

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](#).

Williamson Valley grabens (Class A) No. 950

Last Review Date: 1996-10-02

Compiled in cooperation with the Arizona Geological Survey

citation for this record: Pearthree, P.A., compiler, 1996, Fault number 950, Williamson Valley grabens, 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 03:14 PM.

Synopsis	Evidence for young faulting consists of a series of north- to northeast-trending, narrow, shallow physiographic grabens formed on bedrock and upper Cenozoic deposits. Alluvium roughly estimated to be late to middle Pleistocene in age is displaced less than 15 m, whereas Holocene alluvium is not faulted (Menges and Pearthree, 1983 #2073).
Name comments	Mapped and named by Menges and Pearthree (1983 #2073).
County(s) and State(s)	YAVAPAI COUNTY, ARIZONA

Physiographic province(s)	BASIN AND RANGE
Reliability of location	Good Compiled at 1:250,000 scale. <i>Comments:</i> Trace based on aerial photo interpretation at 1:130,000 scale; trace transferred to 1:250,000-scale topographic base map.
Geologic setting	Located in the Transition Zone in the upland portion of the Basin and Range province. A series of narrow, shallow grabens displace Precambrian granite, Tertiary basalt, and upper Tertiary to Quaternary alluvial deposits. No large, well-defined late Cenozoic basins exist in this immediate area.
Length (km)	17 km.
Average strike	N12°E
Sense of movement	Normal <i>Comments:</i> Inferred from regional relations.
Dip Direction	E; W
Paleoseismology studies	
Geomorphic expression	A series of narrow, shallow troughs formed on bedrock and upper Cenozoic alluvium. Alluvial scarps are as much as 15 m high.
Age of faulted surficial deposits	Middle to late Pleistocene (<750 ka). This age estimate is very rough and is inferred from surface characteristics and regional correlations.
Historic earthquake	
Most recent prehistoric deformation	middle and late Quaternary (<750 ka) <i>Comments:</i> The age estimate for the faulted alluvium is tentative, and not based on analytical data.
Recurrence interval	

Slip-rate category	Less than 0.2 mm/yr <i>Comments:</i> A low slip rate is inferred based on about 15 m of displacement in the past few hundred thousand years (ca. 200 k.y.).
Date and Compiler(s)	1996 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.

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