

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](#).

Cactus Flats faults (Class A) No. 937

Last Review Date: 1995-12-11

Compiled in cooperation with the Arizona Geological Survey

citation for this record: Pearthree, P.A., compiler, 1995, Fault number 937, Cactus Flats 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 03:12 PM.

Synopsis	A series of northwest-trending faults and fractures in basin-fill deposits and middle Pleistocene terrace gravels of the Gila River and possibly late Quaternary terraces of tributaries to the Gila River. Total Plio-Quaternary offset across these faults may be as much as 100 m, but surface scarps are low and subtle, and offset of Gila River terrace gravels is less than 0.5 m. Thus, there evidently has been little late Quaternary fault activity.
Name comments	Named by Menges and Pearthree (1983 #2073); mapped in more detail by Houser and others (1985 #2129) and Houser (1990 #2128).
Country(s) and	

County(s) and State(s)	GRAHAM COUNTY, ARIZONA
Physiographic province(s)	BASIN AND RANGE
Reliability of location	Good Compiled at 1:250,000 scale. <i>Comments:</i> Mapped using 1:130,000-scale aerial photos, transferred to 1:250,000-scale topographic base for digitization; also, east end of fault zone was mapped at 1:48,000-scale by Houser and others (1985 #2129).
Geologic setting	These northwest-trending faults and fractures are near the middle of the long, complex Safford basin. Total Plio-Quaternary displacement across these faults may be as much as 100 m (Houser and others, 1985 #2129), with displacement mainly down to the northeast toward the center of the basin.
Length (km)	9 km.
Average strike	N54°W
Sense of movement	Normal <i>Comments:</i> Most exposed faults have normal displacement, but a few faults have reverse displacement.
Dip Direction	NE; SW <i>Comments:</i> Faults are thought to be steeply dipping.
Paleoseismology studies	
Geomorphic expression	Faulting is expressed as very subtle, low scarps on river terraces and tributary terraces. Displacement of middle Pleistocene alluvial surfaces is about 0.5 m.
Age of faulted surficial deposits	Pliocene, middle Pleistocene, and possibly late Pleistocene. Age estimates are based on geomorphic surface characteristics, landscape position, and regional correlation. Houser and others (1985 #2129) do not assign a specific age estimate to the tributary terrace deposits that are faulted. Based on their geomorphic position in the landscape, they are probably late Quaternary in

	age.
Historic earthquake	
Most recent prehistoric deformation	<p>middle and late Quaternary (<750 ka)</p> <p><i>Comments:</i> Machette and others (1986 #1033) concluded that middle Pleistocene terrace deposits are faulted, but that late Pleistocene fan deposits are not. Houser and others (1985 #2129) concluded that fairly young tributary terrace deposits are faulted; their age is uncertain.</p>
Recurrence interval	
Slip-rate category	<p>Less than 0.2 mm/yr</p> <p><i>Comments:</i> A low long-term slip rate is suggested by a maximum 100 m of offset of a 2.5-Ma volcanic tuff. The middle to late Quaternary slip rate is probably much less based on very modest middle and late Quaternary displacement of 0.5 m.</p>
Date and Compiler(s)	<p>1995</p> <p>Philip A. Pearthree, Arizona Geological Survey</p>
References	<p>#2128 Houser, B.B., 1990, Late Cenozoic stratigraphy and tectonics of the Safford basin, southeastern Arizona, <i>in</i> Gehrels, G.E., and Spencer, J.E., eds., Geologic excursions through the Sonoran Desert region, Arizona and Sonora: Arizona Geological Survey Special Paper 7, p. 20-24.</p> <p>#2129 Houser, B.B., Richter, D.H., and Shafiqullah, M., 1985, Geologic map of the Safford quadrangle, Graham County, Arizona: U.S. Geological Survey Miscellaneous Investigations Map I-1617, 1 sheet, scale 1:48,000.</p> <p>#1033 Machette, M.N., Personius, S.F., Menges, C.M., and Pearthree, P.A., 1986, Map showing Quaternary and Pliocene faults in the Silver City 1° x 2° quadrangle and the Douglas 1° x 2° quadrangle, southeastern Arizona and southwestern New Mexico: U.S. Geological Survey Miscellaneous Field Studies Map MF-1465-C, 12 p. pamphlet, 1 sheet, scale 1:250,000.</p> <p>#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</p>

1:500,000.

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