

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](#).

Robinson Creek fault zone (Class A) No. 40

Last Review Date: 1995-10-01

citation for this record: Sawyer, T.L., compiler, 1995, Fault number 40, Robinson Creek fault zone, 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 03:10 PM.

Synopsis	The Robinson Creek fault zone is poorly understood. Only two slip-rate estimates are known to the compiler and both involve stratigraphic correlation rather than finite age control. The fault zone forms a 400 m high, bedrock escarpment that is locally characterized by faceted spurs and well-defined by scarps on glacial deposits, vertically offset drainages, and a truncated Holocene alluvial fan. Late Pleistocene vertical slip rate is 0.2-1 mm/yr.
Name comments	Refers to the Bridgeport Basin faults of Clark and others (1984 #2876) and Robinson Creek fault of Bryant (1984 #5572). These faults are herein referred to as the Robinson Creek fault zone. Fault ID: Refers to number 133 (Mono Lake-Robinson Creek-Bridgeport Basin faults) of Jennings (1994 #2878).
County(s) and	

County(s) and State(s)	MONO COUNTY, CALIFORNIA
Physiographic province(s)	CASCADE-SIERRA MOUNTAINS
Reliability of location	Good Compiled at 1:62,500 scale. <i>Comments:</i> Location based on digital revisions to Jennings (1994 #2878) using original mapping by Bryant (1984 #5572) at 1:62,500.
Geologic setting	This high-angle, down-to-east normal fault bounds the western side of Bridgeport Valley where it forms a 400 m high, bedrock escarpment
Length (km)	19 km.
Average strike	N15°E
Sense of movement	Normal <i>Comments:</i> Clark and others (1984 #2876) and Bryant (1984 #5572).
Dip Direction	E <i>Comments:</i> Bryant (1984 #5572).
Paleoseismology studies	
Geomorphic expression	The Robinson Creek fault zone forms a 400-m-high, south-southeast-facing bedrock escarpment that is locally characterized by faceted spurs. The fault is generally well-defined by scarps on glacial deposits, vertically offset drainages, and a truncated Holocene alluvial fan (Bryant, 1984 #5572).
Age of faulted surficial deposits	Holocene alluvial-fan deposits and latest Pleistocene (late Tioga) outwash.
Historic earthquake	
Most recent	latest Quaternary (<15 ka)

prehistoric deformation	<i>Comments:</i> Bryant (1984 #5572) inferred Holocene activity on the basis of a truncated Holocene alluvial fan, vertically offset drainages, and vegetation lineaments.
Recurrence interval	
Slip-rate category	Between 0.2 and 1.0 mm/yr <i>Comments:</i> Clark and others (1984 #2876) report a vertical slip rate of 0.2-0.7mm/yr (0.5mm/yr preferred) based on a 4-m-high scarp on Tioga glacial outwash. Bryant (1984 #5572) estimated a slip rate of 0.3-0.6 mm/yr based on an approximately 34-m-high scarp on Tahoe glacial deposits (60-120 k.y.)
Date and Compiler(s)	1995 Thomas L. Sawyer, Piedmont Geosciences, Inc.
References	#5572 Bryant, W.A., 1984, Faults in Bridgeport Valley and western Mono Basin, Mono County, California: California Division of Mines and Geology Fault Evaluation Report FER-155, microfiche copy in California Division of Mines and Geology Open-File Report 90-14, 27 p., scale 1:24,000. #2876 Clark, M.M., Harms, K.H., Lienkaemper, J.J., Harwood, D.S., Lajoie, K.R., Matti, J.C., Perkins, J.A., Rymer, M.J., Sarna-Wojcicki, A.M., Sharp, R.V., Sims, J.D., Tinsley, J.C., III, and Ziony, J.I., 1984, Preliminary slip rate table and map of late Quaternary faults of California: U.S. Geological Survey Open-File Report 84-106, 12 p., 5 plates, scale 1:1,000,000. #2878 Jennings, C.W., 1994, Fault activity map of California and adjacent areas, with locations of recent volcanic eruptions: California Division of Mines and Geology Geologic Data Map 6, 92 p., 2 pls., scale 1:750,000. #4860 Petersen, M.D., Bryant, W.A., Cramer, C.H., Cao, T., Reichle, M.S., Frankel, A.D., Lienkaemper, J.J., McCrory, P.A., and Schwartz, D.P., 1996, Probabilistic seismic hazard assessment for the State of California: California Department of Conservation, Division of Mines and Geology Open-File Report 96-08 (also U.S. Geological Open-File Report 96-706), 33 p.

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