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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.

Cedar Wash fault zone (Class A) No. 962

Last Review Date: 1997-01-07

Compiled in cooperation with the Arizona Geological Survey

citation for this record: **Pearthree, P.A., compiler, 1997, Fault number 962, Cedar Wash 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 03:13 PM.**

Synopsis	Normal faulting has generated a fairly low, west-facing scarp and localized graben on Paleozoic bedrock and lower and middle Pleistocene basalt flows. The primary sense of displacement is down to the east. A lower Pleistocene basalt flow is displaced about 6 m, and a middle Pleistocene basalt flow is displaced about 2 m. This low fault scarp is very gentle, suggesting that the fault may not have ruptured during the late Quaternary.
Name comments	Mapped and grouped with the "SP" faults by Menges and Pearthree (1983 #2073); remapped and renamed "Cedar Wash fault zone" by Pearthree and others (1996 #2153). The geology of the area was mapped by Ulrich and Bailey (1987 #2156).

County(s) and State(s)	COCONINO COUNTY, ARIZONA
Physiographic province(s)	COLORADO PLATEAUS
Reliability of location	Good Compiled at 1:250,000 scale. *Comments:* Trace mapped at 1:50,000 scale, transferred to 1:250,000-scale topographic base map.
Geologic setting	This is one of several fault zones located in the northern part of the Pliocene-Quaternary San Francisco volcanic field, on the erosion surface cut on Paleozoic rocks that slopes from the Mogollon Rim northeast to the Little Colorado River. The Cedar Wash fault cuts Paleozoic rocks and lower and middle Pleistocene basalt flows. A lower Pleistocene basalt flow is displaced at least 6 m and a middle Pleistocene basalt flow is displaced about 2 m.
Length (km)	12 km.
Average strike	N9°W
Sense of movement	Normal *Comments:* Predominantly normal movement is inferred from topographic relations.
Dip Direction	W; SW; NE *Comments:* Dip directions are inferred from surface displacement. The main fault zone probably dips west and southwest; a secondary fault bounding the west side of the graben in the northern part of the fault zone probably dips northeast.
Paleoseismology studies	
Geomorphic expression	The fault zone forms a fairly low (generally less than 10 m high), west-facing scarp and a localized graben on Paleozoic bedrock and lower and middle Pleistocene basalt flows. The low (2-m-high) scarp formed on middle Pleistocene basalt is very gentle.
Age of faulted	

surficial deposits	Paleozoic, early Pleistocene, middle Pleistocene
Historic earthquake	
Most recent prehistoric deformation	middle and late Quaternary (<750 ka) *Comments:* Middle Pleistocene basalt flow is faulted, but the scarp is gentle; this relation suggests that the fault may not have ruptured during the late Quaternary.
Recurrence interval	
Slip-rate category	Less than 0.2 mm/yr *Comments:* A middle Pleistocene basalt flow (500-600 ka) is displaced about 2 m; a lower Pleistocene flow (1.4 Ma) is displaced about 6 m near north end of fault zone. The displacement/age limits yield low long-term slip rates.
Date and Compiler(s)	1997 Philip A. Pearthree, Arizona Geological Survey
References	#2073 Menges, C.M., and Pearthree, P.A., 1983, Map of neotectonic (latest Pliocene-Quaternary) deformation in Arizona: Arizona Geological Survey Open-File Report 83-22, 48 p., scale 1:500,000. #2153 Pearthree, P.A., Vincent, K.R., Brazier, R., and Hendricks, D.M., 1996, Plio-Quaternary faulting and seismic hazard in the Flagstaff area, northern Arizona: Arizona Geological Survey Bulletin 200, 40 p., 2 pls. #2156 Ulrich, G.E., and Bailey, N.G., 1987, Geologic map of the SP Mountain part of the San Francisco volcanic field, north-central Arizona: U.S. Geological Survey Miscellaneous Field Studies Map MF-1956, 2 sheets, scale 1:50,000.

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