

# 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](#).

## Central Carico Lake Valley fault group (Class A) No. 1176

Last Review Date: 2000-08-28

*citation for this record:* Lidke, D.J., and Anderson, R.E., compilers, 2000, Fault number 1176, Central Carico Lake Valley fault group, 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 02:16 PM.

<b>Synopsis</b>	This wide zone of faulting occupies much of the central part of the Carico Lake Valley, where it forms numerous east- and west-facing scarps on Pleistocene piedmont-slope and piedmont deposits of the valley. There is evidence along this fault zone for at least one faulting event that is no older than late Pleistocene in age, and this event or a younger one may be as young as latest Pleistocene to Holocene age. These faults have not been studied in detail. The principle sources of data consist of geologic mapping, reconnaissance photogeologic mapping, and reconnaissance geomorphic studies of fault scarps.
<b>Name comments</b>	Refers to faults mapped by Stewart and McKee (1969 #4353; 1977 #4351), Dohrenwend and others (1992 #283), and Dohrenwend and Moring (1991 #282) that are present in the

	<p>piedmont of Carico Lake Valley. dePolo (1998 #2845) showed and referred to this relatively wide zone of faults as the Central Carico Lake Valley fault swarm and that root name is used here for the group. This 5-km-wide group of northeast-striking faults occupies the central part of Carico Lake Valley. The group extends southwest from near the Filippini Well southwest of Red Mountain to the southwestern end of the Carico Lake Valley near State Route 305.</p> <p><b>Fault ID:</b> Refers to faults that dePolo (1998 #2845) portrayed and labeled as MI11.</p>
<p><b>County(s) and State(s)</b></p>	<p>LANDER COUNTY, NEVADA</p>
<p><b>Physiographic province(s)</b></p>	<p>BASIN AND RANGE</p>
<p><b>Reliability of location</b></p>	<p>Good Compiled at 1:250,000 scale.</p> <p><i>Comments:</i> Location is from 1:250,000-scale maps of Dohrenwend and others (1992 #283) and Dohrenwend and Moring (1991 #282), which show mapping based on photogeologic analysis of 1:58,000-nominal-scale, color-infrared photography transferred directly to 1:100,000-scale topographic maps enlarged to the scale of the photographs; these maps were then reduced and compiled at 1:250,000-scale.</p>
<p><b>Geologic setting</b></p>	<p>This group of northeast-striking, mid-basin to basin-flank faults is characterized mainly by numerous low scarps on Pleistocene and Holocene(?) fan deposits and alluvium of the Carico Lake Valley (Stewart and McKee, 1969 #4353; 1977 #4351; Dohrenwend and Moring, 1991 #282; Dohrenwend and others, 1992 #283). Both easterly and westerly facing scarps are present, and they may reflect both east- and west-dipping faults and related small horst and grabens. The fault zone is in the central part of the Carico Lake Valley, between the Shoshone Range and the north end of the Toiyabe Range, and between the range-front fault systems that flank these ranges. There appears to be abundant evidence for Quaternary movement along the fault zone (Stewart and McKee, 1969 #4353; 1977 #4351; Dohrenwend and Moring, 1991 #282; Dohrenwend and others, 1992 #283) and it seems likely that offsets along this fault zone are related to continued Quaternary down-dropping of the Carico Lake Valley relative to the mountain</p>

	ranges that flank it. Little is known with certainty, however, about the character of these faults, the nature and amounts of offsets along them, and their possible relations to fault zones that flank the adjacent mountain ranges.
<b>Length (km)</b>	23 km.
<b>Average strike</b>	N34°E
<b>Sense of movement</b>	Normal  <i>Comments:</i> Not specifically reported; normal sense of slip is inferred from the presence of these faults within the Basin and Range Province that is primarily an extensional tectonic province characterized by normal faults.
<b>Dip Direction</b>	NW; SE  <i>Comments:</i> Not reported, but probably steep, based on dip measurements of other Quaternary faults in localities nearby and elsewhere in the Basin and Range Province.
<b>Paleoseismology studies</b>	
<b>Geomorphic expression</b>	Scattered northwest- and southeast-facing low piedmont scarps express this group of northeast-striking, discontinuous faults on alluvial deposits of the Carico Lake Valley (Stewart and McKee, 1969 #4353; 1977 #4351; Dohrenwend and Moring, 1991 #282; Dohrenwend and others, 1992 #283). The zone is as much a 6 km wide. dePolo (1998 #2845) indicates that there are scarps on alluvium but no basal fault facets.
<b>Age of faulted surficial deposits</b>	Stewart and McKee (1969 #4353; 1977 #4351) mapped the faulted deposits in the Carico Lake Valley as fan deposits and alluvium, and they assigned an undifferentiated Pleistocene to Holocene age to both of these deposit types. Dohrenwend and others (1992 #283) and Dohrenwend and Moring (1991 #282) assigned ages no older than early Pleistocene (>750 ka) to all of the faulted deposits and assigned late Pleistocene and latest Pleistocene to Holocene ages to some of the faulted deposits.
<b>Historic earthquake</b>	
<b>Most recent</b>	late Quaternary (<130 ka)

<p><b>prehistoric deformation</b></p>	<p><i>Comments:</i> The timing of the most recent prehistoric faulting event is not tightly constrained. However, reconnaissance photogeologic mapping by Dohrenwend and others (1992 #283) and Dohrenwend and Moring (1991 #282) indicates that the most recent prehistoric faulting event is no older than late Pleistocene (10-130 ka) and possibly is as young as late Pleistocene to Holocene (0-30 ka) in age.</p>
<p><b>Recurrence interval</b></p>	
<p><b>Slip-rate category</b></p>	<p>Less than 0.2 mm/yr</p> <p><i>Comments:</i> No detailed data exists to determine slip rates for this fault. dePolo (1998 #2845) assigned a reconnaissance vertical slip rate of 0.01 mm/yr for the fault based on the presence of scarps on alluvium and the absence of basal facets. The late Quaternary characteristics of this fault (overall geomorphic expression, continuity of scarps, age of faulted deposits, etc.) support a low slip rate. Accordingly, the less than 0.2 mm/yr slip-rate category has been assigned to this fault.</p>
<p><b>Date and Compiler(s)</b></p>	<p>2000 David J. Lidke, U.S. Geological Survey R. Ernest Anderson, U.S. Geological Survey, Emeritus</p>
<p><b>References</b></p>	<p>#2845 dePolo, C.M., 1998, A reconnaissance technique for estimating the slip rate of normal-slip faults in the Great Basin, and application to faults in Nevada, U.S.A.: Reno, University of Nevada, unpublished Ph.D. dissertation, 199 p.</p> <p>#282 Dohrenwend, J.C., and Moring, B.C., 1991, Reconnaissance photogeologic map of young faults in the Winnemucca 1° by 2° quadrangle, Nevada: U.S. Geological Survey Miscellaneous Field Studies Map MF-2175, 1 sheet, scale 1:250,000.</p> <p>#283 Dohrenwend, J.C., Schell, B.A., and Moring, B.C., 1992, Reconnaissance photogeologic map of young faults in the Millett 1° by 2° quadrangle, Nevada: U.S. Geological Survey Miscellaneous Field Studies Map MF-2176, 1 sheet, scale 1:250,000.</p> <p>#4353 Stewart, J.H., and McKee, E.H., 1969, Geologic map of the west-central part of Lander County, Nevada: U.S. Geological</p>

Survey Open-File Report 69-270, 2 sheets, scale 1:62,500.

#4351 Stewart, J.H., and McKee, E.H., 1977, Geology and mineral deposits of Lander County, Nevada: Nevada Bureau of Mines and Geology Bulletin 88, 106 p., 3 pls.

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