

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](#).

Wolf Lake fault and nearby faults (Class A) No. 752

Last Review Date: 1998-03-30

citation for this record: Pierce, K.L., compiler, 1998, Fault number 752, Wolf Lake fault and nearby faults, 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 01:59 PM.

Synopsis	The Wolf Lake fault locally forms a 2.5-m-high scarp on late Pinedale gravel. Also included in this group are two faults about 3 km to the northeast that also appear to have post-glacial movement based on associated sag ponds and small but abrupt escarpments. The mapped post-glacial length of the individual faults is less than 2 km, suggesting either minimal earthquake risk or that post-glacial offset actually extends further or may include other nearby geomorphically well-expressed faults that are mapped (but not proved) to be older. These faults could be considered to be the youngest expression of movement along the generally older post-Lava Creek faults in the northwest part of Yellowstone National Park [747].
Name	Named herein for Wolf Lake

comments	renamed herein for Wolf Lake.
County(s) and State(s)	PARK COUNTY, WYOMING
Physiographic province(s)	MIDDLE ROCKY MOUNTAINS
Reliability of location	Good Compiled at 1:125,000 scale. <i>Comments:</i> Mapped by Pierce (1973 #3804) and Richmond and Waldrop (1975 #3800) at 1:62,500 scale and at 1:125,000 scale by Christiansen (2001 #1784) and the U.S. Geological Survey (1972 #1057, #639).
Geologic setting	The Wolf Lake fault and two associated faults about 3 km to the northeast appear to have post-glacial movement. These faults are rather short (<2 km), suggesting that they are not associated with large earthquakes or that they are affiliated with other nearby faults (such as [747]), which are considered (but not proved) to be older (middle and late Quaternary, <750 ka) .
Length (km)	6 km.
Average strike	N33°W
Sense of movement	Normal
Dip Direction	NE
Paleoseismology studies	
Geomorphic expression	A clear scarp as much as 2.5 m high is present along the Wolf Lake fault. (Pierce, 1973, and field notes of July 10, 1975) (Richmond and Waldrop, 1975 #3800).
Age of faulted surficial deposits	The Wolf Lake fault offsets a late glacial fluvial terrace.
Historic earthquake	
Most recent prehistoric deformation	latest Quaternary (<15 ka) <i>Comments:</i> Based on offset of late glacial age (ca. 15 ka)

	deposits. Nearby faults to the northeast have sag ponds and strong morphology also suggesting post-glacial (<15 ka) offset. These faults could be considered to be the youngest expression of movement along the generally older post-Lava Creek faults in the northwest part of Yellow-stone National Park [747].
Recurrence interval	
Slip-rate category	Less than 0.2 mm/yr <i>Comments:</i> About 2.5 m of slip has occurred in the past 15 ka. Since no recurrence has been determined for this slip, a rate cannot be calculated. However, a low slip-rate category is inferred from relatively small (2.5 m) scarps, where present.
Date and Compiler(s)	1998 Kenneth L. Pierce, U.S. Geological Survey, Emeritus
References	#1784 Christiansen, R.L., 2001, The Quaternary and Pliocene Yellowstone Plateau volcanic field of Wyoming, Idaho, and Montana: U.S. Geological Survey Professional Paper 729-G, 145 p., 3 pls., scale 1:125,000. #3804 Pierce, K.L., 1973, Surficial geologic map of the Mammoth quadrangle and part of the Gardiner quadrangle, Yellowstone National Park, Wyoming and Montana: U.S. Geological Survey Miscellaneous Geologic Investigations I-641, 1 sheet, scale 1:62,500. #3800 Richmond, G.M., and Waldrop, H.A., 1975, Surficial geologic map of the Norris Junction quadrangle, Yellowstone National Park, Wyoming: U.S. Geological Survey Miscellaneous Geologic Investigations I-650, 1 sheet, scale 1:62,500. #639 U.S. Geological Survey, 1972, Geologic map of Yellowstone National Park: U.S. Geological Survey Miscellaneous Geologic Investigations I-711, 1 sheet, scale 1:125,000.

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