

# A Photographic Tour of the Caves of the National Parks

## *In Wilderness is the Preservation of the World*

- Henry David Thoreau

1. (Title Slide)
2. In the 1800s men such as Galen Clark, John Muir, and I. W. Raymond labored...  
(Photo NPS/B&W – View of Yosemite Valley)
3. ...to have wilderness areas of California preserved for future generations.  
(Photo NPS/B&W – View of Yosemite Valley and waterfall)
4. With our country torn in civil war, President Abraham Lincoln signed the Yosemite Grant...  
(Photo NPS/B&W – Portrait of President Lincoln)
5. ...placing the Mariposa Grove and the Yosemite area under the protection of the state of California. (Photo NPS/B&W – View of trees in Mariposa Grove)
6. ...sowing the seed of an idea for government-managed recreation areas.  
(Photo NPS/B&W – View of Half-Dome in Yosemite NP)
7. That seed sprouted when, as a result of the Washburn and Haden Expeditions, the Yellowstone Park Bill... (Photo NPS/B&W – View of Old Faithful in Yellowstone NP)
8. ...was signed by President Grant in 1872.  
(Photo NPS/B&W – Portrait of President Grant)
9. Nathaniel Langford was appointed the first Superintendent and served for 5 years ... without pay nor Park Appropriation. (Photo NPS/B&W – Portrait of Nathaniel Langford)
10. The seedling was nurtured in 1890 when, with the encouragement of conservationists, Congress established General Grant, Sequoia, and Yosemite National Parks.  
(Photo NPS/B&W – View of the sign for General Grant NP)
11. In 1899 Mt. Rainier became the 5<sup>th</sup> national park.  
(Photo NPS/B&W – View of Mt. Rainier)
12. 52 years after Lincoln sowed the seed and 38 years after Grant established the first national park, Congress passed the National Parks Act.  
(Photo NPS/Color – National Park Service logo)
13. It was 1916. (Photo NPS/Color – Copy of Telegram, pen, and signed paper)
14. Chicago businessman, Steven T. Mather, became the first director. A dedicated and energetic man, he recognized the need... (Photo NPS/Color – View of Mather in Carlsbad Caverns)
15. ...for education and interpretive work in the parks.  
(Photo NPS/Color – View in Mammoth Cave Visitors’ Center)
16. From the first few unspoiled areas, more and more natural and historic areas have been added to the National Park Service.  
(Graphic: Bannerman/Color map showing locations of the five earliest parks of the U.S.)

17. Today there are over 300 national parks, rivers, historic sites, and other areas that are preserved for future generations.  
(Graphic: Bannerman/Color map showing over 300 parks of the U.S.)
18. Several of these properties have significant caves within their boundaries. (Graphic: Bannerman/Color map showing locations of the seventy-eight national parks with caves.)
19. Humanity, since its beginning, through need and curiosity, has been drawn to caves...  
(Photo: NPS/Color – View of pictograph)
20. ...for shelter...  
(Photo: Cronk/Color – View of Spruce Tree House in Mesa Verde NP)
21. ...commerce (such as guano and saltpetre mining)...  
(Photo: NPS/B&W – View of guano bucket in Carlsbad Caverns, showing Mather on right)
22. ...and recreation...  
(Photo: Scheltens/Color – View of Wind Cave stagecoach c. 1890)
23. ...without understanding the impact...  
(Photo: NPS/Color – View of broken boxwork removed from Wind Cave)
24. ...on the delicate...  
(Photo: NPS/Color – View of electric meter box in Timpanogos Cave)
25. ...cave environment.  
(Photo: NPS/Color – View of mummy from Mammoth Cave)
26. Finally, those with a special interest in caves began to realize the potential problems...  
(Photo: NPS/B&W – View of NPS ranger at wall)
27. ...of a failure to understand the underground wilderness.  
(Photo: NPS/Color – View of Herb Conn doing a wind demonstration at Jewel Cave)
28. The National Speleological Society was founded in 1941, for the purpose...  
(Photo: Kastning/Color – National Speleological Society logo)
29. ...of promoting the study and science of speleology...  
(Photo: Kastning/Color – View of Art Palmer mapping in Bentley's Cave, NY)
30. ...and the protection of caves and their natural contents. Continuing the works of Clark, Muir, Mather, and many others,  
(Photo: Scheltens/Color – View of Senator Tom Daschle and John Scheltens in Wind Cave)
31. ...the National Speleological Society joins the National Park Service in the signing of a Memorandum of Understanding to encourage the management, scientific study, and protection of caves and cave resources on park lands.  
(Photo: Color – Signing ceremony for the NSS/NPS MOU in Washington, DC on 2 December 1993. The document (3 copies) was signed by Roger G. Kennedy, Director of the NPS, Jeanne Gurnee, President of the NSS, and Senator Tom Daschle of South Dakota, co-author of the National Cave Resources Protection Act of 1988.)
32. From sea to shining sea...  
(Photo: Bunnell/Color – View of Channel Islands NP)
33. ...these cave resources in the national park systems are protected... (Photo: NPS/Color – View of cavers, in a small boat, entering Frenchy's cave in Channel Islands NP))

34. Channel Islands National Park, CA: A large chamber in one of the caves (photograph by Dave Bunnell).
35. Mammoth Cave National Park, KY: Tour guide re-enacting the throwing of kerosene torches in Mammoth Cave (photograph by Chip Clark).
36. Grand Canyon National Park, AZ: Looking out through the large broad entrance to Tse'an Bida Cave, formed in the massive Redwall Limestone (photograph by Ann & Peter Bosted).
37. Grand Canyon National Park, AZ: Exploring in a rubber raft in Tapeats Cave (photograph by Dave Bunnell).
38. Grand Canyon National Park, AZ: Rafting in Tapeats Cave (photograph by Ann & Peter Bosted).
39. Grand Canyon National Park, AZ: Three explorers in a raft in Tapeats Cave (photograph by Ann & Peter Bosted).
40. Mammoth Cave National Park, KY: Logsdon River in the Mammoth Cave System, connecting Roppel and Proctor Caves (photograph by Arthur N. Palmer).
41. Grand Canyon National Park, AZ: Waterfalls along in the high-discharge stream in Thunder River Cave (photograph by Dave Bunnell).
42. Kings Canyon National Park, CA: Stream passage in Lilburn Cave (photograph by Ann & Peter Bosted).
43. Channel Islands National Park, CA: A strange round object, perhaps a float, in one of the sea caves (photograph by Dave Bunnell).
44. Kings Canyon National Park, CA: Peggy Palmer climbing in Lilburn Cave (photograph by Ann & Peter Bosted).
45. Carlsbad Caverns National Park, NM: David Jones midway up ascent into Chocolate High section of Carlsbad Caverns (photograph by Peter Jones).
46. Carlsbad Caverns National Park, NM: Caver ascending into Spirit World above Top of the Cross in Carlsbad Caverns (photograph by Peter Jones, lighting by Tom Zannes).
47. Guadalupe Mountains National Park, TX: Tom Meador preparing to ascend a 140-foot pit in Hunters Well (photograph by Peter Jones).
48. Mammoth Cave National Park, KY: Peg Palmer in a typical canyon passage leading from a vertical shaft in the Crystal Cave section of the Mammoth Cave System (photograph by Arthur N. Palmer).
49. Kings Canyon National Park, CA: Surveying passages in Lilburn Cave (photograph by Ann & Peter Bosted).
50. Russell Cave National Monument, AL: Recording meteorological data in Russell Cave (photograph by Horton H. Hobbs, III).
51. Carlsbad Caverns National Park, NM: A tired caver in Spider Cave (photograph by Horton H. Hobbs, III).
52. Mammoth Cave National Park, KY: A visit to the master trunk passage of Lee Cave. Among those in the party were Gordon and Judy Smith, discoverers of Lee Cave (at left), Dr. Alfred Bögli of Switzerland, Burnell Ehman, and Roger Brucker (photograph by Ernst H. Kastning).
53. Russell Cave National Monument, AL: Three cavers looking for invertebrate fauna in a pool in Russell Cave (photograph by Horton H. Hobbs, III).

54. Russell Cave National Monument, AL: Searching for terrestrial cave biota in Russell Cave (photograph by Horton H. Hobbs, III).
55. Mammoth Cave National Park, KY: Beetle (*Nephanops*) in Mammoth Cave (photograph by Chip Clark).
56. Mammoth Cave National Park, KY: Blind crayfish (*Orconectes*) in Mammoth Cave (photograph by Chip Clark).
57. Mammoth Cave National Park, KY: Isopod in Mammoth Cave (photograph by Chip Clark).
58. Mammoth Cave National Park, KY: Blind fish (*Tephycthes*) in Mammoth Cave (photograph by Chip Clark).
59. Mammoth Cave National Park, KY: Amphipod in Mammoth Cave (photograph by Chip Clark).
60. Mammoth Cave National Park, KY: Cave cricket (*Hadonoecus subterraneus*) in Mammoth Cave (photograph by Chip Clark).
61. Jewel Cave National Monument, SD: Leaping Lunar Spiders, and unusual formation in Jewel Cave (photograph by John Scheltens).
62. Wind Cave National Park, SD: Boxwork consisting of calcite veins projecting from weathered bedrock walls in Wind Cave (photograph by Arthur N. Palmer).
63. Wind Cave National Park, SD: Frostwork in Wind Cave (photograph by John Scheltens).
64. Wind Cave National Park, SD: Aragonite needles on popcorn in Wind Cave (width of view is about six inches) (photograph by Arthur N. Palmer).
65. Carlsbad Caverns National Park, NM: An aragonite bush on the floor of Lechuguilla Cave (photograph by Kevin Downey).
66. Carlsbad Caverns National Park, NM: Another aragonite bush surrounded by white encrusted walls in Lechuguilla Cave (photograph by Kevin Downey).
67. Carlsbad Caverns National Park, NM: Large passage of oval cross section in Lechuguilla Cave (photograph by Kevin Downey).
68. Carlsbad Caverns National Park, NM: A "forest" of tall formations in Wen Cave (photograph by Ann & Peter Bosted).
69. Grand Canyon National Park, AZ: Room with large formation in Cave of the Domes (photograph by Ann & Peter Bosted).
70. Carlsbad Caverns National Park, NM: Very tall stalagmites and columns in Ogle Cave (photograph by Ann & Peter Bosted).
71. Mammoth Cave National Park, KY: Crystal Lake in Mammoth Cave (photograph by Chip Clark).
72. Wind Cave National Park, SD: Caver straddling a pool in Wind Cave (photograph by John Scheltens).
73. Carlsbad Caverns National Park, NM: A former pool, now dry, in Lechuguilla Cave. This room has orange-colored walls (photograph by Kevin Downey).
74. Carlsbad Caverns National Park, NM: Lake of the Clouds, the lowest point in Carlsbad Caverns (photograph by Ann & Peter Bosted).
75. Carlsbad Caverns National Park, NM: Another view of Lake of the Clouds, Carlsbad Caverns (photograph by Peter Jones)

76. Carlsbad Caverns National Park, NM: Large lilly-pad formation pool in Lechuguilla Cave (photograph by Dave Bunnell).
77. Carlsbad Caverns National Park, NM: View of encrusted stalactites in the Vesuvius Room of Lechuguilla Cave (photograph by Dave Bunnell).
78. Carlsbad Caverns National Park, NM: Room with formations in Lechuguilla Cave (photograph by Kevin Downey).
79. Wind Cave National Park, SD: Room with walls, floor, and ceiling encrusted with white crystals of gypsum in Wind Cave (photograph by John Scheltens).
80. Carlsbad Caverns National Park, NM: Entrance to Carlsbad Caverns through which thousands of visitors enter the cave each year (photograph by Ernst H. Kastning).
81. Walnut Canyon National Monument, AZ: One of the many small cliff dwellings within rock shelters (photograph by Ernst H. Kastning).
82. Mesa Verde National Park, CO: Cliff Palace, the largest Anasazi cliff dwelling in the United States (photograph by Carolyn Cronk).
83. Scotts Bluff National Monument, NE: "Jabba the Hutt," a face in the rock formed by the Aeolian erosion in sandstone. Several small shelter caves are located nearby (photograph by Ernst H. Kastning).
84. Natural Bridges National Monument, UT: One of several large bridges in sandstone shown after a winter snowfall (photograph by Ernst H. Kastning).
85. Montezuma Castle National Monument, AZ: Montezuma Castle, a singular Anasazi dwelling, is located high in a sandstone cliff (photograph by Ernst Kastning).
86. Bandelier National Monument, NM: A view from Ceremonial Cave, an Anasazi cliff dwelling (photograph by Carolyn Cronk).
87. Death Valley National Monument, CA: Furnace Cave, a suffusion cave and the lowest known cave in the United States, at 170 feet below sea level (photograph by Ernst H. Kastning).
88. Russell Cave National Monument, AL: Passage in Russell Cave (photograph by Horton H. Hobbs, III).
89. Wind Cave National Park, SD: Backlit arched passage in Wind Cave (photograph by John Scheltens).
90. Theodore Roosevelt National Park, ND: Looking out from the entrance of Suffosion Cave, a forty-foot long cave formed by piping in a badlands topography (photograph by Ernst H. Kastning).
91. Pinnacles National Monument, CA: A series of talus caves lies among the weathered boulders that have become lodged in this valley (photograph by Ernest H. Kastning).
92. Guadalupe Mountains National Park, TX: Rappelling into the entrance of Hunters Well (photograph by Peter Jones).
93. Carlsbad Caverns National Park, NM: Donald Davis about to ascent into the Chocolate High section off the NM Room in Carlsbad Caverns (photograph by Peter Jones).
94. Carlsbad Caverns National Park, NM: The Christmas Tree in a large room in Christmas Tree Cave (photograph by Peter Jones).
95. Great Smokey Mountains National Park, TN: Alum Cave, a large over-hanging shelter cave on a trail to the summit of Mount LaConte (photograph by Ernst H. Kastning).

96. Mammoth Cave National Park, KY: A karst window within the Mammoth Cave drainage basin. Here, a stream enters the bottom of the sinkhole, flows across the bottom and reenters the ground on the other side (photograph by Ernst H. Kastning).
97. Russell Cave National Monument, AL: Lower main entrance with scream, Russell Cave (photograph by Horton H. Hobbs, III).
98. Sequoia National Park, CA: Rimstone pools in Sequoia Crystal Cave (photograph by Ann & Peter Bosted).
99. Grand Canyon National Park, AZ: Convoluted formations in Tse'an Bida Cave (view is 24 inches from top to bottom) (photograph by Ann & Peter Bosted)
100. Grand Canyon National Park, AZ: Pocket of orange dogtooth spar in Cave of the Domes (photograph by Ann & Peter Bosted).
101. Wind Cave National Park, SD: Mud cracks with calcite deposition in Wind Cave (photograph by John Scheltens).
102. Mammoth Cave National Park, KY: Peeling layers of limestone in the ceiling of a passage in Crystal Cave in the Mammoth Cave system. Crystals of gypsum growing between the beds have wedge apart the strata (photograph by Ernst H. Kastning).
103. Mammoth Cave National Park, KY: Marshall Avenue, the master trunk passage of Lee Cave near its terminus where it meets the wall of a valley on the surface (photograph by Ernst H. Kastning).
104. Carlsbad Caverns National Park, NM: Great Wall of China, a long rimstone dam in Slaughter Canyon Cave (photograph by Ann & Peter Bosted).
105. Carlsbad Caverns National Park, NM: Karren-like features on a floor in Lechuguilla Cave (photograph by Kevin Downey).
106. Kings Canyon National Park, CA: Walls of banded marble in Lilburn Cave (photograph by Ann & Peter Bosted).
107. Kings Canyon National Park, CA: A sculpted alcove in banded marble in Lilburn Cave (photograph by Dave Bunnell).
108. Kings Canyon National Park, CA: caver negotiating a wet passage in Lilburn Cave (photograph by Ann & Peter Bosted).
109. Wind Cave National Park, SD: Passage with breakdown in Wind Cave (photograph by John Scheltens).
110. Carlsbad Caverns National Park, NM: Susanna Patterson viewing large helictites in Spider Cave (photograph by Peter Jones).
111. Carlsbad Caverns National Park, NM: "Ropework" stalactites in Lechuguilla Cave (photograph by Kevin Downey).
112. Jewel Cave National Monument, SD: Nailhead spar lining the walls in Jewel Cave (width of view about ten inches) (photograph by Arthur N. Palmer).
113. Wind Cave National Park, SD: Popcorn and short soda-straw stalactites with water drops in Wind Cave (photograph by Arthur N. Palmer).
114. Sequoia National Park, CA: Soda straws with water drops in Cave of the Lost Soldier (photograph by Ann & Peter Bosted).

115. Carlsbad Caverns National Park, NM: Soda straws in Lechuguilla Cave. Tips of the stalactites were immersed in a former cave pool and calcite precipitated onto them from the pool water (photograph by Kevin Downey).
116. Carlsbad Caverns National Park, NM: A recent white stalagmite formed on an earlier shelfstone deposit in Lechuguilla Cave (photograph by Kevin Downey).
117. Jewel Cave National Monument, SD: Stalactites resembling bacon and clinging drops of water, Jewel Cave (photograph by Arthur N. Palmer).
118. Jewel Cave National Monument, SD: Stalactite and stalagmite in the Formation Room on the Scenic Route in Jewel Cave. Here popcorn covers much of the wall (photograph by Arthur N. Palmer).
119. Lava Beds National Monument, CA: Passage in Hopkins Chocolate Cave, a lava tube (photograph by Dave Bunnell).
120. Craters of the Moon National Monument, ID: Interior of one of many lava tubes in the national monument (photograph by Ann & Peter Bosted).
121. Lava Beds National Monument, CA: Passage A lava tube lit from the foreground (photograph by Dave Bunnell).
122. Lava Beds National Monument, CA: A pair of lava tube passages, backlit by separate photographic flashes (photograph by Dave Bunnell).
123. Carlsbad Caverns National Park, NM: Well-formed spherical cave pearls in Lechuguilla Cave (photograph by Kevin Downey).
124. Carlsbad Caverns National Park, NM: Nest of cave pearls in a splash pool in Lechuguilla Cave (photograph by Dave Bunnell).
125. Mammoth Cave National Park, KY: View down Keller Well (a 60-foot-deep vertical shaft, 8 feet in diameter) in Flint Ridge section of the Mammoth Cave System (photograph by Arthur N. Palmer).
126. Hawaii Volcanoes National Park, HI: Passage in Thurston Lava Tube (photograph by Carolyn Cronk).
127. Hawaii Volcanoes National Park, HI: Looking out from a fern-covered entrance to Thurston Lava Tube (photograph by Carolyn Cronk).
128. Ozark National Scenic Riverways, MO: Big Spring, shown here, has the highest discharge of any spring in the United States. Water issuing here has been traced through this karst aquifer from as far away as over twenty miles (photograph by Ernst H. Kastning).
129. Pictured Rocks National Lakeshore, MI: One of the many wave-carved caves along the cliffs on the southern shore of Lake Superior (photograph by Ernst H. Kastning).
130. Carlsbad Caverns National Park, NM: A "Swiss-cheese"-like passage in Lechuguilla Cave (photograph by Kevin Downey).
131. Carlsbad Caverns National Park, NM: A partially eroded formation in Lechuguilla Cave. Rings representing layers of growth have been exposed by erosion (photograph by Kevin Downey).
132. Carlsbad Caverns National Park, NM: Broomstick formations in Deep Cave (photograph by Peter Jones).

133. Carlsbad Caverns National Park, NM: Tall formations in Virgin Cave (photograph by Ann & Peter Bosted).
134. Carlsbad Caverns National Park, NM: Large fluted formations in Ogle Cave (photograph by Dave Bunnell).
135. Carlsbad Caverns National Park, NM: Long passage of large cross section in Ogle Cave (photograph by Dave Bunnell).
136. Jewel Cave National Monument, SD: Passage with a large accumulation of breakdown in Jewel Cave (photograph by John Scheltens).
137. Acadia National Park, ME: View of the Atlantic Ocean from Anemone Cave (photographed by Peter Jones).
138. CREDITS:
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