

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](#).

unnamed faults of northern Ione Valley (Class A) No. 1194

Last Review Date: 2000-09-29

citation for this record: Lidke, D.J., compiler, 2000, Fault number 1194, unnamed faults of northern Ione Valley, 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 02:17 PM.

Synopsis

These north-striking faults in northern Ione Valley form two discrete but associated fault zones: one along the north-central to northeastern part of the valley (the eastern zone) and the other along the northwestern part of the valley (the western zone). The faults are marked by scarps and linear features that are present on Quaternary piedmont-slope and piedmont deposits of the Ione Valley. Fault scarps in the eastern zone face west and those in the western zone face east, which may suggest that the two zones define a broad graben within Ione Valley. There is evidence along both zones for at least one Quaternary faulting event that is no older than Pleistocene; along the western zone there is evidence that the most recent faulting event is no older than Holocene in age. The fault zone has not been studied in detail, however, and little is actually known with certainty about its nature, character, and movement history. The principal sources of data consist of

	geologic mapping and reconnaissance photogeologic mapping.
Name comments	Refers to unnamed north-striking faults mapped by Kleinhampl and Ziony (1985 #2851) and Dohrenwend and others (1992 #283) in the northeastern and north-central parts of Ione Valley. These faults form eastern and western fault zones that (together) extend from about 5 km southeast of Buffalo Mountain south to a point west of Midas Spring.
County(s) and State(s)	LANDER COUNTY, NEVADA NYE COUNTY, NEVADA
Physiographic province(s)	BASIN AND RANGE
Reliability of location	Good Compiled at 1:250,000 scale. <i>Comments:</i> Location is from 1:250,000-scale map of Dohrenwend and others (1992 #283) that shows mapping based on photogeologic analysis of 1:58,000-nominal-scale, color-infrared photography, which was transferred directly to 1:100,000-scale topographic maps enlarged to the scale of the photographs. The 1:100,000-scale fault maps were reduced and compiled at 1:250,000-scale for final publication.
Geologic setting	These north-striking faults are confined to the northern end of Ione Valley, where they form geographically separate eastern and western fault zones that are marked by scarps and linear features on the piedmont slope (Dohrenwend and others, 1992 #283). There is evidence for late to latest Quaternary offsets along these faults and the valley-facing direction of the scarps suggests the faults define a graben structure that may express continued down dropping of the Ione Valley relative to the adjacent mountain ranges. These faults have been studied in detail, however, and other insights or estimates that concern Quaternary offsets have not been reported.
Length (km)	11 km.
Average strike	N23°E
Sense of movement	Normal <i>Comments:</i> Not specifically reported, however, the consistent valley-facing direction of the fault scarps suggests mostly down-

	to-the-valley offsets, which in this extensional regime probably reflects principally normal, dip-slip movement along faults that dip towards the central part of the valley.
Dip Direction	W; E <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.
Paleoseismology studies	
Geomorphic expression	These faults are expressed in both eastern and western zones that are marked by north-striking, valley-facing scarps and by linear features on Quaternary piedmont and piedmont-slope deposits of the Ione Valley (Dohrenwend and others, 1992 #283).
Age of faulted surficial deposits	Dohrenwend and others (1992 #283), assigned a broad Pleistocene age to faulted Quaternary deposits along scarps of the eastern zone and they assigned questionable late Pleistocene and latest Pleistocene to Holocene ages to Quaternary deposits that show lineaments at other localities along the eastern zone. Dohrenwend and others (1992 #283) assigned a Holocene age to faulted Quaternary deposits along a scarp of the western zone.
Historic earthquake	
Most recent prehistoric deformation	latest Quaternary (<15 ka) <i>Comments:</i> The timing of the most recent prehistoric faulting event is relatively well constrained. Based on reconnaissance photogeologic mapping, Dohrenwend and others (1992 #283) indicated that the most recent event along the eastern section is no older than Quaternary (<1.6 Ma), probably no older than late Pleistocene (<130 ka), and possibly no older than latest Pleistocene to Holocene (<30 ka). Along the western section, Dohrenwend and others (1992 #283) indicated that the most recent event is no older than Holocene (<10 ka) in age, which is the basis of the age assignment here.
Recurrence interval	

Slip-rate category	Less than 0.2 mm/yr <i>Comments:</i> Not reported; low slip rate selected on the basis of the faults geomorphic expression.
Date and Compiler(s)	2000 David J. Lidke, U.S. Geological Survey
References	#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. #2851 Kleinhampl, F.J., and Ziony, J.I., 1985, Geology of Northern Nye County, Nevada: Nevada Bureau of Mines and Geology Bulletin 99A, 172 p.

[Questions or comments?](#)

[Facebook](#) [Twitter](#) [Google](#) [Email](#)

[Hazards](#)

[Design Ground Motions](#)[Seismic Hazard Maps & Site-Specific Data](#)[Faults](#)[Scenarios](#)
[Earthquakes](#)[Hazards](#)[Data](#)[Education](#)[Monitoring](#)[Research](#)

[Home](#)[About Us](#)[Contacts](#)[Legal](#)