



# Grand Junction Geological Society

<http://www.gjgs.org/>



## This Month's Presentation

### **Jonathan L. White**

Colorado Geological Survey  
Colorado School of Mines

will present a talk on:

### **Recent geologic mapping of the Dallas quadrangle near Ridgway State Park, Ouray County, Colorado**

The speaker will present in person  
although we will also have Zoom  
available.

Guests Are Always Welcome

Abstract and Speaker's Bio Are on The  
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## Meeting Time and Location

April 15, 2026

Joint meeting with the CMU Geology Students

6:30 p.m.

Saccomanno Lecture Hall (Room 141) in the Wubben  
Science Building at Colorado Mesa University

## Zoom Details

Andres Aslan is inviting you to a scheduled Zoom meeting.

Topic: 2026 April 15 GJGS meeting

Time: Apr 15, 2026 06:00 PM Mountain Time

Join Zoom Meeting

<https://coloradomesa.zoom.us/j/88179979093>

Meeting ID: 881 7997 9093

## Important Announcements

We have been informed that there is an opening at the CMU Montrose campus to teach Geology of Colorado this coming Fall semester. The current instructor has a conflict and cannot do it, but is willing to share his teaching materials with his replacement. If interested, contact Chris Wilcox at the Montrose Campus, [chwilcox@coloradomesa.edu](mailto:chwilcox@coloradomesa.edu) or 970-249-7009.

Student presentations of their senior projects will be Wednesday, May 6. We will send out a separate announcement later in the month.

# Abstract

## Recent geologic mapping of the Dallas quadrangle near Ridgway State Park, Ouray County, Colorado

Jonathan L. White

The 7.5-minute (1:24,000-scale) Dallas quadrangle is centered 18 km north of the town of Ouray just north of the San Juan Mountains of Ouray County, SW Colorado. The San Juan Volcanic Field rocks form an escarpment at the map southern boundary. The west boundary includes the Uncompahgre River valley and Pleistocene glacial moraines deposits. The northwest corner of the quadrangle holds a large part of the Ridgway State Park, including the trend of the Ridgway fault and related branch faults. The east part of the map above Cow Creek includes mass-movement complexes below Cimarron Ridge. The Ridgway fault is oriented west to east, and the several near-vertical normal branch faults splay in a north to northeast trend at the Uncompahgre River Valley towards Ridgway Reservoir and the Ridgway State Park. The north side of the main fault is upthrown, with the largest throw of 300-350 m occurring off-map to the west. The upthrown block exposes a resistant bluff of Cretaceous Dakota/Burro Canyon sandstone underlain by the Jurassic Morrison Formation that forms Log Hill Mesa above the town of Ridgway. Where exposed, the fault exhibits high-dip drag-fold deformation at the hanging and foot walls that eventually becomes obscured to the east in folded Mancos Shale and surficial deposits. Off map to the east, base elevations of the Eocene Telluride Conglomerate ( $P_{Et}$ ), which approximates the Eocene Rocky Mountain Erosional Surface (RMES), continue to imply approximately 300 m of post-Eocene throw. Subsurface structures based on oil and gas well data reveal the Ridgway fault as a Laramide reactivation and uplift of the southeast edge of the present Uncompahgre Plateau, along pre-existing basement faults of the earlier Pennsylvanian-aged orogeny that raised the Ancestral Uncompahgre Mountains. The fault is included in both the CGS Earthquake and Fault Map Server and the USGS Quaternary Fault and Fold Database. The seismic hazard concern of Quaternary faulting, the proximity of a branch fault discovered during excavation of the dam embankment (Cow Creek fault), and microseismicity in the area has prompted seismotectonic studies and risk assessment of the Ridgway Reservoir dam by the U.S. Bureau of Reclamation (BOR). The last recorded felt earthquake in the area was reported on November 5, 2022 (Mw 2.2).

Other major mapping findings from the 2022-23 mapping field season include: 1) the identification of previously unrecognized branch faults. Two are paired to form a graben with 170 m of offset where the Cretaceous Dakota/Burro Canyon and Jurassic Morrison formation strata are in contact with the Cretaceous Smoky Hill/Niobrara member of the Mancos Shale. It is unclear whether Quaternary deposits are displaced along the newly mapped faults; 2) The weak, easily eroded shale bedrock within the graben is partially buried by Bull Lake glacio-fluvial gravel deposits (TT-OSL dating to 203 ka) and subsequent landslides. 3) The paleo river course was subsequently diverted to its present course; and 4) Late Laramide intrusions at Ramshorn Ridge formed a monadnock in the RMES that diverted  $P_{Et}$  deposition.

## Bio

Jon White is a professional geologist with 42 years of experience. He has been with the Colorado Geological Survey (CGS) for the last 36 years. While semi-retired, he managed the CGS STATEMAP geologic mapping program until 2025. He has led 1:24,000-scale mapping programs on the Colorado Western Slope from Craig to Ridgway and authored/co-authored 18 quadrangles. He continues part-time work as an emeritus senior mapper. Jon's expertise includes geologic mapping, surficial geology, geomorphology, mass-wasting hazards, problematic soils, and geologic hazard assessments and developing derivative maps. He has authored or coauthored numerous other papers and publications, technical presentations, geologic maps, and field trip guidebooks.

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