

Quaternary Fault and Fold Database of the United States

As of January 12, 2017, the USGS maintains a limited number of metadata fields that characterize the Quaternary faults and folds of the United States. For the most up-to-date information, please refer to the [interactive fault map](#).

Council fault (Class A) No. 629

Last Review Date: 2010-11-09

Compiled in cooperation with the Idaho Geological Survey

citation for this record: Personius, S.F., and Adema, G.W., compilers, 2010, Fault number 629, Council fault, in Quaternary fault and fold database of the United States: U.S. Geological Survey website, <https://earthquakes.usgs.gov/hazards/qfaults>, accessed 12/14/2020 03:03 PM.

Synopsis

The Council fault forms the north-south trending eastern margin of the Weiser River Valley near Council in western Idaho. The fault zone displaces Miocene Columbia River Basalts in a down-to-the-west sense of displacement along most of its length. The fault is part of the western Idaho fault belt. The fault forms prominent 100-m-high triangular facets near the town of Council, and much of the fault trace is marked by aligned springs, tonal lineaments, breaks in slope, sidehill benches, oversteepened slopes, and escarpments. No fault scarps on Quaternary deposits have been described, but the fresh fault geomorphology is suggestive of late Quaternary displacement.

Name comments	<p>Parts of the Council fault were mapped by Newcomb (1970 #3761), Mitchell and Bennett (1979 #5894), and Fitzgerald (1982 #5886). The fault trace as used herein was mapped and informally named after the nearby town of Council by Knudsen and others (1996 #5889).</p> <p>Fault ID: This fault is part of fault numbers 263 and 264 in the fault compilation of Witkind (1975 #320).</p>
County(s) and State(s)	ADAMS COUNTY, IDAHO
Physiographic province(s)	NORTHERN ROCKY MOUNTAINS COLUMBIA PLATEAU
Reliability of location	<p>Poor Compiled at 1:250,000 scale.</p> <p><i>Comments:</i> Fault locations are from 1:250,000-scale mapping of Knudsen and others (1996 #5889) further constrained by satellite imagery and topography at scale of 1:250,000. Reference satellite imagery is ESRI_Imagery_World_2D with a minimum viewing distance of 1 km (1000 m).</p>
Geologic setting	<p>The Council fault forms the north-south trending eastern margin of the Weiser River Valley near Council in western Idaho. The fault zone displaces Miocene Columbia River Basalts in a down-to-the-west sense of displacement along most of its length (Newcomb, 1970 #3761; Mitchell and Bennett, 1979 #5894; Fitzgerald, 1982 #5886). The fault is part of the western Idaho fault belt of Hamilton (1963 #6040), a system of north-striking normal faults formed along the western margin of the Idaho batholith.</p>
Length (km)	37 km.
Average strike	N1°W
Sense of movement	<p>Normal</p> <p><i>Comments:</i> The Council fault is mapped as a normal fault by Newcomb (1970 #3761), Mitchell and Bennett (1979 #5894), Fitzgerald (1982 #5886), and Knudsen and others (1996 #5889).</p>
Dip Direction	W

	<i>Comments:</i> No actual dip measurements have been published, but Knudsen and others (1996 #5889) modeled the Council fault as a 60° west-dipping normal fault in their analysis of paleo-earthquake magnitudes.
Paleoseismology studies	
Geomorphic expression	The Council fault forms prominent 100-m-high triangular facets near the town of Council, and much of the fault trace is marked by aligned springs, tonal lineaments, breaks in slope, sidehill benches, oversteepened slopes, and escarpments (Knudsen and others, 1996 #5889).
Age of faulted surficial deposits	The Council fault offsets Miocene Columbia River Basalts along most of its length (Newcomb, 1970 #3761; Mitchell and Bennett, 1979 #5894; Fitzgerald, 1982 #5886). Knudsen and others (1996 #5889) observed numerous geomorphic indicators of young faulting, but did not describe any evidence of faulted Quaternary deposits.
Historic earthquake	
Most recent prehistoric deformation	late Quaternary (<130 ka) <i>Comments:</i> Knudsen and others (1996 #5889) used the presence of prominent 100-m-high triangular facets, aligned springs, tonal lineaments, breaks in slope, sidehill benches, oversteepened slopes, and escarpments to infer late Quaternary faulting on the Council fault. The fault is mapped as a lesser late Quaternary (<130 ka) structure by Breckenridge and others (2003 #5878).
Recurrence interval	
Slip-rate category	Less than 0.2 mm/yr <i>Comments:</i> No slip rates have been published, but the escarpment in Miocene Columbia River Basalt just west of Council is 300-400 m high, indicating low rates of long-term slip.
Date and Compiler(s)	2010 Stephen F. Personius, U.S. Geological Survey Guy W. Adema, Idaho Geological Survey
References	#5878 Breckenridge, R.M., Lewis, R.S., Adema, G.W., and

Weisz, D.W., 2003, Miocene and younger faults in Idaho: Idaho Geological Survey Map 8, 1 sheet, scale 1:1,000,000.

#5886 Fitzgerald, J.E., 1982, Geology and basalt stratigraphy of the Weiser Embayment, west-central Idaho, *in* Bonnicksen, B., and Breckenridge, R.M., eds., Cenozoic geology of Idaho: Idaho Bureau of Mines and Geology Bulletin 26, p. 103-128.

#6040 Hamilton, W., 1963, Metamorphism in the Riggins region, western Idaho: U.S. Geological Survey Professional Paper 436, 95 p.

#5889 Knudsen, K.L., Wong, I., Sawyer, T.L., Bott, J., Silva, W., and Lettis, W.R., 1996, Seismotectonic evaluation, Cascade Dam, Boise project, west-central Idaho: Final Report prepared for U.S. Department of the Interior, Bureau of Reclamation, 198 p., 3 pls.

#5894 Mitchell, V.E., and Bennett, E.H., 1979, Geologic map of the Baker quadrangle, Idaho: Idaho Bureau of Mines and Geology Geologic Map Series, Baker 2° quadrangle, 1 sheet, scale 1:250,000.

#3761 Newcomb, R.C., 1970, Tectonic structure of the main part of the basalt of the Columbia River Group Washington, Oregon, and Idaho: U.S. Geological Survey Miscellaneous Geologic Investigations I-587, 1 sheet, scale 1:500,000.

#320 Witkind, I.J., 1975, Preliminary map showing known and suspected active faults in Idaho: U.S. Geological Survey Open-File Report 75-278, 71 p. pamphlet, 1 sheet, scale 1:500,000.

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