

2010 Fall  
Meeting

Cite abstracts as **Author(s) (2010), Title, Abstract xxxxx-xxxx presented at 2010 Fall Meeting, AGU, San Francisco, Calif., 13-17 Dec.**

## Search Results

Your query was:

**vollmer**

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HR: 1340h

AN: **T33D-2295 Poster**

TI: [Structural and Hydrologic Implications of Joint Orientations in the Warner Creek and Stony Clove Drainage Basins, Catskill Mountains, Eastern New York](#)

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AB: To investigate joint control on hydrology as well as tectonic implications, we conducted a study of joint orientations near the Stony Clove and Warner Creek drainages of the Catskill Mountains, Eastern New York. Specific goals of this research were to determine joint control on stream orientations and groundwater flow, to compare results with previous studies in the area, and to investigate their tectonic significance. Trails, streams, and road cuts were traversed to locate bedrock outcrops whose positions were determined using topographic maps and a handheld GPS unit. Additional outcrops were located using aerial photographs and GIS data. Joint orientations were measured using a standard Brunton pocket transit. The data was analyzed using Orient (Vollmer, 2010), an orientation analysis program, to plot joint and stream orientations on rose diagrams. ArcGIS was used to produce topographic, hill-shade, and stream drainage maps. Over 500 joint orientations at over 100 outcrop stations were collected. The data were plotted on a rose diagrams, and two major joint sets were found, one with a mean strike of 021° and one with a mean strike of 096°. Stream orientations were also plotted on a rose diagram showing an axial mean of 022°, and indicate that the joint set with mean strike of 021 may have a significant control on stream orientations. The hill-shade maps also demonstrate clearly the strong control of jointing on the topography. The data collected in this research expands on previous joint orientation studies of Engelder and Geiser (1980) in the southwestern and central Catskills, and is similar to joint orientations found by Isachsen et al. (1977) in their study of the Panther Mountain circular structure, a possible impact-related feature. The origin of this jointing is thought to be related to Alleghanian (Permian) and possibly Acadian (Devonian) orogenic events.

DE: [8000] STRUCTURAL GEOLOGY

SC: Tectonophysics (T)  
MN: 2010 Fall Meeting

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