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.

North Hills faults (Class A) No. 2522

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 2522, North Hills 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 02:55 PM.**

Synopsis	Poorly understood faults that displace Quaternary basalt in the North Hills.
Name comments	**Fault ID:** Refers to fault number 10-8 in Hecker (1993 #642).
County(s) and State(s)	IRON COUNTY, UTAH
Physiographic province(s)	BASIN AND RANGE COLORADO PLATEAUS
Reliability of	Good

location	Compiled at 1: scale. *Comments:* Mapped or discussed by Anderson and Mehnert (1979 #4587), and Anderson and Christenson (1989 #828). Fault traces from 1:250,000-scale mapping of Anderson and Christenson (1989 #828).
Geologic setting	East-dipping normal faults possibly related to Quaternary folds near the eastern edge of the Basin and Range province. The faults are west of the north end of the Ash Creek section of the Hurricane fault [998e]. The North Hills are comprised mainly of early Quaternary basalt flows dated at about 1 Ma.
Length (km)	5 km.
Average strike	N68°W
Sense of movement	Normal
Dip Direction	E
Paleoseismology studies	
Geomorphic expression	Faults in the North Hills displace basalt down to the east toward the axis of a late Cenozoic uplift, which trends north and is defined by a series of outward-tilted fault blocks (Anderson and Christenson, 1989 #828). The dip of the basalt is less than older rocks. On the east, the basalt dips 10?-15? toward the Hurricane fault [998], but on the west the basalt dips westward as much as 30? (Anderson and Mehnert, 1979 #4587). The Quaternary part of the structural uplift resembles faulted Quaternary folds in the Panguitch area.
Age of faulted surficial deposits	Early Quaternary basalt flows dated at about 1 Ma (Anderson and Mehnert, 1979 #4587).
Historic earthquake	
Most recent prehistoric deformation	middle and late Quaternary (<750 ka) *Comments:* The deformation that produced the current physiographic expression of the North Hills post-dates the early Quaternary basalt and most likely extended into middle to late

	Pleistocene time.
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	#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. #4587 Anderson, R.E., and Mehnert, H.H., 1979, Reinterpretation of the history of the Hurricane fault in Utah, *in* Newman, G.D., and Goode, H.D., eds., 1979 Basin and Range Symposium and Great Basin field conference: Rocky Mountain Association of Geologists and Utah Geological and Mineral Survey, p. 145-165. #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.