

# Geologic Map of Glen Canyon National Recreation Area

Arizona and Utah

National Park Service  
U.S. Department of the Interior



Geologic Resources Inventory  
Natural Resource Stewardship and Science

Sheet 1

## Geologic Units

### Alluvial deposits

- Qal** Alluvial river and major stream deposits (Holocene and Pleistocene)
- Qal1** Young alluvial river and major stream deposits (Holocene and Pleistocene)
- Qat** Undifferentiated alluvial river and stream terrace gravel deposits (Holocene and Pleistocene)
- Qat5** Level 5 alluvial river and stream terrace gravel deposits (Pleistocene)
- Qat6** Level 6 alluvial river and stream terrace gravel deposits (Pleistocene)
- Qag** Undifferentiated locally derived alluvial gravel deposits (Holocene and Pleistocene)

### Mixed environment deposits

- Qae** Young alluvial and eolian deposits (Holocene)
- Qae3** Level 3 alluvial and eolian deposits (Holocene and Pleistocene)
- Qaeo** Older alluvial and eolian deposits (Pleistocene)
- Qaec** Alluvial fan and stream, eolian, and colluvial deposits (Holocene and Pleistocene)
- Qea** Eolian and alluvial deposits (Holocene and Pleistocene)

### Lacustrine deposits

- Ql** Lacustrine deposits (Holocene and Pleistocene)

### Precipitated deposits

- Qst** Spring tufa deposits (Holocene and Pleistocene)

### Eolian deposits

- Qes** Eolian sand (Holocene and Pleistocene)

### Mass movement deposits

- Qms** Landslide and slump deposits (Holocene and Pleistocene)
- Qmsh** Historical landslide and slump deposits (Holocene)
- Qmsb** Slump blocks (Holocene and Pleistocene)
- Qmt** Talus deposits (Holocene and Pleistocene)
- Qmst** Landslide, slump, and talus deposits, undifferentiated (Holocene and Pleistocene)
- Qmte** Talus deposits with eolian sand mantle (Holocene and Pleistocene)

### San Rafael Group

- Je** Entrada Sandstone (Jurassic)
- Jcu** Carmel Formation, Upper (Paria River and Winsor) Members (Jurassic)
- Jpj** Page Sandstone, Carmel Formation, Judd Hollow Tongue, undivided (Jurassic)

### Glen Canyon Group

- Jn** Navajo Sandstone (Jurassic)
- Jnl** Navajo Sandstone, limestone and dolomite beds (Jurassic)
- Jk** Kayenta Formation (Jurassic)
- JTRw** Wingate Sandstone (Jurassic and Triassic)

### Chinle Formation

- TRcc** Chinle Formation, Church Rock Member (Triassic)
- TRcop** Chinle Formation, Owl Rock and Petrified Forest Members (Triassic)
- TRcu** Chinle Formation, upper members (Church Rock, Owl Rock, Petrified Forest, Moss Back) (Triassic)
- TRcms** Chinle Formation, Moss Back Member (Triassic)
- TRcnn** Chinle Formation, Monitor Butte Member (Triassic)
- TRcs** Chinle Formation, Shinarump Conglomerate Member (Triassic)

### Moenkopi Formation

- TRm** Moenkopi Formation, main part (Triassic)
- TRmh** Moenkopi Formation, Hoskinnini Sandstone Member (Triassic)
- TRmu** Moenkopi Formation, upper member (Triassic)

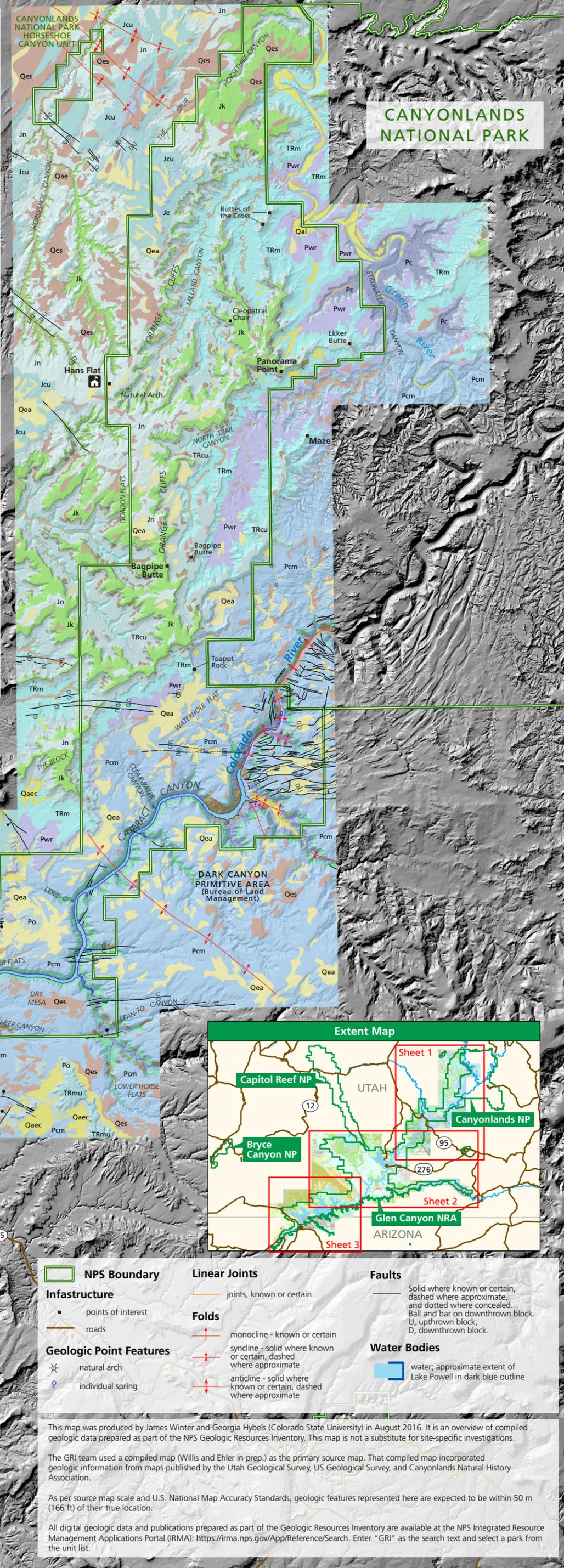
### Cutler Group

- Pc** Cutler Formation (Permian and Pennsylvanian)
- Pwr** White Rim Sandstone (Permian)
- Po** Organ Rock Formation (Permian)
- Pcm** Cedar Mesa Sandstone (Permian)
- PPnd** Lower Cutler beds (Permian and Pennsylvanian)
- PPne** Elephant Canyon Formation (Permian and Pennsylvanian)

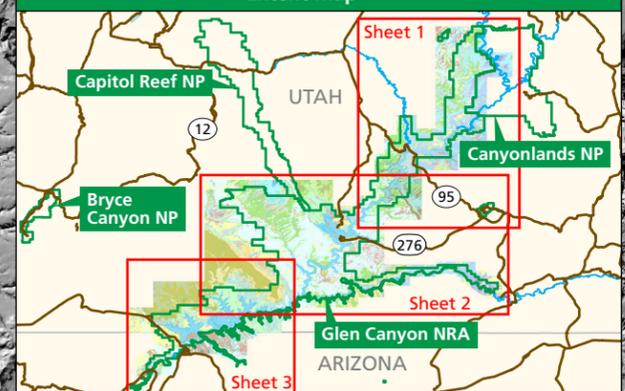
### Hermosa Group

- PNht** Honaker Trail Formation (Pennsylvanian)
- PNp** Paradox Formation (Pennsylvanian)

Legend is limited to units appearing on Sheet 1



### Extent Map



- NPS Boundary**: Green outline
- Infrastructure**:
  - points of interest: black square
  - roads: orange line
- Geologic Point Features**:
  - natural arch: black star symbol
  - individual spring: blue circle with dot
- Linear Joints**:
  - joints, known or certain: orange line
- Folds**:
  - monocline - known or certain: red line with arrow
  - syncline - solid where known or certain, dashed where approximate: red line with inward arrows
  - anticline - solid where known or certain, dashed where approximate: red line with outward arrows
- Faults**:
  - Solid where known or certain, dashed where approximate, and dotted where concealed: black line
  - Ball and bar on downthrown block: black line with ball and bar
  - U, upthrown block; D, downthrown block: black line with U or D
- Water Bodies**:
  - water, approximate extent of Lake Powell in dark blue outline: blue area

This map was produced by James Winter and Georgia Hybels (Colorado State University) in August 2016. It is an overview of compiled geologic data prepared as part of the NPS Geologic Resources Inventory. This map is not a substitute for site-specific investigations.

The GRI team used a compiled map (Willis and Ehler in prep.) as the primary source map. That compiled map incorporated geologic information from maps published by the Utah Geological Survey, US Geological Survey, and Canyonlands Natural History Association.

As per source map scale and U.S. National Map Accuracy Standards, geologic features represented here are expected to be within 50 m (166 ft) of their true location.

All digital geologic data and publications prepared as part of the Geologic Resources Inventory are available at the NPS Integrated Resource Management Applications Portal (IRMA): <https://irma.nps.gov/App/Reference/Search>. Enter "GRI" as the search text and select a park from the unit list.