Jump to Navigation

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.

Ogden Valley North Fork fault (Class A) No. 2376

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 2376, Ogden Valley North Fork fault, 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 02:58 PM.**

Synopsis	Poorly understood late Quaternary(?) fault along the west side of the North Fork of Ogden Valley.
Name comments	**Fault ID:** Refers to fault number 11-14 of Hecker (1993 #642).
County(s) and State(s)	BOX ELDER COUNTY, UTAH WEBER COUNTY, UTAH
Physiographic province(s)	MIDDLE ROCKY MOUNTAINS BASIN AND RANGE

Reliability of location	Poor Compiled at 1:125,000 scale. *Comments:* Fault traces from Sullivan and others (1988 #4508) and 1:50,000-scale mapping of Personius (1990 #1232).
Geologic setting	Northwest-trending range-front normal fault bounding the west side of the North Fork of Ogden Valley. Ogden Valley is one of several "back valleys of the Wasatch", a line of discontinuous valleys in the Wasatch Hinterlands east of the Wasatch Range.
Length (km)	26 km.
Average strike	N42°W
Sense of movement	Normal
Dip Direction	NE
Paleoseismology studies	
Geomorphic expression	Range-front normal fault. A faceted bedrock escarpment having eroded, 22? slopes may have been produced by Quaternary faulting north of a portion of the North Fork fault shown as questionable on Hecker (1993 #642). Personius (1990 #1232) mapped the fault in this area as cutting Quaternary deposits a kilometer west of the escarpment. For the purposes of seismic hazard assessment, Sullivan and others (1988 #4508) inferred values for slip rate, recurrence interval, and single-event displacement to be similar to those for the Morgan fault [2353], based on similarities in late Quaternary fault length and escarpment morphology.
Age of faulted surficial deposits	Quaternary
Historic earthquake	
Most recent prehistoric deformation	middle and late Quaternary (<750 ka) *Comments:* Based on range-front morphology.
Recurrence	

interval	*Comments:* For the purposes of seismic hazard assessment, Sullivan and others (1988 #4508) inferred values for slip rate, recurrence interval, and single-event displacement to be similar to those for the Morgan fault (2353), based on similarities in late Quaternary fault length and escarpment morphology.
Slip-rate category	Less than 0.2 mm/yr *Comments:* Sullivan and others (1988 #4508) believe slip rates are similar to the Morgan fault [2353] (<0.2 mm/yr), based on similarities in late Quaternary fault length and escarpment morphology.
Date and Compiler(s)	1999 Bill D. Black, Utah Geological Survey Suzanne Hecker, U.S. Geological Survey
References	#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. #1232 Personius, S.F., 1990, Surficial geologic map of the Brigham City segment and adjacent parts of the Weber and Colliston segments, Wasatch fault zone, Box Elder and Weber Counties, Utah: U.S. Geological Survey Miscellaneous Investigations Map I-1979, 1 sheet, scale 1:24,000. #4508 Sullivan, J.T., Nelson, A.R., LaForge, R.C., Wood, C.K., and Hansen, R.A., 1988, Central Utah regional seismotectonic study for USBR dams in the Wasatch Mountains: Bureau of Reclamation Seismotectonic Report 88-5, 269 p.