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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.

Sevier Valley faults north of Panguitch (Class A) No. 2536

Last Review Date: 1999-10-01

Compiled in cooperation with the Utah Geological Survey

citation for this record: **Black, B.D., and Hecker, S., compilers, 1999, Fault number 2536, Sevier Valley faults north of Panguitch, 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 02:53 PM.**

Synopsis	Poorly understood faults of late Pleistocene age on the floor of Sevier Valley, north of Panguitch.
Name comments	**Fault ID:** Refers to fault number 10-24 of Hecker (1993 #642).
County(s) and State(s)	GARFIELD COUNTY, UTAH
Physiographic province(s)	COLORADO PLATEAUS

Reliability of location	Good Compiled at 1:250,000 scale. *Comments:* Mapped or discussed by Bucknam and Anderson (1979 #332), Machette (1985 #4594), Anderson and Rowley (1987 #4595), and Anderson and Christenson (1989 #828). Fault traces from 1:250,000-scale mapping of Anderson and Christenson (1989 #828).
Geologic setting	Short northeast-trending normal faults on the floor of Sevier Valley, north of Panguitch. Sevier Valley is in the Southern High Plateaus, a physiographic area capped by the most extensive expanse of extrusive igneous rocks in Utah. The area is divided into seven distinct plateaus, based on physiographic breaks produced by external bounding cliffs and internal alluvium-filled valleys following north-trending fault lines or narrow grabens.
Length (km)	6 km.
Average strike	N°E
Sense of movement	Normal
Dip Direction	E; W
Paleoseismology studies	
Geomorphic expression	The faults bound a conspicuous horst. Scarps as much as 12 m in height are present on remnants of an alluvial surface that may be as old as middle Pleistocene. Steep midslope elements on many of these high scarps may be the result of relatively recent surface faulting or of lithologically controlled contrasts in resistance to erosion. Deposits that post-date faulting have a weakly developed soil roughly similar to Holocene soils in the Beaver area (Machette, 1985 #4594). The preservation and linearity of a 0.88-m-high scarp indicate youthful faulting, probably during late Pleistocene time. Vegetation lineaments on Holocene deposits were interpreted by Anderson and Rowley (1987 #4595) as evidence for Holocene faulting, but Anderson and Christenson (1989 #828) believe that the lineaments are an expression of ground water concentrated along buried traces of the late Pleistocene faults. The penultimate faulting event is associated with about 0.6 m of dip separation and post-dates the middle to late Pleistocene fan surface.

Age of faulted surficial deposits	Middle to late Pleistocene
Historic earthquake	
Most recent prehistoric deformation	late Quaternary (<130 ka) *Comments:* The most recent event displaced a fan surface thought to be middle to late Pleistocene in age, based on similarities with soils near Beaver, Utah (as described by Machette, 1985 #4594) and dated at 120-140 ka. Bucknam and Anderson (1979 #332) estimated a general morphologic age of 100 ka for scarps within the larger Panguitch area using regression analysis of scarp-profile data, but their estimated age may not be meaningful because of multiple-event scarps and possible erosional complications.
Recurrence interval	
Slip-rate category	Less than 0.2 mm/yr
Date and Compiler(s)	1999 Bill D. Black, Utah Geological Survey Suzanne Hecker, U.S. Geological Survey
References	#4595 Anderson, J.J., and Rowley, P.D., 1987, Geologic map of the Panguitch NW quadrangle, Iron and Garfield Counties, Utah: Utah Geological and Mineral Survey Map 103, 8 p. pamphlet, scale 1:24,000. #828 Anderson, R.E., and Christenson, G.E., 1989, Quaternary faults, folds, and selected volcanic features in the Cedar City 1° x 2° quadrangle, Utah: Utah Geological and Mineral Survey Miscellaneous Publication 89-6, 29 p., 1 pl., scale 1:250,000. #332 Bucknam, R.C., and Anderson, R.E., 1979, Estimation of fault-scarp ages from a scarp-height—slope-angle relationship: Geology, v. 7, p. 11-14. #642 Hecker, S., 1993, Quaternary tectonics of Utah with emphasis on earthquake-hazard characterization: Utah Geological Survey Bulletin 127, 157 p., 6 pls., scale 1:500,000.

	#4594 Machette, M.N., 1985, Late Cenozoic geology of the Beaver Basin, southwestern Utah: Brigham Young University Geology Studies, v. 32, pt.1, p. 19-37.