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.

Deadwood-Reeves Creek fault (Class A) No. 605

Last Review Date: 2004-07-22

Compiled in cooperation with the Idaho Geological Survey

citation for this record: **Neier, R.S., Haller, K.M., and Lewis, R.S., compilers, 2004, Fault number 605, Deadwood-Reeves Creek 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 03:02 PM.**

Synopsis	Fault is poorly understood, no known detailed study has been completed at time of compilation. Anderson (1934 #595) first defined fault, extending from upper Deadwood River south to 8 km west of Lowman, Idaho, then southeast to North Fork Boise River. Schmidt and Mackin (1970 #512) mentioned scarps along unnamed branch at Reeves Creek. The timing of most recent movement is unconstrained and may be pre-Quaternary.
Name comments	The preferred fault name used here is in common usage (LaForge, 2002 #6715; McCalpin, 2002 #6714). Part of the fault shown here was named the Deadwood fault by Anderson (1934 #595). The Reeves Creek fault was named by Schmidt and Mackin (1970

	#512). Fault extends from 5 km west of Lowman north to Yellow Pine, Idaho, (Fisher and others, 1992 #6731) and northward to Elk Summit 8 km west of Big Creek (Lund and others, 1998 #6732), which would total about 115 km. However, northern part cut by Eocene intrusive rocks not included here. Kiilsgaard and Lewis (1985 #6349) and Fisher and others (1982 #6731) were unable to find southeast part, postulated by Anderson (1934 #595), but extended structure along series of sections north to Yellow Pine. More detailed photogeologic and field checking carried out by Gilbert and others (1983 #5888). Lund and others (1998 #6732) extended the fault north to Elk Summit, but northern part is cut by Eocene intrusive rocks and is not included here. **Fault ID:** Refers to numbers 224 and 226 ("unnamed fault") in Witkind (1975 #320).
County(s) and State(s)	BOISE COUNTY, IDAHO VALLEY COUNTY, IDAHO
Physiographic province(s)	NORTHERN ROCKY MOUNTAINS
Reliability of location	Poor Compiled at 1:250,000 scale. *Comments:* Location of fault based on Breckenridge and others (2003 #5878).
Geologic setting	Possible high-angle, down-to-southeast, normal faults along west side of Deadman River and east side of East Fork Deadman River. On page 33, McCalpin (2002 #6714) indicates that one weakness in previous studies is that the existence of the Deadwood fault, in particular, is not proven.
Length (km)	87 km.
Average strike	N12°E
Sense of movement	Normal *Comments:* Anderson (1934 #595) from postulated summit erosion. Fisher and others (1992 #6731) show Precambrian Yellowjacket Formation and Hoodoo Quartzite on eastern down thrown block near Yellow Pine, Idaho.

Dip Direction	E
Paleoseismology studies	
Geomorphic expression	Schmidt and Mackin (1970 #512) reported scarps on Pleistocene moraines along the fault. However, McCalpin (2002 #6714) concludes that the scarps they observed are sackung landforms, which are formed by deep-seated gravitational spreading of the mountainside. This is enforced by the fact that the scarps generally oppose local topography. The 100-km-long linear valley, two topographic basins, and up to 700-m-high eroded escarpments associtated with lineaments lead Anderson (1934#595) and later Gilbert and LaForge (1990 #5888) to infer normal movement on the fault. However, McCalpin (2002 #6714) concluded that these basins only are topographic features. Minimum 500 m displacement in horneblende-biotite granidiorite (Kiilsgaard and Lewis, 1985 #6349).
Age of faulted surficial deposits	No surficial deposits are displaced.
Historic earthquake	
Most recent prehistoric deformation	undifferentiated Quaternary (<1.6 Ma) *Comments:* The timing of the most recent event is poorly constrained. McCalpin (2002 #6714) states that "there has been no measurable displacement on the Reeves Creek fault since at least the end of the latest glaciation, ca. 15 ka....As a result there is now no evidence for the age of the most recent displacements on the Reeves Creek fault, nor of their amount of slip or slip rate...Based on the lack of evidence for late Cenozoic vertical displacement on this fault, I would assign a probability of <50 percent that the fault is seismogenic at the current time." Age assignment herein is based on that of Breckenridge and others (2003 #5878).
Recurrence interval	
Slip-rate	Less than 0.2 mm/yr

category	*Comments:* Low slip rate is assigned based on the lack of evidence to indicate otherwise. Wong and others (2000 #5219) assign a slip rate of 0.01-0.05 mm/yr to the fault (based on anology) for use in probabilistic hazard assessment.
Date and Compiler(s)	2004 Ricky S. Neier, University of Idaho Kathleen M. Haller, U.S. Geological Survey Reed S. Lewis, Idaho Geological Survey
References	#595 Anderson, A.L., 1934, A preliminary report on recent block faulting in Idaho: Northwest Science, v. 8, p. 17-28. #5878 Breckenridge, R.M., Lewis, R.S., Adema, G.W., and Weisz, D.W., 2003, Miocene and younger faults in Idaho: Idaho Geological Survey Map 8, 1 sheet, scale 1:1,000,000. #6731 Fisher, F.S., McIntyre, D.H., and Johnson, K.M., compilers, 1992, Geologic map of the Challis 1° x 2° quadrangle, Idaho: U.S. Geological Survey Geologic Investigations Map I-1819, 39 p. pamphlet, 1 sheet, scale 1:250,000. #5888 Gilbert, J.D., and LaForge, R.C., 1990, Seismotectonic study for Deadwood Dam, Boise project, Idaho: U.S. Bureau of Reclamation Seismotectonic Report 90-2, 40 p., 2 pl. #6349 Kiilsgaard, T.H., and Lewis, R.S., 1985, Plutonic rocks of Cretaceous age and faults in the Atlanta lobe of the Idaho batholith, Challis quadrangle, *in* McIntyre, D.H., ed., Symposium on the geology and mineral deposits of the Challis 1° x 2° quadrangle: U.S. Geological Survey Bulletin 1658, p. 29-42. #6715 LaForge, R., 2002, Ground motion probabilities for Deadwood Dam, Boise Project, Idaho: U.S. Bureau of Reclamation Technical Memorandum No. D8330-2002-13, p. 11. #6732 Lund, K., Derkey, P.D., Brandt, T.R., and Oblad, J.R., 1998, Digital geologic map database of the Payette National Forest and vicinity, Idaho: U.S. Geological Survey Open-File Report 98-0219-B, 45 p. #6714 McCalpin, J.P., 2002, Interpretation of antislope scarps and other neotectonic features in the vicinity of Deadwood Dam, central Idaho: Technical report to U.S. Bureau of Reclamation,

	Denver, Colorado, November 20, 2002, 47 p. #512 Schmidt, D.L., and Mackin, J.H., 1970, Quaternary geology of Long and Bear Valleys, west-central Idaho: U.S. Geological Survey Bulletin 1311-A, 22 p., 2 pls. #320 Witkind, I.J., 1975, Preliminary map showing known and suspected active faults in Idaho: U.S. Geological Survey Open-File Report 75-278, 71 p. pamphlet, 1 sheet, scale 1:500,000. #5219 Wong, I., Dober, M., and Hemphill-Hailey, M., 2000, Preliminary probabilistic seismic hazard analyses—Owyhee and Mann Creek Dams, Idaho: Technical report to U.S. Department of the Interior, Bureau of Reclamation, Denver, Colorado.