

# 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](#).

## Bradley Creek fault (Class A) No. 662

Last Review Date: 1994-04-21

### Compiled in cooperation with the Montana Bureau of Mines and Geology

*citation for this record:* Haller, K.M., compiler, 1994, Fault number 662, Bradley Creek 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 02:04 PM.

<b>Synopsis</b>	The age of this fault is highly suspect. The sole reference to this feature is Johns and others (1982 #259), who assign a Holocene age to the fault; other compilations of late Quaternary structures in Montana (Stickney and Bartholomew, 1987 #85; 1987 #242; written commun. 1992 #556) do not include this feature because they believe it to be a fault-line scarp (M.J. Bartholomew, written commun. 1997). The Bradley Creek fault appears to be the southern extension of the Carmichael fault (part of which is discussed in 695).
<b>Name comments</b>	Source of the name is Johns and others (1982 #259). Fault extends from about 2 km northwest of Hot Springs Creek southeastward to about 1.5 km northwest of U.S. Highway 287.

	<b>Fault ID:</b> Refers to number 76 (Bradley Creek fault) of Johns and others (1982 #259).
<b>County(s) and State(s)</b>	MADISON COUNTY, MONTANA
<b>Physiographic province(s)</b>	NORTHERN ROCKY MOUNTAINS
<b>Reliability of location</b>	Poor Compiled at 1:250,000 scale.  <i>Comments:</i> Source of trace is from 1:500,000-scale map of Johns and others (1982 #259).
<b>Geologic setting</b>	High-angle, down-to-northeast normal (?) fault bounding part of the east side of the southern part of Tobacco Root Mountains. No known estimates of depth to basement or stratigraphic offset exist.
<b>Length (km)</b>	7 km.
<b>Average strike</b>	N31°W
<b>Sense of movement</b>	Normal  <i>Comments:</i> Johns and others (1982 #259) indicate the presence of a possible scarp; however, they also note that the northern part of the scarp is down to the southwest and the southern part is down to the northeast. Possible normal movement is inferred here because of evidence of a vertical component, but left lateral movement is also a possibility. In addition, dip direction is inferred based on better expressed topography at the north end of fault compared to south end and the indicated dip of nearby Carmichael fault [695].
<b>Dip Direction</b>	NE
<b>Paleoseismology studies</b>	
<b>Geomorphic expression</b>	Johns and others (1982 #259) indicate the presence of scarps and "interception of drainage," these are the only comments offered.
<b>Age of faulted surficial deposits</b>	

<b>Historic earthquake</b>	
<b>Most recent prehistoric deformation</b>	undifferentiated Quaternary (<1.6 Ma) <i>Comments:</i> Johns and others (1982 #259) believe that the geomorphic evidence indicates Holocene movement; however, the omission of this feature in other compilations makes a Holocene age suspect. Thus, a conservative age estimate is used here.
<b>Recurrence interval</b>	
<b>Slip-rate category</b>	Less than 0.2 mm/yr <i>Comments:</i> Inferred low slip rate is based on the poor expression of fault.
<b>Date and Compiler(s)</b>	1994 Kathleen M. Haller, U.S. Geological Survey
<b>References</b>	#259 Johns, W.M., Straw, W.T., Bergantino, R.N., Dresser, H.W., Hendrix, T.E., McClernan, H.G., Palmquist, J.C., and Schmidt, C.J., 1982, Neotectonic features of southern Montana east of 112°30' west longitude: Montana Bureau of Mines and Geology Open-File Report 91, 79 p., 2 sheets.  #242 Stickney, M.C., and Bartholomew, M.J., 1987, Preliminary map of late Quaternary faults in western Montana: Montana Bureau of Mines and Geology Open-File Report 186, 1 pl., scale 1:500,000.  #85 Stickney, M.C., and Bartholomew, M.J., 1987, Seismicity and late Quaternary faulting of the northern Basin and Range province, Montana and Idaho: Bulletin of the Seismological Society of America, v. 77, p. 1602-1625.  #556 Stickney, M.C., and Bartholomew, M.J., 1992 written commun., Preliminary map of late Quaternary faults in western Montana (digital data): Montana Bureau of Mines and Geology (digital version of MBMG Open-File Report 186), 1 pl., scale 1:500,000.

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