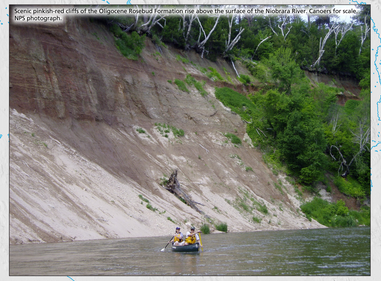
Geologic Map of Niobrara National Scenic River

Nebraska

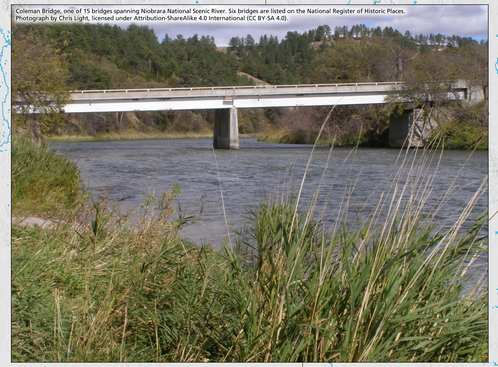
National Park Service
U.S. Department of the Interior

Geologic and Soil Resources Inventory
Natural Resource Stewardship and Science

Riverbank exposures of the Miocene Valentine Formation. Fossiliferous sandstone and siltstone of the formation preserve significant mammalian specimens. NPS photograph.



Scenic pinkish-red cliffs of the Oligocene Rosebud Formation rise above the surface of the Niobrara River. Canoers for scale. NPS photograph.

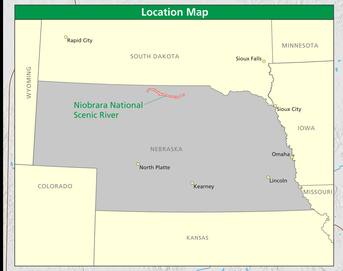


Coleman Bridge, one of 15 bridges spanning Niobrara National Scenic River. Six bridges are listed on the National Register of Historic Places. Photograph by Chris Light, licensed under Attribution-ShareAlike 4.0 International (CC BY-SA 4.0).

Fort Falls. Fort Falls is located in Fort Niobrara National Wildlife Refuge, and is one of over two hundred waterfalls along the scenic river. NPS photograph.

Fort Falls Overlook. The cliff exposure along the southern bank of the Niobrara River is an old landslide scar that reveals the Oligocene Rosebud Formation. NPS photograph.

Location Map



This map displays geologic map data compiled by the National Park Service Geologic Resources Inventory. It is not a substitute for site-specific investigations. All GRI products are available at https://go.nps.gov/gripubs.

Source Map:
Lundstrom, S. C., J. L. McBeth, J. Alexander, P. Hanson, and S. A. 2024. Geologic map of the valley corridor of the Niobrara National Scenic River, Nebraska (scale 1:100,000). Unpublished data release. US Geological Survey, Reston, Virginia.

Source Scale: 1:100,000. According to US National Map Accuracy Standards, features are within 48 m (160 ft) of their true location.

Poster Layout: Trista L. Thornberry-Ehrlich (Colorado State University)

Poster Date: May 2025

LEGEND

- NPS boundary
- Highways and roads
- Water
- Fort Niobrara National Wildlife Refuge
- Smith Falls State Park
- Point of interest
- River mileage from west to east

Geologic Point Features

- stratigraphic section locality
- optically stimulated luminescence age-date locality
- radiocarbon age-date locality

Geologic Line Features

solid where known or certain, dashed where concealed

- fluvial scarp

Geologic Contacts

solid black where known or certain, blue where a shoreline

- contact

Geologic Units

- Qef - engineered fill (historic)
- Qnly - historic low terrace alluvium of Niobrara River (post-1942)
- Qnl - low terrace alluvium of Niobrara River (late Holocene)
- Qd - dune sand (Holocene)
- Qd/Qnh - dune sand over high terrace of Niobrara River (Holocene and late Pleistocene)
- Qnit - intermediate terrace alluvium of Niobrara River (Holocene and late Pleistocene)
- Qtal - tributary alluvium (Holocene and Pleistocene)
- Qnh - high terrace alluvium of Niobrara River (late Pleistocene to earliest Holocene)
- Qnho - older high terrace alluvium of Niobrara River (late Pleistocene)
- QNPGc - slope colluvium over Tertiary bedrock (Quaternary, Neogene, and Paleogene)
- Nb - Broadwater Formation (Pliocene)
- Noac - Cap Rock Member of Ash Hollow Formation of Ogallala Group (late Miocene)
- Nv - Valentine Formation of Ogallala Group (late Miocene)
- PGr - Rosebud Formation of Arikaree Group (late Oligocene)
- PGc - Chamberlain Pass Formation of White River Group (late Eocene)
- Kp - Pierre Shale (Late Cretaceous)

North

0 6 Kilometers

0 4 Miles