

# **GRAND JUNCTION GEOLOGICAL SOCIETY**

[www.gjgs.org](http://www.gjgs.org)

**DECEMBER MEETING**

**WEDNESDAY, DECEMBER 16, 2020**

**Joint meeting with the CMU Geology Students**

**7:30 PM**

**Dr. Emmett Evanoff**

**Department of Earth and Atmospheric Sciences**

**University of Northern Colorado, Greeley, CO**

**emmett.evanoff@unco.edu**

**Will Speak On**

**“The Upper Eocene to Lower Oligocene White River  
Sequence of the Northern Great Plains and  
Middle Rocky Mountains”**

**The meeting will only be presented via Zoom  
Zoom Instructions on Page After Abstract**

**Abstract on Next Page**

The Upper Eocene to Lower Oligocene White River Sequence of the Northern Great Plains and  
Middle Rocky Mountains

by

Dr. Emmett Evanoff,

Department of Earth and Atmospheric Sciences, University of Northern Colorado, Greeley,  
Colorado. [emmett.evanoff@unco.edu](mailto:emmett.evanoff@unco.edu)

The White River sequence was the first widespread sedimentary unit to cover the northern Great Plains and middle Rocky Mountains after the end of the Laramide Orogeny. The White River sequence is unique because of the abundance of fine-grained volcaniclasts that have an estimated volume of 25,000 cubic kilometers. From studies of the mineralogy, geochemistry, and dating of the numerous volcanic tuffs in the White River, the source of these sediments was almost exclusively from the widespread upper Eocene and lower Oligocene volcanics of the modern Great Basin region. The volcaniclasts entered the area as dust that blanketed the topography and changed river systems from eroding to aggrading. A typical White River sequence starts with widespread claystones that changes to mudstones and ends with blankets of siltstone. The claystone and mudstone intervals can be associated with fluvial channels, but channels are rare in the thick blankets of siltstone that represent volcanoclastic loess deposits. This transition from claystone to mudstone and finally siltstone represents increased drying during the deposition of the White River sequence across the Eocene/Oligocene boundary. The changes in these deposits reflect climatic changes that are diachronous, with dry condition starting earlier in the west and south and becoming younger to the east and north.

Dr. Emmett Evanoff earned his bachelor's degree in Geology at the University of Wyoming and his master's and doctoral degrees at the University of Colorado Boulder. His doctoral dissertation was on the stratigraphy, sedimentology and land snails of the Eocene-Oligocene White River Formation near Douglas, Wyoming. His research interests are on the origin and stratigraphy of distal volcanoclastic sequences. He has worked on White River rocks in central Wyoming, northeast Colorado, western Nebraska, and for over two decades at Badlands National Park in South Dakota. He has also worked on the Florissant, Bridger, and Morrison formations. He teaches sedimentary geology, paleontology, and Rocky Mountain regional geology at the University of Northern Colorado.

Zoom instructions on next page.

**Please note that the Zoom meeting website will open at 7:00 to allow people plenty of time to log in. There is usually some conversation going on before the actual meeting starts at 7:30 so log in early.**

Topic: Grand Jct Geological Society

Time: Dec 16, 2020 07:00 PM Mountain Time (US and Canada)

Join Zoom Meeting

<https://coloradomesa.zoom.us/j/97296998448?pwd=V3VMOWpkWE9Hb0R6UHhaNFA4VnZYz09>

Meeting ID: 972 9699 8448

Passcode: 989389

One tap mobile

+12532158782,,97296998448#,,,,,0#,,989389# US (Tacoma)

+13462487799,,97296998448#,,,,,0#,,989389# US (Houston)

Dial by your location

+1 253 215 8782 US (Tacoma)

+1 346 248 7799 US (Houston)

+1 669 900 6833 US (San Jose)

+1 301 715 8592 US (Washington D.C)

+1 312 626 6799 US (Chicago)

+1 646 876 9923 US (New York)

Meeting ID: 972 9699 8448

Passcode: 989389

Find your local number: <https://coloradomesa.zoom.us/u/adnezAIS8c>