

# 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](#).

## Snow Lake graben (Class A) No. 2452

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 2452, Snow Lake graben, 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 02:56 PM.

<b>Synopsis</b>	Poorly understood zone of Holocene(?) faulting near the crest of the Wasatch Plateau, west of Joes Valley.
<b>Name comments</b>	<b>Fault ID:</b> Refers to fault number 13-13 of Hecker (1993 #642).
<b>County(s) and State(s)</b>	SANPETE COUNTY, UTAH
<b>Physiographic province(s)</b>	COLORADO PLATEAUS
<b>Reliability of</b>	Good

<b>location</b>	Compiled at 1:100,000 scale.  <i>Comments:</i> Mapped or discussed by Spieker and Billings (1940 #4551) and Foley and others (1986 #1165). Fault traces from mapping of Foley and others (1986 #1165).
<b>Geologic setting</b>	Generally north-trending valley-bounding faults in bedrock near the crest of the Wasatch Plateau. The Wasatch Plateau is capped entirely by sedimentary rocks; the summit area is protected by thin, resistant beds of Tertiary Flagstaff Limestone.
<b>Length (km)</b>	25 km.
<b>Average strike</b>	N9°E
<b>Sense of movement</b>	Normal
<b>Dip Direction</b>	E; W
<b>Paleoseismology studies</b>	
<b>Geomorphic expression</b>	The graben is a prominent north-trending valley bounded by near vertical, 25- to 45-m-high escarpments in the Flagstaff Limestone. Other than thin colluvial deposits at the base of the escarpments, Quaternary deposits are rare. At Snow Lake, the 30-m-high eastern fault scarp truncates the head of an east-flowing drainage basin (Foley and others, 1986 #1165) and impounds the lake against the western fault within what is inferred to be a Pleistocene nivation basin. Some of the 30 m of apparent displacement may have occurred during Holocene time, because erosion of the basin headwall is presumably late Pleistocene in age (Spieker and Billings, 1940 #4551). The escarpment walls of the graben are incised by streams, but they are nearly vertical and little modified by erosion.
<b>Age of faulted surficial deposits</b>	Tertiary Flagstaff Limestone
<b>Historic earthquake</b>	
<b>Most recent prehistoric deformation</b>	latest Quaternary (<15 ka)  <i>Comments:</i> Based on escarpment morphology and drainage

	disruption (Foley and others, 1986 #1165).
<b>Recurrence interval</b>	
<b>Slip-rate category</b>	Less than 0.2 mm/yr
<b>Date and Compiler(s)</b>	1999 Bill D. Black, Utah Geological Survey Suzanne Hecker, U.S. Geological Survey
<b>References</b>	#1165 Foley, L.L., Martin, R.A., Jr., and Sullivan, J.T., 1986, Seismotectonic study for Joes Valley, Scofield and Huntington North Dams, Emery County and Scofield Projects, Utah: U.S. Bureau of Reclamation Seismotectonic Report 86-7, 132 p., 3 pls.  #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.  #4551 Spieker, E.M., and Billings, M.P., 1940, Glaciation in the Wasatch Plateau, Utah: Geological Society of America Bulletin, v. 51, no. 8, p. 1173-1197.

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