

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](#).

Thousand Lake fault (Class A) No. 2506

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 2506, Thousand Lake 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 02:55 PM.

Synopsis	Poorly understood Quaternary fault that bounds the western side of Thousand Lake and the Boulder Mountains.
Name comments	Fault ID: Refers to fault number 14-1 in Hecker (1993 #642).
County(s) and State(s)	GARFIELD COUNTY, UTAH SEVIER COUNTY, UTAH WAYNE COUNTY, UTAH
Physiographic province(s)	COLORADO PLATEAUS

Reliability of location	<p>Good Compiled at 1:250,000 scale.</p> <p><i>Comments:</i> Mapped or discussed by Smith and others (1963 #4582), Anderson and Barnhard (1986 #895), Harty (1987 #4580), and Sergent, Hauskins, and Beckwith (1991 #4581). Fault traces from 1:250,000-scale mapping of Williams and Hackman (1971 #4578).</p>
Geologic setting	Long, generally north-trending, sinuous range-front fault along the west side of Thousand Lake and Boulder Mountains, west of Capitol Reef.
Length (km)	49 km.
Average strike	N10°E
Sense of movement	Normal
Dip Direction	W
Paleoseismology studies	
Geomorphic expression	<p>Remnants of Fremont River strath terraces (presumably truncated by faulting) may date from early Wisconsin time (>30 ka to 130 ka) and correlate with terraces on the downthrown side of the fault (Smith and others, 1963 #4582), but supporting evidence appears tenuous (Harty, 1987 #4580; Sergent and others, 1991 #4581). Projection of the terrace profiles suggests about 85 m of vertical displacement during late Pleistocene (post-early Wisconsin) to Holocene time (Smith and others, 1963 #4582). The extent of possible late Quaternary faulting is unknown, but based on the estimated terrace displacement and the distribution of total post-Oligocene throw along the fault, Anderson and Barnhard (1986 #895) postulated that Pleistocene displacements may exceed 100 m along the northern portion of the fault.</p>
Age of faulted surficial deposits	Middle to late Quaternary.
Historic earthquake	
Most recent	middle and late Quaternary (<750 ka)

prehistoric deformation	<i>Comments:</i>
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	<p>#895 Anderson, R.E., and Barnhard, T.P., 1986, Genetic relationship between faults and folds and determination of Laramide and neotectonic paleostress, western Colorado Plateau-transition zone, central Utah: <i>Tectonics</i>, v. 5, p. 335-357.</p> <p>#2479 Dohrenwend, J.C., and Moring, B., C., 1993, Reconnaissance photogeologic map of late Tertiary and Quaternary faults in Nevada: <i>Geological Society of America Abstracts with Programs</i>, v. 25, no. 5, p. 31.</p> <p>#4580 Harty, K.M., 1987, Field reconnaissance of Thousand Lake fault zone: Utah Geological and Mineral Survey, memorandum, 2 p.</p> <p>#642 Hecker, S., 1993, Quaternary tectonics of Utah with emphasis on earthquake-hazard characterization: <i>Utah Geological Survey Bulletin</i> 127, 157 p., 6 pls., scale 1:500,000.</p> <p>#4581 Sergent, Hauskins, and Beckwith, 1991, Report for final preliminary engineering geology, geoseismic, and geotechnical study, proposed Torrey Dam and Reservoir, approximately one mile west of Torrey, Utah, for Wayne County Conservancy District: Salt Lake City, consultant's report prepared for Utah Department of Natural Resources, Division of Water Resources, SHB Job No. E90-2027, 18 p.</p> <p>#4582 Smith, J.F., Jr., Huff, L.C., Hinrichs, E.N., and Luedke, R.G., 1963, Geology of the Capitol Reef area, Wayne and Garfield Counties, Utah: <i>U.S. Geological Survey Professional Paper</i> 363, 102 p.</p> <p>#4578 Williams, P.L., and Hackman, R.J., 1971, <i>Geology</i>,</p>

structure, and uranium deposits of the Salina quadrangle, Utah:
U.S. Geological Survey Miscellaneous Investigations Map I-591,
scale 1:250,000.

[Questions or comments?](#)

[Facebook](#) [Twitter](#) [Google](#) [Email](#)

[Hazards](#)

[Design](#) [Ground Motions](#) [Seismic Hazard Maps & Site-Specific Data](#) [Faults](#) [Scenarios](#)

[Earthquakes](#) [Hazards](#) [Data](#) [Education](#) [Monitoring](#) [Research](#)

[Home](#) [About Us](#) [Contacts](#) [Legal](#)