental pollution contribute to the decline and loss of native species.
- Increased air pollution from surrounding industrial sites reduces visibility at viewpoints and further threatens park resources.
- It has been more than a century since archeologist JW Fewkes excavated Cliff Palace, the largest and most famous cliff dwelling in the park, and prepared the site for public visits. Though much of his work remains intact today, natural forces and years of visitation have taken their toll on the trails, retaining walls, and several of the rooms and kivas. A combination of factors appears to be contributing to the situation. Constructed over 700 years ago, it was partially built on unstable fill (a mix of loose soil and rock); water seeping into the sub-surface soil may be loosening the fill; and the nearly one-thousand visitors walking through the site each day, six months a year, adds a significant amount of weight to the area. Repairs are needed to reduce the deterioration and continue to give visitors access to this amazing site. The park is now making the repairs necessary to ensure that this important site will remain standing for future generations.

Increased operational funding is needed to overcome these types of challenges. Unfortunately, money received through taxes is no longer enough. Income from park entrance fees, tour tickets, purchases in the Museum Association bookstores, and donations to the Mesa Verde Foundation, is crucial in protecting park resources for future generations and providing the services visitors have come to expect.

Outline of Ancestral Pueblo Culture at Mesa Verde National Park

Mesa Verde National Park Education Packet

Date	Classification	Architecture	Tools	Food/Clothing	Lifestyle
AD 450 to AD 750	MODIFIED BASKETMAKER (BASKETMAKER III)	<ul style="list-style-type: none"> Pithouse -- A two-foot deep pit with wood and mud walls, and an entrance via a ladder through a hole in the roof  <p>Pithouse</p>	<ul style="list-style-type: none"> Stone tools -- used for cutting, scraping, pounding, etc. Baskets -- some could hold water (pine sap) Atlatl -- wooden "sling" device to throw spears Mano and metate -- stone tools used to grind corn Began making pottery   <p>Atlatl</p> <p>Mano and Metate</p>	<ul style="list-style-type: none"> Farmed corn and squash Blankets -- made of woven turkey feathers Soft cradle boards Sandals -- made from yucca  <p>Cradle board</p>  <p>Sandal</p>	<ul style="list-style-type: none"> Mesa Verde population less than 1,000 People lived in small groups <p>These factors stayed the same throughout the later time periods:</p> <ul style="list-style-type: none"> Changed from a nomadic (hunters and gatherers) to sedentary (farmers) way of life Dogs and turkeys domesticated Average life expectancy Female -- 20 to 25 years Male -- 30 to 35 years Women average height -- 5'1" Men average height -- 5'4" Women wore short hair Men wore long hair
AD 750 to AD 1150	DEVELOPMENTAL PUEBLO (PUEBLO I -- AD 750 to 900) Jacal (hä-käl) construction: walls of thin branches woven between upright poles, and covered with mud (PUEBLO II -- AD 900 to 1150) Masonry construction: walls built with sandstone blocks	<ul style="list-style-type: none"> Pueblo -- above-ground houses of stone and mortar built on mesa tops Tower -- circular structure, up to 15 feet tall Kiva -- underground ceremonial and family room  <p>Pueblo and tower</p>  <p>Kiva</p>	<ul style="list-style-type: none"> Bow and arrow Two types of pottery were made: <ol style="list-style-type: none"> White pottery with black painted designs -- bowls, ladles, pitchers, and canteens made from clay Corrugated (coiled and pinched) pots commonly used for cooking and storage  <p>Corrugated pot</p>  <p>Ladle</p>	<ul style="list-style-type: none"> Beans were added to their diet Small cotton blankets woven from imported cotton Yucca -- used for sandals, mats, ropes, soap, food, baskets, snares, etc.  <p>Yucca</p>	<ul style="list-style-type: none"> Hard, wooden cradle board which flattened the back of the skull Doorways faced south with kiva in front Giant kivas developed Reservoirs and check dams built to conserve water Increased emphasis on religion
AD 1150 to AD 1300	CLASSIC PUEBLO (PUEBLO III -- AD 1150 to 1300) Cliff dwellings	<ul style="list-style-type: none"> Cliff dwelling -- built in alcoves and contained from one to 150 rooms, many used for storage  <p>Cliff Dwelling</p>	<ul style="list-style-type: none"> More elaborately painted, black-on-white pottery was created, including mugs and kiva jars Increased trade with Pacific Coast and Central America Possible road system to the south  <p>Paired mugs</p>  <p>Black-on-white jar</p>	<ul style="list-style-type: none"> Drought AD 1273 - 1299 Soil depletion caused poor crop production Animals over-hunted Wood supply for fuel decreased Wild plants decreased 	<ul style="list-style-type: none"> Mesa Verde population over 5,000 Four Corners region population about 45,000 Increased emphasis on religion Possibly increased tension Left Mesa Verde and migrated south about AD 1300



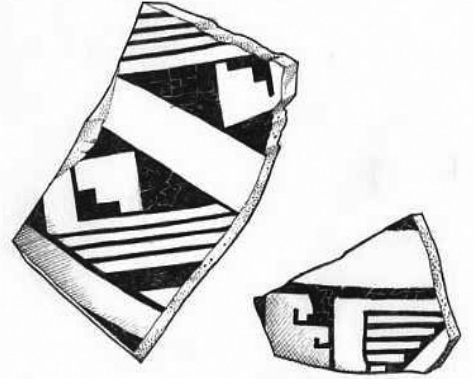
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Why Did They Leave?

About AD 1300, after more than seven centuries of successfully living in Mesa Verde, the Ancestral Pueblo people left the area. Although the reason for their departure remains a mystery, there are several theories. Research provides evidence for one theory that suggests by the 1200s, it had become increasingly difficult for the people of Mesa Verde to find what they needed to survive.

For instance:

- A 23-year drought beginning in AD 1273 would have been devastating for a people who relied on seasonal rains for the success of their crops.
- Centuries of farming the mesa tops had slowly depleted the soil's fertility, further reducing their ability to grow crops.
- The human population living in Mesa Verde in the 13th century may have become too large for the environment to sustain. For instance, archeologists find fewer bones of deer and other large game animals during this time, suggesting they may have been over-hunted for food.
- As available resources dwindled, tension between the people might have increased and defenses built to protect their food supplies.



While some believe that poor conditions forced the Ancestral Pueblo people to leave Mesa Verde, the traditions of their descendants tell a different story. Oral history chronicles a people on a continual journey, and the reason their ancestors left Mesa Verde had little to do with poor conditions. It was simply time for them to move on. Whatever the motivation, it is clear that the Ancestral Pueblo people did not disappear. They migrated south. Today their descendants, the Hopi, Zuni, Acoma, and other Rio Grande Pueblo people live in Arizona, New Mexico, and Texas.

Rediscovery and Preservation

On a snowy December day in 1888, ranchers Richard Wetherill and Charlie Mason searched for their stray cattle in Mesa Verde's canyons. Instead of finding their cows, they unexpectedly came upon Cliff Palace, Mesa Verde's largest cliff dwelling, for the first time. That afternoon they found Spruce Tree House. During the following year, four Wetherill brothers and Mason explored 182 cliff dwellings within the park. In 1891 Baron Gustaf Nordenskiöld from Sweden joined the Wetherills' excavations. Nordenskiöld, using painstaking field methods for his time, excavated, sketched and photographed sites. Nordenskiöld is considered by many to be the first true archeologist to visit Mesa Verde. His book, *The Cliff Dwellers of the Mesa Verde*, was the first extensive examination and photographic record of Mesa Verde's cliff dwellings.

The Wetherills and Nordenskiöld helped to publicize Mesa Verde in magazines, newspapers, and public events, and brought international recognition to its amazing archeological sites. They also called attention to the need to preserve these prehistoric sites. Virginia McClurg, a woman who had visited Mesa Verde in the 1880s, was concerned about the future of these sites and was determined to see the area protected. In 1897, she made her case to the Colorado State Federation of Women's Clubs (CSFWC) who wholeheartedly agreed to help her. Three years later, the CSFWC formed the Colorado Cliff Dwellings Association, a group whose sole purpose was to preserve the cliff dwellings. Although faced with several setbacks, they continued to promote their campaign to make Mesa Verde a national park through letter writing, fund raising, and even tours of Mesa Verde for the press. Their perseverance eventually paid off. On June 29th, 1906, President Theodore Roosevelt signed the bill creating Mesa Verde National Park.

By studying the Ancestral Puebloan sites of Mesa Verde National Park, archeologists are able to record one of the most significant chapters in the prehistory of the United States. The development from mesa top pithouses to 13th century cliff dwellings demonstrates the remarkable adaptability of the Ancestral Pueblo people. Visited in their chronological order, these sites reveal the architectural, social, and religious changes over seven centuries.



Mesa Verde National Park Education Packet

Natural History of Mesa Verde

Mesa Verde is in the Upper Sonoran Life Zone. A semi-arid climate, moderately high elevation, and pinyon-juniper forests characterize this zone. The plants and animals listed below are typical of this region.

Common Mammals



Black Bear

Badger, *Taxidea taxus*
California Bat, *Myotis californicus*
Fringed Bat, *Myotis thysanodes*
Hoary Bat, *Lasiurus cinereus*
Long-legged Bat, *Myotis evotis*
Spotted Bat, *Euderma maculatum*
Yuma Bat, *Myotis yumanensis*
Black Bear, *Ursus americanus*
Ringtail Cat, *Bassariscus astutus*
Golden-mantled G. Squirrel, *Spermophilus lateralis*
Colorado Chipmunk, *Eutamias quadrivittatus*
Desert Cottontail, *Sylvilagus audubonii*
Mountain Cottontail, *Sylvilagus nuttallii*
Coyote, *Canis latrans*
Mule Deer, *Odocoileus hemionus*
Red Fox, *Vulpes vulpes*
Gray Fox, *Urocyon cinereoargenteus*
Blacktail Jackrabbit, *Lepus californicus*
Mountain Lion, *Felis concolor*
Yellow-bellied Marmot, *Marmota flaviventris*
Deer Mouse, *Peromyscus maniculatus*
Plains Pocket Mouse, *Perognathus flavescens*
Western Harvest Mouse, *Reithrodontomys megalotis*
Muskrat, *Ondatra zibethicus*
Western Pipistrel (bat), *Pipistrellus hesperus*
Porcupine, *Erethizon dorsatum*
Whitetailed Prairie Dog, *Cynomys gunnisoni*
Raccoon, *Procyon lotor*
Masked Shrew, *Sorex cinereus*
Merriam Shrew, *Sorex merriami*
Striped Skunk, *Mephitis mephitis*
Rock Squirrel, *Citellus variegatus*
Tassel-eared Squirrel (Abert Squirrel), *Sciurus aberti*
Longtail Weasel, *Mustela frenata*
Mexican Woodrat, *Neotoma mexicana*
Whitethroat Woodrat, *Neotoma albigula*

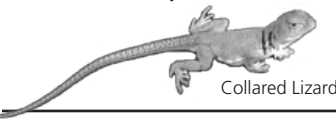
Common Birds



Wild Turkey

Brewer's Blackbird, *Euphagus cyanocephalus*
Mountain Bluebird, *Sialia sialis*
Mountain Chickadee, *Parus gambeli*
Mourning Dove, *Zenaidura macroura*
Golden Eagle, *Aquila chrysaetos*
Rosy Finch, *Leucosticte arctica*
Northern Flicker, *Colaptes auratus*
Ash-throated Flycatcher, *Myiarchus cinerascens*
Blue-gray Gnatcatcher, *Poliophtila caerulea*
Black-headed Grosbeak, *Pheucticus melanocephalus*
Red-tailed Hawk, *Buteo jamaicensis*
Sharp-shinned Hawk, *Accipiter striatus*
Broad-tailed Hummingbird, *Selasphorus platycircus*
Pinyon Jay, *Gymnorhinus cyanocephalus*
Scrub Jay, *Aphelocoma coerulescens*
Steller's Jay, *Cyanocitta stelleri*
Gray-headed Junco, *Junco hyemalis*
American Kestrel, *Falco sparverius*
Black-billed Magpie, *Pica pica*
White-breasted Nuthatch, *Sitta carolinensis*
Great Horned Owl, *Bubo virginianus*
Common Poor Will, *Phalaenoptilus nuttallii*
Common Raven, *Corvus corax*
American Robin, *Turdus migratorius*
Pine Siskin, *Carduelis pinus*
Townsend's Solitaire, *Myadestes townsendi*
Chipping Sparrow, *Spizella passerina*
Violet-green Swallow, *Tachycineta thalassina*
White-throated Swift, *Aeronautes saxatalis*
Western Tanager, *Piranga ludourciana*
Juniper Titmouse, *Parus inornatus*
Rufous-sided Towhee, *Pipilo erythrophthalmus*
Wild Turkey, *Meleagris gallopavo*
Turkey Vulture, *Cathartes aura*
Black-throated Gray Warbler, *Dendroica nigrescens*
Yellow-rumped Warbler, *Dendroica coronata*
Hairy Woodpecker, *Picoides villosus*
Canyon Wren, *Catherpes mexicanus*
House Wren, *Troglodytes aedon*

Common Reptiles



Collared Lizard

Bullsnake, *Pituophis melanoleucus sayi*
Collared Lizard, *Crotaphytus collaris*
N. Plateau Lizard, *Sceloporus undulatus elongatus*
Sagebrush Lizard, *Sceloporus graciosus*
Yellow-bellied Racer, *Coluber constrictor mormon*
Prairie Rattlesnake, *Crotalus viridis viridis*

Common Flowers, Trees, and Shrubs



Mariposa Lily

Aster, *Aster bigelovii*
Prickly Pear Cactus, *Opuntia polycantha*
Scarlet Gilia, *Gilia aggregata*
Globemallow, *Sphaeralcea coccinea*
Larkspur, *Delphinium nelsonii*
Mariposa Lily, *Calochortus nuttallii*
Lupine, *Lupinus sericeus*
Indian Paintbrush, *Castilleja linariaefolia*
Scarlet Penstemon, *Penstemon bridgesii*
Evening Primrose, *Oenothera caespitosa*
Cliff Fendlerbush, *Fendlera rupicola*
Douglas Fir, *Pseudotsuga menziesii*
Utah Juniper, *Juniperus utahensis*
Mountain Mahogany, *Cercocarpus montanus*
Pinyon Pine, *Pinus edulis*
Ponderosa Pine, *Pinus ponderosa*
Mormon Tea, *Ephedra viridis*
Gambel Oak, *Quercus gambelii*
Rabbitbrush, *Chrysothamnus nauseosus*
Big Sagebrush, *Artemisia tridentata*
Utah Serviceberry, *Amelanchier utahensis*
Skunkbush Sumac, *Rhus trilobata*
Snowberry, *Symphoricarpos oreophilus*
Broadleaf Yucca, *Yucca baccata*



Mesa Verde National Park Education Packet

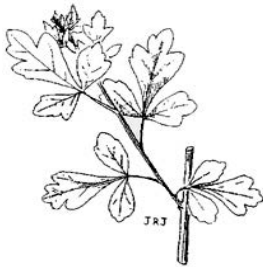
Edible and Medicinal Plants

Broadleaf Yucca

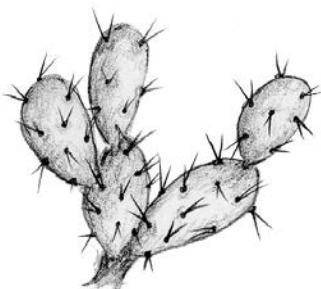
Ancestral Pueblo people used yucca, one of the most versatile plants at Mesa Verde, in many ways. The fleshy fruit can be eaten raw, boiled, or dried. The roots can be used to make a soap or shampoo. Boiled, they can be used medicinally to reduce swelling. The sharp spines at the end of each leaf were used as paintbrushes and needles. Most significantly, the Ancestral Pueblo people used the strong leaf fibers for making cordage (rope), sandals, clothing, blankets, sleeping mats, and baskets.



Skunkbush Sumac



The berries from the skunkbush sumac can be used to flavor a drink similar to lemonade. The peeled roots are edible. The stems can be used to soothe a cough, and a tea made from the bark can treat ulcers and cuts. The stems were also used in the foundation of coiled baskets.



Prickly Pear Cactus

This cactus is an excellent food source. Once the spines are removed, the pads can be eaten either raw or baked. The purple fruits are a sweet and juicy treat that today is made into jellies, wines, and sauces.

Utah Juniper



The Ancestral Pueblo people used nearly every part of this tree. The berries of this tree provide flavoring. The wood was often split and used for cradle boards, lumber, plates, firewood, and battens for looms. They used the bark for sandal padding and as absorbent diaper material.

Pinyon Pine

Every three to seven years this pine tree produces an oily, edible nut that can be eaten raw, roasted, or ground into flour. The Ancestral Pueblo people used pinyon logs as construction material. The sticky pitch was used to waterproof baskets, mend pottery, and can be applied as an ointment on open wounds.



Gambel Oak

The Ancestral Pueblo people collected the small acorns of the Gambel oak and ate them raw, roasted, or ground them into flour. The thin branches provided handles for stone axes, and the roots were shaped into excellent digging sticks.





Mesa Verde National Park Education Packet

Geology of Mesa Verde

The geological formations of Mesa Verde National Park were mainly deposited between 100 to 75 million years ago, when the Western Interior Seaway covered the middle of the continent. During this time, the sea often advanced and retreated, depositing different types of sediment each time. About 100 million years ago, when the sea first reached the Mesa Verde area, it deposited layers of sand. Millions of years later, this sediment was compacted and cemented into the Dakota Sandstone Formation which today forms the erosion resistant base beneath the park and Montezuma Valley to the north.

Mancos Shale

The sea advanced farther westward about 90 million years ago, and the sandy tidal deposits changed to deep water shale deposits. The Mancos Shale consists of fine particles and organic material. Fossils found in this formation include oysters, clams, shark teeth, and ammonites. The gray shale forms the low hills you see at the base of the mesa in the Montezuma Valley. *Places to view Mancos Shale:* This formation is best seen from Highway 160 or at the lowest portion of the entrance road.

Point Lookout Sandstone

Point Lookout Sandstone, deposited as beach sand as the sea retreated again, is mainly composed of tan to buff colored sandstone with shale lenses interspersed throughout. Few fossils are found in this formation. Small alcoves form in this sandstone layer, but these were not often used by the Ancestral Pueblo people. *Places to view Point Lookout Formation:* Point Lookout and Knife Edge are two geologic features capped by Point Lookout Sandstone that can be seen from the entrance road.

Menefee Formation

After depositing Point Lookout Sandstone, the sea completely withdrew from the area, leaving a flat, coastal plain. Swamps developed as small, slow-flowing streams wound their way to the sea in the northeast. As plant and organic material decayed and accumulated, dark, fine-grained shales formed. Thin beds of sandstones and coal seams can be found within this formation. Leaf impressions, tree branches, and other fossilized plant remains are located in the shales. *Places to view Menefee Formation:* The Menefee Formation is best viewed from the Geologic Overlook. It is the layer directly above the Point Lookout Sandstone.

Cliff House Sandstone

The Cliff House Sandstone formation was named for the Ancestral Puebloan homes built in the alcoves formed within it. The sea advanced yet again and the influx of sand generated the thick, orange-buff colored sandstone. Very few fossils are found in this formation due to tremendous wave and biological action in the beach environment. The wave action also generated ripple marks throughout this layer. *Places to view Cliff House Sandstone:* This formation can be seen from any cliff dwelling viewpoint.

Geologic Column of Mesa Verde National Park			
Time		Rock Units	
Era	Millions of Years Ago*	Group	Formation
Cretaceous	75	Mesa Verde	Cliff House Sandstone
	78		Menefee
	81		Point Lookout
	86		Mancos Shale
	93		Dakota Sandstone
	100		

*Approximations

What is a mesa? The word *mesa* is Spanish for “table.” A mesa is a raised landform that is flat on the top, and has steep or sloping sides. A plateau is similar, but much larger.

Where did the Ancestral Puebloans get their water? Rainfall and melting snow soak into and down through the porous layers of sandstone until the water reaches an impermeable layer of shale. The process is similar to placing a sponge (sandstone) on a table (shale) and pouring water on it. The sponge absorbs the water; but once it is full, the remaining water seeps through the sponge and pools on the table. So, prevented from moving down through the shale, water makes its way sideways through the rock. It eventually seeps out of the cliff wall and pools to form a small spring. Seep springs are often found at the base of the Cliff House Sandstone and Point Lookout Sandstone formations. The springs provided a source of fresh water for the Ancestral Pueblo people.

How do alcoves form? The seep springs created areas where water accumulated for thousands of years. Over time, the continuing action of seeping water, freezing and thawing, wind and rain, broke away the rock and formed alcoves. Some alcoves became large enough to hold cliff dwellings.

Why are they called alcoves, not caves? Caves are underground chambers; alcoves are arched openings within a wall.



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Photo Album



Balcony House kiva courtyard during excavation and stabilization



Balcony House kiva courtyard after excavation and stabilization



Cliff Palace, Mesa Verde's largest cliff dwelling



Spruce Tree House, Mesa Verde's best-preserved cliff dwelling

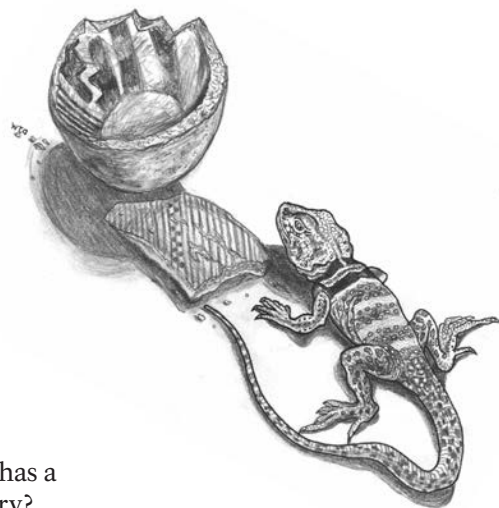


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Park Facts

Did you know that Mesa Verde National Park...

- was established by Congress on June 29, 1906?
- was the first and, to date, only cultural “National Park” in the National Park System?
- presented the first campfire talk in the National Park Service?
- had the first museum in the National Park System?
- became a World Cultural Heritage Site on September 8, 1978?
- has nearly 500,000 visitors per year?
- covers 52,000 acres, 8,500 of which are designated wilderness?
- is located in the Four Corners region which has one of the highest concentrations of archeological sites in the United States?
- contains nearly 5,000 archeological sites, including 600 cliff dwellings?
- borders the Ute Mountain Ute Indian Reservation?
- includes Park Point, the highest elevation in the park (8572 ft/2613 m), which has a 360° panoramic view that is considered one of the grandest views in the country?



Collared Lizard



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EXPERIENCE YOUR AMERICA

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