
<table>
<thead>
<tr>
<th>Geologic Resource</th>
<th>Section &amp; Summary</th>
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<tbody>
<tr>
<td></td>
<td>• <strong>Section 1.2</strong> states “Regardless of the many names and official designations of the park units that make up the national park system, all represent some nationally significant aspect of our natural or cultural heritage. They are the physical remnants of our past—great scenic and natural places that continue to evolve, repositories of outstanding recreational opportunities, classrooms of our heritage, and the legacy we leave to future generations—and they warrant the highest standard of protection.”</td>
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<td>• <strong>Section 1.3.1</strong> states “An area will be considered nationally significant if it meets all of the following criteria...It possesses exceptional value or quality in illustrating or interpreting the natural or cultural themes of our nation’s heritage.”</td>
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<td>• <strong>Section 1.7</strong> states “The Service’s commitment to civic engagement is founded on the central principle that preservation of the nation’s heritage resources relies on continued collaborative relationships between the Service and American society.”</td>
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<td>• <strong>Section 4.3.5</strong> states “Park sites that are among the best examples of a type of biotic community or geological feature in a park’s physiographic province may be nominated to the Secretary of the Interior for inclusion in the National Registry of Natural Landmarks.”</td>
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<td>• <strong>Section 4.8</strong> states “The Park Service will preserve and protect geologic resources as integral components of park natural systems. As used here, the term “geologic resources” includes both geologic features and geologic processes. The Service will (1) assess the impacts of natural processes and human activities on geologic resources; (2) maintain and restore the integrity of existing geologic resources; (3) integrate geologic resource management into Service operations and planning; and (4) interpret geologic resources for park visitors”</td>
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<td>• <strong>Section 4.8.2</strong> states “The Service will protect geologic features from the unacceptable impacts of human activity while allowing natural processes to continue. The term “geologic features” describes the products and physical components of geologic processes. Examples of geologic features in parks include rocks, soils, and minerals; geysers and hot springs in geothermal systems; cave and karst systems; canyons and arches in erosional landscapes; sand dunes, moraines, and terraces in depositional landscapes; dramatic or unusual rock outcrops and formations; and paleontological and paleoecological resources such as fossilized plants or animals or their traces.”</td>
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Policies that apply to NPS Geologic Heritage
### NPS Caves and Karst Systems
- **Section 4.8.1.2** requires NPS to maintain karst integrity, minimize impacts.
- **Section 4.8.2** requires NPS to protect geologic features from adverse effects of human activity.
- **Section 4.8.2.2** requires NPS to protect caves, allow new development in or on caves if it will not impact cave environment, and to remove existing developments if they impair caves.
- **Section 6.3.11.2** explains how to manage caves in/adjacent to wilderness.

### NPS Paleontology
- **Section 4.8.2** requires NPS to protect geologic features from adverse effects of human activity.
- **Section 4.8.2.1** emphasizes I & M, encourages scientific research, directs parks to maintain confidentiality of paleontological information, and allows parks to buy fossils only in accordance with certain criteria.

### NPS Rocks and Minerals
- **Section 4.8.2** requires NPS to protect geologic features from adverse effects of human activity.

### Mining Claims on NPS Lands
- **Section 8.7.1** prohibits location of new mining claims in parks; requires validity examination prior to operations on unpatented claims; and confines operations to claim boundaries.

### Coastal Features and Processes
- **Section 4.1.5** directs the NPS to re-establish natural functions and processes in human-disturbed components of natural systems in parks unless directed otherwise by Congress.
- **Section 4.4.2.4** directs the NPS to allow natural recovery of landscapes disturbed by natural phenomena, unless manipulation of the landscape is necessary to protect park development or human safety.
- **Section 4.8.1** requires NPS to allow natural geologic processes to proceed unimpeded. NPS can intervene in these processes only when required by Congress, when necessary for saving human lives, or when there is no other feasible way to protect other natural resources/ park facilities/historic properties.
- **Section 4.8.1.1** requires NPS to:
  - Allow natural processes to continue without interference,
  - Investigate alternatives for mitigating the effects of human alterations of natural processes and restoring natural conditions,
  - Study impacts of cultural resource protection proposals on natural resources,
  - Use the most effective and natural-looking erosion control methods available, and
  - Avoid putting new developments in areas subject to natural shoreline processes unless certain factors are present.

### Upland and Fluvial Processes
- **Section 4.1** requires NPS to manage natural resources to preserve fundamental physical and biological processes, as well as individual species, features, and plant and animal communities; maintain all components and processes of naturally evolving park ecosystems.
- **Section 4.1.5** directs the NPS to re-establish natural functions and processes in human-disturbed
components of natural systems in parks unless directed otherwise by Congress.

- **Section 4.4.2.4** directs the NPS to allow natural recovery of landscapes disturbed by natural phenomena, unless manipulation of the landscape is necessary to protect park development or human safety.
- **Section 4.6.4** directs the NPS to (1) manage for the preservation of floodplain values; [and] (2) minimize potentially hazardous conditions associated with flooding
- **Section 4.6.6** directs the NPS to manage watersheds as complete hydrologic systems and minimize human- caused disturbance to the natural upland processes that deliver water, sediment, and woody debris to streams
- **Section 4.8.1** directs the NPS to allow natural geologic processes to proceed unimpeded. Geologic processes . . . include . . . erosion and sedimentation . . . processes.
- **Section 4.8.2** directs the NPS to protect geologic features from the unacceptable impacts of human activity while allowing natural processes to continue

### Soils

- **Section 4.8.2.4** requires NPS to:
  - Prevent unnatural erosion, removal, and contamination
  - Conduct soil surveys
  - Minimize unavoidable excavation
  - Develop/follow written prescriptions (instructions)