

2539S, JOHNS VALLEY FAULT

Structure number: 2539S.

Comments: Hecker's (1993) fault number 10-13. Suspected.

Structure name: Johns Valley fault.

Comments:

Synopsis: Poorly understood suspected late Pleistocene fault in Johns Valley in the southern Sevier Plateau.

Date of compilation: 10/99.

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State: Utah

County: Garfield.

1° x 2° sheet: Cedar City.

Province: Colorado Plateaus.

Reliability of location: Good.

Comments: Mapping from Anderson and Christenson (1989).

Geologic setting: Short east-trending normal fault in western Johns Valley in the southern Sevier Plateau. The Sevier Plateau is one of seven distinct plateaus in the Southern High Plateaus, which are characterized by external bounding cliffs and internal alluvium-filled valleys often following faults or narrow grabens.

Sense of movement: N.

Comments:

Dip: No data.

Comments:

Dip direction: S.

Geomorphic expression: The main scarp (with ~1 meter of apparent displacement) parallels and may be part of a group of stream-terrace scarps, but it is roughly concordant with a bedrock fault and separates surfaces with similar characteristics, suggesting fault displacement. Also, a short parallel scarp dies out on both ends in a manner characteristic of fault scarps. Mapping by Rowley and others (1987) does not show any Quaternary faults in the area, and more detailed work is needed to determine if the scarps are actually related to faulting.

Age of faulted deposits: Late Pleistocene.

Paleoseismology studies: None.

Timing of most recent paleoevent: (3) Late Quaternary (<130 ka).

Comments: Based on scarp morphology and association with bedrock faulting.

Recurrence interval: No data.

Comments:

Slip rate: Unknown, probably <0.2 mm/yr.

Comments:

Length: End to end (km): 2

Cumulative trace (km): 2

Average strike (azimuth): N81°E

REFERENCES

- 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., scale 1:250,000.
- Hecker, Suzanne, 1993, Quaternary tectonics of Utah with emphasis on earthquake-hazard characterization: Utah Geological Survey Bulletin 127, 2 plates, scale 1:500,000, 257 p.
- Rowley, P.D., Hereford, Richard, and Williams, V.S., 1987, Geologic map of the Adams Head-Johns Valley area, southern Sevier Plateau, Garfield County, Utah: U.S. Geological Survey Miscellaneous Investigations Series Map I-1798, scale 1:50,000.