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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.

Hyrum fault (Class A) No. 2374

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 2374, Hyrum 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 Quaternary(?) fault in southwestern Cache Valley.
Name comments	Hecker (1993 #642) refers to the fault as the southeastern Wellsville Mountains fault. **Fault ID:** Refers to fault number 11-11 of Hecker (1993 #642).
County(s) and State(s)	CACHE COUNTY, UTAH
Physiographic province(s)	MIDDLE ROCKY MOUNTAINS

Reliability of location	Good Compiled at 1:50,000 scale. *Comments:* Mapped or discussed by Sullivan and others (1988 #4508) and Solomon (1999 #4395). Fault traces from 1:50,000-scale mapping of Solomon (1999 #4395).
Geologic setting	Linear east-dipping bedrock fault in the southeastern Wellsville Mountains in northern Utah. Solomon (1999 #4395) indicates that the fault may be related to the West Cache fault zone [2521].
Length (km)	3 km.
Average strike	N13°W
Sense of movement	Normal
Dip Direction	E
Paleoseismology studies	
Geomorphic expression	The fault does not displace surficial deposits, including those of Lake Bonneville. The concealed northern projection of the fault is terminated by the Wellsville fault [2521c]. A 2-km-long part of the fault at its northern end displaces bedrock beveled by an overlying Pleistocene pediment surface (McKenzie Flat). Solomon (1999 #4395) notes the youngest rocks demonstrably displaced by the Hyrum fault are Tertiary, though exposures are intermittent and younger materials possibly have been removed by erosion.
Age of faulted surficial deposits	Tertiary.
Historic earthquake	
Most recent prehistoric deformation	undifferentiated Quaternary (<1.6 Ma) *Comments:* Solomon (1999 #4395) suggests most recent movement on the fault likely occurred between deposition of Tertiary rocks and their erosion during the Pleistocene.
Recurrence	

interval	
Slip-rate category	Less than 0.2 mm/yr *Comments:* Lack of displaced surficial deposits indicates a low slip rate.
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. #4395 Solomon, B.J., 1999, Surficial geologic map of the West Cache fault zone and nearby faults, Box Elder and Cache Counties, Utah: Utah Geological Survey Map 172, 20 p. pamphlet, 2 sheets, scale 1:50,000. #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.